

# Sprinkler Fitting

## L1 SPRINKLER FITTING

LEVEL 1



### Curriculum Notes

- 155 Hours (includes Core)
- Revised: 2021, Fourth Edition to reflect NFPA 13
- Downloadable instructor resources are available.

### PAPERBACK

Trainee Guide: \$74.99

### ISBN

978-0-13-747549-0

### MODULES

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

### Occupational Overview: The Sprinkler Industry

(5 Hours)

ISBN 978-0-13-747554-4

(Module ID 18101) Describes the basic types of sprinkler systems, the tools used to install them, and the codes and standards that apply to these systems. Covers the apprenticeship requirements for sprinkler fitters, employer and employee responsibilities, and career paths in the sprinkler industry.

### Introduction to Components and Systems

(10 Hours)

ISBN 978-0-13-747556-8

(Module ID 18102) Provides an overview of the four main types of sprinkler systems. Describes testing laboratories and Listing requirements. Covers sprinkler characteristics, including thermal response, spray pattern and coverage area, orientation, K-factors, and temperature ratings. Describes various types of piping, valves, and pumps.

### Steel Pipe and Fittings (20 Hours)

ISBN 978-0-13-747560-5

(Module ID 18103) Describes the steel pipe used in sprinkler systems, including pipe types, schedules, and sizes. Covers common methods of end preparation, including cutting, reaming, grooving, and threading pipe. Describes various types of grooved, threaded, flanged, and plain-end fittings, along with the installation methods and applications of each type.

### CPVC Pipe and Fittings (12.5 Hours)

ISBN 978-0-13-747561-2

(Module ID 18104) Covers the special type of chlorinated polyvinyl chloride (CPVC) pipe and fittings used in sprinkler systems. Describes the procedures for cutting, beveling, cleaning, and joining CPVC pipe and fittings. Provides an overview of how to test the installed sprinkler system.

### Copper Tubing and Fittings (10 Hours)

ISBN 978-0-13-747564-3

(Module ID 18105) Copper tubing and fittings are introduced along with cutting and bending tools. The soldering process is described, including techniques for measuring, cutting, reaming, and cleaning tubing. Brazing is described, as are brazing metals, fluxes, and brazing equipment. Also covers grooved couplings and compression connections.

### Underground Pipe (12.5 Hours)

ISBN 978-0-13-747582-7

(Module ID 18106) Describes the installation of underground piping systems. Covers ductile iron and PVC piping and components, including risers, backflow preventer assemblies, hydrants, and restraints. Also covers trench safety requirements, backfilling, and testing.

## L2 SPRINKLER FITTING

LEVEL 2

### Curriculum Notes

- 152.5 Hours
- Revised: 2022, Fourth Edition to reflect NFPA 13
- Downloadable instructor resources are available.

### PAPERBACK

Trainee Guide: \$99.99

### ISBN

978-0-13-747571-1

### MODULES

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

### Hangers, Supports, and Restraints (17.5 Hours)

ISBN 978-0-13-747573-5

(Module ID 18201) This module identifies strength/spacing requirements, types, and installation of pipe hangers, supports, and restraints. It also covers the installation of firestopping.

### General Purpose Valves (15 Hours)

ISBN 978-0-13-747575-9

(Module ID 18202) This module explains the valves used to start, stop, direct, and regulate water flow in sprinkler systems. It covers the operation, applications, and basic maintenance of various valves, including indicating control valves, trim valves, check valves, hose valves, pressure control valves, and air venting valves.

### Math for Sprinkler Fitters (20 Hours)

ISBN 978-0-13-747570-4

(Module ID 18203) This module reviews basic mathematical principles and explains how to apply them to various sprinkler fitting calculations, including floor areas, pitch, offsets, sprinkler spacing, pressure, and volume.

### Shop Drawings (30 Hours)

ISBN 978-0-13-747583-4

(Module ID 18204) This module covers the shop drawings used in sprinkler fitting. It describes the symbols used for various sprinkler system components and explains how to use a shop drawing to identify the types and locations of piping and components. It also provides an overview of Building Information Modeling (BIM).

### Standard Spray Sprinklers (20 Hours)

ISBN 978-0-13-747584-1

(Module ID 18205) This module describes the characteristics of standard spray sprinklers. It also covers types of construction, NFPA 13 light and ordinary hazard occupancy classifications, and installation considerations.

