

2017-2018 EDITION

CAREERS IN CONSTRUCTION



An exciting industry
Thousands of stimulating jobs

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The Construction Industry

When we look around, it is easy to see how essential and present the construction industry is in our life. A family home, hospital, school and an office tower all have one thing in common: all were built by construction workers and contractors.

Through its workforce, the construction industry provided work for more than 153,000 people in 2015. To this number must be added all the employers and their staff as well as suppliers of materials or services, whose employment depends on this sector. They represent one of every 20 people working in construction in Québec. Each year, more than \$45 billion is spent on construction projects. In tangible terms, for every \$10 spent, one dollar is allocated to construction work.

Governed by its own legislation and an exclusive labour relations system, the construction industry is very special. Its instability, seasonal variations and mobile workforce are often cited as examples of its particular characteristics. It must also be noted that the construction includes a large number of small businesses.

The fact sheets on the following pages summarize the 25 trades, 6 specialized occupations and 1 speciality in construction. Each sheet describes the work involved in a trade or occupation, its training programs, as well as the skills and interests required of the person seeking to do that work. The job prospects and apprenticeship system for each of these trades and occupations are included as well. You will also find information on the wages paid, the number of apprentices entering the industry and the number of workers in each trade, occupation or speciality.

We hope you enjoy reading the fact sheets!



The **Commission de la construction du Québec** is an organization mandated to administer the *Act Respecting Labour Relations, Vocational Training, and Workforce Management in the Construction Industry* (Act R-20). The CCQ oversees the application of the collective agreements, ensures that the standards for hiring workers and workforce mobility are respected, ensures the competency of the workforce, and implements measures and mechanisms for vocational training. It also administers the complementary social benefits plans. Its board of directors is composed of employer and union representatives and members appointed by the government.

ACTIONS TO DIVERSIFY THE WORKFORCE

The CCQ encourages actions aiming to increase the presence of women, Aboriginals, immigrants, visible minorities, and people with handicaps on construction sites. For example, structural measures have been instituted in order to reach the goal of at least 3% women and 1% Aboriginals; at present women represent only 1.62% of the workforce and Aboriginals 0.63%.

Job Prospects in the Construction Trades and Occupations

In 2016, the number of active employees remained fairly stable compared with 2015. A total of 153,700 employees worked in the construction industry. Construction subject to Bill R-20 rebounded slightly in 2016, to 145.2 million hours worked, a 3% increase from 2015. The medium-term outlook is still promising for the construction industry, despite indications that a gradual decline is currently the most likely scenario. Five years from now, the number of active employees is expected to total 150,000, down from the level observed in recent years.

The occupational prospects generally remain good despite the slight decline in employment levels, as high workforce turnover is creating a need for new workers.¹ Several trades can expect part of the workforce demand to be met by the workers currently available.

For the coming years, the occupational outlook will be good for the trades of elevator mechanic, resilient flooring layer and professional diver. Graduates from these training programs readily find placements and their work prospects for the coming years are quite stable. For several other trades, the job outlook remains reasonably good, although they will in fact be affected by downward economic trends expected over the medium term in the construction industry.

On the other hand, a few trades or occupations will have rather limited work prospects. This is true for reinforcing steel erectors, millwrights, heavy equipment mechanics, structural steel erectors and crane operators, because employees are already available in the market to meet demand.

The civil engineering and roadwork sector continues to provide solid opportunities for new workers

In 2016, the civil engineering and roadwork sector, which employs some 36,000 workers, posted its first growth in five years. This trend is expected to continue because major road infrastructure projects are in progress and will continue for a few years to come. Two projects in particular are the Turcot interchange and the Champlain Bridge. However, other sectors will be slowing down, such as wind turbine and electrical generation projects.

The institutional and commercial sector, which employs 100,000 workers, may experience a gradual slowdown in the medium term. Commercial construction will maintain a robust pace with planned retail projects and the construction of mixed-use buildings, combining condominiums with offices or stores, but work on institutional buildings will gradually decrease, especially as work progresses on the CHUM in Montreal.

The industrial sector, which employs almost 19,000 workers, grew slightly in 2016 after a disappointing year in 2015. This sector fluctuates in step with projects that may be launched, depending on the global economy. The medium-term outlook is for relative stability in this sector. Following the construction of a cement plant in Gaspésie in the spring of 2017, the Whabouchi mine site will pick up the slack.

Finally, residential construction, which employs 55,000 workers, is forecast to slow gradually in coming years. Housing construction will adjust to the reduction in formation of households, which will hover around 35,000 annually in the next few years.

Job prospects are thus encouraging for the construction trades and occupations. The construction industry offers interesting openings to graduates from vocational schools, both men and women, in addition to generating jobs throughout the province.

1. Workers leaving the industry, at least temporarily, for reasons such as retirement, change of industry or creation of companies.

2. Many work in more than one sector.

An annual need for approximately 8,500 new workers

Until 2012, the construction industry took in some 14,000 new workers a year. This number reflected the industry's vitality and its capacity to adjust to the demand for workers.

Since 2013, workforce requirements have declined somewhat and in the next few years, the construction industry should need about 8,500 new workers a year. The industry will continue to have replacement needs due to high turnover and retirement of older workers. On an annual basis, some 13% of workers stop working, at least temporarily, as construction employees due to retirement, change of industry, creation of companies, etc., while almost 6% rejoin the industry. In net terms, construction industry recruiting needs therefore are 7%, just to replace departing workers.

Aging of the workforce affects several trades

Workforce aging is a concern for many stakeholders because several thousand workers will leave the industry in the next few years due to their age. The industry currently has more than 23,000 workers age 55 or over. Aging is a concern primarily for welders and pipe welders, heavy equipment operators, millwrights, and crane operators.

The replacement of retiring workers, however, is just one factor in construction workforce turnover. Many pension recipients will continue to work. Overall, replacements will be needed for 1,500 to 3,000 net vacancies left by workers age 55 or over.

On the other hand, workforce aging is a blessing to some extent for the trowel trades (bricklayer-mason, tile setter, cement finisher) as well as carpenter-joiners, electricians, refrigeration mechanics, structural steel erectors, fire-protection mechanics and a few finishing and covering trades (interior systems installer, roofer). For these trades, an age adjustment is occurring due to the economic situation. These trades rely heavily on apprentices, so the age profile is shifting due to recruiting.

While the overall average age of workers declined steadily between 1998 and 2013, it has begun to rise slightly again since 2012, when fewer new apprentices entered the industry due to the slowdown in operations starting that year. In 2016, the average age was 39.4 years.

Access to the Construction Industry

The Québec construction industry has established hiring criteria for the labour force with which construction companies must comply. The fundamental principle is always competency, which must be acquired through training and work experience. Although the vocational studies diploma (DEP) is the best gateway, a person without a diploma may enter the industry during a labour shortage. To do this, the person must obtain an employment guarantee for 150 hours from his or her employer and meet specific criteria.

One essential: The competency certificate

To demonstrate their competency and be able to work in the construction industry, individuals must have a competency certificate. There are three categories:

- **Apprentice:** This certificate is issued to an individual who is admitted to a trade apprenticeship. The apprenticeship may last from one to five periods of 2,000 hours each. Once these apprenticeship periods are completed, the apprentice must pass a provincial qualification examination in order to obtain a competency certificate-journeyman.
- **Journeyman:** This certificate is issued to a person who has demonstrated his or her competency in one or another of the 25 construction trades and has passed the provincial qualification examination for this trade.
- **Occupation:** Most of the occupation competency certificates are issued by the CCQ upon request, during a regional labour shortage. These individuals must take and pass the course *Connaissance générale de l'industrie de la construction* (CCGIC), composed of a generic 15-hour course (*Situation au regard des organismes de l'industrie de la construction*) and one or more recognized upgrading activities of a minimum duration of 45 hours, offered in the CCQ's annual list of activities.

The number of openings available for the course *Connaissance générale de l'industrie de la construction* (CCGIC) in each region is determined each year by the CCQ, based on estimated needs. These needs are assessed by management and union representatives in the industry and the number of spaces available for the current year is published in the newspaper serving each region. If the number of applications exceeds the estimated number of openings for the region, a random draw is held to choose the people admitted.

Specialized occupations: their special nature

The six specialized occupations—surveyor, blaster-driller, lineman, diver, welder and pipe welder (high pressure)—all covered in this brochure, each require a diploma of vocational studies to enter the industry. Applicants selected under the annual estimates then must successfully complete the 15 hours of training entitled *Situation au regard des organismes de l'industrie de la construction*.

Training: An Industry Priority

Since 1987, the training system has been modernized. Each trade has a study program lasting between 630 and 1,800 hours (21 to 60 weeks) of training.

To gauge the need for graduates in each construction trade, the CCQ conducts a broad-based consultation of some 250 employer and union representatives sitting on 26 different vocational subcommittees under its aegis. In 2017, this exercise led the industry to estimate an annual need for some 5,000 graduate workers from 2018 to 2021. Training capacity is adequate to meet demand, although more promotional efforts are needed in some trades.

To make up for the current lack of graduates and maintain the quality of the workforce, all apprentices without a diploma admitted during a labour shortage must take obligatory training.

Training Pays Off!

Whether or not they hold a vocational studies diploma, apprentices must complete the apprenticeship program provided for their trade in order to become journeymen. The apprenticeship program is divided into periods of 2,000 hours each, and the number of apprenticeship periods for each trade varies between one and five, depending on the complexity of the trade and diversity of the skills to be acquired. Once they have completed their apprenticeship, apprentices must pass the provincial qualification examination in order to obtain the journeyman competency certificate for their trade.

Credits for hours of apprenticeship may be added to apprentices' file to accelerate accumulation of apprenticeship hours (a maximum number of hours has been established for each trade). Both holders of a vocational studies diploma, or DEP (graduate apprentices), and non-graduate apprentices may benefit from this measure. Here is an overview:

Holders of a DEP recognized for the trade: These apprentices may subtract all of the hours devoted to earning their DEP from the hours set out for the apprenticeship program. For example, for the trade of bricklayer-mason, the duration of training leading to the DEP is assessed at 900 hours. The trade is composed of three apprenticeship periods totalling 6,000 hours. An apprentice who has completed the program will have to complete only 5,100 hours before taking the provincial qualification examination.

$$\begin{array}{rcl} 6,000 \text{ hours} & \text{set out for the apprenticeship program} & \\ - 900 \text{ hours} & \text{hours completed to obtain the DEP} & \\ \hline = 5,100 \text{ hours} & & \end{array}$$

Non-graduate apprentices: Apprentices who have been admitted to the industry due to a labour shortage will have a training obligation. Having been admitted to the construction industry without passing the study program recognized for their trade, non-graduate apprentices must take obligatory training annually to ensure that their competency certificate will be renewed. This obligation lasts until they have completed all of the apprenticeship periods for their trade or have earned the diploma recognized for their trade.

Each trade has its own training and apprenticeship hours. In this brochure, you will find the number of hours required to obtain a DEP under the "Training" heading, and then the number of hours required for the apprenticeship period under "Duration of Training." Hour credits granted for upgrading training can be found in the "Répertoire des activités de perfectionnement," available on the CCQ's website, ccq.org.

Earning a Living in Construction

Attractive hourly wages: up to \$42.41 an hour for a journeyman

You can earn a good living in construction! The minimum wage for apprentices is \$17.21 an hour and climbs to \$42.41³ for journeymen.

Work volume varies by season, but all trades include employees who work year-round. From the time they enter the industry, graduates earn good annual incomes. A structural steel erector, for example, will work an average of 1,115 hours in the first year and earn \$32,205, augmented by a range of benefits. The average income of a journeyman carpenter-joiner with regular work on construction sites exceeded \$55,500 in 2016. And this doesn't include work that may be done in sectors not covered by a collective agreement (home renovation, for example).

An excellent pension plan

From the first hour worked in the construction industry, the employer contributes to the insurance plans administered by the CCQ. There are several levels of coverage, established according to the number of hours worked by the employee. The more hours accumulated in a worker's file, the better is his or her insurance coverage.

These insurance plans may include life insurance and health insurance (prescription drugs, glasses, dental care, etc.), as well as a variety of health programs, for both employees and their dependents. Some plans also provide wage insurance protection in the event of short- or long-term disability.

As soon as they enter the construction industry, workers as well as their employers participate in the pension plan. Part of the premiums paid by the employer cover the cost of administering the benefits and provide a contingency reserve fund; the remainder is placed in an account in the employee's name. The full amount of the premium deducted from an employee's pay for each hour worked is deposited in that person's account. Interest is credited to this account based on the return earned on the funds invested. The pension to which employees are entitled depends on the value of their account and their age on the date they retire.

The construction industry workers' pension fund totals about \$20.8 billion, making it one of the largest pension funds in Canada.

Financial incentives to retrain and upgrade

All construction companies are required to pay \$0.20 per hour worked into the Fonds de formation des salariés de l'industrie de la construction (FFSIC) to promote and finance upgrading activities for construction industry employees. One part of the fund is for the institutional and commercial, industrial, and civil engineering and roadwork sectors, and the other is for the residential sector.

With assets of \$220 million, these funds have been created to support holders of a valid competency certificate who have worked in recent years and want to upgrade their skills in an activity related to their trade or occupation.

Workers in the construction industry who meet the general conditions of admission can obtain financial support from the FFSIC. For example, travel and lodging costs may be reimbursed, as may contributions to the insurance fund so that workers maintain their coverage. In 2016, more than 21,000 participants were enrolled in an upgrading activity.

***As you can see, the
construction industry
offers excellent working
conditions, matched
in few other industries!***

3. Based on wages in the latest collective agreements, expiring in April 2017.

Making room for women in the construction industry



Actions to encourage women's presence on construction sites

In spring 2015, the CCQ and its partners in the industry launched the Programme d'accès à l'égalité des femmes dans l'industrie de la construction (PAEF) 2015–2024.

The PAEF aims to have the construction workforce include least 3% women by 2018, with specific targets per trade and specialized occupation.

The results for the first two years of the PAEF show tangible achievements, and as many women entered the industry in the first six months of 2017 as in all of 2016.

Examples of measures offered to women

A measure for access to training

- Women are given priority for spots in 10 vocational training centres. For more details, contact the training centre that you are interested in.

Measures for access to the industry

- A woman with a diploma can more easily obtain a competency certificate:
 - A graduate in a trade may, upon request, obtain a competency certificate valid for two years without needing an employment guarantee or a letter of commitment from an employer. To renew the certificate, she must have worked at least 150 hours over two years for one or more employers, rather than 150 hours in three months for a single employer.
 - A graduate in one of the six specialized occupations is automatically selected for the *Cours de connaissance générale de l'industrie de la construction* (CCGIC) if she registers for it. It is obligatory to take this course to obtain a competency certificate for working on construction sites; for more details, see page 4.

- A woman without a diploma can obtain an apprentice or occupation competency certificate when an employer guarantees her 150 hours of work over three consecutive months when the labour pool is at 30% or less for the region and the trade or occupation requested, rather than waiting for a pool opening during a labour shortage.

