



Sprinkler Fitter

On-the-Job Training Guide

2025

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Recognition:

To promote transparency and consistency, portions of this document has been adapted from the 2017 Sprinkler Fitter Red Seal Occupational Standard (Employment and Social Development Canada).

A complete version of the Occupational Standard can be found at www.red-seal.ca

STRUCTURE OF THE ON-THE-JOB TRAINING GUIDE

To facilitate understanding of the occupation, this on-the-job training guide contains the following sections:

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard detailing the essential skills and the level of training where the content is covered.

Major Work Activity (MWA): the largest division within the standard that is comprised of a distinct set of trade activities.

Task: distinct actions that describe the activities within a major work activity.

Sub-task: distinct actions that describe the activities within a task.

On-the-Job and In-school Training Content for the Sprinkler Fitter Trade: a chart which outlines the topics of technical training with on-the-job examples for apprentices to achieve relevant experience at work.



TRAINING REQUIREMENTS FOR THE **SPRINKLER FITTER TRADE**

To graduate from each level of the apprenticeship program, an apprentice must successfully complete the required technical training and compile enough on-the-job experience to total at least 1800 hours each year. Total trade time required is 7200 hours and at least 4 years in the trade.

Journeyman to apprentice ratio for this trade is: 1:2

The information contained in this document serves as a guide for employers and apprentices. Apprenticeship training is mutually beneficial to both employer and apprentice. The employer's investment in training apprentices results in skilled and certified workers. The document summarizes the tasks to be covered by the apprentice during their on-the-job portion of apprenticeship training. An apprentice spends approximately 85% of their apprenticeship term training on-the-job.

It is the employer's or journeyman's responsibility to supervise an apprentice's practical skills development until a satisfactory level of proficiency has been reached.

EMPLOYER TRAINING RESPONSIBILITY

- promote a safety-conscious workplace
- provide mentored, hands-on practice in the use of tools and equipment
- demonstrate procedures relevant to layout, forming, framing, exterior and interior finishing
- further the apprentice's ability to interpret technical drawings
- allow the apprentice to apply procedures used for estimating materials, costing projects and supervising personnel
- ensure that the apprentice can evaluate the end product
- where possible, expose the apprentice to new technology in the Carpenter trade

Employers should make every effort to expose their apprentices to work experience in as many areas of the trade as possible.

In the On-the-Job Training Guide, in-school instruction is listed first; on-the-job suggestions to help employers assist the apprentice to prepare for in-school training are listed next.

The content of the training components is subject to change without notice.

SPRINKLER FITTER TASK MATRIX CHART

This chart outlines the major work activities, tasks and sub-tasks from the 2017 Red Seal Occupational Standard. Each sub-task details the corresponding essential skill and level of training where the content is covered. *

* Sub-tasks with numbers in the boxes is where the content will be delivered in training.

A - Performs Common Occupational Skills

20%

A-1 Performs safety-related functions	1.01 Maintains safe work environment 1, In-Context in 2, 3	1.02 Uses personal protective equipment (PPE) and safety equipment 1, In-Context in 2, 3	1.03 P Performs lock-out and tag-out procedures 1, In-Context in 2, 3	1.04 Performs work in confined space 1, In-Context in 2, 3	
A-2 Uses and maintains tools and equipment	2.01 Uses hand tools 1, In-Context in 2, 3	2.02 Uses portable and stationary power tools 1, In-Context in 2, 3	2.03 Uses measuring and testing equipment 1, In-Context in 2, 3	2.04 Uses access equipment 1, In-Context in 2, 3	2.05 Uses rigging, hoisting and lifting equipment 1, In-Context in 2, 3
	2.06 Uses soldering and brazing equipment 1, In-Context in 2, 3				
A-3 Organizes work	3.01 Interprets codes, standards, regulations and procedures 1, 2, 3	3.02 Uses drawings and specifications 1, 2, 3	3.03 Uses documentation and reference material 1, 2	3.04 Plans job tasks and procedures 1, 2	3.05 Prepares work site 1, 2
	3.06 Performs layout of systems 1, 2				

A-4 Commissions systems	4.01 Commissions water supply systems 2, 3	4.02 Commissions fire protection systems 2, 3
A-5 Uses communication and mentoring techniques	A-5.01 Uses communication techniques 1, 3	A-5.02 Uses mentoring Techniques 1, 3

B – Installs Water Supply

15%

B-6 Installs underground water supplies	6.01 Supervises trenching and backfilling (NOT COMMON CORE) 2	6.02 Installs underground piping and components (NOT COMMON CORE) 2	6.03 Flushes underground system 2
B-7 Installs fire pump units	7.01 Determines location of pumps, drivers, controllers and components 3	7.02 Installs pumps, drivers, controllers and components 3	
B-8 Installs fire department connections	8.01 Determines location, size and type of fire department connections 2	8.01 Installs fire department connection piping and components 2	
B-9 Installs fire department connections	9.01 Installs water tanks 3	9.02 2 Installs related equipment 3	

C – Installs Piping

28%

C-10 Prepares pipe, tube and fittings for installation	10.01 Cuts pipe and tube 1, In-Context in 2, 3	10.02 Bends pipe and tube 1, In-Context in 2, 3	10.03 Threads pipe 1, In-Context in 2, 3	10.04 Grooves pipe 1, In-Context in 2, 3	10.05 Drills pipe and tube 1, In-Context in 2, 3
	10.06 Grinds pipe 1, In-Context in 2, 3	10.07 Prepares fittings 1, In-Context in 2, 3			
C-11 Installs pipe, tube and fittings	11.01 Installs steel pipe, tube and fittings 1, In-Context in 2, 3	11.02 Installs plastic pipe, tube and fitting 1, In-Context in 2, 3	11.03 Installs copper pipe, tube and fitting 1, In-Context in 2, 3	11.04 Paints and labels pipe and tube 1, In-Context in 2, 3	
C-12 Installs piping components	12.01 Selects sprinklers 1	12.02 Installs sprinklers and nozzles 1	12.03 Installs sleeves 1	12.04 Installs supports and hangers 1	12.05 Installs seismic protection 1, 2
		12.06 Installs cross-connection control assemblies 2	12.07 Installs system Drainage 1, 2		

D – Installs and Lays Out Fire Protection Systems and Devices

21%

D-13 Installs water-based systems	13.01 Installs wet pipe systems 1	13.02 Installs dry pipe systems 1	13.03 Installs antifreeze systems 1	13.04 Installs preaction/deluge systems 1, 2	13.05 Installs foam systems 3	
	13.06 Installs standpipe Systems 2	13.07 Installs water mist and hybrid systems 3				
D-14 Installs specialty fire suppression systems	14.01 Installs dry and wet chemical, clean agent and carbon dioxide systems 3	14.02 Installs portable extinguishers 3				
D-15 Installs detection devices	15.01 Installs wet and dry pilot lines 2	15.02 Installs heat-actuated devices (HADs) (NOT COMMON CORE) 2	15.03 Installs spark detection systems (NOT COMMON CORE) 3	15.04 Installs air sampling systems (NOT COMMON CORE) 3	15.05 Installs electrical detection systems (NOT COMMON CORE) 3	
D-16 Installs signal-initiating devices	16.01 Installs alarm-initiating devices 2, In-Context in 1, 3	16.02 Installs supervisory-initiating device 2, In-Context in 1, 3				



E – INSPECTS, TESTS AND MAINTAINS (ITM) FIRE PROTECTION SYSTEMS

16%

E-17 Maintains and repairs fire protection systems	17.01 Troubleshoots fire protection systems 3	17.02 Repairs Deficiencies 3	17.03 Performs Scheduled maintenance 3
E-18 Inspects and tests fire protection systems	18.01 Performs scheduled tests 3	18.02 Performs scheduled inspections 3	18.03 Inspects portable fire extinguishers 3



TRAINING PROFILE CHART

This Training Profile Chart represents Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training at the topic level.

Level One	Hours
Common Occupational Skills	60
Installs Piping Components	60
Installs Piping- Layout	61
Installs & Layout Fire Protection Systems & Devices	59
	240

Level Two	Hours
Performs Common Occupational Skills	44
Installs Water Supply	22
Installs Piping	87
Installs & Lays Out Fire Protection Systems & Devices	86
	240

Level Three	Hours
Performs Common Occupational Skills	80
Installs Water Supply	46
Installs & Lays Out Fire Protection Systems & Devices	66
Inspections, Tests & Maintains (ITM) Fire Protection Systems	48
	240

ON-THE-JOB AND IN-SCHOOL TRAINING

CONTENT FOR THE SPRINKLER FITTER TRADE

This chart outlines on-the-job examples for apprentices to achieve relevant work experience to prepare for the topics of technical training. Topics of technical training are provided with the associated learning outcomes.

