

# Sprinkler System Installer

## At a Glance

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*Sprinkler system installers design, install, and assemble sprinkler systems. Their work protects us against fires in all types of buildings.*

### 16 Career Clusters

Architecture & Construction

### Earnings

Earnings Range: 25 - 40/hr

### Level of Education

- High School
- 2-Year College or Technical Training

### Core Tasks

- Read blueprints to design systems and select the right pipes and materials
- Measure, cut, and assemble the pipes
- Weld or solder the pipes together
- Attach sprinkler heads and other accessories, such as fire department pumper connections
- Push pressurized air or liquid through the pipes to check for leaks

### Attributes & Abilities

- Physically fit
- Physical strength and stamina
- Detail-oriented
- Mechanically inclined
- Computer skills

### Workplace

- Most work for sprinkler system and plumbing contractors, heating and air conditioning companies, and sprinkler system manufacturers
- The work is physically demanding
- A lot of work is done high up on ladders or scaffolds
- Some risk of injury, including burns caused by welding and soldering equipment or hot pipes
- Most work a 5-day, 40-hour week, but overtime is sometimes necessary

## Job Description

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Sprinkler systems help protect us from fires. These systems keep us safe in our workplaces, schools, and hospitals. They are also installed in airports, hotels, and apartment buildings. These systems sense heat and smoke to detect fires. If there is a fire, they spray water or other substances. Sprinkler system installers assemble, install, and fix these systems.

Not all sprinkler systems are alike. Some systems use water, while others use foam, carbon dioxide, or dry chemicals. Most installers are trained to work with all types of systems.

Sprinkler systems are usually installed before a new building is finished. Installers first assemble the system, and then put it in place. They have to read blueprints to figure out the layout of the building. Next, they select the right kind of piping for the job. Then, they position clamps and hangers to hold the pipes in place.

The next step is to measure and cut the pipes. Installers join the pipes together and mount them into supports. They weld or solder the pipes to connect them to water mains or supply tanks. Finally, installers attach the sprinkler heads and related parts. These include fire department pumper connections. They may also install fire hydrants, hose cabinets, or portable fire extinguishers.

After the sprinkler system is installed, it must be fully tested. This involves pushing air or liquid through the pipes to check for any leaks. If leaks are found, the installer must find the source of the problem and fix it.

Installers are also in charge of maintaining sprinkler systems. They may be called in to change or repair a broken system. These experts often perform routine inspections, too. They know how to deal with any problems that arise during one of these checks.

In some cases, installers may instruct customers on how to use the systems. They may write up cost estimates for a system. They may communicate with parts manufacturers as well.

## Working Conditions

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Sprinkler system installers work in the construction industry. They can work for a variety of employers, such as:

- sprinkler system contractors
- plumbing companies
- construction firms
- building developers
- heating and air conditioning companies
- sprinkler system manufacturers

Some run their own businesses.

People in this job mostly work indoors. Sprinkler systems are needed in all types of buildings. As a result, installers might work in:

- schools
- hospitals
- apartment buildings
- factories
- office buildings
- shopping malls
- airports
- hotels

This work is physically demanding. Installers must be able to stand for long periods of time. They must also lift heavy pipes over their heads. Installers often work on ladders and scaffolds. This is not the job for people who are afraid of heights! There is some risk of injury on the job as well. Welding and soldering gear and hot pipes can cause burns. Installers usually wear hard hats and steel-toed boots. This safety gear is required on most construction sites.

Generally, people in this field work 40 hours a week. They tend to have a regular 9-to-5 schedule. However, they may work overtime when there are tight deadlines. Installers may also have to travel to a few job sites during the day.

Sprinkler system installers work closely with other tradespeople. This can include steamfitters, plumbers, carpenters, electricians, and insulators. Many experts in the trades are required when a building is being erected.

## Earnings

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Fully-qualified sprinkler system installers typically earn from \$25 to \$43 an hour. For those who work full time, that works out to \$52,000 to \$89,000 a year. Senior installers may earn more than this. Supervisors and inspectors tend to earn the highest pay.

