

Trade Profile

Sprinkler Fitter



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Trade Profile

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Structure of the Trade Profile

This profile has two sections that provide a snapshot of the trade's description, and all trade activities as they are organized in the Red Seal Occupational Standard:

Description of the Sprinkler Fitter trade: an overview of the trade's duties, work environment, job requirements, similar occupations and career progression

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard

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

Description of the Sprinkler Fitter Trade

“Sprinkler Fitter” is this trade’s official Red Seal occupational title approved by the CCDA. This standard covers tasks performed by sprinkler fitters.

Sprinkler fitters lay out, install, commission, modify, inspect, test, maintain, troubleshoot and repair fire protection and suppression systems in a variety of buildings and settings. They work on fire protection and suppression systems including, but not limited to water-based sprinklers/standpipes (e.g., wet, dry, preaction, foam, deluge, water mist, antifreeze), specialty systems (e.g., clean agent, carbon dioxide, hybrid [water and inert gas], wet and dry chemical fire suppression systems), and supplemental fire detection systems (e.g., hydraulic, pneumatic, electrical). Their duties also include reading, interpreting and modifying engineered drawings and 3-D models, installing hangers, bracing, supports and restraints to support the piping system, preparing and joining pipe using a variety of methods, installing piping components, and installing water supplies and associated equipment including fire pumps, storage tanks and cross-connection control.

Sprinkler fitters usually, but not exclusively, work on industrial, institutional, commercial and residential sites such as office buildings, plants, factories, hospitals, hotels, houses, apartment buildings, airports and care homes. They may work for trade contractors, facility maintenance departments, and servicing companies. They may also be self-employed (e.g., labour contractors). Sprinkler fitters may specialize in installation, service, inspection, testing and maintenance.

Sprinkler fitters use tools and equipment such as hand tools, portable and stationary power tools, measuring and testing equipment, digital technology, access equipment, and rigging, hoisting and lifting equipment.

Sprinkler fitters work primarily indoors, often in unheated or temporarily heated spaces. They may also be required to install outdoor systems both above and below ground. The installation of sprinkler equipment takes place throughout all phases of construction, typically in the mid-to-later stages of new construction or in situations where renovation of existing structures is undertaken, or upgrading is legislated. They are required to work in confined spaces and at heights. They may occasionally experience physical discomfort due to extensive lifting of various weights overhead, repetitive motion, temperature changes, vibration, noise, dust, and controlled hazardous environments.

Key attributes for people entering this trade are mechanical and mathematical aptitude, manual dexterity, good communication and problem-solving skills and the ability to pay close attention to detail. Physical strength and stamina, and the ability to work at a considerable height are also assets in this trade.

This standard recognizes similarities or overlaps with the work of plumbers and steamfitter-pipefitters.

Experienced sprinkler fitters may advance to positions such as designers, principal owners, supervisors, estimators, labour representatives, contractors, project managers, inspectors and instructors. They also act as mentors and trainers of apprentices in the trade.

Sprinkler Fitter

Task Matrix and Weightings

Major Work Activity A – Performs common occupational skills 20%

Task A-1 Maintains safe and healthy workplace 25%	Sub-task A-1.01 Maintains safe work environment	Sub-task A-1.02 Uses personal protective equipment (PPE) and safety equipment	Sub-task A-1.03 Performs lockout/tagout procedures
	Sub-task A-1.04 Performs work in confined space	Sub-task A-1.05 Participates in healthy and respectful workplace practices	
Task A-2 Uses and maintains tools and equipment 21%	Sub-task A-2.01 Uses hand tools	Sub-task A-2.02 Uses portable and stationary power tools	Sub-task A-2.03 Uses measuring and testing equipment
	Sub-task A-2.04 Uses access equipment	Sub-task A-2.05 Uses rigging, hoisting and lifting equipment	Sub-task A-2.06 Uses soldering and brazing equipment
Task A-3 Organizes work 30%	Sub-task A-3.01 Interprets codes, standards, regulations and procedures	Sub-task A-3.02 Uses drawings and specifications	Sub-task A-3.03 Uses documentation and reference material
	Sub-task A-3.04 Plans job tasks and procedures	Sub-task A-3.05 Prepares work site	Sub-task A-3.06 Performs layout of systems
Task A-4 Commissions systems 24%	Sub-task A-4.01 Commissions water supply systems	Sub-task A-4.02 Commissions water-based fire protection systems	Sub-task A-4.03 Commissions specialty fire suppression systems