Level One	8 weeks	240 hours
Section One- Performs Common Occupational Skills		60 hours total
Safety		9 hours
<ul style="list-style-type: none"> demonstrate knowledge of safe work practices demonstrate knowledge of regulatory requirements pertaining to safety. demonstrate knowledge of personal protective equipment (PPE) and safety equipment, their applications, maintenance and procedures for use demonstrate knowledge of applications and procedures for locking out/tagging out equipment demonstrate knowledge of applications and procedures for working in confined spaces <p>Mentors can assist the apprentice to prepare for this section of technical training by:</p> <ul style="list-style-type: none"> <i>Demonstrate the correct procedures for maintaining cleanliness and organization at the worksite.</i> <i>Educate apprentice on hazard identification and mitigation strategies.</i> <i>Show proper selection, usage, and maintenance of PPE.</i> <i>Explain the importance of consistent use to prevent injuries.</i> <i>Guide apprentice through real-life scenarios where lock-out and tag-out protocols are essential.</i> <i>Provide hands-on practice with supervision to reinforce these critical safety measures.</i> <i>Train apprentice on confined space entry protocols, including the use of air monitoring equipment and rescue plans.</i> <i>Supervise their initial tasks in confined spaces to ensure safety compliance and build confidence.</i> <i>Use effective mentoring techniques to explain safety principles clearly.</i> <i>Provide constructive feedback on performance, encouraging apprentice to reflect on their work and continuously improve.</i> 		

Tools and Equipment **9 hours**

- demonstrate knowledge of hand tools, their applications, maintenance and procedures for use
- demonstrate knowledge of portable and stationary power tools, their applications, maintenance and procedures for use
- demonstrate knowledge of measuring and testing
- demonstrate knowledge of measuring and testing equipment, their applications, maintenance and procedures for use

Mentors can assist the apprentice to prepare for this section of technical training by:

- Demonstrate the correct handling, use, and maintenance of essential hand tools like pipe wrenches, threaders, and cutters.*
- Allow apprentice to practice with guidance, focusing on efficiency and safety.*
- Provide supervised training on operating drills, grinders, and saws, emphasizing proper safety protocols.*
- Discuss troubleshooting and maintenance to extend tool life and ensure safety.*
- Show how to use devices like pressure gauges and flow meters for system checks.*

- Explain the importance of accuracy and calibration in measuring tools.
- Offer clear explanations and real-world examples to reinforce the importance of each tool's proper use and maintenance.
- Provide hands-on opportunities with incremental responsibilities to build confidence and skill.
- Share troubleshooting strategies and personal experiences to prepare apprentice for challenges in the field.

Access Equipment

4 hours

- demonstrate knowledge of the selection, assembly and procedures for using access equipment

Mentors can assist the apprentice to prepare for this section of technical training by:

- Train apprentice on the safe use of ladders, scaffolding, and aerial lifts.
- Highlight fall protection requirements and site-specific access equipment protocols.

Rigging, Hoisting & Lifting

4 hours

- demonstrate knowledge of rigging, hoisting and lifting equipment, their applications, limitations and procedures for use
- demonstrate knowledge of calculations required to perform rigging, hoisting and lifting operations
- demonstrate knowledge of knots, bends and hitches, their applications and procedures for tying
- demonstrate knowledge of communication methods used for hoisting and lifting
- demonstrate knowledge of the procedures used to plan and perform rigging, hoisting and lifting operations

Mentors can assist the apprentice to prepare for this section of technical training by:

- Teach proper rigging techniques and load calculations.
- Supervise apprentice in hoisting procedures to ensure they understand load limits and safe operation.

Drawings

13 hours

- demonstrate knowledge of sprinkler system drawings and on-site drawings
- demonstrate knowledge of the procedures to read and interpret drawings and on-site drawings

Mentors can assist the apprentice to prepare for this section of technical training by:

- Teach how to read and interpret engineered drawings, schematics, and blueprints.
- Show how to identify critical details such as pipe sizes, layouts, and equipment placement.
- Engage apprentice in practice exercises, gradually increasing complexity to improve confidence

Uses Documentation and Reference Material

4 hours

- demonstrate knowledge of trade-related codes, standards, regulations, procedures and their applications
- demonstrate knowledge of trade-related documentation and reference material and their application

Mentors can assist the apprentice to prepare for this section of technical training by:

- Mentors should ensure the apprentice has a deep understanding of various codes and standards related to the sprinkler fitting trade, such as NFPA (National Fire Protection Association) codes, local building codes, and regulations from governing bodies. This includes understanding how these standards apply to the design, installation, and maintenance of fire protection systems. This will help the apprentice by gaining practical knowledge of how to apply these standards to everyday tasks, ensuring safety, compliance, and the proper functioning of sprinkler systems.

- *The mentor can walk the apprentice through the NFPA 13 (Standard for the Installation of Sprinkler Systems), explaining key sections such as spacing requirements for sprinklers, pipe sizing, and system design criteria. The mentor should also demonstrate how to interpret these standards during actual system installations to ensure compliance with legal requirements.*
- *Mentors should teach apprentice how to navigate and interpret essential trade-related documentation, such as manufacturer's manuals, product specifications, installation guidelines, and building plans. These documents are crucial for ensuring proper installation, troubleshooting, and maintenance of sprinkler systems. This will help the apprentice by being able to effectively use trade-related documents to enhance their understanding of system requirements and ensure accuracy in installations.*
- *A mentor can guide the apprentice through reading manufacturer product data sheets for sprinklers and piping systems. This might include understanding the technical details such as the K-factor for sprinkler heads, the pressure ratings, and the environmental conditions for installation. Additionally, mentors should show how to reference these documents when troubleshooting system issues or planning installations.*
- *Mentors should help apprentice understand how to apply both the codes and the reference materials when performing installations or repairs on-site. This includes how to adjust designs or installations based on changes to the work environment or building codes. This will help the apprentice by understanding how to take the knowledge from trade-related codes, regulations, and documentation and apply it to the field, ensuring compliance with all necessary standards during actual work scenarios.*
- *Mentors can use real-world examples of systems where the apprentice must make decisions based on code applications, such as adjusting pipe placement due to obstacles or changing water supply pressures. The mentor can demonstrate how to use regulatory reference materials to verify system specifications and how to adjust the system to meet updated requirements.*
- *By focusing on these areas, mentors can effectively help apprentice to develop a thorough understanding of trade-related codes, standards, and the essential documentation required in the sprinkler fitting industry, ensuring safe, compliant, and efficient installations and system maintenance.*

Uses Communication Techniques

4 hours

- demonstrate knowledge of trade terminology
- demonstrate knowledge of effective communication practices
- demonstrate knowledge of strategies for learning skills in the workplace

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should encourage apprentices to actively engage in hands-on learning and reinforce the importance of continuous learning in the trade.*
- *This could include showing the apprentice how to troubleshoot issues on-site, learn new tools and techniques, and keep up with industry innovations.*
- *Mentors should also guide the apprentice to seek out further resources, such as manuals, training programs, and peer feedback. This will help the apprentice by developing strategies for self-directed learning and growth, understanding that mastering skills in the trade is an ongoing process that involves both on-the-job practice and formal education.*
- *The mentor can suggest that the apprentice take on increasingly challenging tasks under supervision, allowing them to gradually build competence and confidence.*
- *The mentor could also introduce the apprentice to professional development opportunities, such as attending trade shows, online courses, or reading the latest standards and codes.*
- *By focusing on these key areas, mentors will effectively prepare apprentice to communicate clearly, understand key terminology, and develop a proactive approach to learning and improving their skills in the workplace.*

Soldering, Brazing and Oxy-Acetylene Cutting

9 hours

- demonstrate knowledge of soldering and brazing equipment, applications and procedures
- demonstrate knowledge of the procedures used to grind pipe
- demonstrate knowledge of the procedures used to braze and solder joints

Mentors can assist the apprentice to prepare for this section of technical training by:

- *A mentor can first introduce the apprentice to the various soldering and brazing tools used in the sprinkler fitting industry, such as soldering irons for smaller joints and brazing torches for larger applications.*
- *They can explain the difference between soldering (low temperature) and brazing (high temperature) processes and when each method is required based on pipe material and system pressure.*
- *The mentor could perform a live demonstration of soldering a copper pipe joint, showing how to apply flux to prevent oxidation, use the soldering iron to heat the pipe, and how to apply solder. For brazing, they can explain the appropriate filler metals (like brass or copper-phosphorus alloys) for high-temperature systems.*
- *The mentor could also explain the risks involved and how to ensure proper safety measures (ventilation, flame control, etc.). This way the apprentice learns the correct tools and techniques for soldering and brazing and understands when to use each method for specific applications. This will increase their confidence in preparing and executing pipe joint connections properly.*
- *A mentor can provide hands-on experience by showing the apprentice how to properly grind pipe ends to remove any burrs or sharp edges that could interfere with fittings or cause leaks.*
- *The mentor should demonstrate the use of a pipe grinder or metal file on a pipe that has been cut to length.*
- *They can show the apprentice how to carefully grind the edges to create smooth, clean surfaces free of burrs.*
- *The mentor could also explain the importance of this step in preventing future leaks or poor joint connections. In this way the apprentice understands how to prepare pipe ends for fittings, ensuring a secure, leak-free connection and improving the overall quality of their installations.*
- *Mentors can walk apprentice through the specific steps involved in brazing and soldering joints to ensure strong and leak-free connections.*
- *This includes the cleaning of pipe surfaces, proper heating of the joint, and the application of filler material.*
- *A mentor should demonstrate soldering a joint, showing how to apply flux, heat the pipe with a soldering iron, and add solder to the joint.*
- *They should explain how to check for leaks and ensure the joint has formed a strong seal.*
- *For brazing, the mentor should use a brazing torch to demonstrate how to heat the joint evenly, introduce the brazing rod, and allow the filler material to flow into the joint, ensuring a secure bond.*
- *The mentor can also review common mistakes, such as overheating the pipe or inadequate flux application, and how to avoid these issues. In this way the apprentice gains experience in executing both brazing and soldering procedures, becoming skilled in forming durable and secure joints for sprinkler systems.*