Measures for integration and retention on construction sites

- For each female apprentice working for an employer on a construction site, that employer may have one more apprentices working than the prescribed apprentice–journeyman proportion, up to 20 extra apprentices, under certain conditions.
- An employer may have a woman who holds a competency certificate work anywhere in Québec (provincial mobility) as long as she has worked 500 hours (instead of the usual 1,500 hours) or more for that employer over the previous two years.
- The CCQ prioritizes women when it refers workers to an employer through its referral service, the *Carnet référence construction*.
- An on-the-job training program is offered to women who have joined the industry. During this training, women must acquire defined skills in a customized training program with the active support of a journeyman or, for occupation training, a mentor. This program offers a financial incentive to eligible participating companies.
- Priority is given to women registered for upgrading activities; more details about the *Fonds de formation des salariés de l'industrie de la construction* (FFSIC) on page 5.
- The CCQ's Service d'accompagnement pour l'intégration des femmes dans l'industrie de la construction is a guidance service offered to women and to people who want to help them integrate into the industry. To find out about available resources, visit mixite.ccq.org or call 1 888 842-8282.

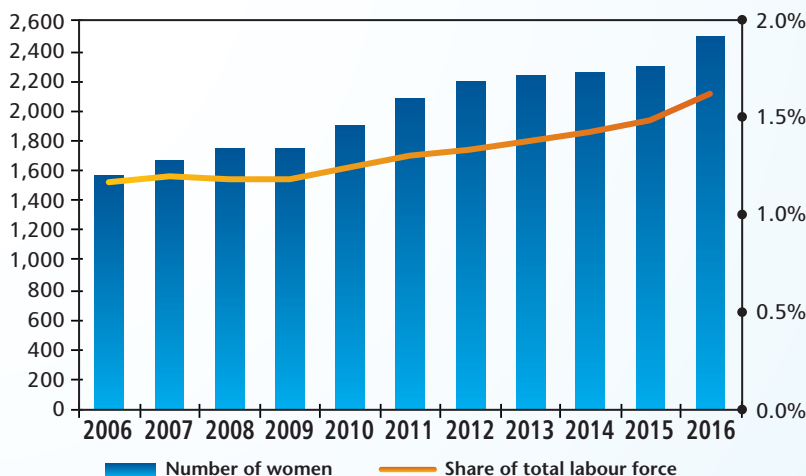
Models for women who choose a career in construction

The CCQ is proud to support **Chapeau, les filles !**, which promotes traditionally male-dominated trades to women. In 2017, two students each won a \$2,000 scholarship. A vocational training centre also received financial assistance in the form of a \$2,000 grant to create a project that contributes to gender equality on Québec construction sites.



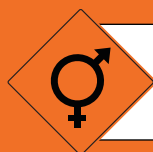
Left to right: Véronique Martel, project manager at the CCQ, gives the **prix Mixité en chantier** "mentorship" section, to Marie-Christine Lepage, representative from the Centre de formation Le Chantier, as well as the **prix Mixité en chantier volet "future contractor"** and "future worker" sections to winners Vicky Lemaire-Ouellet (electricity) and Nadia Gravel (carpentry-joinery).

Women in construction



In 2016, the CCQ instituted the **La mixité en chantier**, which aims to raise awareness among women, companies, and partners in the industry, as well as the general public.

KEEP TRACK
OF THE CAMPAIGN
AT mixite.ccq.org.



LA MIXITÉ
EN CHANTIER

More and more women with diplomas and on construction sites

The proportion of women with diplomas in training centres is steady, with 4.7% of graduates of study programs leading to construction in 2016.

The number of women on construction sites is growing constantly. In 1997, there were only 243 women in construction, or 0.29% of the total workforce; in 2016, there were 2,494 women, or 1.62% of the workforce. In 2016 alone, 208 more women were working on construction sites!

Women working

in the construction industry, 2006-2016

Year	Number of women	Total in the industry	of total workforce
2006	1,566	134,080	1.17%
2007	1,664	138,132	1.20%
2008	1,730	144,991	1.19%
2009	1,735	145,857	1.19%
2010	1,904	153,289	1.24%
2011	2,077	159,607	1.30%
2012	2,191	164,045	1.34%
2013	2,231	161,901	1.38%
2014	2,256	158,085	1.43%
2015	2,289	153,587	1.49%
2016	2,494	153,700	1.62%

Source: CCQ.

The 10 trades and occupations with the most female employees

Métier / occupation

Painter	723
Carpenter-joiner	362
Electrician	207
Plasterer	130
Other trades	123
Tile setter	98
Insulator	57
Tinsmith	50
Heavy equipment operator	43
Total, women working in these trades and occupations	2,155
Total, female workers	2,494

Source: CCQ.

Job Prospects in the Construction Trades and Occupations

TRADES TO DISCOVER

	Employed workers in 2016	Average age in 2016	New employees in 2016		Job prospects from 2017 to 2021*
Boiler maker	697	43	20	Fairly low	Employment dropping slightly, very high availability. High turnover. Aging workforce.
Cement finisher	2,873	38	174	High	Employment stable, good availability. Graduates find a job very easily. High turnover.
Erector mechanic (glazier)	2,408	38	124	Fairly high	Employment dropping slightly, good availability. Graduates find a job very easily. High turnover.
Insulator	1,053	39	39	Fairly high	Employment dropping slightly, high availability.
Interior systems installer	2,650	36	201	Fairly high	Employment dropping slightly, high availability. High turnover.
Reinforcing steel erector	1,494	37	42	Fairly high	Employment stable, availability high. High turnover.

THE CLASSICS

Carpenter-joiner (including the specialties of concrete former, deep foundation layer, and flooring specialist sander)	40,587	38	1,982	Fairly high	Employment dropping slightly, high availability. High turnover.
Electrician (excluding the specialty of security systems installer)	15,908	38	901	Fairly high	Employment dropping slightly, high availability. Graduates find a job very easily.
Electrician specializing in security systems installation	1,238	41	71	Fairly high	Employment dropping slightly, high availability. Graduates find a job very easily.
Pipe fitter	9,086	38	495	Fairly high	Employment dropping slightly, high availability. High turnover.
Pipe welder (high pressure)	549	46	11	Fairly low	Employment dropping slightly, very high availability. Aging workforce.
Tinsmith	4,470	39	171	Fairly high	Employment dropping slightly, high availability. Graduates find a job very easily. High turnover.
Welder	262	42	9	Fairly high	Employment stable, good availability. High turnover.

* Methodology:

The need for workers by trade is classified in six categories (very low, low, fairly low, fairly high, high, and very high) according to results in five parameters:

- Forecast average annual growth in volume of work from 2016 to 2019.
- Average availability rate (a measurement of unemployment) in June 2016, for holders of competency certificates (apprentices, journeymen, occupation workers), according to the CCQ's records.
- Unemployment rate of new graduates, in June 2013, according to the *La Relance au secondaire en formation professionnelle* survey conducted by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec.
- Forecast erosion rate (net departures before integration of new workers), according to the CCQ's records.
- Proportion of workers aged 55 years of age and older in 2015, according to the CCQ's records.

FOR THE MECHANICALLY MINDED

	Employed workers in 2016	Average age in 2016	New employees in 2016		Job prospects from 2017 to 2021*
Elevator mechanic	1,081	39	51	Fairly high	Employment dropping slightly, low availability.
Fire-protection mechanic	1,160	36	60	Fairly high	Employment dropping slightly, good availability. High turnover.
Heavy equipment mechanic	364	43	8	Fairly high	Employment stable, high availability. High turnover. Aging workforce.
Millwright	1,018	45	17	Fairly low	Employment dropping slightly, very high availability. Aging workforce.
Refrigeration mechanic	3,502	37	194	Fairly high	Employment dropping slightly, good availability. Graduates find a job very easily.

GET BEHIND THE WHEEL

Crane operator (including the specialty of operator of concrete pumps with distribution mast)	1,647	44	35	Fairly high	Employment stable, good availability. Graduates find a job very easily. Aging workforce.
Heavy equipment operator	5,967	45	80	Fairly high	Employment rising sharply, high availability. Aging workforce.
Shovel operator	6,772	43	76	Fairly high	Employment rising slightly, very high availability. Aging workforce.

IF YOU LIKE STRAIGHT LINES

Bricklayer-mason	4,914	36	326	Fairly high	Employment dropping slightly, high availability. High turnover.
Painter	5,446	43	282	Fairly high	Employment dropping slightly, high availability. High turnover. Aging workforce.
Plasterer	3,017	39	143	Fairly high	Employment dropping slightly, high availability. Graduates find a job very easily. High turnover.
Resilient flooring layer	1,193	43	64	High	Employment dropping slightly, good availability. Graduates find a job very easily. High turnover. Aging workforce.
Surveyor	1,068	38	32	High	Employment rising sharply, high availability.
Tile setter	2,439	38	197	Fairly high	Employment dropping slightly, good availability. High turnover.

FOR THE ADVENTUROUS

Blaster-driller	546	41	8	Fairly high	Employment stable, good availability. Aging workforce.
Diver	138	35	13	High	Employment rising sharply, good availability. High turnover.
Lineman	1,154	41	43	Fairly high	Employment dropping slightly, good availability. Aging workforce.
Ironworker	3,050	41	75	Fairly high	Employment stable, high availability.
Roofer	5,539	36	515	High	Employment dropping slightly, low availability. Graduates find a job very easily. High turnover.

Source: Commission de la construction du Québec, July 2016



Description of the occupation

- Performs blasting work and all other work requiring the use of explosives
- Fragments or cuts up bedrock
- Demolishes structures
- Breaks up isolated rocks
- Removes tree roots
- Dynamites trenches
- Breaks up ice jams
- May have to use various tools and equipment linked to drilling, including manual, pneumatic, and hydraulic drills

Blaster-driller

ACCESS TO CONSTRUCTION SITES

- Individuals who show to the CCQ proof of graduation with a DEP - Forage et dynamitage may register for the 15-hour course Cours de connaissance générale de l'industrie de la construction (CCGIC), in order to obtain an occupation competency certificate.
- The number of places reserved for the CCGIC depends on labour needs established annually by the construction industry.

AND

- To perform the occupation of blaster on a construction site, individuals must hold a shotfirer certificate (issued by the CCQ for the CSST) a general explosives permit (issued by the Sécurité du Québec), and an occupation competency certificate.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

SKILLS AND INTERESTS

- Like to work outdoors and be able to work outdoors under all climatic conditions
- Acquire knowledge related to application of concepts of geology, mineralogy, mathematics, physics, and chemistry
- Be physically strong
- Be independent, disciplined, responsible, and careful
- Respect the workplace health and safety rules
- Be available to travel to various regions

Average annual salary*

Blaster-driller**	\$42,267
Those working at least 500 hours	\$62,270
Proportion***	64%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average 2015 salary of those having reported at least one hour of work.

*** Proportion of workers in this occupation having accumulated at least 500 hours in 2015. Does not include income that may have been earned for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ		
Blaster	8	7
Driller	15	11
Placement rate of graduates*	15.9%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Blaster	\$36.18	\$36.18	\$29.86
Blaster class 2	\$30.75	\$30.75	—
Driller	\$36.18	\$36.18	\$30.84
Driller class 2	\$30.75	\$30.75	—

*Wage in May 2016.

Volume of work per sector

Civil
engineering 84%

Institutional and
commercial 11%

Residential 5%



Job prospects



- The number of blaster-drillers active in the construction industry dropped to 517 in 2016.
- In 2016, 125 construction companies hired blaster-drillers, most operating in the civil engineering and roadwork sector. Blaster-drillers are some of the most mobile workers in construction, and about half work outside their home region.
- These workers' average annual income is \$42,300, but 64% of blaster-drillers work more than 500 hours a year and this group earns an average income of \$62,300 a year.
- A total of 18 new employees entered the industry in 2016, less than the average for the past four years.
- Job prospects for blaster-drillers are rather limited. Employment is dropping sharply and some of the workers currently available could meet workforce needs in coming years. It must be noted, however, that the workforce is aging and there is high turnover in this occupation.

Training

Study program:

Diploma of vocational studies (DEP) -
Forage et dynamitage (5092)

Duration of training: 900 hours

Academic prerequisite: Category 1*, be over 18 years of age, and meet the requirements for obtaining the general explosives permit issued by the Sûreté du Québec.

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Abitibi-Témiscamingue
- Côte-Nord
- Estrie
- Nord-du-Québec



To find out which public facilities are authorized to offer this study program, consult the website
www.inforoutefpt.org

Employed workers in 2016

Abitibi-Témiscamingue	18
Bas-Saint-Laurent-Gaspésie	37
Côte-Nord	29
Estrie	56
Island of Montréal	11
Laval-Laurentides-Lanaudière	99
Mauricie-Bois-Francs	33
Montréal	49
Outaouais	19
Québec	106
Saguenay-Lac-Saint-Jean	57
Outside of Québec and Baie-James	3
Total	517

Number of employed women 2

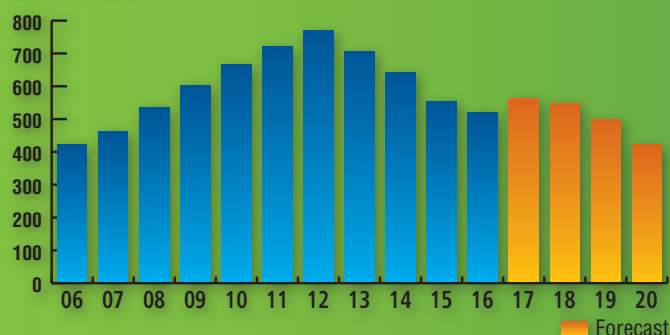
Worker mobility

Proportion of workers who travel from one region to another:*

Blaster	46%
Driller	55%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Blaster	38	30%	58%	12%	164
Driller	43	16%	62%	22%	353
Total, blaster-drillers	41	20%	61%	19%	517
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Manufactures, builds, assembles, installs, demolishes, and maintains a wide range of tanks, reservoirs, towers, and boilers
- Applies rigging, bolting, oxygen cutting, and welding techniques and assembles composite materials

Boiler maker

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Chaudronnerie and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

SKILLS AND INTERESTS

- Acquire knowledge related to physical properties of steel, application of welding techniques, assembly and disassembly of scaffolding, reading of plans and specifications, mathematics, and geometric shapes
- Be in good physical condition (be able to work in uncomfortable positions) and have good manual dexterity
- Be able to move heavy objects and work at heights
- Be precise
- Have a sense of team spirit
- Respect workplace health and safety rules
- Be available to travel to remote regions

Average annual salary*

Apprentice**	\$36,875
Journeyman***	\$73,703
Journeyman working at least 500 hours	\$88,213
Proportion****	80%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	26	29
Placement rate of graduates*	n/a	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.79	\$22.81	\$21.39
2 nd period	\$26.59	\$26.61	\$24.96
3 rd period	\$32.29	\$32.31	\$30.30
Journeyman	\$37.99	\$38.01	\$35.65

*Wage in May 2016.

