

Materials Engineer

Work out what things are made of, why they break, and what to build them from next.

TYPICAL PAY

\$100,000

a year, full time

PAY RANGE

\$69k to \$138k

starting to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Moderate

job outlook

LICENCE NEEDED

Yes

regulated job

WHERE YOU WORK

**Steel mills, test labs, factories,
mining and aerospace companies**

How you get there

- 1 High school** Grades 11 and 12
Calculus, Advanced Functions, Physics and Chemistry. Chemistry matters more here than in most engineering fields.
- 2 Accredited engineering degree** 4 to 5 years with co-op
Materials engineering, materials science and engineering, or metallurgical engineering. Many schools run a common first year and let you pick in second year.
- 3 Engineer-in-training** About 4 years
Register with your provincial regulator, work under a licensed engineer and log your experience.
- 4 Professional practice exam** During your training years
A law and ethics exam. Most people write it in their first or second year of work.
- 5 P.Eng (professional engineer) licence** After about 4 years of experience
Now you can sign off on engineering work and take legal responsibility for it.

Pros and cons

- + You get clear answers: the material either passed or it did not
- + A mix of lab work, computer work and plant floor time
- + Skills carry across steel, mining, aerospace, batteries and medical devices
- A small field, so there are fewer jobs and they cluster in industrial towns
- Manufacturing follows the economy: plants close and layoffs happen
- Plants are loud, hot and dirty, and some run all night

Optional boosts

Welding engineering. Corrosion specialist certification. Non-destructive testing knowledge. A master's or doctorate.

Good to know

Hamilton is still the steel city

Hamilton, Ontario has made steel for more than a century, and McMaster University grew a materials department beside the mills. The industry is now rebuilding around electric furnaces that melt scr...

Cold changes everything

Steel that is tough at room temperature can snap like glass in deep cold. Canadian pipelines, rail and ships are built from grades that are tested at low temperatures for exactly that reason.

Where these numbers come from

Job Bank: Materials engineer, wages (updated Nov 2025)
Engineers Canada
APEGA, Alberta's engineering and geoscience regulator
McMaster University: Materials Science and Engineering

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/materials-engineer>



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