Principles of Electricity

4 hours

- identify principles of electricity including direct and alternating current flow, electrolysis and electromagnetism
- identify and explain Ohm's Law
- identify hazards and describe safe work practices when working with electricity
- identify tools and equipment used to test electrical circuits and describe the procedure for use

- identify different types of circuits and describe their characteristics and purposes

Mentors can assist the apprentice to prepare for this section of technical training by:

- *The mentor can begin by introducing the apprentice to fundamental electrical concepts, including direct current (DC) and alternating current (AC), along with electrolysis and electromagnetism. This will help the apprentice understand how electricity works within a system and the role of these concepts in sprinkler systems that may involve electrically controlled components.*
- *The mentor could demonstrate how DC and AC currents behave in various types of sprinkler control systems.*
- *They can explain Ohm's Law ($V = I \times R$), showing how voltage (V), current (I), and resistance (R) are interrelated.*
- *The mentor could set up a simple circuit with a resistor, voltmeter, and ammeter to show how changing one value (e.g., resistance) impacts the others in the system. In this way the apprentice will gain a clear understanding of electricity fundamentals, helping them troubleshoot and work with electrically controlled sprinkler components.*
- *Mentors should emphasize the safety protocols when working with electrical systems.*
- *They can guide apprentices in identifying electrical hazards such as shock risks, short circuits, or fire hazards in sprinkler systems with electrical components.*
- *The mentor can walk the apprentice using personal protective equipment (PPE) (e.g., rubber gloves, insulated tools) and demonstrate how to lock out and tag out electrical sources before performing maintenance on electrically connected sprinkler systems.*
- *They can also explain the importance of using circuit breakers, proper grounding, and ensuring that systems are powered off before working on them. In this way the apprentice will develop safety awareness and follow the required precautions to prevent electrical injuries when working with sprinkler systems that have electrical components.*
- *The mentor can provide practical training on the tools and equipment required for testing electrical circuits, such as multimeters, voltmeters, and clamp meters.*
- *The mentor can demonstrate how to safely use a multimeter to test the continuity of a circuit, measure voltage, and check resistance in a sprinkler system.*
- *They can also explain how to check for current flow through a circuit using the ammeter function on the multimeter, ensuring the apprentice understands the correct settings and connections.*
- *Additionally, the mentor can show how to identify different types of circuits—whether they are series circuits, parallel circuits, or combination circuits—and explain the differences between them in the context of sprinkler systems. In this way the apprentice will learn how to properly use diagnostic tools to test and measure the electrical systems in sprinkler installations, enabling them to identify faults and ensure systems are functioning correctly.*

Section Two- Installs Piping Components

60 hours total

Steel Pipe and Fittings – Pipe Preparation

17 hours

- demonstrate knowledge of steel pipe, tube and fittings
- demonstrate knowledge of the procedures used to install steel pipe, tube and fittings

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Teach apprentice to identify steel materials and their properties, including which types of steel pipes and fittings are best suited for specific systems and environments.*
- *Emphasize the importance of accurate measurements and marking of steel pipes to reduce waste and teach how to remove burrs and sharp edges to prevent system issues like obstructions or leaks.*
- *Demonstrate various methods of joining pipes and fittings, such as threading, soldering, or mechanical couplings. Ensure apprentice understands proper alignment, depth, and the application of thread sealants for secure, leak-free joints.*

- Teach apprentice how to inspect for defects (e.g., cracks, warping, corrosion) in pipes and fittings, and emphasize adherence to industry standards like NFPA codes and manufacturer specifications during pipe preparation and installation.
- Guide apprentice on installing pipes and fittings with correct alignment, using tools like levels and lasers to ensure proper slope and support. Reinforce safety practices to avoid hazards associated with improper tool handling and materials.

Plastic Pipe and Fittings – Pipe Preparation

17 hours

- demonstrate knowledge of plastic pipe, tube and fittings
- demonstrate knowledge of the procedures used to install plastic pipe, tube and fittings

Mentors can assist the apprentice to prepare for this section of technical training by:

- Teach apprentice to identify plastic pipe materials and their properties, including which types of plastic pipes and fittings are best suited for specific systems and environments.
- Emphasize the importance of accurate measurements and marking of plastic pipes to reduce waste and teach how to remove burrs and sharp edges to prevent system issues like obstructions or leaks.
- Demonstrate various methods of joining pipes and fittings, such as threading, solvent-cementing or mechanical couplings. Ensure apprentice understand proper alignment, depth, and the application of thread sealants for secure, leak-free joints.
- Teach apprentice how to inspect for defects (e.g., cracks, warping, corrosion) in pipes and fittings, and emphasize adherence to industry standards like NFPA codes and manufacturer specifications during pipe preparation and installation.
- Guide apprentice on installing pipes and fittings with correct alignment, using tools like levels and lasers to ensure proper slope and support. Reinforce safety practices to avoid hazards associated with improper tool handling and materials.

Copper Pipe, Fittings and Tubing – Pipe Preparation

9 hours

- demonstrate knowledge of copper pipe, tube and fittings
- demonstrate knowledge of the procedures used to install copper pipe, tube and fittings
- demonstrate knowledge of the procedures used to braze and solder joints

Mentors can assist the apprentice to prepare for this section of technical training by:

- Teach apprentice to identify copper materials and their properties, including which types of copper pipes and fittings are best suited for specific systems and environments.
- Emphasize the importance of accurate measurements and marking of copper pipes to reduce waste and teach how to remove burrs and sharp edges to prevent system issues like obstructions or leaks.
- Demonstrate various methods of joining pipes and fittings, such as threading, soldering, or mechanical couplings. Ensure apprentice understands proper alignment, depth, and the application of thread sealants for secure, leak-free joints.
- Teach apprentice how to inspect for defects (e.g., cracks, warping, corrosion) in pipes and fittings, and emphasize adherence to industry standards like NFPA codes and manufacturer specifications during pipe preparation and installation.
- Guide apprentice on installing pipes and fittings with correct alignment, using tools like levels and lasers to ensure proper slope and support. Reinforce safety practices to avoid hazards associated with improper tool handling and materials.

Supports and Hangers

17 hours

- demonstrate knowledge of supports and hangers and their installation procedures and requirements

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should demonstrate the proper installation of supports, hangers, and brackets, emphasizing correct spacing and securing pipes to prevent sagging and movement, in accordance with system specifications and local codes.*
- *Teach apprentice how to incorporate expansion loops or joints to accommodate thermal expansion, preventing stress on pipes during temperature fluctuations.*
- *Show apprentice how to use tools like levels, lasers, and measuring tapes to ensure pipes are installed straight, level, and according to design specifications to avoid misalignment.*
- *Instruct apprentice on installing pipes with the correct slope, particularly for drain or waste lines, to facilitate efficient flow and prevent blockages.*
- *Allow apprentice to observe the process first, then guide them with step-by-step instructions while supervising their attempts and providing constructive feedback.*

Section Three- Installs Piping Layout

61 hours total

Sprinkler Heads and Nozzles

40 hours

- demonstrate knowledge of sprinklers and nozzles and their selection
- demonstrate knowledge of the procedures used to install sprinklers and nozzles

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should teach apprentice the differences between sprinkler types (e.g., pendant, sidewall, upright, concealed) and their specific applications based on room layout, ceiling height, and coverage area.*
- *Apprentice must learn to evaluate key factors such as flow and pressure requirements, temperature ratings, and the K-factor, which influences sprinkler performance and spacing.*
- *Apprentice should be taught how to read and understand manufacturer specifications to select compatible sprinklers and nozzles, ensuring they meet system requirements and design specifications.*
- *Mentors should guide apprentice through the process of properly preparing pipes, ensuring correct alignment and cleanliness, followed by correct installation of sprinklers through threading or mechanical connections.*
- *Apprentice needs to understand how to adjust sprinklers and nozzles for optimal spray patterns, checking for proper coverage and alignment to avoid inefficiencies or leaks.*

Pipe Layout and Install 1

17 hours

- demonstrate knowledge of the procedures to plan and organize jobs
- demonstrate knowledge of procedures to receive materials
- demonstrate knowledge of procedures used to plan for and prepare work sites
- demonstrate knowledge of procedures used to store, secure, organize and maintain materials
- demonstrate knowledge of sprinkler system layout
- demonstrate knowledge of the tools, materials and procedures used to prepare pipe fittings
- demonstrate knowledge of the tools, equipment, materials used to cut, grind, groove, thread, bend, paint and label pipe and tube
- demonstrate knowledge of the procedures to cut, grind, groove, thread, bend, paint and label pipe and tube
- demonstrate knowledge of pipe sleeves and their installation

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should start by explaining the basic job specifications, such as the overall goals of the sprinkler system installation and the primary components involved. The mentor can break down how these specifications help guide the installation process.*

- *Mentor should focus on understanding basic system requirements, simple instructions, and the importance of following instructions for safety and efficiency.*
- *Mentors should demonstrate how to receive and inspect materials, emphasizing how to handle materials carefully to avoid damage. The mentor can show how to organize materials on-site for easy access and storage to prevent accidents.*
- *Mentors should ensure that the apprentice understands the significance of keeping materials clean and properly stored, ensuring tools and materials are easy to find and that nothing is wasted.*
- *A mentor can start with teaching the apprentice how to read basic sprinkler system drawings, focusing on how to identify components such as pipe sizes and sprinkler heads.*
- *Mentors can help the apprentice understand basic symbols used in sprinkler system plans and teach them to identify key components without getting into complex technical details.*