Volume of work per sector

Industrial 99%

Civil
engineering 1%



Job prospects



- Boiler maker is the trade with the highest proportion of employees who must travel between regions. In 2016, seven of ten boiler makers worked outside their home region. 50 employers hired at least one boiler maker in 2016.
- The number of active boiler makers rose to 745 in 2016. Virtually all boiler makers work in the industrial sector, where activity should remain fairly stable in coming years.
- In 2016, some 96% of apprentices were graduates.
- In 2016, 29 apprentices entered the construction industry for the first time, more than the average for the past four years. An apprentice boiler maker earns \$36,800 on average in the first year of work, while a journeyman working 500 hours or more averages \$88,200 a year.
- In coming years, job prospects for boiler makers are quite good. The workforce is aging and high turnover is creating demand for new workers. Note, however, that a very large number of boiler makers are currently available in the labour market, so part of the need for workers could be met by boiler makers already available.

Training

Study program:

Diploma of vocational studies (DEP) - Chaudronnerie (5356)

Duration of training: 1,290 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following region:

- Montréal



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	17
Bas-Saint-Laurent-Gaspésie	97
Côte-Nord	21
Estrie	44
Island of Montréal	47
Laval-Laurentides-Lanaudière	137
Mauricie-Bois-Francs	99
Montréal	106
Outaouais	4
Québec	71
Saguenay-Lac-Saint-Jean	101
Outside of Québec and Baie-James	1
Total	745

Number of employed women 11

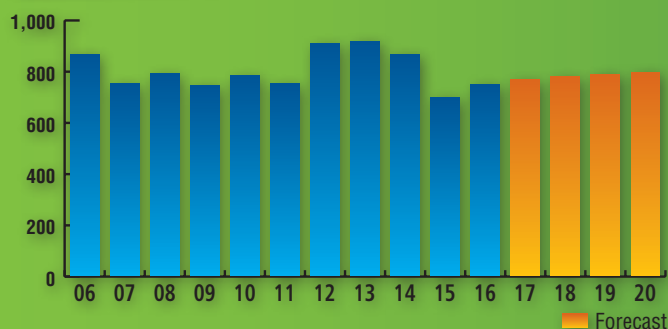
Worker mobility

Proportion of workers who travel from one region to another:*

Boiler makers	70%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	28	72%	25%	3%	110
Journeyman	46	14%	54%	32%	635
Total, boiler makers	43	22%	50%	28%	745
All trades and occupations	39	26%	58%	16%	153,700

Bricklayer-mason

Description of the trade

- Laying brick, cut stone, glass block, freestone and prefabricated concrete architectural components, using mortar, cement or any other adhesive.
- Erects various types of walls, partitions, fireplaces, chimneys, etc.
- May be required to work in the specialized sector of masonry restoration, or in a plant in the refractory sector.

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Masonry-bricklaying and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to mathematics, geometry, alignment, and spatial perception of masonry elements
- Be precise
- Be able to work in a team
- Be in good physical condition
- Be able to move around on scaffolding and work at heights

Average annual salary*

Apprentice**	\$14,838
Journeyman***	\$37,806
Journeyman working at least 500 hours	\$49,655
Proportion****	72%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	373	341
Placement rate of graduates*	11.4%	n/a

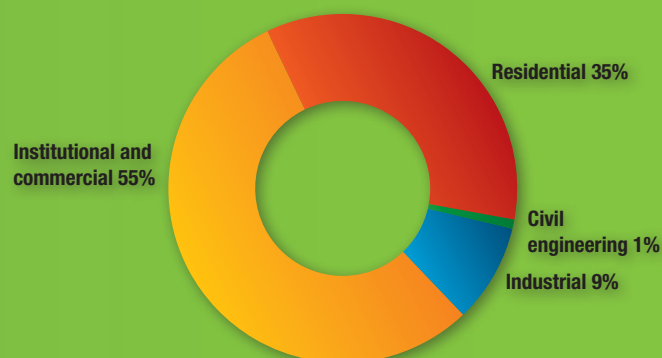
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.31	\$22.57	\$20.83
2 nd period	\$26.03	\$26.33	\$24.30
3 rd period	\$31.61	\$31.97	\$29.51
Journeyman	\$37.19	\$37.61	\$34.72

*Wage in May 2016.

Volume of work per sector



Job prospects



- There were 4,943 bricklayer-masons active on construction sites in 2016, with some 1,250 companies recruiting these workers.
- In 2016, more than 83% of apprentice bricklayer-masons held a diploma.
- More than half the work done by bricklayer-masons is in the institutional and commercial sector, which is expected to slow in coming years. The other main sector in which bricklayer-masons are active is residential construction, also expected to slow.
- In 2016, 341 new apprentices entered the industry, down from the annual average of 373 for 2012-2015. A journeyman working more than 500 hours earns \$49,650 a year, on average. In the first year of work, apprentices will earn about \$14,800.
- Job prospects for this trade are quite good, as high workforce turnover is creating demand for new employees. However, the availability of many workers currently in the market can meet part of this demand.

Training

Study program:

Diploma of vocational studies (DEP) -
Briquetage-maçonnerie (5303) and
Masonry: bricklaying (5803)

Duration of training: 900 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Bas-Saint-Laurent
- Capitale-Nationale
- Estrie
- Laval
- Mauricie
- Montérégie*
- Montréal*
- Outaouais
- Saguenay-Lac-Saint-Jean



* Training also offered in English in this region.

To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	46
Bas-Saint-Laurent-Gaspésie	101
Côte-Nord	13
Estrie	183
Island of Montréal	686
Laval-Laurentides-Lanaudière	1,399
Mauricie-Bois-Francs	277
Montérégie	1,293
Outaouais	172
Québec	612
Saguenay-Lac-Saint-Jean	159
Outside of Québec and Baie-James	2
Total	4,943

Number of employed women 19

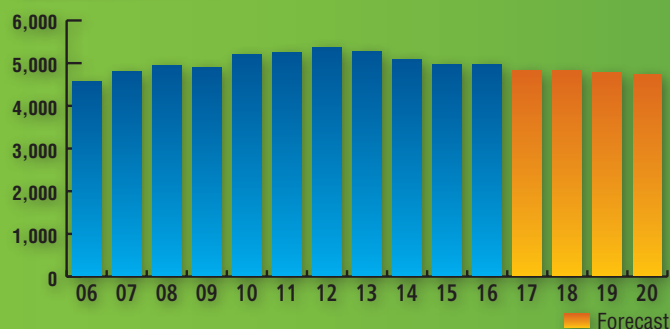
Worker mobility

Proportion of workers who travel from one region to another:*

Bricklayer-mason	14%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	27	74%	25%	1%	1,890
Journeyman	42	18%	63%	19%	3,053
Total, bricklayer-masons	36	39%	49%	12%	4,943
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Erects frames for walls, floors, and roofs, installs exterior coverings and insulation, and installs exterior doors and window
- Builds formwork and lays deep foundations
- Builds divisions and does interior finishing (interior doors, mouldings, shelves, storage spaces, wall coverings, etc.)
- Builds wood staircases and lays wood flooring
- Installs integrated furnishings (counters, cupboards, etc.)
- Traces, cuts, assembles, and forms wood and metal pieces

Carpenter-joiner

(including the specialties of concrete former, deep foundation layer, and flooring-layer-sander)

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Carpentry and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed two 2,000-hour apprenticeship periods (4,000 hours total) devoted strictly to work in one of the three specialties (deep foundation layer, concrete former, or flooring specialist sander), in order to be eligible to take the corresponding provincial qualification examination; passing the exam leads to obtaining a journeyman competency certificate in this specialty.

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to applied mathematics, taking imperial and metric measurements, and interpretation of plans and technical specifications
- Be multi-skilled and independent
- Be able to work in a team
- Be able to use a wide variety of tools and safety equipment and to work on scaffolding
- Be in good physical condition

Average annual salary*

Apprentice**	\$17,635
Journeyman***	\$39,884
Journeyman working at least 500 hours	\$55,518
Proportion****	68%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	2,338	2,039
Placement rate of graduates*	7.1%	n/a

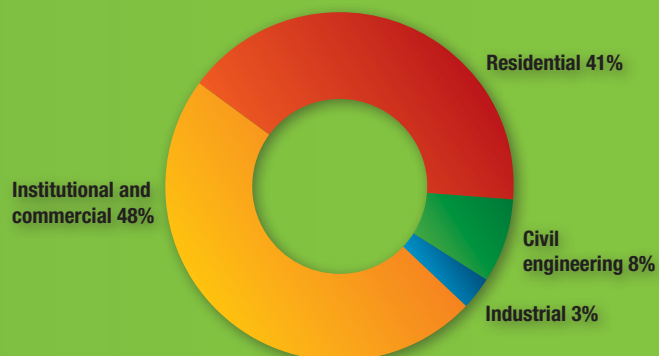
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.51	\$22.52	\$20.45
2 nd period	\$26.26	\$26.28	\$23.86
3 rd period	\$31.88	\$31.91	\$28.97
Journeyman	\$37.51	\$37.54	\$34.08

*Wage in May 2016.

Volume of work per sector



Job prospects



- More than one in four construction industry workers is a carpenter-joiner. In 2016, 40,461 carpenter-joiners were active on Québec construction sites. This trade is also among those with the highest number of women, with 362 active female carpenter-joiners in 2016.
- Work volume is concentrated primarily in the institutional and commercial, and residential sectors. Activity in these sectors should decline slightly in coming years. More than 11,600 employers use the services of carpenter-joiners.
- There were 2,039 new apprentices in the industry in 2016, about 300 fewer than the average from 2012 to 2015, and 1,641 of these were graduates. During their first year of work in the construction industry, apprentices earn an average of \$17,600 for their work covered by collective agreements, while journeymen working at least 500 hours take home \$55,500 a year, on average.
- Job prospects for this trade are quite good, as high turnover is creating demand for new workers. Graduates find work very easily even though employment is declining slightly.

Training

Study program:

Diploma of vocational studies (DEP) -
Charpenterie-menuiserie (5319) and
Carpentry (5819)

Duration of training: 1,350 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Abitibi-Témiscamingue
- Bas-Saint-Laurent
- Capitale-Nationale
- Chaudière-Appalaches
- Côte-Nord
- Estrie
- Gaspésie-Îles-de-la-Madeleine
- Lanaudière
- Laurentides*
- Laval
- Mauricie
- Montérégie*
- Montréal*
- Nord-du-Québec*
- Outaouais
- Saguenay-Lac-Saint-Jean



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

* Training also offered in English in this region.

Number of employed workers in 2016

Abitibi-Témiscamingue	968
Bas-Saint-Laurent-Gaspésie	2,128
Côte-Nord	751
Estrie	2,027
Island of Montréal	1,947
Laval-Laurentides-Lanaudière	8,721
Mauricie-Bois-Francs	3,184
Montérégie	8,113
Outaouais	1,878
Québec	8,515
Saguenay-Lac-Saint-Jean	2,168
Outside of Québec and Baie-James	61
Total	40,461

Number of employed women 362

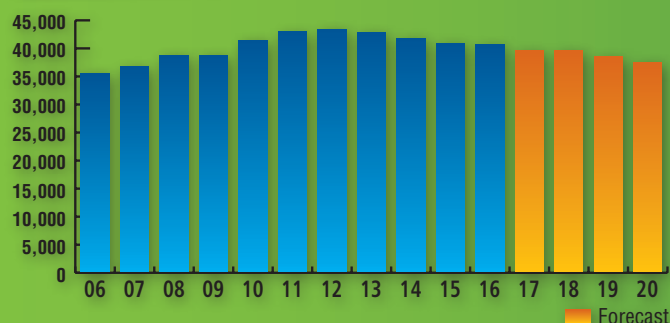
Worker mobility

Proportion of workers who travel from one region to another:*

Carpenter-joiners	14%
All trades and occupations	17%

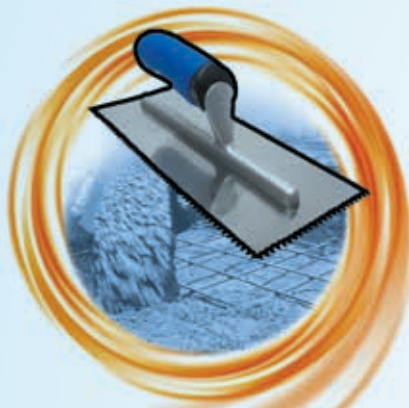
* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	31	61%	34%	5%	14,608
Journeyman	42	17%	63%	20%	25,853
Total, carpenter-joiners	38	33%	53%	14%	40,461
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Prepares, installs, finishes, and repairs cement on surfaces such as floors, walls, sidewalks, and pavement
- Applies treatments and installs waterproofing membranes and products

Cement finisher

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Preparing and Finishing Concrete and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the two apprenticeship periods of 2,000 hours each (4,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to properties of cement (setting time, hardness, waterproofing)
- Be independent and careful
- Be able to work in a team
- Have good physical strength and endurance
- Possess good knowledge of applied mathematics and interpretation of plans and specifications

Average annual salary*

Apprentice**	\$25,808
Journeyman***	\$44,883
Journeyman working at least 500 hours	\$57,097
Proportion****	76%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	237	224
Placement rate of graduates*	17.7%	n/a

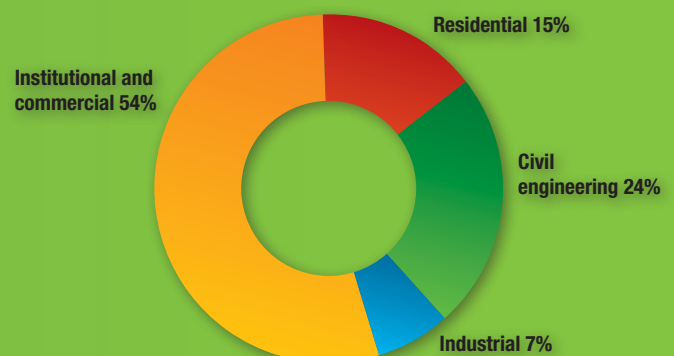
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$25.49	\$25.80	\$23.60
2 nd period	\$30.96	\$31.32	\$28.65
Journeyman	\$36.42	\$36.85	\$33.71

*Wage in May 2016.

