

Boilermakers

SOC: 47-2011 • Career Profile Report

■ Key Facts

\$73,340 Median Salary	10,400 Employment	-2.0% Growth Rate
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■ Requirements & Salary Range

Education: High school diploma

■ Automation Risk Assessment

Medium Risk - 35.0% probability of being automated in the next 10-20 years.
This job has some routine elements but still requires human judgment and interaction.

■■ Work-Life Balance

5.8/10 - Fair work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	9.4/10	Investigative	5.8/10
Artistic	4.0/10	Social	5.0/10
Enterprising	5.0/10	Conventional	6.0/10

■ Top Skills Required

Mechanical skills, Physical stamina, Physical strength, Unafraid of confined spaces, Unafraid of heights

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Boilermakers are skilled tradespeople who **construct, assemble, maintain, and repair large vessels and boilers that hold liquids and gases**. They ensure industrial containers are safe, durable, and meet specifications. Their work is essential in power plants, manufacturing, shipyards, and construction industries.

This career is well suited for individuals who enjoy hands-on work, mechanical problem-solving, and working with heavy industrial equipment.

What Do Boilermakers Do?

Boilermakers work on metal structures and vessels used to contain high-pressure liquids and gases.

Common responsibilities include:

- Reading and interpreting blueprints, schematics, and technical drawings
- Cutting, shaping, and assembling metal components
- Welding, riveting, and bolting pieces together
- Inspecting and testing vessels for leaks, strength, and durability
- Repairing and maintaining boilers, tanks, and closed vats
- Ensuring compliance with safety and building regulations
- Operating cranes, hoists, and other heavy equipment to move materials

Key Areas of Boilermaking

Boilermakers may focus on specific functions:

- Construction and Assembly: Building new boilers and vessels from raw materials
- Maintenance and Repair: Inspecting and fixing existing industrial boilers and tanks
- Installation: Positioning and installing large vessels on-site
- Safety and Quality Control: Following standards to prevent leaks or accidents

Skills and Abilities Needed

Boilermakers combine physical skill with technical expertise.

Core Professional Skills

Personal Qualities That Matter

Education and Career Pathway

This role typically requires vocational training and apprenticeship:

- High School Diploma or GED: Foundation in math, science, and technical courses
- Apprenticeship: Paid on-the-job training under experienced boilermakers
- Certifications (optional): Welding, safety, or boiler operation credentials
- Continuous Learning: Keeping up with industry standards, safety regulations, and new welding techniques

Where Do Boilermakers Work?

They are employed across industries requiring large metal vessels and boilers:

- Power Generation Plants
- Shipbuilding and Repair Facilities
- Manufacturing Plants
- Petrochemical and Chemical Industries
- Construction Sites

Work environments may include indoor fabrication shops, outdoor construction sites, or industrial plants.

How Much Do Boilermakers Earn?

Earnings vary by experience, location, and industry:

- Entry-Level: Typically earn competitive hourly wages
- Experienced Boilermakers: Often earn higher pay with overtime and premium rates for hazardous work
- Specialized or Lead Roles: May receive supervisory pay and project-based bonuses

Compensation often includes benefits such as health insurance, retirement plans, and union-negotiated pay rates.

Is This Career Difficult?

This career is physically demanding and requires precision. Boilermakers may face hazards such as heat, heavy materials, and high-pressure equipment. Success requires skill, careful attention, and adherence to safety protocols.

Who Should Consider This Career?

This career may be a strong fit if you:

- Enjoy hands-on, technical work
- Are comfortable with heavy lifting and industrial tools
- Have strong problem-solving and mechanical skills
- Pay close attention to detail and safety
- Want a skilled trade with steady demand and potential for advancement

How to Prepare Early

- Take math, science, and metalworking courses in high school
- Explore welding or mechanical vocational programs
- Seek apprenticeships or entry-level work in fabrication shops
- Develop physical stamina and safety awareness
- Consider joining trade unions or professional associations for boilermakers

Boilermakers build, maintain, and repair the industrial vessels that power factories, ships, and plants—turning raw metal into strong, reliable structures essential to modern industry.