System Drainage I

4 hours

- demonstrate knowledge of system drainage and their operation and characteristics

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should explain the importance of proper drainage in sprinkler systems to prevent water accumulation, which can lead to system corrosion, malfunction, or freeze damage. Emphasize the role of drainage in maintaining system efficiency.*
- *Mentors should guide apprentice in identifying and installing the appropriate drainage points based on system design. This includes understanding where low points are in the system where water may collect and the strategic placement of drain valves to allow for effective water removal.*
- *Teach apprentice how to select the correct sizes for drain valves and piping based on system flow and pipe diameter to prevent blockages and ensure quick drainage. Stress the need for proper alignment to allow gravity flow.*
- *Demonstrate the installation of drain valves in accordance with the system's design and local codes. Ensure the apprentice understands how to secure valves to prevent leaks, and how to test them for proper function after installation.*
- *Encourage regular checks and maintenance of the drainage system to ensure it is free from obstructions and functions properly. Mentors should show how to test drainage points after system activation and inspect for clogs or damage that could affect drainage efficiency.*

Section Four- Installs & Lays Out Fire Protection Systems & Devices 59 hours total

Wet Pipe Systems

17 hours

- demonstrate knowledge of wet pipe systems, and their operation and characteristics
- demonstrate knowledge of the procedures used to install wet pipe systems and components

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should explain what wet pipe systems are—systems where water is constantly in the pipes under pressure. Emphasize the importance of system reliability and continuous water flow in these systems. Mentors can introduce the apprentice to the basic components, such as risers, mains, branches, and sprinklers, as well as system designs specific to wet pipe systems.*
- *Teach the apprentice how to read and interpret system design plans, ensuring the correct placement of pipes, sprinklers, and other components. Mentors should guide them in understanding the spacing and pipe sizes needed for different areas of the building. Proper layout is essential for achieving uniform water distribution and coverage.*

- Mentors should explain how to calculate the necessary pipe sizes based on flow requirements and pressure for different sections of the system. Emphasize the importance of correct sizing to maintain water pressure and system efficiency. Teach apprentice how to verify pressure requirements using manufacturer guidelines and system specifications.
- Provide step-by-step guidance on installing pipes correctly, ensuring they are securely fastened, properly aligned, and meet the system design. Mentors should explain how to avoid common issues, such as pipe sagging, misalignment, or inadequate support, which can affect system performance. Discuss the importance of using pipe supports, hangers, and brackets, and how to ensure that pipes are level and have proper slope where required.
- Mentors should teach the apprentice how to conduct pressure tests and system checks after installation. This ensures that there are no leaks, that the system is holding pressure, and that water flows properly. They should also guide apprentice in troubleshooting issues such as water hammer, air pockets, or improper water distribution by checking system valves and pipes.

Antifreeze Systems

4 hours

- demonstrate knowledge of antifreeze systems, their operation, and characteristics
- demonstrate knowledge of the procedures to install and maintain antifreeze systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- Mentors should explain the purpose and function of antifreeze systems, which are used in environments where the temperature may fall below freezing. These systems use a mixture of water and antifreeze to prevent the pipes from freezing. Mentors should emphasize the importance of selecting the right antifreeze solutions that meet code requirements and manufacturer specifications.
- Mentors should teach apprentice how to read system design plans for antifreeze systems, highlighting differences in pipe routing, the inclusion of antifreeze solution tanks, and the placement of antifreeze fill points. The layout should ensure that antifreeze is evenly distributed throughout the system to prevent freezing. Apprentice should understand how to calculate and mark locations for antifreeze tank connections and ensure proper venting and drainage.
- Instruct apprentice on determining the correct pipe sizes based on system flow rates, pressure requirements, and antifreeze mixture specifications. The mentor should guide the apprentice in calculating the flow of the antifreeze solution, considering system design and layout to ensure proper antifreeze distribution.
- Teach apprentice how to correctly install antifreeze tanks, valves, and related components (such as backflow preventers and fill stations). Mentors should demonstrate the proper placement of these components for accessibility, proper venting, and safety. This includes ensuring the antifreeze solution is added and maintained according to system requirements and that valves are installed to prevent contamination of the potable water supply.
- Mentors should emphasize the importance of testing antifreeze systems after installation. Apprentice should learn how to check for leaks, verify antifreeze levels, and ensure that the antifreeze solution is mixed correctly. Guidance on proper maintenance, such as periodic checks for antifreeze quality, pressure testing, and system flushing, will help ensure the system operates efficiently and safely over time.

Dry Pipe Systems

20 hours

- demonstrate knowledge of dry pipe systems, their operation and characteristics
- demonstrate knowledge of the procedures used to install dry pipe systems and their components

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should begin by explaining what a dry pipe system is—a fire sprinkler system where the pipes are pressurized with air instead of water, and water is only released when the sprinkler is activated. It is typically used in areas where the temperature may drop below freezing. Mentors can help the apprentice understand how these systems work to prevent water from freezing in the pipes while maintaining the capacity to distribute water quickly in case of fire.*
- *Apprentice need to understand the specific design requirements for dry pipe systems, including the proper location of dry pipe valves, air compressor connections, and piping. Mentors should guide them through reading system blueprints, ensuring the correct placement of valves, risers, and hangers to allow for effective operation and ensure compliance with local codes. Emphasize the importance of air pressure maintenance and the integration of the air compressor system.*
- *Teach apprentice how to calculate the correct pipe sizes and layout for a dry pipe system based on flow rates, system pressure, and the specific needs of the building. Mentors should emphasize correct pipe installation, including using the right materials for freeze protection and ensuring pipes are properly supported with hangers to prevent sagging, which could lead to system failure.*
- *Dry pipe valves are critical in ensuring the system remains air-pressurized until activation. Mentors should demonstrate how to correctly install and test dry pipe valves, ensuring they function properly and are sized according to the design specifications. They should also cover the importance of regular testing for air pressure and the valve's reliability.*
- *After installation, mentors should guide apprentice in conducting thorough testing of the dry pipe system. This includes checking for leaks, verifying the air pressure, and testing the dry pipe valve's operation. Regular maintenance is crucial, so mentors should teach apprentice how to inspect the system, maintain the air pressure, and perform preventive checks to ensure the system is always ready for operation.*

Pre-Action/Deluge Systems

18 hours

- demonstrate knowledge of pre-action/deluge systems, their applications and operating principles

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should introduce the concepts of pre-action and deluge systems, explaining the basic difference in how they release water. This foundational knowledge helps apprentice understand when and why each system is used.*
- *Mentors should provide examples and scenarios where each system is applicable. Use diagrams or real-world examples to illustrate how both systems function.*
- *Mentors should show apprentice how to read basic blueprints and design plans for sprinkler systems, focusing on identifying the key components, such as detectors, alarms, and release valves.*
- *Mentors can walk apprentice through simple blueprints to identify these components. This includes showing how the components are linked and emphasizing the importance of understanding the layout for proper installation.*
- *Mentors can begin by teaching apprentice the basic principles of how detection devices (heat detectors, smoke detectors, and manual pull stations) function. Explain their role in activating the system when a fire is detected.*
- *Mentors can have the apprentice observe the installation process of these devices, focusing on correct placement and alignment.*

Level Two

8 weeks

240 hours

Section One- Performs Common Occupational Skills

44 hours total

Drawings II

24 hours

- drawings II Demonstrate knowledge of sprinkler system drawings and on-site drawings
- demonstrate knowledge of the procedures to read and interpret drawings and on-site drawings rate
- demonstrate knowledge of the procedures to draw and label orthographic and isometric drawings
- demonstrate knowledge of the procedures to read and interpret information pertaining to sprinkler systems found in construction drawings

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Guide the apprentice through real-world examples of sprinkler system drawings: Help them understand the symbols, lines, and legends used in sprinkler system drawings. This includes teaching them to identify sprinkler heads, pipe layouts, risers, control valves, and alarms. The apprentice learns to navigate and interpret detailed drawings and high-level overviews to understand system configurations and troubleshoot issues.*
 - *Show apprentice how to match system drawings to on-site layouts: Explain the connection between the drawings and real-world systems, helping the apprentice understand how each component (sprinklers, piping, valves) corresponds to the building's fire protection functionality. This task involves both on-site and blueprint integration, focusing on real-world applications.*
 - *Teach the apprentice to read construction drawings: Provide examples of construction drawings with details about sprinkler system integration into the building's structure, including elevations, cross-sections, and pipe routing. The apprentice learns how to interpret construction documents, understand the location of sprinklers, and align system components with structural elements.*
-

Commissions Water Supply I

8 hours

- demonstrate knowledge of the selection, assembly and procedures for using access equipment

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can instill a strong understanding of safety-related functions, ensuring that the apprentice is aware of and adheres to safety protocols during the commissioning process.*
 - *Mentors can instruct the apprentice on the proper selection and use of tools and equipment necessary for commissioning water supply systems, enhancing their technical proficiency and confidence.*
-