Volume of work per sector



Job prospects



- In 2016, the number of cement finishers active in the industry rose slightly, to 2,991 active workers. A total of 939 employers use the services of cement finishers.
- This trade experiences great seasonal fluctuations.
- More than half the work is generated by the institutional and commercial sector, where activity is expected to decline gradually in coming years. The civil engineering and roadwork sector, however, where cement finishers perform almost a fourth of their work, should see growth.
- In 2016, 224 new apprentices entered the industry, close to the average for the past four years (237). New graduate apprentices earn an average of \$25,800 in their first year. Almost 76% of journeymen work more than 500 hours and earn an average annual income of \$57,000.
- Job prospects for this trade are quite good. High workforce turnover should create demand for new workers, but part of this demand could be met by workers currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Préparation et finition du béton (5343) and
Preparing and Finishing Concrete (5848)

Duration of training: 900 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Laurentides
- Montréal



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	31
Bas-Saint-Laurent-Gaspésie	71
Côte-Nord	23
Estrie	406
Island of Montréal	497
Laval-Laurentides-Lanaudière	870
Mauricie-Bois-Francis	216
Montréal	494
Outaouais	126
Québec	455
Saguenay-Lac-Saint-Jean	84
Outside of Québec and Baie-James	18
Total	2,991

Number of employed women 31

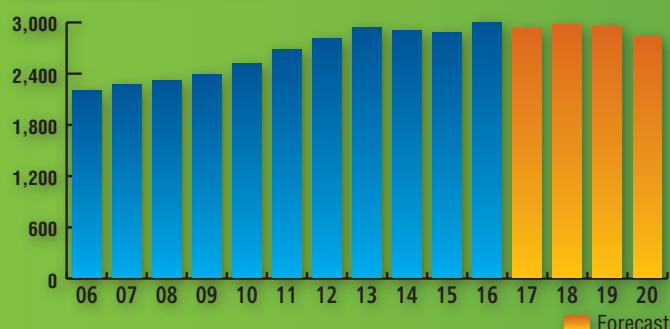
Worker mobility

Proportion of workers who travel from one region to another:*

Cement finisher	16%
All trades and occupations	17%

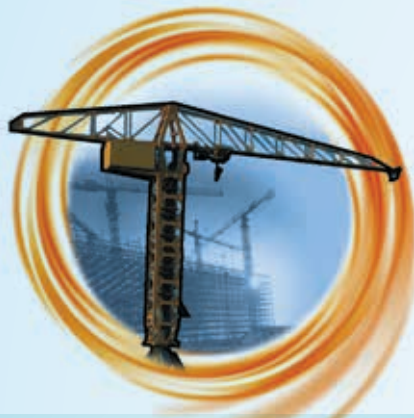
* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	32	52%	44%	4%	1,205
Journeyman	42	15%	69%	16%	1,786
Total, cement finishers	38	30%	58%	12%	2,991
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Operates all types of cranes, including conventional truck-mounted on tracks or trucks, hydraulic telescoping cranes, boom trucks, and tower cranes
- Operates travelling cranes and boring machines
- Operates concrete pumps with distribution mast

Crane operator

(including operator of concrete pump with distribution mast)

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Conduite de grues and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed two 2,000-hour apprenticeship periods (4,000 hours total) in order to be eligible to take the qualification examination for the trade of crane operator; passing this exam leads to obtaining a journeyman competency certificate in the trade.
- Have completed the 2,000-hour apprenticeship period devoted strictly to work in the specialty of operator of

concrete pump with distribution mast, in order to be eligible to take the provincial qualification examination for this specialty; passing the exam leads to obtaining a journeyman competency certificate in this specialty.

SKILLS AND INTERESTS

- Acquire knowledge related to concepts of electricity, electronics, mathematics, applied physics, and thermodynamics
- Know how to interpret different symbols and signals
- Be precise and independent
- Be in good physical condition, have good dexterity and movement coordination
- Not suffer from vertigo, dizziness, or claustrophobia
- Be able to communicate effectively
- Due to risks to his or her own safety and that of others, the crane operator must always act responsibly

Average annual salary*

Apprentice**	\$31,683
Journeyman***	\$62,077
Journeyman working at least 500 hours	\$75,282
Proportion****	80%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	54	53
Placement rate of graduates*	97.5%	n/a

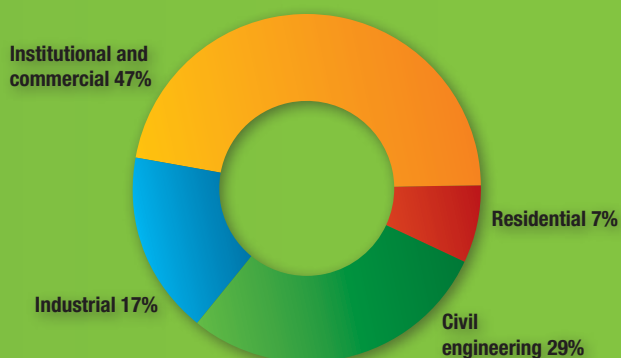
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice 1 st period – Class A	\$26.59	\$26.61	\$23.95
Apprentice 2 nd period – Class A	\$32.29	\$32.31	\$29.08
Journeyman – Class A	\$37.99	\$38.01	\$34.21
Apprentice 1 st period – Class B	\$25.43	\$25.55	\$23.21
Apprentice 2 nd period – Class B	\$30.88	\$31.03	\$28.19
Journeyman – Class B	\$36.33	\$36.50	\$33.16

*Wage in May 2016.

Volume of work per sector



Job prospects



- In 2016, there were 1,687 crane operators on construction sites, employed by some 400 construction companies.
- Almost half the work volume is in the institutional and commercial sector, where activity is expected to gradually decline in coming years. However, the civil engineering and roadwork sector, where crane operators perform almost 30% of their work, should see some growth.
- The industry brought in 53 new apprentices in 2016, equal to the annual average from 2012 to 2015 (54). Most hold a diploma and quickly find a job after graduation. An apprentice's average annual income is \$31,700, while a journeyman working more than 500 hours (80% of journeymen) earns \$62,000 in 2017.
- Although there is some aging of workers, job prospects will be fairly limited for crane operators in coming years. Employment is declining slightly and part of the need for workers will be met by those currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Conduite de grues (5248)

Duration of training: 870 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following region:

- Montérégie



To find out which public facilities are authorized to offer this study program, consult the website
www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	50
Bas-Saint-Laurent-Gaspésie	93
Côte-Nord	75
Estrie	51
Island of Montréal	83
Laval-Laurentides-Lanaudière	389
Mauricie-Bois-Francis	102
Montérégie	416
Outaouais	87
Québec	233
Saguenay-Lac-Saint-Jean	95
Outside of Québec and Baie-James	13
Total	1,687

Number of employed women 12

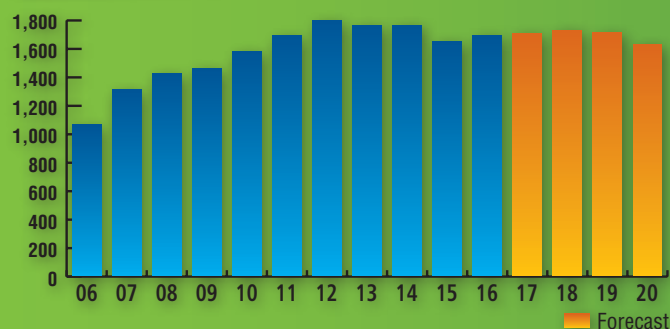
Worker mobility

Proportion of workers who travel from one region to another:*

Crane operator	32%
All trades and occupations	17%

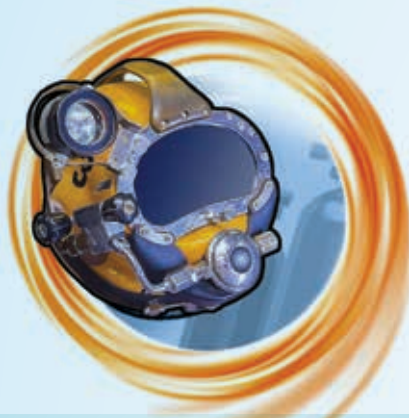
* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	32	50%	47%	3%	225
Journeyman	46	10%	64%	26%	1,462
Total, crane operators	44	15%	62%	23%	1,687
All trades and occupations	39	26%	58%	16%	153,700



Description of the occupation

- Executes underwater activities related to construction, repairs, maintenance, installation, demolition, and inspection of underwater equipment or structures
- May perform underwater welding, oxygen cutting, carpentry, cement laying, electrical work, plumbing, or blasting
- May perform related work (for example, recovery of various objects)
- The diver is usually equipped with a self-contained or non-self-contained, limited or unlimited breathing apparatus

Diver

ACCESS TO CONSTRUCTION SITES

- Individuals who show to the CCQ proof of graduation with an AEC - Plongée professionnelle may register for the 15-hour course Cours de connaissance générale de l'industrie de la construction (CCGIC), in order to obtain an occupation competency certificate.
- The number of places reserved for the CCGIC depends on labour needs established annually by the construction industry.

AND

- Those who practise this occupation must be aged 18 years or over and hold the vocational qualification required in compliance with the competency standards in force of the Canadian Standards Association (CSA). They must also present a medical certificate attesting that they are fit to dive.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

SKILLS AND INTERESTS

- Have knowledge linked to application of concepts of mathematics, physics, chemistry, biology, construction, and electricity
- Be in excellent physical condition
- Be able to move heavy objects
- Have leadership and composure
- Be independent and careful

Divers are often faced with critical or unforeseen situations. They must work in environments that involve specific risks, such as confined spaces, underwater currents, contaminated water, ice, and changes in pressure. Low visibility and water temperature are other difficulties that divers experience.

Average annual salary*

Diver**	\$39,616
Those working at least 500 hours	\$53,594
Proportion***	64%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average 2015 salary of those having reported at least one hour of work.

*** Proportion of workers in this occupation having accumulated at least 500 hours in 2015. Does not include income that may have been earned for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	15	14
Placement rate of graduates*	n/a	n/a

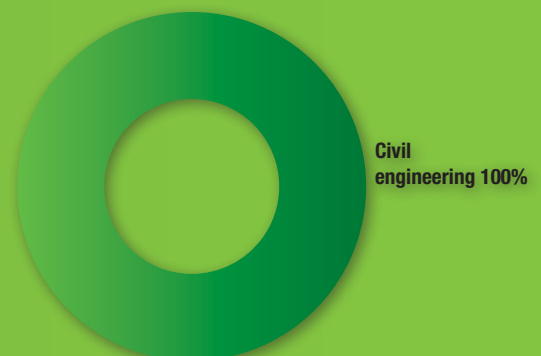
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Diver	\$39.53	\$39.53	\$36.48
Diver class 2	\$33.60	\$33.60	—

*Wage in May 2016.

Volume of work per sector



Job prospects



- There were 135 professional divers active on sites in 2016, a stable number compared with 2015.
- Only 18 employers hire divers, solely in civil engineering and roadwork. Companies move around a lot, so 64% of divers reported hours worked outside the region where they live.
- The industry took in 14 new divers in 2015, roughly the average for the four preceding years (15). A diver's average income exceeds \$37,600, although this can rise to \$53,600 when working at least 500 hours.
- Job prospects for divers are good, demand is stable and there is high worker turnover.

Training

Study program:

Attestation of collegial studies (AEC) - Plongée professionnelle (ELW.08)

Duration of training: 1,350 hours

Academic prerequisite: Be 18 years old or over and hold a diploma of vocational studies (DEP) or a secondary school diploma (DES), a level 1 recreational diving certificate and class A licence as well as a medical certificate.

Training generally offered in the following region:

- Bas-Saint-Laurent



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	1
Bas-Saint-Laurent-Gaspésie	9
Côte-Nord	6
Estrie	5
Island of Montréal	20
Laval-Laurentides-Lanaudière	17
Mauricie-Bois-Francs	5
Montréal	33
Outaouais	1
Québec	29
Saguenay-Lac-Saint-Jean	9
Outside of Québec and Baie-James	0
Total	135

Number of employed women 5

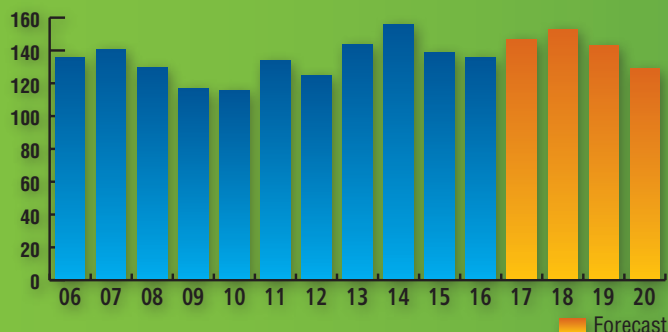
Worker mobility

Proportion of workers who travel from one region to another:*

Diver	64%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Diver	34	39%	56%	5%	135
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Constructs, overhauls, alters, repairs, and maintains electrical installations
- The installations may be used for lighting, heating, or motive power. This work includes, in all cases, wires, cables, conduits, accessories, appliances, and apparatuses that form part of the installation.

Note: Work done by electricians must meet the requirements of the different applicable standards and regulations.

Electrician

(excluding the specialty of security systems installer)

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Electricity and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Other programs are recognized for obtaining an apprentice competency certificate for the trade of electrician, such as the DEP in installation and maintenance of security systems and some diplomas of collegial studies (DECs).
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the four apprenticeship periods of 2,000 hours each (8,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to application of mathematical calculations, electrical engineering, and electronics, as well as reading plans and technical specifications
- Be independent and careful
- Like working alone
- Have good professional ethics
- Be able to interpret standards, solve malfunctions, and work in tight spaces
- Be in good physical condition
- Have good physical coordination

Average annual salary*

Apprentice**	\$23,931
Journeyman***	\$55,154
Journeyman working at least 500 hours	\$67,616
Proportion****	79%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	973	963
Placement rate of graduates*	11.8%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$19.00	\$19.01	\$17.83
2 nd period	\$22.79	\$22.81	\$21.39
3 rd period	\$26.59	\$26.61	\$24.96
4 th period	\$32.29	\$32.31	\$30.30
Journeyman	\$37.99	\$38.01	\$35.65

*Wage in May 2016.

Volume of work per sector



Job prospects



- The electrician's trade is the second largest by number of workers, with 16,080 active employees in 2016. A diploma of vocational studies is virtually mandatory to enter this trade. This trade also is among those with the largest number of women, 185 in 2016. Some 2,500 employers hire electricians.
- Construction of institutional and commercial buildings, which generates most of the hours worked by electricians, should slow in coming years. Similarly, residential construction, which provides 12% of the work volume, is expected to gradually slow. Note that electricians also perform maintenance and residential renovation.
- In 2016, 963 apprentices were admitted to the industry, very close to the annual average from 2012 to 2015 (973). The trade is subject to little seasonal variation, thus allowing a high number of annual average hours worked and thus generating an attractive annual income: in the first year, an apprentice may earn \$23,900. The 79% of journeymen who work at least 500 hours earn \$67,600 a year.
- Job prospects are quite good for electricians. Despite a small drop in demand, significant workforce turnover will create demand for new workers. Part of this need will be met, however, by workers currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Électricité (5295) and Electricity (5795)

Duration of training: 1,800 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Abitibi-Témiscamingue
- Bas-Saint-Laurent
- Capitale-Nationale
- Centre-du-Québec
- Chaudière-Appalaches
- Côte-Nord
- Estrie
- Gaspésie-Îles-de-la-Madeleine
- Lanaudière
- Laurentides
- Laval
- Mauricie
- Montérégie
- Montréal*
- Nord-du-Québec*
- Outaouais
- Saguenay-Lac-Saint-Jean



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

* Training also offered in English in this region.

