

Fire Protection Engineer

Work out how a building would burn, then design it so people get out. An engineering degree plus a fire specialty.

TYPICAL PAY

\$104,000

a year, full time

PAY RANGE

\$58k to \$171k

starting to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Good

job outlook

LICENCE NEEDED

Yes

regulated job

WHERE YOU WORK

Code consulting firms, engineering firms, insurers, government, devel...

How you get there

- 1 High school** Grades 11 and 12
 Calculus, Advanced Functions, Physics and Chemistry. Engineering admission usually wants the mid 80s or higher.
- 2 Engineering degree** 4 to 5 years with co-op
 A four-year mechanical, civil or building engineering degree accredited by the Canadian Engineering Accreditation Board. Canada has no bachelor's degree named fire protection engineering.
- 3 Get into the field** Year 1
 Join a code consulting firm, the fire group of a big engineering firm, or an insurer's risk team. This is where the real teaching happens.
- 4 Engineer-in-training years** About 4 years
 Work under a licensed engineer, log your experience, pass your regulator's law and ethics exam.
- 5 Licence, then specialise** 8 years and onward
 Become a professional engineer, then add fire credentials: a master's in fire safety engineering, or the Society of Fire Protection Engineers exam route.

Pros and cons

- + Small field, so good people are always in demand
- + Pay at the top end of engineering
- + You can point at buildings and say those exits are mine
- No direct degree in Canada, so the path is not laid out for you
- Heavy code reading and documentation
- You are the person who says no to the design everyone loves

Good to know

Canada rewrites its fire rules on a cycle

The National Research Council of Canada publishes the National Building Code of Canada and the National Fire Code of Canada. The current editions are dated 2025, and provinces adopt them with their own amendments.

The code lets you argue

Canadian model codes allow an alternative solution: instead of following the recipe, you prove with calculations that your design is at least as safe. Doing that proof is what a fire protection engineer is for.

Optional boosts

Performance-based design. Fire and smoke modelling. Sprinkler and suppression design. Forensic fire investigation.

Where these numbers come from

Job Bank: wages for other professional engineers (updated Nov 2025)

Society of Fire Protection Engineers

National Research Council Canada: Codes Canada publications

Engineers Canada: Overview of the licensing process

Numbers checked September 2026. Pay figures are typical full-time annual amounts in Canadian dollars, based on Government of Canada Job Bank wage data and published salary grids. They vary by province, employer and experience. Tuition is for domestic students. Sources, links and the click-through version: <https://career.help/ca/careers/fire-protection-engineer>



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