### Wet Pipe Sprinkler Systems (25 Hours)

ISBN 978-0-13-747589-6

(Module ID 18206) This module describes the operation and installation of wet pipe sprinkler systems. It covers various system controls and switches and explains how they operate. It also describes how to complete a Contractor's Material and Test Certificate for Aboveground Piping and provides an overview of basic system troubleshooting procedures.

### Dry Pipe Sprinkler Systems (25 Hours)

ISBN 978-0-13-747591-9

(Module ID 18207) This module describes the operation and installation of dry pipe sprinkler systems. It covers differential and mechanical dry pipe valves and trim, including switches, gauges, air sources, accelerators, and drains. It also provides an overview of basic system troubleshooting and acceptance testing procedures, including the completion of a Contractor's Material and Test Certificate for Aboveground Piping for a dry pipe sprinkler system.

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## Sprinkler Fitting Level 3

### L3 SPRINKLER FITTING

#### LEVEL 3

##### Curriculum Notes

- 150 Hours
- Revised: 2022, Fourth Edition to reflect NFPA 13
- Downloadable instructor resources are available.

##### PAPERBACK

Trainee Guide: \$99.99

##### ISBN

978-0-13-793458-4

### MODULES

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

#### Water Supplies (15 Hours)

ISBN 978-0-13-803121-3

(Module ID 18303) Identifies the chemical and physical properties of water. Covers the water supplies available for sprinkler systems, including tanks and municipal water supply systems. Describes the procedures and NFPA requirements for waterflow testing.

#### Fire Pump Systems (35 Hours)

ISBN 978-0-13-803125-1

(Module ID 18304) Identifies various types of fire pump systems and their components, including pumps, drivers, controllers, and sensing lines. Describes fire pump system pre-checks and start-up/acceptance testing.

#### Standpipes (25 Hours)

ISBN 978-0-13-803126-8

(Module ID 18302) Identifies different types and classifications of standpipe systems. Covers hose valves and adapters used with these systems. Describes procedures and NFPA requirements for acceptance testing.

#### Deluge and Preaction Sprinkler Systems (35 Hours)

ISBN 978-0-13-803127-5

(Module ID 18301) Describes the operation, installation, and NFPA 13 requirements for deluge and preaction sprinkler systems. Covers initiating and notification devices. Provides an overview of acceptance testing, including completing a Contractor's Material and Test Certificate for Aboveground Piping for these systems.

#### Application-Specific and Special Sprinklers

(40 Hours)

ISBN 978-0-13-803129-9

(Module ID 18305) Covers application-specific sprinklers, including extended coverage sprinklers, residential sprinklers, control mode specific application (CMSA) sprinklers, and early suppression fast-response (ESFR) sprinklers. Describes the area of coverage, positioning, and obstruction requirements for each type. Covers special sprinklers and their uses.

### L4 SPRINKLER FITTING

#### LEVEL 4

##### Curriculum Notes

- 145 Hours
- Revised: 2023, Fourth Edition to reflect NFPA 13
- Downloadable instructor resources are available.

##### PAPERBACK

Trainee Guide: \$99.99

##### ISBN

978-0-13-806535-5

### MODULES

The modules listed below are included in the Trainee Guide. The following ISBNs are for ordering individual modules only.

#### System Layout (27.5 Hours)

ISBN 978-0-13-817413-2

(Module ID 18401) Identifies three types of system configurations and a variety of occupancy and storage classifications. Covers the basics of sprinkler system layout and design methods. Describes flow characteristics and pressure loss.

#### Inspection, Testing, and Maintenance (37.5 Hours)

ISBN 978-0-13-817414-9

(Module ID 18402) Covers inspection, testing, and maintenance requirements for sprinkler systems, standpipe and hose systems, fire pumps, and other systems.

#### Special Extinguishing Systems (27.5 Hours)

ISBN 978-0-13-817416-3

(Module ID 18403) Describes water spray, water mist, foam, carbon dioxide, and clean agent extinguishing systems. Covers all of the appropriate system components, including pipe and fittings, nozzles, alarms, detectors, and control equipment.

#### Fundamentals of Crew Leadership (22.5 Hours)

ISBN 978-0-13-803097-1

(Module ID 46101) Covers basic leadership skills and explains different leadership styles, communication, delegating, and problem solving. Jobsite safety and the crew leader's role in safety are also discussed. Explains details and procedures for project planning, scheduling, and estimating.

#### Procedures and Documentation (30 Hours)

ISBN 978-0-13-817417-0

(Module ID 18405) Explains the various ways sprinkler projects are documented. Reviews daily reports, materials documentation, and documentation of safety policies and incidents. Covers responses to water damage, including documentation and investigation.