Number of employed workers in 2016

Abitibi-Témiscamingue	411
Bas-Saint-Laurent-Gaspésie	618
Côte-Nord	300
Estrie	538
Island of Montréal	1,878
Laval-Laurentides-Lanaudière	4,114
Mauricie-Bois-Francs	917
Montérégie	3,684
Outaouais	573
Québec	2,317
Saguenay-Lac-Saint-Jean	661
Outside of Québec and Baie-James	69
Total	16,080

Number of employed women 185

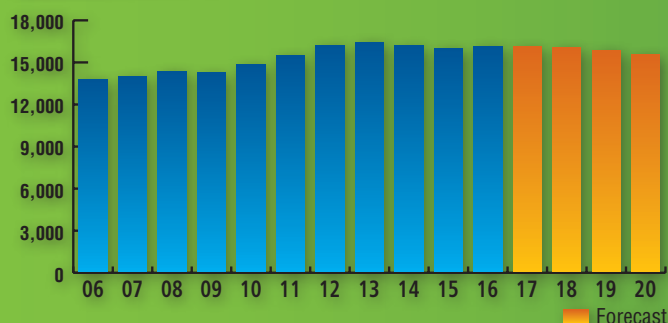
Worker mobility

Proportion of workers who travel from one region to another:*

Electrician	12%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	28	69%	29%	2%	5,021
Journeyman	42	8%	74%	18%	11,059
Total, electricians	38	31%	57%	12%	16,080
All trades and occupations	39	26%	58%	16%	153,700



Description of the speciality

- Installs, overhauls, alters, repairs, and maintains various security systems, such as fire alarms, burglar alarms, and emergency-communications, access-card, and video-surveillance systems

Electrician specializing in security systems installation

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Installation et entretien de systèmes de sécurité and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to electronics, electricity, computers, operation of computer systems, and problem-resolution processes
- Be independent and careful
- Be capable of reading English
- Be able to adjust apparatuses precisely
- Have good near vision
- Have good physical agility and dexterity

Average annual salary*

Apprentice**	\$17,692
Journeyman***	\$35,658
Journeyman working at least 500 hours	\$52,197
Proportion****	65%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	67	87
Placement rate of graduates*	8.2%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$18.42	\$18.73	\$17.21
2 nd period	\$21.49	\$21.85	\$20.08
3 rd period	\$26.10	\$26.54	\$24.39
Journeyman	\$30.70	\$31.22	\$28.69

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 94%



Residential 5%
Industrial 1%

Job prospects



- The construction industry employed 1,285 employees in the security systems installation specialty in 2016, working for almost 400 employers.
- Institutional and commercial construction provides virtually all the hours worked by security systems installers (94% of hours). Work volume in this sector is forecast to decline in coming years.
- In 2016, 87 apprentices were admitted to this specialty, more than the average for the past four years. Vocational school graduates account for 83% of apprentices. The average income of a graduate apprentice is \$17,700 in the first year after entering the industry, and can rise to \$35,700 a year for a journeyman. Two thirds (65%) of journeymen work at least 500 hours and earn \$52,200.
- Job prospects are quite good for electricians specializing in security systems installation. High workforce turnover will create demand, but this will be met in part by workers currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Installation et entretien de systèmes
de sécurité (5296)

Duration of training: 1,485 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Montérégie



To find out which public facilities are authorized to offer this study program, consult the website
www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	15
Bas-Saint-Laurent-Gaspésie	20
Côte-Nord	13
Estrie	36
Island of Montréal	135
Laval-Laurentides-Lanaudière	309
Mauricie-Bois-Francs	79
Montérégie	337
Outaouais	28
Québec	271
Saguenay-Lac-Saint-Jean	38
Outside of Québec and Baie-James	4
Total	1,285

Number of employed women 22

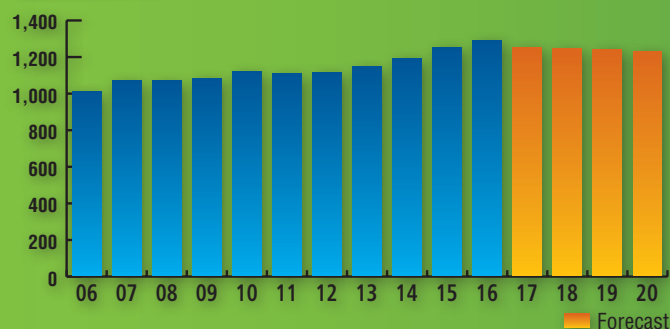
Worker mobility

Proportion of workers who travel from one region to another:*

Security systems installer	14%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	30	63%	34%	3%	319
Journeyman	45	13%	69%	18%	966
Total, security systems installers	41	22%	64%	14%	1,285
All trades and occupations	39	26%	58%	16%	153,700

Elevator mechanic

Description of the trade

- Installs, repairs, modernizes, and maintains mechanical conveyance systems such as traction and hydraulic elevators, escalators, and rolling sidewalks, according to the requirements of the standards in force.

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Elevator Mechanics and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the five apprenticeship periods of 2,000 hours each (10,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to assembly techniques, electronics, electricity, hydraulics, mechanics, instrumentation, and interpretation of applicable standards
- Be independent and careful
- Have professional ethics
- Be able to analyze different systems, work in a team, and work at heights and in restricted spaces
- Have good coordination and be in good physical condition

Average annual salary*

Apprentice**	\$45,710
Journeyman***	\$85,894
Journeyman working at least 500 hours	\$96,230
Proportion****	88%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	67	46
Placement rate of graduates*	5.3%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$21.21	\$21.02	\$19.72
2 nd period	\$25.45	\$25.22	\$23.66
3 rd period	\$29.69	\$29.43	\$27.61
4 th period	\$36.05	\$35.73	\$33.52
5 th period	\$36.05	\$35.73	\$33.52
Journeyman	\$42.41	\$42.04	\$39.44

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 99%

Residential 1%



Job prospects



- In 2016, there were 1,100 elevator mechanics, a third of them apprentices. These employees work for 73 employers, the six largest of which account for almost 70% of the work.
- Elevator mechanics work almost exclusively in the institutional and commercial sector, where work volume will gradually decrease in coming years. The work varies little by season, which provides them with the highest annual average of hours worked (1,576). Maintenance and repair of existing systems increase opportunities for this trade.
- In 2016, 46 new apprentices entered this trade, below the average observed in the previous four years (67). In the first year of work, apprentices earn an average of more than \$45,700, while the average annual income of journeymen working at least 500 hours can exceed \$96,200, one of the highest incomes for all construction trades covered by collective agreements.
- Job prospects are good for elevator mechanics. Demand is stable and current workers have little availability. Graduates find work easily.

Training

Study program:

Diploma of vocational studies (DEP) -
Mécanique d'ascenseur (5337) and
Elevator Mechanics (5837)

Duration of training: 1,800 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following region:

- Montréal*

* Training also offered in English in this region.



To find out which public facilities are authorized to offer this study program, consult the website
www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	6
Bas-Saint-Laurent-Gaspésie	7
Côte-Nord	0
Estrie	22
Island of Montréal	220
Laval-Laurentides-Lanaudière	292
Mauricie-Bois-Francis	11
Montréal	275
Outaouais	21
Québec	175
Saguenay-Lac-Saint-Jean	11
Outside of Québec and Baie-James	60
Total	1,100

Number of employed women 18

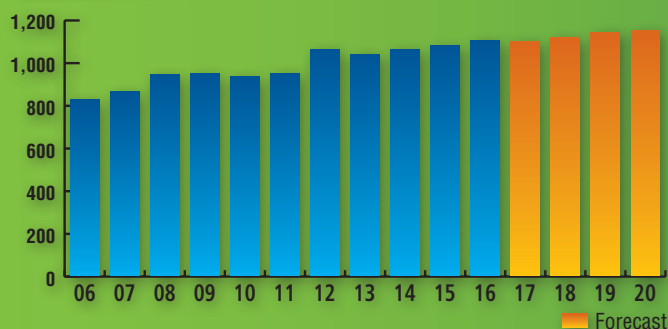
Worker mobility

Proportion of workers who travel from one region to another:*

Elevator mechanic	14%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	30	59%	39%	2%	381
Journeyman	43	8%	77%	15%	719
Total, elevator mechanics	39	25%	64%	11%	1,100
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Installs and repairs glass products and all similar pieces made of metal or substitute materials (related to glass), such as different kinds of windows and framings, tympan panels, ornamental and decorative items, prefabricated coverings, curtain walls (prefabricated or not), doors, windows, garage doors, façades, and similar pieces made of sheet or moulded metal

Erector mechanic (glazier)

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Installation et fabrication de produits verriers and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to mathematics, geometric forms, and reading of plans and specifications
- Be in good physical condition
- Be capable of moving heavy objects and working at heights
- Be precise and have good manual dexterity
- Respect the workplace health and safety rules

Average annual salary*

Apprentice**	\$29,191
Journeyman***	\$48,228
Journeyman working at least 500 hours	\$62,877
Proportion****	74%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	202	181
Placement rate of graduates*	2.2%	n/a

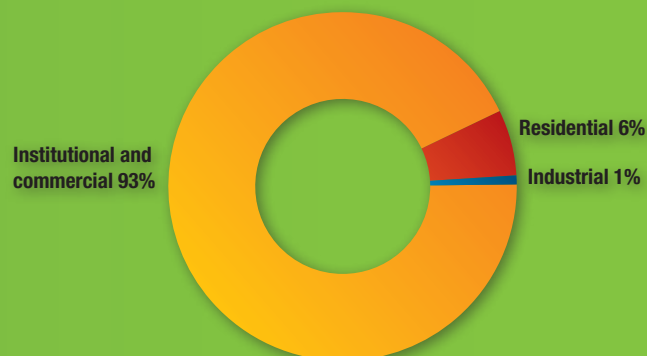
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.37	\$22.63	\$20.15
2 nd period	\$26.10	\$26.40	\$23.51
3 rd period	\$31.70	\$32.06	\$28.54
Journeyman	\$37.29	\$37.72	\$33.58

*Wage in May 2016.

Volume of work per sector



Job prospects



- In 2016, there were 2,471 erector mechanics (glaziers) in the construction industry, almost half of them apprentices. Some 590 employers use the services of erector mechanics (glaziers).
- Almost all the work volume for this trade is in the institutional and commercial sector, which includes high-rise residential buildings. This sector should experience a small retraction in coming years.
- In 2016, 181 new apprentices were admitted to the industry, more than in the previous year but less than the annual average for the past four years. In their first year of work, apprentices earn an average of \$29,100. Journeymen working at least 500 hours earn an average annual income of \$62,800.
- Job prospects for erector mechanics (glaziers) are quite good although employment is declining slightly. High turnover is creating demand for new employees and graduates find work very easily.

Training

Study program:

Diploma of vocational studies (DEP) -
Installation et fabrication de produits
verriers (5282)

Duration of training: 1,350 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Laval



To find out which public facilities are authorized to offer this study program, consult the website
www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	47
Bas-Saint-Laurent-Gaspésie	32
Côte-Nord	15
Estrie	59
Island of Montréal	289
Laval-Laurentides-Lanaudière	947
Mauricie-Bois-Francs	96
Montréal	457
Outaouais	107
Québec	335
Saguenay-Lac-Saint-Jean	78
Outside of Québec and Baie-James	9
Total	2,471

Number of employed women 12

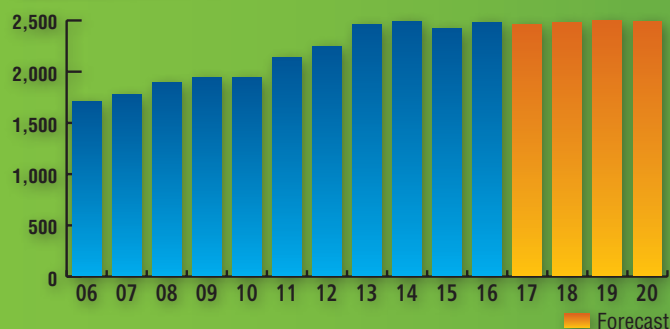
Worker mobility

Proportion of workers who travel from one region to another:*

Erector mechanic (glazier)	10%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	32	52%	45%	3%	1,154
Journeyman	44	15%	62%	23%	1,317
Total, erector mechanics (glaziers)	38	32%	54%	14%	2,471
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Installs, overhauls, alters, repairs, and maintains automatic sprinkler systems, including piping and other equipment used to prevent and fight fires
- Prepares, assembles, installs, and connects piping and accessories, and activates, verifies, and inspects systems

Fire-protection mechanic

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Mécanique de protection contre les incendies and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the four apprenticeship periods of 2,000 hours each (8,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to application of concepts of mathematics, hydraulics, and electricity
- Know how to interpret plans and technical specifications
- Be independent and analytical
- Be well organized
- Be in good physical condition
- Be capable of moving heavy objects
- Be able to work on scaffolding

Average annual salary*

Apprentice**	\$34,098
Journeyman***	\$59,856
Journeyman working at least 500 hours	\$69,673
Proportion****	84%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	81	56
Placement rate of graduates*	n/a	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$19.00	\$19.01	\$17.83
2 nd period	\$22.79	\$22.81	\$21.39
3 rd period	\$26.59	\$26.61	\$24.96
4 th period	\$32.29	\$32.31	\$30.30
Journeyman	\$37.99	\$38.01	\$35.65

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 97%

Industrial 3%



Job prospects



- There were 1,151 fire-protection mechanics in 2016. This work varies little by season, allowing the workforce to log more hours. There are 131 employers hiring fire-protection mechanics, with the 10 largest accounting for more than half the work.
- The work is done primarily in the institutional and commercial sector, where work volume should decline in coming years. Regular preventive maintenance to reduce risks and the costs associated with breakdowns caused by systems increases opportunities for this trade.
- In 2016, 56 new apprentices entered the industry. They earn an average of \$34,100 the first year. Average annual income rises to \$69,700 for journeymen working at least 500 hours (84% of journeymen). Annual average hours worked are the second highest, after elevator mechanics.
- Although a slight decline in demand is forecast, job prospects remain fairly good, due to high turnover that will generate workforce demand. However, the average age of fire-protection mechanics is among the lowest in the industry, so demand to replace an aging workforce is still limited.