Commissions Fire Protection System I

12 hours

- demonstrate knowledge of the procedures to commission fire protection systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should guide apprentice in becoming familiar with all the components of a fire protection system, including sprinkler heads, pipes, valves, alarms, and control panels. Before commissioning, apprentice needs to understand how these components work together to provide effective fire protection. This will help the apprentice to gain a clear understanding of the entire system, ensuring they know how each part functions and the correct sequence for commissioning.*
-

- A mentor can walk the apprentice through a live or mock installation, demonstrating how each component should be installed, tested, and integrated into the system design. Mentors should highlight key components that need to be inspected and tested during commissioning, such as valves and pressure regulators.
- Mentors should teach the apprentice the step-by-step procedures for testing and calibrating the fire protection system to ensure it is functioning properly. This includes pressure testing, flow testing, and verifying the activation of all alarms and control systems. This will help the apprentice to learn how to properly test the system, ensuring it is ready to perform as intended in the event of a fire.
- The mentor can demonstrate how to perform flow tests to verify the water delivery rate, ensuring that it meets the design specifications. They should also explain the process of verifying that sprinkler heads are free of obstructions and functioning correctly when water is released.
- During the commissioning process, mentors should emphasize the importance of accurate documentation and adherence to relevant safety codes and standards, such as NFPA codes. The apprentice should be taught how to record test results, document any adjustments, and ensure that the system complies with all regulatory requirements. This will help the apprentice to understand how to document the commissioning process and ensure compliance with applicable fire safety standards, a critical part of the system's official approval.
- The mentor can guide the apprentice in reviewing the installation and test reports, checking for compliance with safety regulations, and ensuring that all necessary certifications are in place. Mentors should explain how to fill out and submit commissioning forms and make recommendations for system improvements based on observations.

Section Two- Installs Water Supply

22 hours total

Underground Water Supply

18 hours

- demonstrate knowledge of safety procedures and requirements for trenching and backfilling in accordance with codes and regulations
- demonstrate knowledge of communication practices for trenching and backfilling
- demonstrate knowledge of clearances and tolerances
- demonstrate knowledge of water source connections
- demonstrate knowledge of underground piping and their components' installation procedures
- demonstrate knowledge of flushing requirements of underground systems
- demonstrate knowledge of safe work procedures for flushing of underground systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- Mentors should emphasize the importance of following local and national safety codes, such as OSHA or CSA standards, when performing trenching and backfilling. This includes ensuring proper shoring, trench safety, and understanding of hazard recognition. This will help the apprentice to understand the safety risks associated with trenching and backfilling and will learn how to mitigate these risks by following best practices and codes.
- The mentor can show the apprentice how to set up safe trenches, with proper sloping and shoring, to avoid cave-ins. They should demonstrate the use of safety equipment such as trench boxes and portable ladders and stress the need for regular inspections of the trench during work.
- A mentor should guide the apprentice in proper communication practices, especially in a team setting, to ensure that trenching and backfilling are performed safely and efficiently. This includes clear instructions and coordination between team members on placement of pipes, backfilling depth, and trench closure. This will help the apprentice to understand the importance of clear, precise communication in high-risk tasks like trenching, improving teamwork and safety.

- The mentor can help the apprentice practice communicating with the rest of the crew about trench depths, the need for equipment movement, or safety concerns. The mentor can also stress the importance of maintaining good communication with supervisors to keep the work aligned with codes and project specifications.
- Mentors should instruct the apprentice on the proper installation techniques for underground piping and their components, including pipe alignment, joining methods, and the importance of following water source connection requirements. They should also cover the procedures for flushing underground systems to remove debris, ensuring water quality and system efficiency. This will help the apprentice to learn the correct procedures for installing underground piping systems, ensuring proper function and safety, as well as understanding the importance of flushing the system to maintain water flow and system integrity.
- The mentor can demonstrate how to connect pipes to the water source, ensuring proper sealing and alignment to avoid leaks. They should explain the required flushing steps, including using clean water and verifying that no obstructions remain in the system before commissioning.

Fire Department Connections

4 hours

- demonstrate knowledge of fire department equipment and their installation procedures

Mentors can assist the apprentice to prepare for this section of technical training by:

- The mentor should guide the apprentice in understanding and adhering to local fire codes and national standards (such as NFPA) related to fire department equipment installation.
- They should emphasize the importance of ensuring that all installations are compliant with safety standards and regulations. This will help the apprentice to develop a solid understanding of how to follow fire safety codes and regulations when installing fire department equipment, ensuring the system's compliance and safety.
- The mentor can lead the apprentice through reviewing the local fire code requirements for the installation of fire pumps and FDCs. They can also explain how to interpret these codes and apply them during the installation process, checking things like pipe size, valve placement, and accessibility of the equipment.

Section Three- Installs Piping

87 hours total

Pipe Layout & Install Level II

42 hours

- demonstrate knowledge of the procedures to plan and organize jobs
- demonstrate knowledge of procedures to receive materials
- demonstrate knowledge of procedures used to plan for and prepare work sites
- demonstrate knowledge of procedures used to store, secure, organize and maintain materials
- demonstrate knowledge of sprinkler system layout
- demonstrate knowledge of the procedures to paint and label pipe and tube
- demonstrate knowledge of pipe sleeves and their installation

Mentors can assist the apprentice to prepare for this section of technical training by:

- Mentors can guide apprentice to refine their ability to organize the work area and tasks efficiently. This includes selecting appropriate tools, organizing materials, and setting up the workspace for a smooth installation.
- Mentors should teach apprentice to prioritize tasks, arrange tools and materials in the correct order, and maintain safety practices to ensure an efficient workflow during installation.
- Mentors should demonstrate the correct use of more advanced tools for cutting, grinding, threading, bending, and labeling pipes. This can include using machines or manual tools and emphasizing safety while handling them.

- *Mentors should ensure the apprentice is comfortable using tools to modify pipes and components, gaining precision and attention to detail. Mentors should ensure proper alignment, handling, and safety measures.*
- *A mentor can train intermediate apprentice on the importance of pipe sleeves for system expansion and contraction. They can demonstrate the correct installation technique for sleeves and explain how they help prevent pipe damage.*
- *Mentors should ensure the apprentice understands when and where pipe sleeves are necessary, the materials to use, and how to install them properly to avoid issues with system expansion.*

Seismic Protection

14 hours

- demonstrate knowledge of the procedures to select and locate sway/seismic bracing
- demonstrate knowledge of the procedures used to install sway/seismic bracing

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should first explain the importance of sway and seismic bracing in maintaining the integrity of sprinkler systems during seismic events. This includes understanding the codes and regulations governing these systems, such as the National Fire Protection Association (NFPA) and local building codes.*
- *Mentors can guide apprentice on the specific types of bracing required based on the environment and the sprinkler system layout.*
- *Mentors can teach apprentice how to properly select the right type of sway or seismic bracing for different system components (e.g., pipes, valves, and sprinkler heads). They can walk apprentice through the process of reviewing system drawings, understanding load-bearing requirements, and identifying appropriate installation locations to ensure the system is supported properly.*
- *Mentors should demonstrate how to install various types of bracing, such as cable braces, struts, or brackets, while adhering to manufacturer instructions and safety guidelines.*
- *Mentors should emphasize the need for proper installation techniques to ensure the bracing is secure and compliant with design specifications.*
- *Mentors should supervise apprentice as they practice these tasks, offering feedback to ensure correct execution.*

Cross Connection Control

24 hours

- demonstrate knowledge of cross-connection control assemblies, their characteristics, purpose, applications, and operation
- demonstrate knowledge of the procedures to install cross-connection control assemblies

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can provide the apprentice with a comprehensive understanding of cross-connection control assemblies, including their types, characteristics, purposes, and operating principles. This foundational knowledge is essential for effective installation and maintenance.*
- *By guiding the apprentice through the installation of cross-connection control assemblies, mentors ensure that the apprentice learns the correct procedures, adhere to safety standards, and understand the importance of proper installation for system integrity.*
- *Mentors can assist the apprentice in understanding and applying relevant codes, standards, and regulations related to cross-connection control assemblies. This knowledge is vital for compliance and ensuring the safety and effectiveness of fire protection systems.*
- *Through supervised practical experiences, mentors allow the apprentice to apply theoretical knowledge in real-world scenarios, enhancing their skills and confidence in handling cross-connection control assemblies. This hands-on approach is essential for mastering the trade*

Drainage II

7 hours

- demonstrate knowledge of system drainage, and their operation and characteristics
- demonstrate knowledge of the procedures to install system drainage and components according to code requirements

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can provide apprentice with a comprehensive understanding of relevant codes and standards, such as the National Fire Protection Association (NFPA) standards, that govern the installation of drainage systems in fire protection systems. This knowledge ensures compliance and safety.*
- *By guiding apprentice through the correct procedures for installing drainage systems, including the selection and placement of drains, mentors ensure that installations meet code requirements and function effectively.*
- *Mentors can instruct apprentice on the procedures for testing and maintaining drainage systems to ensure they operate correctly and comply with code requirements. This includes understanding the importance of proper drainage to prevent issues such as water accumulation or system malfunctions.*
- *Through supervised practical experiences, mentors allow apprentice to apply theoretical knowledge in real-world scenarios, enhancing their skills and confidence in handling drainage systems. This hands-on approach is essential for mastering the trade.*

