



Mechanical Contractors Association of Canada



MECHANICAL CONTRACTING CAREERS

PIPEFITTER/ STEAMFITTER/SPRINKLER

Do you like machines? Are you analytical? Do you enjoy careful, precise work? Are you good with your hands? Could you work with power tools? Are you physically fit? Do you enjoy working independently with little supervision? Are you comfortable with heights? Then Steamfitter/Pipefitter/Sprinkler System Installer could be the career for you!

Also known as

- Apprentice Pipefitter-Steamfitter
- Fire Sprinkler Fitter
- Marine Pipefitter
- Sprinkler System Fitter
- Sprinkler System Installer Apprentice

What the work is like

Steamfitters and pipefitters lay out, assemble, fabricate, maintain, troubleshoot and repair piping systems that carry water, steam, chemicals and fuel in heating, cooling, lubricating and other process piping systems.

They are employed by pipeline construction contractors, thermal or steam generating plants, utility companies, oil refineries, pulp mills, and gas and chemical plants. They may also be self-employed.

Sprinkler system installers fabricate, install, test, maintain and repair water, foam, carbon dioxide and dry chemical sprinkler systems in buildings for fire protection purposes. They are employed in hospitals, commercial buildings, manufacturing plants, homes and apartment buildings.

Steamfitters and pipefitters work in the New Home Building and Renovation, Heavy Industrial, and Institutional and Commercial construction sectors, while sprinkler system installers work mostly in the New Home Building and Renovation, and Institutional and Commercial sectors. To learn more about the construction sectors, check out [Inside the industry](#).

Your duties

As a Steamfitter/Pipefitter, your duties may include the following:

- installing supports, valves, piping and control systems
- welding pipes to form piping systems
- measuring, cutting, threading and bending piping using hand and power tools
- cutting openings for piping in walls, floors and ceilings
- selecting type and size of piping
- cleaning and maintaining pipes
- preparing cost estimates
- reading and interpreting blueprints

As a Sprinkler System Installer, your duties may include the following:

- selecting, measuring, cutting and installing piping
- connecting piping systems to water mains, supply tanks, pumps and control equipment
- installing sprinkler heads and alarm systems
- welding pipes
- testing systems for leaks using air or liquid pressure equipment
- servicing and repairing sprinkler systems
- preparing cost estimates
- reading and interpreting work specifications and fire codes

Work conditions

The standard work week for steamfitters, pipefitters and sprinkler system installers is 40 hours (8 hours a day, 5 days a week). As with many careers in construction, there are peak periods that will require you to work overtime. The number of additional hours you work each week depends on the construction sector and region you work in, and will vary from one job to the next.

As a Steamfitter/Pipefitter, you may work indoors and outdoors, often at physically demanding tasks that may require climbing. You may have to travel for some jobs and live on-site at a company camp.

As a Sprinkler System Installer, you may work indoors and outdoors, often with a team of other construction professionals. The job can be physically demanding – you may work at considerable heights and have to lift heavy materials.

As with all careers in the construction industry, safety is the top priority. Steamfitters, pipefitters and sprinkler system installers are trained to work safely and wear special equipment to protect themselves from injury.

Essential Skills

Human Resources and Skills Development Canada (HRSDC) has identified nine Essential Skills that are necessary to succeed in the workplace. These skills provide the foundation for learning all other skills and apply to most construction careers. Best of all, you can learn and improve on these skills in school, on the job and during your everyday life.

The most important Essential Skills for steamfitters, pipefitters and sprinkler system installers are the following:

- Numeracy – working with numbers to perform calculations
- Oral Communication – conveying or exchanging information verbally
- Problem Solving – coming up with solutions to challenges

[Click here](#) to see how these skills are applied on the job. You can also [click here](#) to learn more about Essential Skills.

Apprenticeship

Apprenticeship is one way of starting out in the construction industry. It involves both classroom studies and on-the-job training under the supervision of a certified Steamfitter/Pipefitter/Sprinkler System Installer, called a journey person.

As an apprentice, you earn while you learn and are paid by the hour while working on the job site. Wages start at about 45%-50% of a journey person's hourly rate and increase during your apprenticeship until you reach the full rate.

Entering an apprenticeship program

Requirements for steamfitter/pipefitter/sprinkler system installer apprenticeship programs vary across Canada. In most provinces and territories, you must be at least 16 years old and have a Grade 10 education or equivalent to enter the program. You may also need to have completed courses in math.

Some provinces and territories offer secondary school apprenticeship programs that allow high school students to work towards a career as a Steamfitter/Pipefitter/Sprinkler System Installer.

For more information, check out the [Apprenticeship](#) section.

Program length

Apprenticeship training programs for steamfitters, pipefitters and sprinkler system installers vary across Canada. For steamfitters and pipefitters they generally involve four 12-month periods, including at least 6,000 hours of on-the-job training, four eight-week blocks of technical training and a final certificate exam. For sprinkler system installers they generally involve four 12-month periods, including at least 6,600 hours of on-the-job training, three seven-week blocks of technical training and a final certificate exam.

Related work experience or completion of a steamfitter/pipefitter/sprinkler system installer program at a college or technical institute can reduce the time required to complete your apprenticeship.

Certification

Steamfitter/pipefitter certification is required in Alberta, British Columbia, Manitoba, Ontario and Quebec. It is available, but voluntary, in all other provinces and territories.

Sprinkler system installer certification is required in British Columbia, Manitoba and Quebec, and is available but voluntary in all other provinces and territories.

Even where certification is voluntary, it is still recommended. Certification tells employers and other workers that you are a skilled professional. It also helps you get jobs.