Training

Study program:

Diploma of vocational studies (DEP) -
Mécanique de protection contre
les incendies (5312)

Duration of training: 900 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following region:

- Laval



To find out which public facilities are authorized to offer this study program, consult the website
www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	16
Bas-Saint-Laurent-Gaspésie	24
Côte-Nord	6
Estrie	26
Island of Montréal	96
Laval-Laurentides-Lanaudière	434
Mauricie-Bois-Francs	38
Montréal	230
Outaouais	17
Québec	189
Saguenay-Lac-Saint-Jean	39
Outside of Québec and Baie-James	36
Total	1,151

Number of employed women 2

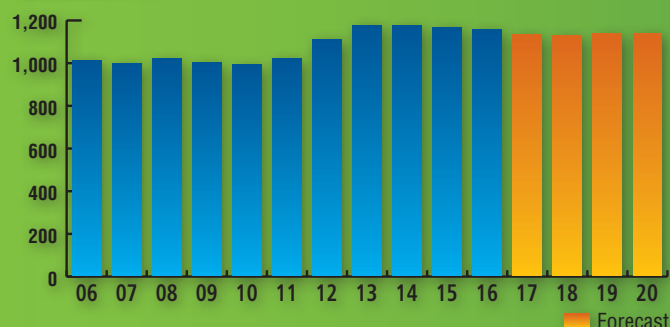
Worker mobility

Proportion of workers who travel from one region to another:*

Fire-protection mechanic	21%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	28	69%	30%	1%	420
Journeyman	41	15%	77%	8%	731
Total, fire-protection mechanics	36	35%	59%	6%	1,151
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Maintains and repairs cranes, shovels, levellers, spreaders, rollers, tractors, off-road trucks, and all motorized construction equipment and machinery, fixed or mobile, used for grading, handling, or excavation

Heavy equipment mechanic

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Mécanique d'engins de chantier and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to mechanics for diesel and four-stroke engines, hydraulics, pneumatics, electricity, and electronics
- Be careful and resourceful
- Have a sense of initiative
- Have a good visual memory
- Be in good physical condition
- Be capable of moving heavy objects

Average annual salary*

Apprentice**	\$18,207
Journeyman***	\$43,060
Journeyman working at least 500 hours	\$83,095
Proportion****	48%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	19	17
Placement rate of graduates*	6.9%	n/a

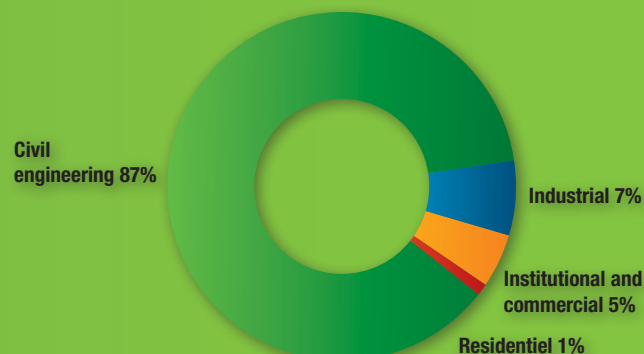
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.01	\$22.36	\$20.71
2 nd period	\$25.68	\$26.08	\$24.16
3 rd period	\$31.18	\$31.67	\$29.33
Journeyman	\$36.68	\$37.26	\$34.51

*Wage in May 2016.

Volume of work per sector



Job prospects



- For the first time since 2011, the number of heavy equipment mechanics rose from the previous year. In 2016, 379 heavy equipment mechanics entered construction sites. Some work in a shop and are not covered by construction industry collective agreements.
- In 2016, there were 156 employers of heavy equipment mechanics. A total of 88% of heavy equipment mechanics worked in the civil engineering and roadwork sector. Of the 379 workers who worked on construction sites in 2016, 44% worked outside their home region.
- The industry admitted 17 new apprentices in 2016, close to the annual average for the past four years (19). In their first year of work, apprentices earn an average of \$18,200. Journeymen working at least 500 hours average \$83,000 a year, one of the highest incomes in the construction industry.
- Job prospects for this trade are fairly limited despite high turnover and an aging workforce. Graduates find work very easily, but part of workforce demand could be met by the many workers already available.

Training

Study program:

Diploma of vocational studies (DEP) -
Mécanique d'engins de chantier (5331)

Duration of training: 1,800 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Abitibi-Témiscamingue
- Bas-Saint-Laurent
- Capitale-Nationale
- Chaudière-Appalaches
- Côte-Nord
- Estrie
- Gaspésie-Îles-de-la-Madeleine
- Laurentides
- Mauricie
- Montérégie
- Montréal
- Nord-du-Québec*
- Saguenay-Lac-Saint-Jean



* Training also offered in English in this region.

To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	8
Bas-Saint-Laurent-Gaspésie	44
Côte-Nord	43
Estrie	20
Island of Montréal	14
Laval-Laurentides-Lanaudière	36
Mauricie-Bois-Francis	32
Montérégie	34
Outaouais	2
Québec	89
Saguenay-Lac-Saint-Jean	54
Outside of Québec and Baie-James	3
Total	379

Number of employed women 0

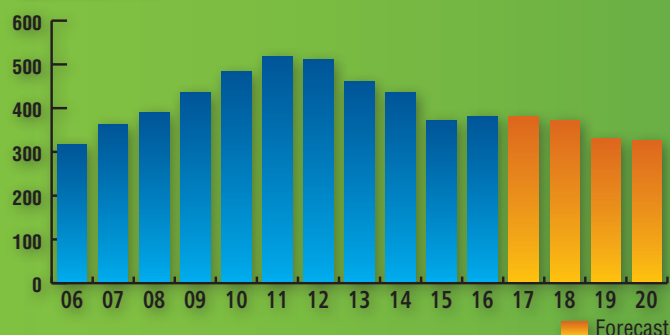
Worker mobility

Proportion of workers who travel from one region to another:*

Heavy equipment mechanic	44%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	32	50%	47%	3%	60
Journeyman	44	18%	58%	24%	319
Total, heavy equipment mechanics	42	23%	56%	21%	379
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

The trade of heavy equipment operator has four specialties.

- **Tractor operator:** specialist who may operate different types of tractors, such as bulldozers, loader-backhoes, and front-end loaders
- **Leveller operator:** specialist who operates levellers
- **Spreader operator:** specialist who operates asphalt and cement spreaders, graders, etc.
- **Roller operator:** specialist who operates rollers, roller-compressors and non-manual compactors

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Conduite d'engins de chantier and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the 2,000-hour apprenticeship period in order to be eligible for the provincial qualification examinations in the four specialties, which, successfully completed, will enable you to obtain a journeyman competency certificate in each specialty.

SKILLS AND INTERESTS

- Acquire knowledge related to the reading of plans, survey monuments, and concepts of mechanics, hydraulics, and electricity
- Be resourceful, careful, and vigilant
- Be capable of working alone
- Have good physical coordination
- Be dextrous

Average annual salary*

Apprentice**	\$16,453
Journeyman***	\$35,803
Journeyman working at least 500 hours	\$52,208
Proportion****	65%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	127	86
Placement rate of graduates*	12.4%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

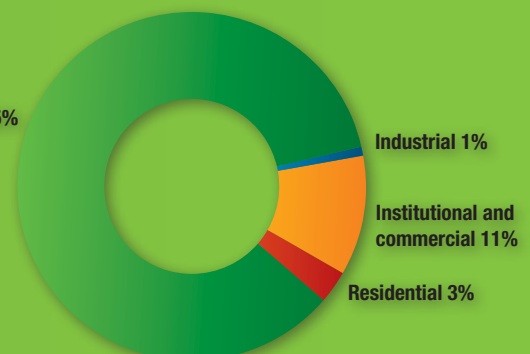
Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice – Class AA	\$30.72	\$30.40	–
Journeyman – Class AA	\$36.14	\$35.77	–
Apprentice – Class A	\$29.74	\$29.50	\$27.28
Journeyman – Class A	\$34.99	\$34.70	\$32.09
Apprentice – Class B	\$28.98	\$28.81	\$26.63
Journeyman – Class B	\$34.09	\$33.89	\$31.33

*Wage in May 2016.

Volume of work per sector

Civil
engineering 85%



Job prospects



- There were 5,875 heavy equipment operators in 2016, working for more than 1,750 employers and using a variety of equipment. In addition to tractors, including backhoes, apprentices learn to operate levellers, spreaders, and rollers.
- Employment in this trade has slowed somewhat in recent years, with activity concentrated in the civil engineering and roadwork sector. It should be stimulated in coming years, however, by major projects such as the Champlain Bridge and Turcot interchange.
- Fewer new apprentices entered the industry in 2016, 86 compared with the average of 127 each year over the past four years. In the first year of work, the average income of a graduate apprentice is \$16,500, while that of a journeyman working at least 500 hours (65% of journeymen) rises to \$52,200 a year.
- Job prospects are quite good for heavy equipment operators. Demand is stable, and the aging workforce will create a need for new workers, although part will be met by those currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Conduite d'engins de chantier (5220)

Duration of training: 1,095 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Chaudière-Appalaches
- Montérégie



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	233
Bas-Saint-Laurent-Gaspésie	594
Côte-Nord	230
Estrie	196
Island of Montréal	256
Laval-Laurentides-Lanaudière	1,116
Mauricie-Bois-Francs	475
Montérégie	1,020
Outaouais	228
Québec	1,118
Saguenay-Lac-Saint-Jean	387
Outside of Québec and Baie-James	22
Total	5,875

Number of employed women 43

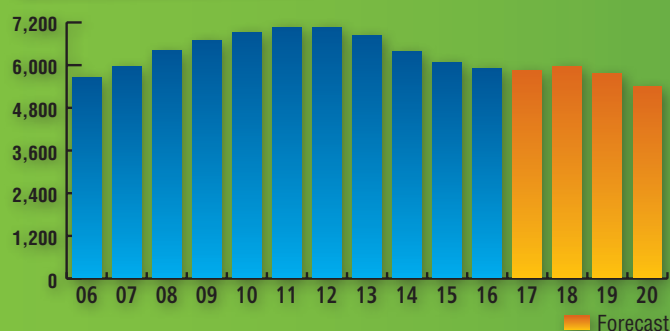
Worker mobility

Proportion of workers who travel from one region to another:*

Heavy equipment operator	23%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	35	50%	47%	3%	522
Journeyman	47	12%	57%	31%	5,353
Total, heavy equipment operators	46	14%	56%	30%	5,875
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Installs, repairs, or renovates thermal insulation systems in order to preserve the temperature of a liquid or gas
- Insulates piping systems, air ducts, and reservoirs and applies protective finishes
- Installs rigid or semi-rigid insulation

Insulators work in institutional and commercial buildings, industries, etc.

Insulator

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Calorifugeage and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to physics, technical drawing, working with tools and machinery
- Be careful and resourceful
- Be able to work in a team
- Be in good physical condition
- Be able to work in confined spaces, extreme temperatures and at heights.

Average annual salary*

Apprentice**	\$32,968
Journeyman***	\$60,528
Journeyman working at least 500 hours	\$69,998
Proportion****	84%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2013 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	73	36
Placement rate of graduates*	0%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.79	\$23.00	\$21.39
2 nd period	\$26.59	\$26.83	\$24.96
3 rd period	\$32.29	\$32.58	\$30.30
Journeyman	\$37.99	\$38.33	\$35.65

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 79%

Industrial 21%



Job prospects



- The number of insulators declined to 1,029 in 2016.
- These highly specialized workers are hired by 141 employers, primarily active in the industrial, institutional and commercial sectors. Activity is expected to decline in the industrial and commercial sector over the medium term but remain stable in the industrial sector.
- A total of 36 new apprentices entered the industry in 2016, a sharp decline from the annual average for the past four years (73). An apprentice insulator can expect to earn about \$33,000 during the first year of work, while a journeyman's annual income can climb to an average of \$60,500, or even \$70,000 for employees working at least 500 hours a year.
- Job prospects are quite good for insulators. There are currently many workers available in the labour market, who could meet part of the workforce need in coming years.

Training

Study program:

Diploma of vocational studies (DEP) -
Calorifugeage (5119)

Duration of training: 900 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following region:

- Montréal



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	20
Bas-Saint-Laurent-Gaspésie	23
Côte-Nord	6
Estrie	45
Island of Montréal	102
Laval-Laurentides-Lanaudière	344
Mauricie-Bois-Francis	65
Montréal	162
Outaouais	28
Québec	172
Saguenay-Lac-Saint-Jean	61
Outside of Québec and Baie-James	1
Total	1,029

Number of employed women 50

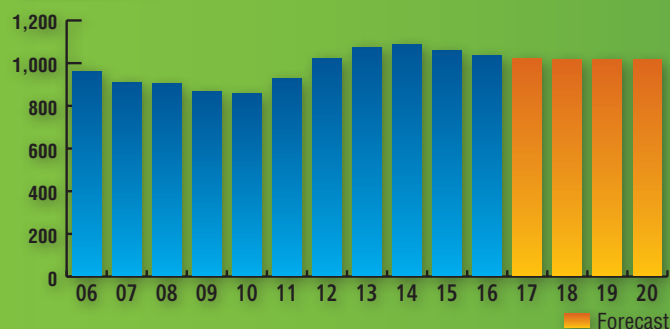
Worker mobility

Proportion of workers who travel from one region to another:*

Insulator	19%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	31	53%	44%	3%	307
Journeyman	43	12%	71%	17%	722
Total, insulators	39	24%	63%	13%	1,029
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Erects walls, partitions, and ceilings using steel studs or metallic furring on which gypsum panels are installed
- Installs suspended ceilings made of tiles or special products
- Prepares and installs all types of lathwork
- Applies levelling, surface division, cutting, attachment, anchorage, and assembly techniques

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Pose de systèmes intérieurs and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to applying mathematical concepts, taking of imperial and metric measurements, and interpretation of plans and technical specifications
- Be independent and careful
- Be well organized
- Be in good physical condition
- Be capable of moving heavy objects
- Be able to work on scaffolding

Average annual salary*

Apprentice**	\$28,008
Journeyman***	\$49,888
Journeyman working at least 500 hours	\$59,383
Proportion****	82%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	237	180
Placement rate of graduates*	11.1%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.51	\$22.54	\$20.45
2 nd period	\$26.26	\$26.29	\$23.86
3 rd period	\$31.88	\$31.93	\$28.97
Journeyman	\$37.51	\$37.56	\$34.08

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 95%



Residential 5%

Job prospects



- In 2016, 2,594 interior systems installers were active on construction sites, recruited by 983 employers.
- The institutional and commercial sector generates virtually all work volume for interior systems installers, but is expecting a slight decline in activity in coming years.
- In 2016, 180 new apprentices were admitted. The average annual income for apprentices in their first year is \$26,000, while journeymen working at least 500 hours earn an average annual income of \$59,300.
- Job prospects for this trade are quite good. Workforce availability is currently high and demand is dropping slightly, but high workforce turnover should generate a need for new workers.

