

Trade Profile

Gasfitter - Class B



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Trade Profile

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Structure of the Trade Profile

This profile has two sections that provide a snapshot of the trade's description, and all trade activities as they are organized in the Red Seal Occupational Standard:

Description of the Gasfitter – Class B trade: an overview of the trade's duties, work environment, job requirements, similar occupations and career progression

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard

Major Work Activity (MWA): the largest division within the standard that is comprised of a distinct set of trade activities

Task: distinct actions that describe the activities within a major work activity

Sub-task: distinct actions that describe the activities within a task

Description of the Gasfitter – Class B Trade

Gasfitters – Class B design, install, test, adjust, maintain, and repair fuel piping systems, venting, air supply systems, appliances, equipment and accessories in various sectors.

Gasfitters – Class B may work in residential, institutional and commercial building and restaurants on fuel-fired appliances that do not exceed 400 000 British Thermal Units per hour (Btuhs) or 120 kilowatts (kW). These appliances are typically designed and certified for space heating, cooking, domestic hot water heating and decorative installations, and include furnaces, boilers, hot water tanks and tankless heaters, fireplaces, fire pits and residential and commercial cooking equipment, that usually operate on natural gas or propane.

Depending on regional and jurisdictional regulations and limitations, fuels may include natural gas, manufactured gas, oil, liquefied petroleum gas, digester gas, landfill gas, biogas, hydrogen or a mixture or dilution of any of these gases.

They may be employed to repair and extend gas lines, and install, repair and service pipes and fittings between mains and buildings. For mechanical and service companies, they may install, service and maintain propane and natural gas piping systems and appliances.

For health and safety reasons, the gas fitting trade is regulated across Canada.

In some jurisdictions, to perform tasks such as welding, rigging and hoisting, gasfitters - class B may need to acquire additional certification.

It is essential that gasfitters – class B have strong mechanical aptitudes, problem-solving skills and a good understanding of electrical/electronic control systems, combustion theory and flame safeguard systems, and their regulatory requirements. There is a requirement for strong mathematical, spatial visualization and communication skills. Gasfitters – Class B must be able to interpret drawings and technical manuals.

Conditions may be stressful as the work environment for gasfitters – class B is varied and may involve working in extreme or adverse conditions both indoors and outdoors. They may work in confined spaces, at heights, and around heavy equipment and piping systems and may be required to respond to hazardous emergencies at any time. There are hazards involved in working with electricity, flammable and toxic gases, and power tools.

Gasfitters – Class B require manual dexterity and upper and lower limb coordination. Good physical condition is important because the work often requires considerable standing, lifting and moving of heavy items. They are also required to crouch, bend, kneel, crawl and twist when moving around equipment and piping systems.

This standard recognizes similarities or overlaps with the work of other trades such as gasfitters – class A, plumbers, steamfitters/pipefitters, oil heat system technicians, welders, refrigeration and air conditioning mechanics, electricians, sheet metal workers, and instrumentation and control technicians. Experienced gasfitters – class B often act as mentors and coaches to apprentices in the trade. Career advancement opportunities may include gasfitter - class A, supervisory positions such as supervisor, maintenance manager or service manager, starting their own contracting business, working for provincial/territorial regulators or becoming trainers.

Gasfitter – Class B

Task Matrix and Weightings

A – Performs common occupational skills

7%

Task A-1 Performs safety-related functions 21%	A-1.01 Maintains safe work environment	A-1.02 Uses personal protective equipment (PPE) and safety equipment	
Task A-2 Uses tools and equipment 40%	A-2.01 Uses hand and power tools	A-2.02 Uses technical instruments and testers	A-2.03 Uses access equipment
	A-2.04 Operates lifting, rigging and hoisting equipment		
Task A-3 Organizes work 34%	A-3.01 Interprets documents	A-3.02 Selects systems, equipment and components	A-3.03 Plans for installation, service and maintenance
Task A-4 Uses communication and mentoring techniques 5%	A-4.01 Uses communication techniques	A-4.02 Uses mentoring techniques	

B – Installs fuel piping and tubing systems

14%

Task B-5 Selects and installs piping for fuel systems 53%	B-5.01 Selects piping for fuel systems	B-5.02 Prepares piping for fuel systems	B-5.03 Installs piping for fuel systems
Task B-6 Selects and installs tubing for fuel systems 47%	B-6.01 Selects tubing for fuel systems	B-6.02 Prepares tubing for fuel systems	B-6.03 Installs tubing for fuel systems

C – Installs venting and air supply systems

15%

Task C-7 Selects and installs venting systems 40%	C-7.01 Selects materials for venting systems	C-7.02 Prepares materials for venting systems	C-7.03 Installs venting systems
Task C-8 Selects and installs air supply systems 36%	C-8.01 Selects materials for air supply systems	C-8.02 Prepares materials for air supply systems	C-8.03 Installs air supply systems
Task C-9 Selects and installs draft control systems 24%	C-9.01 Selects components for draft control systems	C-9.02 Installs components for draft control systems	

D – Installs controls and electrical systems

15%

Task D-10 Selects and installs combustion control systems 22%	D-10.01 Selects combustion control components	D-10.02 Installs combustion control components
Task D-11 Selects and installs flame safeguard systems 24%	D-11.01 Selects flame safeguard components	D-11.02 Installs flame safeguard components
Task D-12 Selects and installs operating control systems 26%	D-12.01 Selects operating control components	D-12.02 Installs operating control components
Task D-13 Selects and installs electrical systems 19%	D-13.01 Selects electrical components	D-13.02 Installs electrical components
Task D-14 Selects and installs automation and instrumentation control systems 9%	D-14.01 Selects automation and instrumentation control components	D-14.02 Installs automation and instrumentation control components

E – Installs and converts fuel systems, appliances and ancillary equipment

15%

Task E-15 Selects, installs and converts fuel systems, appliances and ancillary equipment 53%	E-15.01 Selects appliances and ancillary equipment	E-15.02 Installs appliances and ancillary equipment	E-15.03 Installs fuel conversion components
Task E-16 Selects and installs propane and natural gas storage, handling and dispensing systems 34%	E-16.01 Selects propane and natural gas storage, handling and dispensing systems	E-16.02 Installs propane and natural gas storage, handling and dispensing systems	
Task E-17 Selects and installs other fuel storage, handling and dispensing systems 13%	E-17.01 Selects other fuel storage, handling and dispensing systems	E-17.02 Installs other fuel storage, handling and dispensing systems	

F – Tests and commissions fuel systems, appliances and ancillary equipment

16%

Task F-18 Tests fuel delivery systems 45%	F-18.01 Selects testing equipment and procedures	F-18.02 Tests fuel piping and tubing systems	
Task F-19 Commissions fuel systems, appliances and ancillary equipment 55%	F-19.01 Performs start-up procedures	F-19.02 Performs testing, adjusting and balancing procedures	F-19.03 Completes commissioning report and handover

G – Services fuel systems, appliances and ancillary equipment

18%

Task G-20 Maintains fuel systems, appliances and ancillary equipment 44%	G-20.01 Inspects system components and operation	G-20.02 Performs maintenance activities	
Task G-21 Repairs fuel systems, appliances and ancillary equipment 43%	G-21.01 Diagnoses system components and operation	G-21.02 Replaces components	G-21.03 Verifies operation
Task G-22 Decommissions fuel systems, appliances and ancillary equipment 13%	G-22.01 Disconnects appliances and ancillary equipment	G-22.02 Removes appliances and ancillary equipment	