To be certified as a Steamfitter/Pipefitter/Sprinkler System Installer you usually need to complete a four-year apprenticeship program. Once you successfully complete the required on-the-job training, technical training and exams, you are awarded a journeyman certificate.

You may be eligible for certification in some provinces and territories if you have more than five years of on-the-job experience and some high school, college or industry courses in steamfitting/pipefitting/sprinkler system installing.

As a certified Steamfitter/Pipefitter/Sprinkler System Installer, you may attempt the Interprovincial Exam to qualify for the Interprovincial Standards' Red Seal. With a Red Seal, you can work as a Steamfitter/Pipefitter/Sprinkler System Installer anywhere in Canada.

To keep your skills current, you have to keep up with new technological developments by reading and talking with other steamfitters, pipefitters and sprinkler system installers.

Where to study in Canada

In addition to the Canadian schools listed below, many employer and labour organizations offer training. For more information, check out [Related links](#).

Alberta

[Medicine Hat College](#) (steamfitter/pipefitter only)

[Northern Alberta Institute of Technology](#)

(steamfitter/pipefitter only)

[Portage College](#) (steamfitter/pipefitter only)

[Red Deer College](#)

[Southern Alberta Institute of Technology](#)

(steamfitter/pipefitter only)

British Columbia

[British Columbia Institute of Technology](#)

[Camosun College](#)

[Northern Lights College](#) (steamfitter/pipefitter only)

[Pacific Vocational College](#) (sprinkler system installer only)

[Piping Industry Apprenticeship Board & UA Trade School](#)

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Manitoba

[Assiniboine Community College](#)

[Red River College](#)

New Brunswick

[New Brunswick Community College](#)

Newfoundland and Labrador

[College of the North Atlantic](#)

Nova Scotia

[Nova Scotia Community College](#)

Ontario

[Durham College](#) (steamfitter/pipefitter only)

[George Brown College](#) (steamfitter/pipefitter only)

[Mohawk College of Applied Arts and Technology](#)

(steamfitter/pipefitter only)

[Sault College](#) (steamfitter/pipefitter only)

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Prince Edward Island

[Holland College](#) (steamfitter/pipefitter only)

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Saskatchewan

[Carlton Trail Regional College](#) (steamfitter/pipefitter only)

[North West Regional College](#) (steamfitter/pipefitter only)

[Saskatchewan Institute of Applied Science and Technology](#) (steamfitter/pipefitter only)

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Yukon

[Yukon College](#) (steamfitter/pipefitter only)

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Specialty programs

In addition to the schools listed above, new Canadians and women can enrol in one of the following specialty programs:

For new Canadians, [NorQuest College](#) offers a program called Transitions to Technical and Trades Careers.

For women, [Mohawk College of Applied Arts and Technology](#) offers an integrated program called Women in Skilled Trades. The [Piping Industry Apprenticeship Board & UA Trade School](#) offers a six-week introductory Piping Opportunities for Women (POW) course.

Salary ranges

Steamfitter, Pipefitter and Sprinkler System Installer hourly wages vary depending on the contract, the company, collective agreements, and local and national economic conditions. Typical hourly wage ranges for steamfitters, pipefitters and sprinkler system installers (based on national or regional averages) are as follows:

Junior apprentices

Region	Typical hourly rate Steamfitter/Pipefitter	Typical hourly rate Sprinkler System Installer
National average	\$14-\$20	\$14-\$20
Atlantic Canada	\$14-\$16	\$14-\$16
Ontario and Quebec	\$20-\$22	\$19-\$23
Western Canada	\$16-\$19	\$16-\$19

Based on national averages, junior apprentice steamfitters, pipefitters and sprinkler system installers can earn annual salaries ranging from \$29,000 to \$42,000 per year, not including overtime.

Journeypersons

Region	Typical hourly rate Steamfitter/Pipefitter	Typical hourly rate Sprinkler System Installer
National average	\$23-\$30	\$23-\$30
Atlantic Canada	\$23-\$26	\$23-\$26
Ontario and Quebec	\$28-\$30	\$28-\$30
Western Canada	\$23-\$54	\$26-\$31

Based on national averages, journeyperson steamfitters, pipefitters and sprinkler system installers can earn annual salaries ranging from \$48,000 to \$62,000 per year, not including overtime.

Highly experienced journeypersons

Region	Typical hourly rate Steamfitter/Pipefitter	Typical hourly rate Sprinkler System Installer
National average	\$30-\$38	\$30-\$38
Atlantic Canada	\$30-\$38	\$30-\$38
Ontario and Quebec	\$36-\$38	\$36-\$38
Western Canada	\$35-\$49	\$35-\$38

Based on national averages, highly experienced journeyperson steamfitters, pipefitters and sprinkler system installers can earn annual salaries ranging from \$62,000 to \$79,000 per year, not including overtime. Construction work can involve overtime, so your total annual salary will vary depending on the number of overtime hours you work.

In addition to the hourly rate, many construction workers receive statutory holiday and vacation pay. Depending on the contract, you may also receive benefits such as group insurance for health, dental, and vision care, as well as retirement packages and training benefits up to 30% of your hourly rate. If you are self-employed, it is up to you to arrange your own benefits.

Building your career

With experience and additional training, you can move into more senior positions, including supervisory roles such as foreman or construction superintendent. You can also become self-employed and work as a contractor or sub-contractor. Additionally, if you're a Sprinkler System Installer, you can transfer your skills to related construction trades such as Steamfitter/Pipefitter or Welder.

As with most careers in the construction industry, your skills are portable. If you want to move, you can take your skills with you.

Job prospects

Construction careers across Canada are booming! To learn about the forecast for steamfitters, pipefitters and sprinkler system installers, check out [Job prospects](#). There you'll find information on their expected demand by province for the next nine years.