Training

Study program:

Diploma of vocational studies (DEP) -
Pose de systèmes intérieurs (5118)

Duration of training: 645 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Centre-du-Québec
- Montérégie
- Montréal



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	12
Bas-Saint-Laurent-Gaspésie	12
Côte-Nord	4
Estrie	51
Island of Montréal	478
Laval-Laurentides-Lanaudière	808
Mauricie-Bois-Francs	100
Montérégie	631
Outaouais	115
Québec	343
Saguenay-Lac-Saint-Jean	39
Outside of Québec and Baie-James	1
Total	2,594

Number of employed women 29

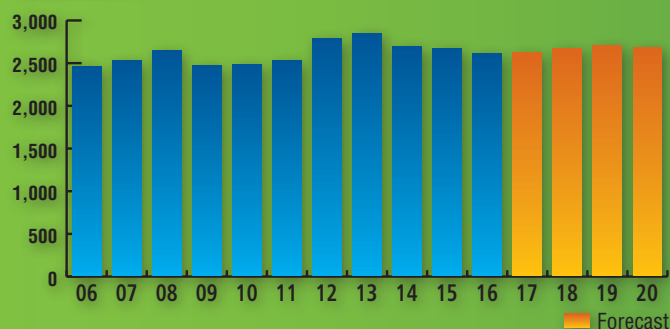
Worker mobility

Proportion of workers who travel from one region to another:*

Interior systems installer	11%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	29	66%	33%	1%	922
Journeyman	41	16%	71%	13%	1,672
Total, interior systems installers	36	34%	57%	9%	2,594
All trades and occupations	39	26%	58%	16%	153,700

Ironworker



Description of the trade

- Makes, mounts, and assembles all iron and steel elements used in construction
- Applies fabrication, bolting, welding, rigging, and assembly procedures to structural components such as beams, columns, and joists
- Applies fabrication, bolting, welding, rigging, and assembly procedures to architectural elements such as stairs, balconies, banisters, fencing, and canopies

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Montage structural et architectural and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three 2,000-hour apprenticeship periods (6,000 hours total) to be eligible to take the provincial qualification examination that leads to obtaining the journeyman competency certificate.

SKILLS AND INTERESTS

- Acquire knowledge related to application of mathematics, trigonometry, metallurgy, and reading of fabrication and installation plans
- Have good spatial perception
- Be independent, careful, agile, and have a sense of aesthetics
- Be able to work in a team
- Be in good physical shape and able to move heavy objects
- Be able to work at heights

Average annual salary*

Apprentice**	\$32,205
Journeyman***	\$53,272
Journeyman working at least 500 hours	\$68,212
Proportion****	75%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	154	125
Placement rate of graduates*	2.2%	n/a

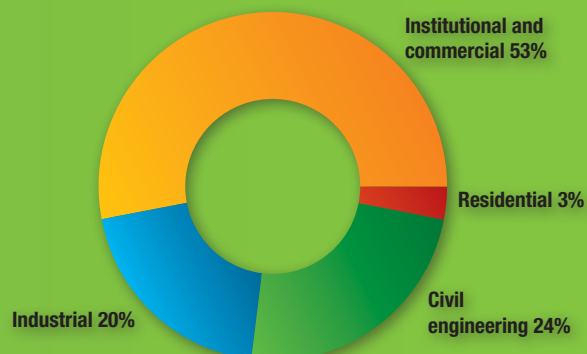
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$23.02	\$23.00	\$21.39
2 nd period	\$26.86	\$26.84	\$24.96
3 rd period	\$32.61	\$32.59	\$30.30
Journeyman	\$38.37	\$38.34	\$35.65

*Wage in May 2016.

Volume of work per sector



Job prospects



- There were 3,110 ironworkers active on construction sites in 2016, working for 639 different employers. Almost three of every ten employees work outside their home region.
- The institutional and commercial sector accounts for more than half the activity for this trade. A slight decline in activity for this sector is forecast over the medium term. By contrast, the civil engineering and roadwork sector should grow in coming years and almost a quarter of the hours worked by ironworkers are in this sector.
- There were 125 new apprentices in 2016, less than the annual average (154) for the previous four years. In their first year of work, apprentices earn an average income of \$32,200. The average annual income for a journeyman working at least 500 hours rises to \$68,200.
- Job prospects for this trade are rather limited. Higher availability of workers currently in the labour market should meet part of the workforce demand.

Training

Study program:

Diploma of vocational studies (DEP) –
Montage structural et architectural (5299)

Duration of training: 1,230 hours

Academic prerequisites: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following region:

- Montréal



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	91
Bas-Saint-Laurent-Gaspésie	199
Côte-Nord	83
Estrie	88
Island of Montréal	277
Laval-Laurentides-Lanaudière	677
Mauricie-Bois-Francis	222
Montréal	664
Outaouais	87
Québec	484
Saguenay-Lac-Saint-Jean	231
Outside of Québec and Baie-James	7
Total	3,110

Number of employed women 0

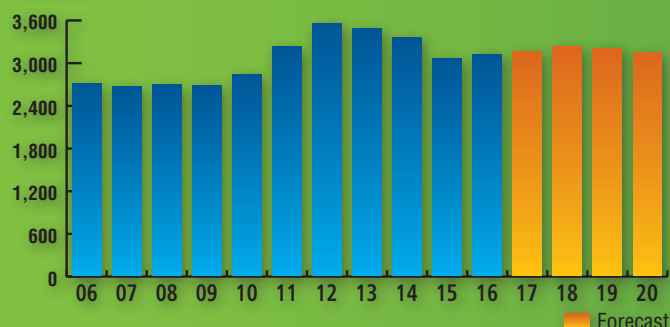
Worker mobility

Proportion of workers who travel from one region to another:*

Ironworker	29%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	31	60%	35%	5%	753
Journeyman	45	11%	67%	22%	2,357
Total, ironworkers	41	23%	59%	18%	3,110
All trades and occupations	39	26%	58%	16%	153,700



Lineman

Description of the occupation

- Does installation and repairs of electric-energy transmission and distribution lines and of energy transformer stations
- Deals with all aspects of overhead or underground lines, from erecting a structure to installing a cable network to maintenance and repairs
- Linemen may work for construction contractors specializing in this area or for a network operator (e.g., Hydro Québec)

ACCESS TO CONSTRUCTION SITES

- Individuals who show to the CCQ proof of graduation with a DEP - Montage de lignes électriques may register for the 15-hour course Cours de connaissance générale de l'industrie de la construction (CCGIC), in order to obtain an occupation competency certificate.
- The number of places reserved for the CCGIC depends on labour needs established annually by the construction industry.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

SKILLS AND INTERESTS

- Have knowledge linked to application of concepts of electricity, mathematics, physics, and chemistry
- Be independent and careful
- Be in good physical condition, dextrous, and have a good sense of balance (agility and flexibility)
- Be able to work in a team
- Be available to travel regularly outside of the region of residence, often for extended periods
- Be capable of working at heights

Average annual salary*

Apprentice**	\$67,236
Journeyman working at least 500 hours	\$79,322
Proportion***	82%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average 2015 salary of those having reported at least one hour of work.

*** Proportion of workers in this occupation having accumulated at least 500 hours in 2015. Does not include income that may have been earned for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	53	58
Placement rate of graduates*	9.7%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Transmission and distribution lines	Communications networks
Lineman		
1 st class	\$38.40	—
2 nd class	\$36.79	—
3 rd class	\$32.58	—
4 th class	\$31.74	—
T lineman	—	\$36.31

*Wage in May 2016.

Volume of work per sector



Civil
engineering 100%

Job prospects



- In 2016, there were 1,137 linemen on construction sites. Work at hydroelectric stations has benefited linemen in recent years. All the work volume is in the civil engineering and roadwork sector.
- The industry has some 75 employers hiring linemen, but the five largest account for half of all linemen's activity. Work is performed primarily on electrical transmission lines, which usually requires linemen to work outside the region where they live. This was true for 60% of workers in 2016.
- In 2016, 58 new workers entered the industry, slightly above the average for the past four years (53). Most linemen (82%) work at least 500 hours and earn an average annual income of \$79,300.
- Job prospects are fairly limited for linemen, as employment is dropping sharply and the workers currently available can meet part of the workforce needs. However, the workforce is aging and turnover is high in this occupation.

Training

Study program:

Diploma of vocational studies (DEP) -
Montage de lignes électriques (5185)

Duration of training: 900 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Chaudière-Appalaches
- Gaspésie-Îles-de-la-Madeleine
- Montréal



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	33
Bas-Saint-Laurent-Gaspésie	90
Côte-Nord	67
Estrie	34
Island of Montréal	28
Laval-Laurentides-Lanaudière	232
Mauricie-Bois-Francis	102
Montréal	140
Outaouais	35
Québec	271
Saguenay-Lac-Saint-Jean	88
Outside of Québec and Baie-James	19
Total	1,137

Number of employed women 3

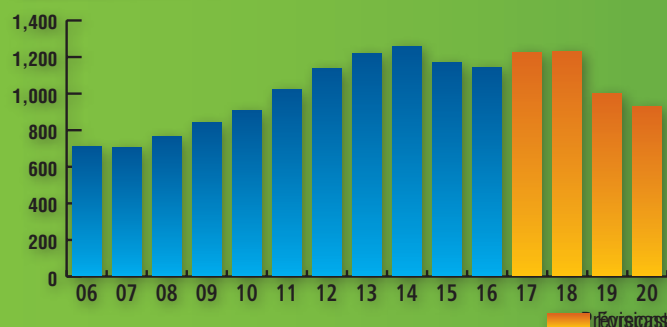
Worker mobility

Proportion of workers who travel from one region to another:*

Lineman	64%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Lineman	42	29%	42%	29%	1,137
All trades and occupations	39	26%	58%	16%	153,700

Millwright



Description of the trade

- Installs, repairs, adjusts, assembles and disassembles, and handles machinery
- Manufactures jigs for this machinery
- Some types of machinery: conveyors, turbines, windmills, compressors, towers, shredders, production lines

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Industrial Construction and Maintenance Mechanics and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to mathematics, computers, chemistry, physics, automation, welding, and machine-tooling and hoisting
- Be ingenious and resourceful
- Be precise
- Be dextrous and in good physical condition
- Be capable of moving heavy objects and working in a team

Average annual salary*

Apprentice**	\$23,867
Journeyman***	\$59,540
Journeyman working at least 500 hours	\$82,850
Proportion****	68%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	44	29
Placement rate of graduates*	9.1%	n/a

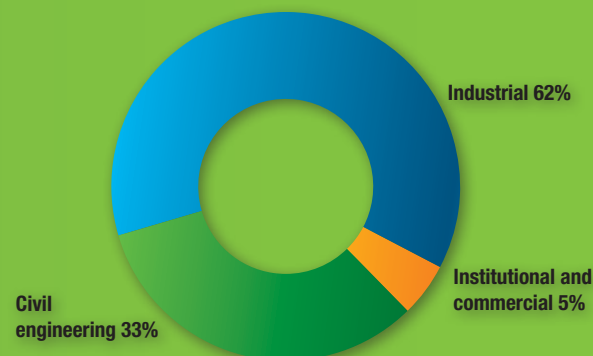
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.79	\$22.81	\$21.39
2 nd period	\$26.59	\$26.61	\$24.96
3 rd period	\$32.29	\$32.31	\$30.30
Journeyman	\$37.99	\$38.01	\$35.65

*Wage in May 2016.

Volume of work per sector



Job prospects



- The number of millwrights active in 2016 remained stable, with 1,022 active in the industry. Note that activity by millwrights can vary significantly. For example, staffing can vary greatly between two major sites.
- In 2016, 171 employers hired millwrights. They work primarily in the industrial sector, in which the level of activity should remain stable in coming years.
- There were 29 new apprentices in 2016, more than in 2015 but still below the average for the past four years (44). On average, an apprentice earns \$23,800 in the first year of work on sites covered by collective agreements. The average annual income of a journeyman working at least 500 hours rises to \$82,850. Note that installation of machinery is not always covered by construction industry collective agreements.
- Employment in this trade will decline slightly. When combined with the very high availability of workers, this limits job prospects for millwrights, although the workforce is aging.

Training

Study program:

Diploma of vocational studies (DEP) -
Mécanique industrielle de construction et
d'entretien (5260) and Industrial Construction
and Maintenance Mechanics (5760)

Duration of training: 1,800 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Abitibi-Témiscamingue
- Bas-Saint-Laurent
- Capitale-Nationale
- Centre-du-Québec
- Chaudière-Appalaches
- Côte-Nord
- Estrie
- Lanaudière
- Laurentides*
- Laval
- Mauricie
- Montérégie*
- Montréal
- Nord-du-Québec*
- Outaouais
- Saguenay-Lac-Saint-Jean



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

* Training also offered in English in this region.

Number of employed workers in 2016

Abitibi-Témiscamingue	49
Bas-Saint-Laurent-Gaspésie	124
Côte-Nord	82
Estrie	19
Island of Montréal	39
Laval-Laurentides-Lanaudière	133
Mauricie-Bois-Francis	172
Montérégie	176
Outaouais	16
Québec	99
Saguenay-Lac-Saint-Jean	113
Outside of Québec and Baie-James	0
Total	1,022

Number of employed women 3

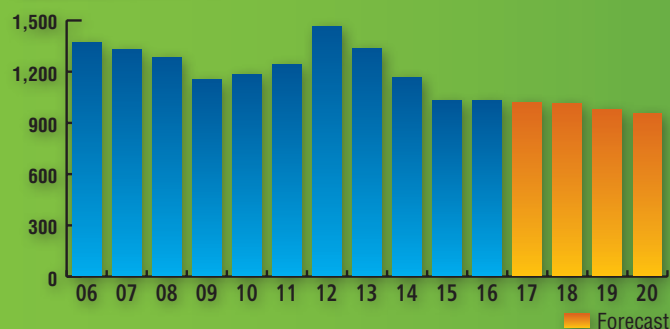
Worker mobility

Proportion of workers who travel from one region to another:*

Millwright	46%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	33	53%	42%	5%	114
Journeyman	47	9%	56%	35%	908
Total, millwrights	46	14%	55%	31%	1,022
All trades and occupations	39	26%	58%	16%	153,700

Painter



Description of the trade

- Prepares and conditions the surfaces of all structures, and covers them with one or several layers of film-forming compounds
- Covers wall surfaces with wallpaper or any similar material
- Does all other work involving installation of bracing, angle irons, and accessories, as well as filling wallboard joints

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Commercial and Residential Painting and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to product chemistry, colour theory, design, and reading of plans
- Be careful and precise
- Work neatly
- Be able to distinguish colours
- Have good physical coordination
- Be able to work at heights

Average annual salary*

Apprentice**	\$16,763
Journeyman***	\$35,638
Journeyman working at least 500 hours	\$49,919
Proportion****	67%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	357	360
Placement rate of graduates*	15.0%	n/a

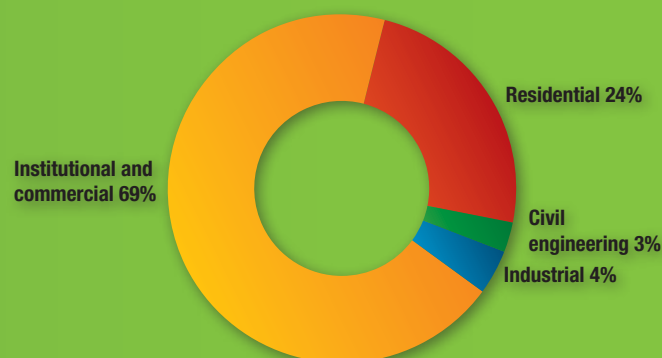
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$21.23	\$21.49	\$19.14
2 nd period	\$24.77	\$25.07	\$22.33
3 rd period	\$30.07	\$30.45	\$27.12
Journeyman	\$35.38	\$35.82	\$31.90

*Wage in May 2016.