People who are just entering this field start as apprentices. They earn a percentage of what a qualified installer makes. Their pay goes up with each year of training. For example, a first-year apprentice may earn 40% to 50% of what a qualified installer makes. But a person in fourth year can earn at least 80% of that wage.

A new apprentice might start off making from \$13 to \$16 an hour. This works out to \$27,000 to \$33,000 a year.

Installers' income depends on several factors. These include their level of experience and the number of hours they work. The location also plays a role.

Installers may not always have full-time work. The construction industry depends on a strong economy. In a weak economy, the industry can go into a slump and work is harder to find. When the economy is booming, there are more jobs for people in the trades.

Installers often get benefits along with their wages. These can include paid vacation, sick days, and health coverage. People who run their own businesses must provide their own benefits.

Some installers belong to unions. This means their wages and benefits are negotiated by union reps. Unionized installers tend to earn higher wages than those who are not in unions.

## Massachusetts Wages

**Occupation:** Plumbers, Pipefitters, and Steamfitters

Level of Experience	Hourly	Annual
Entry Wage	\$23.14	\$48,140
Median Wage	\$30.44	\$63,320
Experienced Wage	\$44.29	\$92,110

**Source:** U.S. Department of Labor, Bureau of Labor Statistics <http://www.bls.gov>

## Massachusetts Outlook

**Occupation:** Plumbers, Pipefitters, and Steamfitters

### Employment

2014	10,820
2024	11,280

### Change

Number	460
Percentage	4.2

### Annual Average Openings

Total	Growth	Replacement
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## Annual Average Openings

190

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**Source:** Projections Central <http://www.projectionscentral.com>

## Education

The best way to enter this field is through an apprenticeship. To get into a program, you usually need to be at least 18 years old and in good physical shape. Often, you'll need a high school diploma as well. High school courses in math, physics, and shop will provide a good background for this career.

Apprenticeships combine classroom learning with training on the job. As an apprentice, you'll work under an experienced installer. You'll also take a variety of classes in math, blueprint reading, and welding. You will also learn about the types of sprinkler systems and pipes and get safety training. Most of these programs last 4 or 5 years. When you are finished your training, you'll be a journey person installer.

Apprenticeships are offered through several groups. You can go through a local training committee made up of employers and unions. The United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry (UA) offers one option. Other programs are available through non-union trade groups. For example, the Associated Builders and Contractors (ABC) offer training.

In some regions, you have to be licensed to do this job. Requirements vary, but often you have to pass an exam.

### Related College Programs

- Fire Systems Technology
- Pipefitting/Pipefitter and Sprinkler Fitter
- Welding Technology/Welder

### Other Suggested Qualifications

Sprinkler system installers need to be physically fit. Both strength and stamina are important, as installers must be able to climb ladders, carry and hold heavy pipes, and work on their feet all day. Installers should also be detail-oriented, mechanically inclined, and computer literate. High school courses in math, physics, and shop will provide a good background for this career.

### Sample High School Program of Study

This Program of Study can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals.

### Construction Architecture & Construction

Grade 9	Grade 10	Grade 11	Grade 12
<b>English/Language Arts</b>			
English/Language Arts I	English/Language Arts II	English/Language Arts III Technical Writing	English/Language Arts IV
<b>Math</b>			

Grade 9	Grade 10	Grade 11	Grade 12
Algebra I	Geometry	Algebra II	Construction Math Statistics
<b>Science</b>			
Earth or Life or Physical Science	Biology	Physics	Chemistry
<b>Social Studies/Sciences</b>			
State History Civics or World History	U.S. History	Economics Psychology	
<b>Career &amp; Technical Courses</b>			
Introduction to the Built Environment	The Language of Architecture and Construction  Information Technology Applications	Safety, Health and the Workplace Environment  Principles of Construction	Applications in Construction

States' Career Clusters Initiative, 2008, [www.careerclusters.org](http://www.careerclusters.org).