Section Four- Installs & Lays Out Fire Protection Systems & Devices

86 hours total

Pre-Actions/Deluge Systems II

36 hours

- demonstrate knowledge of pre-action/deluge systems, their applications and operating principles
- demonstrate knowledge of installation requirements and associated test procedures for pre- action/deluge systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should guide apprentice through the detailed installation process for heat detectors, smoke detectors, and manual pull stations. This includes stressing the importance of correct placement and calibration to ensure system effectiveness.*
 - *Mentors should supervise apprentice while they install and calibrate the devices, ensuring that they meet all system requirements and design plans.*
 - *Mentors should show apprentice how to select appropriate materials, pipe sizes, and valve types for pre-action and deluge systems based on system requirements.*
 - *Mentors should help apprentice in the actual installation of piping and valves, focusing on the correct alignment, secure mounting, and proper valve placement. This includes ensuring the apprentice understands the purpose of each valve in controlling water flow.*
 - *Testing and Troubleshooting the System:*
 - *After installation, mentors must help apprentices learn to test the system's functionality, including flow tests, pressure settings, and ensuring that the release valves activate properly. This includes teaching them how to troubleshoot issues like faulty detectors or valve malfunctions.*
 - *Mentors can help apprentice through a series of tests on the installed system to verify all components are functioning correctly. This includes providing guidance on how to handle common issues and teach maintenance routines, including leak checks and sensor calibrations.*
-

Standpipe Systems

24 hours

- demonstrate knowledge of standpipe and hose systems, their applications and operating principles
- demonstrate knowledge of installation requirements and associated test procedures for standpipe systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- Mentors can explain the purpose and function of standpipe systems, including their role in fire protection and the different types (e.g., Class I, II, III). This foundational understanding is essential for the apprentice.
 - By guiding apprentices through the installation process, mentors ensure that apprentice learns the correct methods for setting up standpipe systems, including pipe fitting, valve installation, and connection to water supplies.
 - Mentors can assist apprentice in understanding and applying relevant codes and standards, such as those from the National Fire Protection Association (NFPA), to ensure compliance during installation and maintenance.
 - Providing opportunities for apprentice to engage in supervised, practical installation and maintenance of standpipe systems helps them gain confidence and competence in real-world scenarios.
 - Mentors can instill a strong understanding of safety-related functions, ensuring that apprentice is aware of and adhere to safety protocols during the installation and maintenance of standpipe systems.
-

Detection Devices

14 hours

- demonstrate knowledge of the procedures used to install, test and maintain wet and dry pilot lines and their associated pilot line detectors
- demonstrate knowledge of the procedures used to install, test and maintain HADs and their associated components

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can explain the principles behind standpipe and hose systems, including how these systems work to provide water for firefighting in buildings.*
 - *Mentors should cover the types of standpipe systems (e.g., Class I, II, and III), their components (hoses, nozzles, and valves), and the operational procedures for activation in the event of a fire. This includes ensuring the apprentice understands how these systems integrate into the building's fire protection plan is crucial, and the mentor can walk the apprentice through real-world examples of system installations.*
 - *Mentors should show the apprentice how to correctly install and position standpipe systems in compliance with codes and standards (such as NFPA). This includes selecting the appropriate pipe sizes, valves, and mounting heights, as well as installing hoses and nozzles in accessible locations.*
 - *Mentors should guide the apprentice in making sure the system is installed according to design specifications, ensuring adequate water flow and pressure at every designated connection point.*
 - *Mentors can help the apprentice understand how to test a standpipe system to ensure it functions properly. This includes performing pressure tests, checking for leaks, and verifying that all components (e.g., valves and hoses) operate as expected.*
 - *Mentors can also guide the apprentice in regular maintenance practices, such as inspecting the hoses for damage and ensuring the system remains clear and operational in case of an emergency*
-

Signal-Initiating Devices

12 hours

- demonstrate knowledge of the procedures and requirements to install, test, and maintain alarm-initiating devices
- demonstrate knowledge of procedures and requirements to install, test and maintain supervisory-initiating devices

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can start by explaining the types of alarm-initiating devices, such as smoke detectors and heat detectors, and how they function within the overall fire protection system.*
- *Mentors should guide the apprentice through the specific steps to install these devices in the correct locations and ensure they meet all regulatory requirements for optimal performance.*
- *Mentors should provide hands-on guidance in installing these devices, ensuring they are properly wired, connected, and calibrated.*
- *Mentors can also involve the apprentice in testing the devices after installation, explaining the different testing methods, such as functional checks and system integration tests, to ensure the devices are operational and compliant with safety codes.*
- *Once the systems are installed, mentors should teach apprentice how to perform regular maintenance, including inspecting the devices for damage, cleaning, and recalibrating them. This includes educating apprentice on troubleshooting procedures, helping them diagnose issues such as false alarms or system malfunctions and repair or replace faulty components as needed*

Level Three

8 weeks

240 hours

Section One- Performs Common Occupational Skills

80 hours total

Drawings III

24 hours

- demonstrate knowledge of sprinkler system drawings and on-site drawings
- demonstrate knowledge of the procedures to read and interpret drawings and on-site drawings rate
- demonstrate knowledge of the procedures to draw and label orthographic and isometric drawings
- demonstrate knowledge of the procedures to read and interpret information pertaining to sprinkler systems found in construction drawings

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can walk the apprentice through interpreting specifications: This involves interpreting complex specifications like pipe sizes, water flow rates, and understanding the relationship between system design and structural elements (e.g., beams and ductwork).*
 - *Mentors can show the apprentice how to project views of systems to scale, including creating 2D and 3D views of sprinkler systems. This includes labeling pipes, valves, and sprinkler heads, and showing the apprentice how to interpret spatial relationships in both flat and three-dimensional views.*
 - *Once the apprentice practices sketching simple layouts, the mentor should guide them through adding notes to these drawings with critical information, like pipe sizes and flow data. This exercise will develop the apprentice's ability to represent and analyze sprinkler systems accurately in technical drawings.*
-

Commissions Water Supply II

9 hours

- demonstrate knowledge of the procedures used to commission water supply systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- *By overseeing the apprentice during hands-on tasks such as trenching, backfilling, and installing underground piping, mentors ensure that apprentice applies theoretical knowledge correctly and adhere to safety standards.*
 - *Mentors can provide the apprentice with a comprehensive understanding of the procedures involved in commissioning water supply systems, including flushing, testing, and verifying system functionality.*
-

Commissions Fire Protection Systems

12 hours

- demonstrate knowledge of the procedures to commission fire protection systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can walk the apprentice through the steps of verifying the fire protection system's functionality, including flow tests, pressure tests, and activation of alarm devices.*
- *Mentors should explain the importance of documenting test results and ensuring compliance with relevant codes and standards, such as NFPA 13 or local regulations.*
- *Mentors can allow the apprentice to practice identifying system faults, such as leaks or detector malfunctions, under supervision to build diagnostic and problem-solving skills.*
- *Mentors should provide mock scenarios where the apprentice performs a commissioning process, from verifying system design against the installation to conducting end-to-end functional testing.*
- *Mentors should use tools like flow meters, gauges, and testing kits to familiarize the apprentice with their operation, teaching them how to interpret data from these tools.*

- *Mentors should challenge the apprentice to explain the purpose of each commissioning step to reinforce their understanding of the process.*
- *Mentors should show the apprentice how to prepare and complete commissioning reports, emphasizing accurate and thorough documentation as required by local codes and industry standards.*
- *Mentors should provide examples of commissioning checklists and forms to help the apprentice understand what details to capture, such as system parameters and observations during testing.*
- *Mentors should involve the apprentice in reviewing completed projects to identify any gaps in documentation and explain how to address these in future commissions.*

Mentoring

14 hours

- demonstrate knowledge of trade terminology
- demonstrate knowledge of effective communication practices
- demonstrate knowledge of strategies for learning skills in the workplace
- demonstrate knowledge of strategies for teaching workplace skills

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can model proper work practices, including punctuality, safety awareness, and attention to detail.*
- *Mentors should show a positive attitude and professionalism to inspire apprentice.*
- *Mentors should provide real-time demonstrations and involve apprentice in practical tasks under supervision.*
- *Mentors should gradually allow apprentice more independence as their confidence and competence grow.*
- *Mentors should offer specific, actionable feedback on performance.*
- *Mentors should highlight strengths and provide guidance on areas for improvement without discouragement.*
- *Mentors should pose questions that challenge apprentice to think critically and solve problems independently.*

Job Planning

21 hours

- demonstrate knowledge of the procedures to produce material take-off lists
- demonstrate knowledge of the procedures to read and interpret 3D drawings
- demonstrate knowledge of trade-related codes, standards, regulations, procedures and their applications

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should walk the apprentice through the process of interpreting design specifications and drawings to determine system requirements. This includes understanding the purpose of the system (e.g., wet pipe, dry pipe, or special hazard systems) and identifying the key components and layout.*
- *Mentors should use or simulated projects to teach the apprentice how to evaluate factors such as building occupancy, hazard classifications, and water supply.*
- *Mentors should reinforce the importance of considering local codes, NFPA standards, and client needs in defining system requirements.*
- *Mentors should demonstrate how to select appropriate materials and components, such as pipe types, fittings, valves, and sprinkler heads, based on system specifications and environmental factors.*
- *Mentors should provide examples of regulations (e.g., NFPA 13) and explain how they affect material choices, installation practices, and testing requirements.*
- *Mentors should involve the apprentice in creating a materials list for a mock project, ensuring they understand cost considerations and supply chain logistics.*

- Mentors should demonstrate proper sizing of pipes and system components using relevant formulas and software tools.
- Mentors should provide step-by-step guidance on installing and testing the system to ensure it meets performance standards.
- Mentors should supervise the apprentice as they size, assemble, and pressure-test a section of the system, offering constructive feedback and troubleshooting support.
- Mentors should emphasize how to document testing results and ensure compliance with codes and standards for inspections.