Task A-5
Maintains continuous learning
0%

Task A-6
Uses communication and mentoring techniques
0%

Sub-task A-5.01
Upgrades in new trade practices and procedures

Sub-task A-5.02
Upgrades in emerging technologies

Sub-task A-6.01
Uses communication techniques

Sub-task A-6.02
Uses mentoring techniques

Major Work Activity B – Installs water supply

14%

<p>Task B-7 Installs underground water supplies 19%</p>	<p>Sub-task B-7.01 Supervises trenching and backfilling</p>	<p>Sub-task B-7.02 Installs underground piping and components</p>	<p>Sub-task B-7.03 Flushes underground system</p>
<p>Task B-8 Installs fire pump units 40%</p>	<p>Sub-task B-8.01 Determines location of pumps, drivers, controllers and components</p>	<p>Sub-task B-8.02 Installs pumps, drivers, controllers and components</p>	
<p>Task B-9 Installs fire department connections 25%</p>	<p>Sub-task B-9.01 Determines location, size and type of fire department connections</p>	<p>Sub-task B-9.02 Installs fire department connections, piping and components</p>	
<p>Task B-10 Installs private water supply systems 16%</p>	<p>Sub-task B-10.01 Installs water tanks</p>	<p>Sub-task B-10.02 Installs related equipment</p>	

Major Work Activity C - Installs piping

26%

Task C-11 Prepares pipe, tube and fittings for installation 29%	Sub-task C-11.01 Cuts pipe and tube	Sub-task C-11.02 Bends pipe and tube	Sub-task C-11.03 Threads pipe
	Sub-task C-11.04 Grooves pipe and tube	Sub-task C-11.05 Drills pipe and tube	Sub-task C-11.06 Grinds pipe
	Sub-task C-11.07 Prepares fittings		
Task C-12 Installs pipe, tube and fittings 36%	Sub-task C-12.01 Installs steel pipe, tube and fittings	Sub-task C-12.02 Installs non-metallic pipe, tube and fittings	Sub-task C-12.03 Installs copper pipe, tube and fittings
	Sub-task C-12.04 Paints and labels pipe, tube and fittings		
Task C-13 Installs piping components 35%	Sub-task C-13.01 Selects sprinklers and nozzles	Sub-task C-13.02 Installs sprinklers and nozzles	Sub-task C-13.03 Installs pipe sleeves
	Sub-task C-13.04 Installs hangers, supports, restraints and bracing	Sub-task C-13.05 Installs cross-connection control assemblies	Sub-task C-13.06 Installs system drainage

Major Work Activity D – Installs and lays out fire protection systems and devices

24%

Task D-14 Installs water-based systems 48%	Sub-task D-14.01 Installs wet pipe systems	Sub-task D-14.02 Installs dry pipe systems	Sub-task D-14.03 Installs preaction/deluge systems	
	Sub-task D-14.04 Installs antifreeze systems	Sub-task D-14.05 Installs foam systems	Sub-task D-14.06 Installs water mist and hybrid systems	
	Sub-task D-14.07 Installs standpipe and hose systems	Sub-task D-14.08 Modifies existing systems		
	Task D-15 Installs specialty fire suppression systems 20%	Sub-task D-15.01 Installs dry and wet chemical, clean agent and carbon dioxide systems	Sub-task D-15.02 Installs portable extinguishers	
		Task D-16 Installs detection devices 13%	Sub-task D-16.01 Installs wet and dry pilot lines	Sub-task D-16.02 Installs heat-actuated devices (HADs)
	Sub-task D-16.04 Installs air sampling systems		Sub-task D-16.05 Installs electrical detection systems NOT COMMON CORE	
Task D-17 Installs signal-initiating devices 19%	Sub-task D-17.01 Installs alarm-initiating devices	Sub-task D-17.02 Installs supervisory-initiating devices		

Major Work Activity E - Inspects, tests and maintains (ITM) fire protection systems

16%

<p>Task E-18 Inspects and tests water-based fire protection systems 37%</p>	<p>Sub-task E-18.01 Performs scheduled inspections of water-based fire protection systems</p>	<p>Sub-task E-18.02 Performs scheduled tests of water-based fire protection systems</p>	
<p>Task E-19 Maintains and repairs water-based fire protection systems 34%</p>	<p>Sub-task E-19.01 Troubleshoots water-based fire protection systems</p>	<p>Sub-task E-19.02 Repairs deficiencies of water-based fire protection systems</p>	<p>Sub-task E-19.03 Performs scheduled maintenance of water-based fire protection systems</p>
<p>Task E-20 Inspects and tests specialty fire suppression systems and equipment 16%</p>	<p>Sub-task E-20.01 Performs scheduled inspections of specialty fire suppression systems</p>	<p>Sub-task E-20.02 Performs scheduled tests of specialty fire suppression systems and equipment</p>	<p>Sub-task E-20.03 Performs scheduled inspections of portable fire extinguishers</p>
<p>Task E-21 Maintains and repairs specialty fire suppression systems and equipment 13%</p>	<p>Sub-task E-21.01 Troubleshoots specialty fire suppression systems and equipment</p>	<p>Sub-task E-21.02 Repairs deficiencies of specialty fire suppression systems and equipment</p>	<p>Sub-task E-21.03 Performs scheduled maintenance of specialty fire suppression systems and equipment</p>