### Important

- Check with your advisor to make sure that your course selections satisfy your graduation requirements.
- Courses available may vary from school to school.

## Sample Career Path

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People take different pathways through their careers, but no one starts at the top. This is an example of how the earnings, education and experience requirements, and responsibilities might progress for someone in this occupation.

### Level 1

<b>Sample Title</b>	Apprentice
<b>Earnings</b>	\$11 to \$20 an hour
<b>Requirements</b>	<ul style="list-style-type: none"> <li>• Preferably a high school diploma (required for many programs)</li> <li>• Registered in an apprenticeship program</li> </ul>

## Level 1

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<b>Responsibilities</b>	Learning the trade: working under the supervision of a fully qualified sprinkler system installer and receiving classroom instruction.
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## Level 2

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<b>Sample Title</b>	Sprinkler System Installer
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<b>Earnings</b>	\$20 to \$35 an hour
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<b>Requirements</b>	<ul style="list-style-type: none"><li>• Completion of apprenticeship</li><li>• Licensed by state or municipality, if required</li></ul>
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<b>Responsibilities</b>	Installing sprinkler systems; working with other tradespeople; training apprentices.
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## Level 3

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<b>Sample Title</b>	Senior Sprinkler System Installer / Foreperson
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<b>Earnings</b>	\$30 to \$45 an hour
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<b>Requirements</b>	<ul style="list-style-type: none"><li>• At least 5 years of experience as a fully qualified installer</li></ul>
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<b>Responsibilities</b>	Installing, maintaining, inspecting, and repairing sprinkler systems; working with other tradespeople; training apprentices; coordinating job sites.
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## Related Careers

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Here are some other occupations that you might be interested in. Click on an occupation name to learn more.

- Boilermaker
- Construction Tradesperson
- Crane Operator
- Heating, Air Conditioning, Refrigeration Tech
- Ironworker
- Lineworker
- Oil and Gas Well Drilling Crew
- Pipefitter
- Pipelayer
- Plumber
- Sheet Metal Worker
- Steamfitter
- Welder

## Career Clusters

Career Clusters are groups or families of occupations that share common characteristics such as knowledge requirements, skill sets, and/or goals.

Architecture & Construction

## National Employment by Industry

Industry	% Employed
Construction	68
Self-Employed	14

Source: O\*Net Online, Browse by Industry, US Department of Labor  
<http://online.onetcenter.org/find/industry>

## Other Resources

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### National Fire Sprinkler Association (NFSA)

NFSA promotes the installation of automatic sprinkler systems in both new and existing buildings. Be sure to scroll over Info & Resources and click on Sprinkler Info.

<http://www.nfsa.org>

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### United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States, Canada and Australia (UA)

The UA is a trade association representing plumbing and pipefitting professionals across the US, Canada, and Australia. Browse the Training & Recruitment section to learn about different trades and apprenticeship opportunities.

<http://www.ua.org>

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### Building Advantage – Apprenticeship Program

This organization aims to raise awareness about construction and trade unions. Here you can find excellent career videos to help you learn more about a variety of careers.

<http://www.buildingadvantage.org/apprenticeship>

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### American Fire Sprinkler Association (AFSA)

This organization represents fire sprinkler contractors from the US and around the world. Scroll over News Center to find the Sprinkler Age publication.

<http://www.firesprinkler.org>

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### Plumbing-Heating-Cooling Contractors Association (PHCC)

This organization represents contractors employed in the plumbing, heating, and cooling industry. For general career information, scroll over Education & Events and click on Educational Foundation.

<http://www.phccweb.org>

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### Build Your Future – Choose Your Career Path

This program of the National Center for Construction Education and Research (NCCER) aims to promote careers and education in the construction industry. Here you can find out more about getting started in construction.

<http://byf.org/path>

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### Occupational Outlook Handbook – Plumbers, Pipefitters, and Steamfitters

Career information from the US Department of Labor.

<http://www.bls.gov/ooh/Construction-and-Extraction/Plumbers-pipefitters-and-steamfitters.htm>