Section Two- Installs Water Supply

46 hours total

Fire Pumps

24 hours

- demonstrate knowledge of pumps, drivers, controllers, and components
- demonstrate knowledge of water source connections
- demonstrate knowledge of fire pump components and their installation

Mentors can assist the apprentice to prepare for this section of technical training by:

- Mentors should introduce the apprentice to the primary components of fire pump systems, including pumps, drivers (electric motors or diesel engines), controllers, and auxiliary equipment. Explain the purpose and operation of each component, such as how a controller starts and stops the pump or how the driver delivers power.
- Mentors should conduct a hands-on session where the apprentice identifies and labels the components of an existing or training fire pump system.
- Mentors should demonstrate how to identify suitable water sources, such as municipal supplies, tanks, or reservoirs, and explain the critical considerations for establishing a reliable connection.
- Mentors should review drawings and specifications of various fire pump systems, focusing on the placement and sizing of suction and discharge piping. Emphasize how to meet NFPA requirements for water source connections.
- Mentors should supervise the apprentice as they draft or assess a basic layout for connecting a water source to a fire pump, ensuring compliance with code requirements.
- Mentors should guide the apprentice through the procedures for installing fire pump components, including setting the pump base, aligning the pump and driver, and securing connections.
- Mentors should discuss the importance of vibration isolation and proper anchoring for system longevity.
- Mentors should use a mock installation scenario where the apprentice measures, aligns, and bolts down a fire pump assembly.
- Mentors should follow up with training on testing and commissioning the system.
- Mentors should emphasize troubleshooting techniques for installation issues, such as alignment discrepancies or insufficient flow rates, and explain how to document the process for inspections.

Private Water Supply Systems

16 hours

- demonstrate knowledge of water tanks
- demonstrate knowledge of installation of water tanks and related equipment

Mentors can assist the apprentice to prepare for this section of technical training by:

- Mentors should provide an overview of the different types of water tanks used in fire protection systems (e.g., steel tanks, fiberglass tanks, or concrete tanks). Explain their functions, such as maintaining an adequate water supply for sprinkler systems. Cover essential components, including overflow pipes, vents, and level indicators.
- Mentors should use technical drawings and manufacturer documentation to identify and discuss the purpose of each component.

- Mentors should reinforce the importance of selecting appropriate tanks based on system requirements, water demand, and code compliance (e.g., NFPA standards).
- Mentors should walk the apprentice through the steps of preparing a site for water tank installation, including foundation requirements and anchoring methods. Teach them to position and secure tanks to ensure stability and proper connection to the fire protection system.
- Mentors should set up a mock installation scenario where the apprentice practices aligning and securing a small-scale or model tank, connecting it to a simulated system.
- Mentors should emphasize proper sealing techniques for tank connections to prevent leaks and the need for verifying installation against design plans.
- Mentors should explain the procedures for inspecting and testing water tanks, including verifying water levels, checking for corrosion, and ensuring valves and connections function correctly.
- Mentors should demonstrate how to document findings in compliance with industry standards.
- Members should supervise the apprentice as they conduct a routine inspection of a water tank in the field or during a training session, guiding them to identify potential issues like sediment buildup or structural damage.
- Mentors should develop the apprentice's ability to recognize and troubleshoot common problems, such as valve malfunctions or inadequate water flow, and understand how to plan for regular maintenance tasks.

Section Three- Installs & Lays Out Fire Protection Systems & Devices

66 hours total

Foam Systems

12 hours

- demonstrate knowledge of foam systems, their applications and operating principles
- demonstrate knowledge of installation requirements and associated test procedures for foam systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- Mentors should provide an overview of foam system types, such as low-expansion, medium-expansion, and high-expansion foam systems.
- Mentors should explain their typical applications (e.g., flammable liquid fire suppression in warehouses or refineries) and their operating principles, including how foam is generated, mixed, and delivered through the system.
- Mentors should Use system schematics to demonstrate the flow of water and foam concentrate through the system and discuss the interaction between components like proportioners, foam chambers, and nozzles.
- Mentors should The apprentice gains a foundational understanding of the purpose and functionality of foam systems.
- Mentors should Walk the apprentice through the specific installation requirements outlined in codes and standards such as NFPA 11 (Standard for Low-, Medium-, and High-Expansion Foam). Discuss topics such as foam concentrate storage, piping materials, and nozzle placement.
- Mentors should Conduct a site review to highlight proper installation practices, ensuring all components (e.g., tanks, pumps, and piping) align with regulatory requirements.
- Mentors should The apprentice learns to identify and apply installation requirements during real-world projects.
- Mentors should demonstrate the procedures for testing foam systems, including proportioner calibration, foam quality checks, and flow testing.
- Mentors should emphasize safety considerations and compliance with industry standards.
- Mentors should set up a mock test scenario where the apprentice assists in performing and documenting a foam system test.

- *Mentors should ensure the apprentice becomes familiar with testing processes, safety protocols, and troubleshooting techniques.*
-

Water Mist & Hybrid Systems

18 hours

- demonstrate knowledge of water mist and hybrid systems, their applications and operating principles
- demonstrate knowledge of installation requirements for water mist and hybrid systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should explain the key differences between water mist and hybrid systems and their unique applications, such as protecting data centers, heritage sites, or industrial machinery. Discuss the operating principles, including how water mist systems use fine droplets to suppress fire while minimizing water damage and how hybrid systems incorporate inert gases for additional suppression.*
 - *Mentors should use real-world case studies or system examples to demonstrate how these systems are applied in specific scenarios, emphasizing their benefits and limitations.*
 - *Mentors should ensure apprentice develops a clear understanding of when and why these systems are chosen for specific fire protection challenges.*
 - *Mentors should demonstrate how to interpret and apply installation standards for water mist and hybrid systems, such as NFPA 750 (Water Mist Fire Protection Systems) and relevant local codes.*
 - *Mentors should discuss requirements for nozzle placement, water supply connections, and system pressurization.*
 - *Mentors should walk the apprentice through an installation process, focusing on critical elements like ensuring proper piping, verifying nozzle alignment, and maintaining system integrity.*
 - *Mentors should ensure the apprentice gains practical experience in meeting installation requirements and ensuring compliance with codes and standards.*
 - *Mentors should demonstrate how to perform system commissioning, testing, and maintenance for water mist and hybrid systems, including verifying pressure levels, inspecting nozzles, and testing suppression effectiveness.*
 - *Mentors should simulate a testing scenario where the apprentice assists in calibrating and troubleshooting system components, documenting results, and identifying potential issues.*
 - *Mentors should ensure the apprentice learns the importance of regular system testing and acquires the skills needed to ensure systems operate reliably over time.*
-

Wet & Dry Chemical Systems

10 hours

- demonstrate knowledge of wet and dry chemical systems and their operation and characteristics
- demonstrate knowledge of installation of wet and dry chemical systems
- demonstrate knowledge of inspection, and testing of wet and dry chemical systems
- demonstrate knowledge of procedures used to service, maintain, and remove wet and dry chemical systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should explain the differences between wet and dry chemical systems, including their operating principles and typical applications. For instance, wet chemical systems are commonly used in commercial kitchens for grease fires, while dry chemical systems are more suited to industrial applications like flammable liquid storage.*
- *Mentors should use real-world examples or system diagrams to illustrate how each system functions, including the role of nozzles, chemical agents, and activation mechanisms.*
- *Mentors should ensure the apprentice develops a clear understanding of when and where to use wet and dry chemical systems, including their strengths and limitations.*

- *Mentors should show the apprentice how to install wet and dry chemical systems according to manufacturer specifications and applicable codes (e.g., NFPA 17 for dry chemical systems and NFPA 17A for wet chemical systems).*
- *Mentors should guide the apprentice through an installation project, focusing on key steps like proper nozzle placement, system pressurization, and integrating the system with existing fire alarms or electrical controls.*
- *Mentors should ensure the apprentice gains practical knowledge of installation procedures, ensuring compliance with regulations and operational effectiveness.*
- *Mentors should demonstrate how to inspect, test, and maintain wet and dry chemical systems, including verifying discharge nozzles, checking chemical agent levels, and ensuring the operability of manual and automatic activation mechanisms.*
- *Mentors should have the apprentice participate in a mock inspection or maintenance session, where they identify potential issues such as clogged nozzles, depleted chemical agents, or worn-out components.*
- *Mentors should ensure the apprentice learns to identify and resolve common issues, ensuring systems remain reliable and compliant with maintenance schedules.*

