

Fire Protection Engineer

Design the sprinklers, alarms and escape routes that keep a building from killing the people inside it.

TYPICAL PAY

\$115,160

a year, full time

PAY RANGE

\$68k to \$171k

started to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Moderate

job outlook

LICENCE NEEDED

Yes

regulated job

WHERE YOU WORK

**Engineering consulting firms,
insurance companies, building de...**

How you get there

- 1 High school diploma** Grade 12
Push hard in calculus, physics and chemistry. Engineering programs admit on math and science grades.
- 2 Bachelor's degree in engineering** 4 years
Either a fire protection engineering degree or a mechanical or civil degree you specialize from later. Pick a program accredited by ABET (the Accreditation Board for Engineering and Technology) or licensing gets harder.
- 3 Pass the first exam** Final year
The FE (Fundamentals of Engineering) exam, usually taken in your final year of college. Passing makes you an engineer in training.
- 4 Work under a licensed engineer** About 4 years
Most states want about four years of supervised experience before they will let you sit the second exam.
- 5 Pass the second exam and get your state license** 1 exam day, months of study
There is a PE (Principles and Practice of Engineering) exam written specifically for fire protection. Pass it, apply to your state board, and you can seal your own designs.

Pros and cons

- + Well paid for a four-year degree
- + Small field, so good engineers get known quickly
- + The work genuinely keeps people alive
- Few schools teach it, so most people arrive sideways
- The license takes roughly eight years from high school
- Endless code documents, revisions and review comments

Good to know

Sprinklers almost always win

Where a building has working sprinklers, a fire very rarely spreads past the room it started in. That single fact is most of the reason this job exists.

The field grew out of insurance

Fire protection engineering started in the 1800s with insurance companies sending inspectors into mills and factories. They wanted fewer payouts, so they paid engineers to work out what made buildin...

Optional boosts

The fire protection engineering license. Fire modeling software. Performance-based design. Special hazards.

Where these numbers come from

My Next Move: Health and Safety Engineers (17-2111.00)

Society of Fire Protection Engineers

National Council of Examiners for Engineering and Surveying: Principles and Practice of Engineering exam

University of Maryland, Department of Fire Protection Engineering

Numbers checked September 2026. Pay figures are typical full-time annual amounts in United States dollars, based on Bureau of Labor Statistics wage data and published pay scales. They vary by state, employer and experience. Tuition is for in-state students at public schools unless the card says otherwise. Sources, links and the click-through version: <https://career.help/us/careers/fire-protection-engineer>



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