Clean Agent Systems

8 hours

- demonstrate knowledge of clean agent systems and their operation and characteristics
- demonstrate knowledge of installation of clean agent systems
- demonstrate knowledge of inspection and testing of clean agent systems
- demonstrate knowledge of procedures used to service, maintain, and remove clean agent systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should explain the operating principles of clean agent systems, such as the suppression mechanism (e.g., chemical reaction, oxygen displacement) and how these systems are suited for protecting sensitive equipment like data centers and museums.*
- *Mentors should use visual aids like system diagrams and videos to demonstrate the characteristics of clean agents, including how they extinguish fires without causing damage to electronics or leaving residues.*
- *Mentors should ensure the apprentice gains a strong foundational understanding of clean agent systems, including key agents like FM-200, Novec 1230, and CO2.*
- *Mentors should guide the apprentice through the process of installing clean agent systems, focusing on proper cylinder placement, nozzle alignment, and integrating the system with detection devices and alarms.*
- *Mentors should provide hands-on experience by having the apprentice participate in a supervised installation, ensuring they follow code requirements and manufacturer specifications.*
- *Mentors should ensure the apprentice learns how to install clean agent systems safely and efficiently, ensuring the system's functionality and compliance with regulatory standards.*
- *Mentors should demonstrate how to inspect and test clean agent systems, including verifying system pressure, checking for leaks, and ensuring the activation mechanisms are operational.*
- *Mentors should allow the apprentice to perform mock inspections and tests under supervision, followed by a debrief to discuss observations and corrections.*
- *Mentors should teach the apprentice how to document inspection findings and perform necessary maintenance tasks, such as refilling agents or recalibrating sensors.*
- *Mentors should ensure the apprentice develops the skills needed to maintain clean agent systems in compliance with codes, ensuring reliability and longevity.*

CO2 Systems

9 hours

- demonstrate knowledge of CO2 systems and their operation and characteristics
- demonstrate knowledge of installation of CO2 systems

- demonstrate knowledge of inspection and testing of CO2 systems
- demonstrate knowledge of procedures used to service, maintain, and remove CO2 systems

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should provide an overview of how CO2 systems suppress fires through oxygen displacement and cooling effects.*
- *Mentors should highlight the system's key applications, such as in industrial facilities, engine rooms, or spaces with combustible materials.*
- *Mentors should use system schematics and real-world examples to explain the components, including CO2 storage cylinders, distribution nozzles, control panels, and detection devices.*
- *Mentors should ensure the apprentice will understand the core principles of CO2 systems and their suitability for various environments, along with safety considerations due to oxygen displacement risks.*
- *Mentors should demonstrate the proper techniques for installing CO2 systems, emphasizing the safe handling of pressurized cylinders, proper nozzle placement for effective dispersion, and integration with fire detection systems.*
- *Mentors should supervise the apprentice in setting up a small-scale CO2 system. Provide feedback on aligning piping and nozzles, securing components, and ensuring adherence to installation codes.*
- *Mentors should ensure the apprentice gains hands-on experience with CO2 system installation, developing proficiency in meeting regulatory and operational requirements.*
- *Mentors should teach the apprentice how to inspect and test CO2 systems. This includes checking cylinder pressures, testing activation mechanisms, verifying discharge paths, and ensuring all control components function as intended.*
- *Mentors should conduct a walkthrough of an inspection and testing session, allowing the apprentice to identify issues such as leaks, corrosion, or faulty sensors. Also, demonstrate procedures for refilling CO2 cylinders and removing outdated systems.*
- *Mentors should ensure the apprentice learns to perform routine inspections and maintenance, ensuring system reliability and compliance with safety standards.*

Detection Devices II

9 hours

- demonstrate knowledge of the procedures used to install, test and maintain spark detection systems and their associated components
- demonstrate knowledge of the procedures used to install, test and maintain air sampling systems and their associated components
- demonstrate knowledge of the procedures used to install, test and maintain electrical detection systems and their associated components

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors can explain the principles and functions of various detection systems, ensuring apprentice understands their purpose and operation within fire protection frameworks.*
- *By showcasing proper installation techniques, mentors help apprentice learn the correct methods for setting up detection devices, ensuring compliance with industry standards and safety protocols.*
- *Mentors can oversee apprentice during practical installations, providing real-time feedback and guidance to reinforce learning and build confidence in handling detection systems.*
- *Mentors can assist the apprentice in understanding and applying relevant codes, standards, and regulations ensures that installations meet legal and safety requirements, which is essential for system integrity.*
- *Mentors can teach apprentice the importance of regular maintenance and testing of detection systems to ensure ongoing functionality and compliance with safety standards.*

Section Four- Inspection, Tests & Maintains (ITM) Fire Protection Systems

48 hours total

Repair & Maintenance

20 hours

- demonstrate knowledge of procedures and requirements used to troubleshoot, repair and maintain fire protection systems and their components
- demonstrate knowledge of the relationship between sprinkler systems and fire panels

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should demonstrate Knowledge of Procedures and Requirements Used to Troubleshoot, Repair, and Maintain Fire Protection Systems and Their Components*
- *Mentors should work alongside the apprentice to troubleshoot common issues in fire protection systems. This hands-on approach helps the apprentice learn diagnostic techniques and understand the steps required to identify and fix problems.*
- *Mentors should demonstrate regular maintenance routines, such as checking for leaks, testing alarms, and inspecting valves. By performing these tasks together, the apprentice gains practical experience and learns the importance of preventive maintenance.*
- *Mentors should organize workshops focused on repairing different components of fire protection systems. These sessions can cover topics like replacing damaged pipes, fixing faulty sprinkler heads, and ensuring system integrity.*
- *Mentors should show the apprentice how sprinkler systems are connected to fire panels, explaining the role of each component. This can include live demonstrations of how signals are sent from the sprinkler system to the fire panel.*
- *Mentors should take the apprentice to various sites where different types of sprinkler systems and fire panels are installed can provide real-world examples of their interaction. This helps the apprentice see how these systems work together in different settings.*
- *Mentors should review technical manuals and industry standards with the apprentice, explaining how fire panels interpret signals from sprinkler systems and initiate appropriate responses. This theoretical knowledge complements practical experience.*

Inspection & Testing

20 hours

- demonstrate knowledge of procedures and requirements used to test fire protection systems and their components
- demonstrate knowledge of the relationship between sprinkler systems and fire panels
- demonstrate knowledge of the procedures and requirements to perform scheduled inspections of fire protection systems and their components

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should guide the apprentice through the actual testing of various fire protection systems, such as wet and dry systems. This includes demonstrating how to use testing equipment, interpret results, and follow safety protocols.*
- *Mentors should help the apprentice understand the importance of documentation by reviewing test reports, maintenance logs, and compliance records. This will ensure the apprentice knows how to properly document and report test results.*
- *Mentors should create simulated scenarios where the apprentice must identify and troubleshoot issues during testing. This helps the apprentice develop problem-solving skills and understand the practical application of testing procedures.*
- *Mentors should explain how sprinkler systems are integrated with fire panels, including the role of control valves, alarms, and sensors. This can be done through diagrams and real-life examples.*

- *Mentors can take the apprentice to various job sites to see different types of sprinkler systems and fire panels in action can provide valuable insights into their interdependence and functionality.*
- *The mentor should hold regular discussions on the technical aspects of how fire panels receive signals from sprinkler systems and initiate alarms or other responses. This can include reviewing manufacturer manuals and industry standards.*
- *Mentors should provide the apprentice with detailed checklists used during scheduled inspections. Going through these checklists together ensures the apprentice understands each step and its importance.*
- *Mentors should conduct mock inspections with the apprentice to allow them to practice identifying potential issues and understanding the inspection process. The mentor should provide feedback and guidance throughout the exercise.*
- *Mentors should educate the apprentice on the relevant codes, standards, and regulations that govern the inspection of fire protection systems. This includes understanding the frequency of inspections and the specific requirements for different types of systems.*

Fire Extinguishers

8 hours

- demonstrate knowledge of procedures and requirements used to install portable fire extinguishers
- demonstrate knowledge of the procedures used to inspect and maintain portable fire extinguishers

Mentors can assist the apprentice to prepare for this section of technical training by:

- *Mentors should demonstrate Knowledge of Procedures and Requirements Used to Install Portable Fire Extinguishers*
- *Mentors should perform live demonstrations of installing portable fire extinguishers in various locations, explaining the importance of placement, mounting height, and accessibility according to fire safety codes.*
- *Mentors should provide the apprentice with opportunities to install fire extinguishers under supervision. This hands-on experience helps the apprentice become familiar with different types of extinguishers and their specific installation requirements.*
- *Mentors should review relevant fire safety codes and standards with the apprentice, ensuring they understand the legal and safety requirements for installing portable fire extinguishers.*
- *Mentors should Demonstrate Knowledge of the Procedures Used to Inspect and Maintain Portable Fire Extinguishers*
- *Mentors should provide detailed checklists used during inspections of portable fire extinguishers. Going through these checklists together ensures the apprentice understands each step and its importance.*
- *Mentors should Conduct mock inspections with the apprentice allows them to practice identifying potential issues and understanding the inspection process. The mentor should provide feedback and guidance throughout the exercise.*
- *Mentors should demonstrate routine maintenance tasks, such as checking pressure gauges, inspecting hoses and nozzles, and ensuring the extinguisher is free from damage. This practical training helps the apprentice learn how to maintain extinguishers effectively.*

Consider apprenticeship training as an investment in the future of your company and in the future of your workforce. Ultimately, skilled and certified workers increase your bottom line.

Get involved in the apprenticeship training system. Your commitment to training helps to maintain the integrity of the trade.

Do you have employees who have been working in the trade for a number of years but don't have trade certification? Contact your local apprenticeship office for details on how they might obtain the certification they need.

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