Volume of work per sector



Job prospects



- In 2016, 5,587 painters were active on construction sites, and the number of women rose to 723, the largest for any trade, far ahead of carpenter-joiners. A high proportion of the 1,938 companies employing painters are small.
- Almost 70% of hours worked in this trade are in the institutional and commercial sector, with the remainder worked mostly in the residential sector. Both sectors are expected to slow in coming years. Note, however, that painting work in existing buildings offers additional work opportunities.
- In 2016, 360 new apprentice painters entered the labour market, close to the annual average for the past four years. In their first year, apprentices take home an average income of \$16,700. Journeymen working at least 500 hours average \$49,900 a year for work covered by construction industry collective agreements.
- Job prospects for this trade are quite good. Although employment is declining slightly and worker availability is high, the workforce in this trade is aging and high turnover is generating a need for new workers.

Training

Study program:

Diploma of vocational studies (DEP) -
Peinture en bâtiment (5336) and
Commercial and Residential Painting (5836)

Duration of training: 900 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Laurentides*
- Montréal*
- Nord-du-Québec*
- Saguenay-Lac-Saint-Jean

* Training also offered in English in this region.



To find out which public facilities are authorized to offer this study program, consult the website
www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	106
Bas-Saint-Laurent-Gaspésie	176
Côte-Nord	57
Estrie	220
Island of Montréal	797
Laval-Laurentides-Lanaudière	1,380
Mauricie-Bois-Francs	306
Montréal	1,042
Outaouais	314
Québec	958
Saguenay-Lac-Saint-Jean	219
Outside of Québec and Baie-James	12
Total	5,587

Number of employed women 723

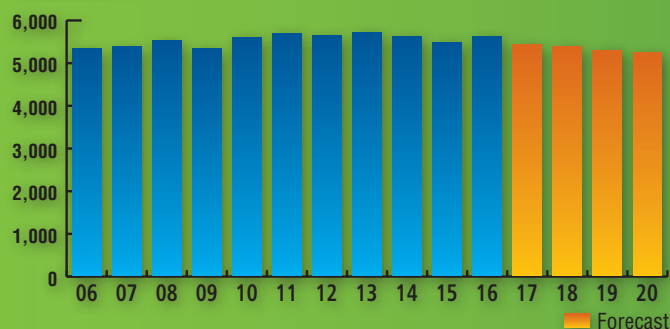
Worker mobility

Proportion of workers who travel from one region to another:*

Painter	12%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	36	40%	50%	10%	2,303
Journeyman	48	7%	62%	31%	3,284
Total, painters	43	20%	57%	23%	5,587
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Installs, overhauls, alters, repairs, and maintains plumbing and heating systems

This trade has two specialties: plumber and heating systems installer.

- **Plumber:** Does work related to water-supply and water-disposal piping in buildings and structures
- **Heating systems installer:** Does work related to piping and other elements of heating systems

Pipe fitter

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Plumbing and Heating and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the four apprenticeship periods of 2,000 hours each (8,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge linked to application of notions of mathematics, chemistry, and physics, plumbing and heating systems, and reading of plans
- Be independent and careful
- Be able to work in a team
- Be in good physical condition
- Be dextrous

Average annual salary*

Apprentice**	\$24,974
Journeyman***	\$55,445
Journeyman working at least 500 hours	\$67,946
Proportion****	79%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	558	546
Placement rate of graduates*	6.7%	n/a

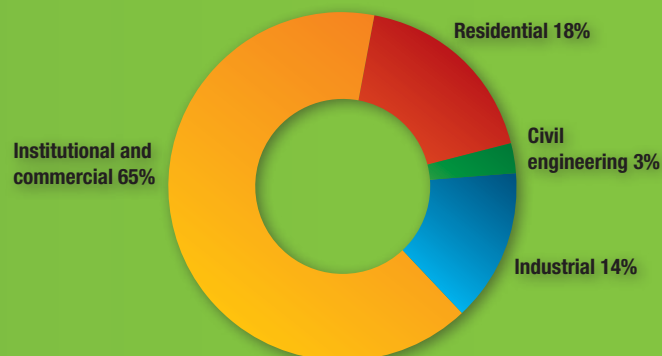
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$19.00	\$19.01	\$17.83
2 nd period	\$22.79	\$22.81	\$21.39
3 rd period	\$26.59	\$26.61	\$24.96
4 th period	\$32.29	\$32.31	\$30.30
Journeyman	\$37.99	\$38.01	\$35.65

*Wage in May 2016.

Volume of work per sector



Job prospects



- Pipe fitters are the third-largest trade by number of workers, after carpenter-joiners and electricians, with 9,278 pipe fitters on construction sites in 2016. More than 1,500 employers hire pipe fitters in the construction industry.
- About two thirds of the work volume for pipe fitters is in the institutional and commercial sector, which is expected to decline slightly in the medium term. Demand from commercial construction should remain stable, but the institutional segment is expected to shrink.
- In 2016, 546 new apprentices entered the industry, close to the annual average for the past four years (558). An apprentice earns an average of \$24,900 in the first year on construction sites, while a journeyman working at least 500 hours takes home about \$67,900 a year.
- Job prospects for this trade are quite good. Employment will decline slightly but high turnover is creating a need for new workers and graduates find work very easily. Note that high availability of workers currently in the market could meet part of this workforce demand.

Training

Study program:

Diploma of vocational studies (DEP) -
Plomberie et chauffage (5333) and
Plumbing and Heating (5833)

Duration of training: 1,680 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Bas-Saint-Laurent
- Capitale-Nationale*
- Centre-du-Québec
- Gaspésie-Îles-de-la-Madeleine
- Laurentides*
- Laval
- Montérégie
- Montréal*
- Nord-du-Québec*
- Outaouais
- Saguenay-Lac-Saint-Jean



* Training also offered in English in this region.

To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	164
Bas-Saint-Laurent-Gaspésie	286
Côte-Nord	119
Estrie	291
Island of Montréal	1,311
Laval-Laurentides-Lanaudière	2,352
Mauricie-Bois-Francs	607
Montérégie	2,015
Outaouais	349
Québec	1,353
Saguenay-Lac-Saint-Jean	394
Outside of Québec and Baie-James	37
Total	9,278

Number of employed women 50

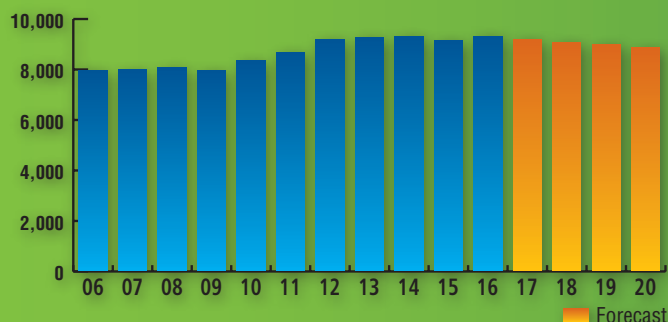
Worker mobility

Proportion of workers who travel from one region to another:*

Pipe fitter	13%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	29	65%	33%	2%	3,017
Journeyman	42	14%	70%	16%	6,261
Total, pipe fitters	38	31%	58%	11%	9,278
All trades and occupations	39	26%	58%	16%	153,700



Description of the occupation

- Interprets classification of pipes and standards
- Does preparation work for high-pressure welding
- Cuts, prepares, and welds different pipes using electric arc welding with covered electrodes or gas welding with tungsten electrodes

Pipe welder (high pressure)

ACCESS TO CONSTRUCTION SITES

- Individuals who show to the CCQ proof of graduation with an ASP - High-Pressure Welding may register for the 15-hour course Cours de connaissance générale de l'industrie de la construction (CCGIC), in order to obtain an occupation competency certificate.
- The number of places reserved for the CCGIC depends on labour needs established annually by the construction industry.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

SKILLS AND INTERESTS

- Acquire knowledge related to reading of plans, concepts of metallurgy, various welding and cutting techniques, and controlling welding parameters
- Have professional ethics
- Be independent
- Have very good dexterity and good coordination of movement
- Be able to work in uncomfortable positions

Average annual salary*

Pipe welder (high pressure)**	\$49,912
Those working at least 500 hours	\$68,754
Proportion***	68%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average 2015 salary of those having reported at least one hour of work.

*** Proportion of workers in this occupation having accumulated at least 500 hours in 2015. Does not include income that may have been earned for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	36	30
Placement rate of graduates*	8.8%	n/a

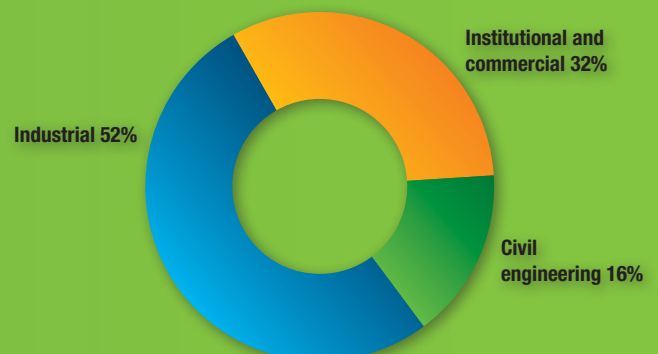
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Pipe welder (high pressure)	\$37.99	\$38.01	\$35.65

*Wage in May 2016.

Volume of work per sector



Job prospects



- The number of pipe welders rose to 569 in 2016, working for slightly more than 160 employers.
- The industrial sector, which generates slightly more than half the work volume for pipe welders, should remain stable in coming years, while a decline is forecast in the institutional and commercial sector. Conversely, an increase is expected in the civil engineering and roadwork sector.
- The industry admitted 30 new workers in 2016, six less than the annual average for the past four years. Pipe welders earn an average of \$49,900 a year, but those logging at least 500 hours average \$68,700 a year.
- Job prospects for this trade are quite good. An aging workforce and high turnover should create demand for new workers, although part of this could be met by workers currently available.

Training

Study program:

Attestation of vocational specialization (ASP) - Soudage haute pression (5234) and High-Pressure Welding (5734)

Duration of training: 600 hours

Academic prerequisite*: Those who register for the study program leading to the ASP must hold one or another of these vocational studies diplomas:

- Soudage montage (5195)
- Welding and Fitting (5695)

OR

- Have the equivalent apprenticeship recognized

OR

- Practise a trade or vocation related to this study program

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Abitibi-Témiscamingue
- Bas-Saint-Laurent
- Chaudière-Appalaches
- Estrie
- Laval
- Mauricie
- Montérégie*
- Montréal
- Outaouais
- Saguenay-Lac-Saint-Jean

* Training also offered in English in this region.

To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org



Number of employed workers in 2016

Abitibi-Témiscamingue	25
Bas-Saint-Laurent-Gaspésie	9
Côte-Nord	16
Estrie	27
Island of Montréal	45
Laval-Laurentides-Lanaudière	111
Mauricie-Bois-Francs	58
Montérégie	135
Outaouais	21
Québec	49
Saguenay-Lac-Saint-Jean	54
Outside of Québec and Baie-James	19
Total	569

Number of employed women 8

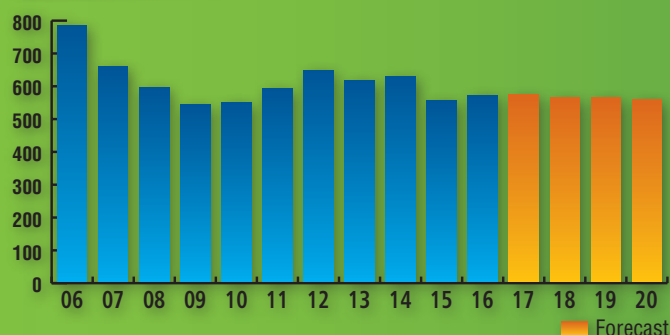
Worker mobility

Proportion of workers who travel from one region to another:*

Pipe welder (high pressure)	32%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Total, pipe welders (high pressure)	45	13%	58%	29%	569
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Points joints and covers or trues up surfaces using specialized tools and calcareous coatings such as plaster, mortar, cement, stucco, aggregates, or other substitutes
- Makes and installs plaster mouldings, moulds and installs ornaments, applies acrylic coatings

Plasterer

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Plastering and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to mathematics, technical drawing, and materials used
- Be careful, precise, and creative
- Work neatly
- Have good physical coordination
- Be able to work at heights
- Be able to work in uncomfortable positions

Average annual salary*

Apprentice**	\$19,501
Journeyman***	\$38,071
Journeyman working at least 500 hours	\$49,911
Proportion****	72%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	188	196
Placement rate of graduates*	13.5%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$21.72	\$21.81	\$20.11
2 nd period	\$25.34	\$25.45	\$23.46
3 rd period	\$30.77	\$30.90	\$28.49
Journeyman	\$36.20	\$36.35	\$33.52

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 68%



Residential 32%

Job prospects



- In 2016, 3,009 plasterers were active on sites, hired by 1,400 construction employers.
- Almost all workers are active in two sectors, residential as well as industrial and commercial. The volume of hours worked is also almost exclusively in these two sectors, which should slow in coming years.
- The construction industry admitted 196 new apprentices in 2016, eight more than the annual average for the preceding four years (188). The average income of an apprentice in the first year of work is \$19,500. Journeymen working at least 500 hours earn an average annual income of \$49,900 for work falling under the construction industry collective agreements.
- Job prospects for this trade are quite good. High turnover should create demand for new workers, but part of this could be met by workers currently available.

Training

Study program:

Diploma of vocational studies (DEP) - Plâtrage (5286) and Plastering (5786)

Duration of training: 810 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Centre-du-Québec
- Montérégie
- Montréal*
- Nord-du-Québec*
- Saguenay-Lac-Saint-Jean



* Training also offered in English in this region.

To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	14
Bas-Saint-Laurent-Gaspésie	32
Côte-Nord	13
Estrie	118
Island of Montréal	347
Laval-Laurentides-Lanaudière	774
Mauricie-Bois-Francs	173
Montérégie	621
Outaouais	192
Québec	607
Saguenay-Lac-Saint-Jean	114
Outside of Québec and Baie-James	4
Total	3,009

Number of employed women 130

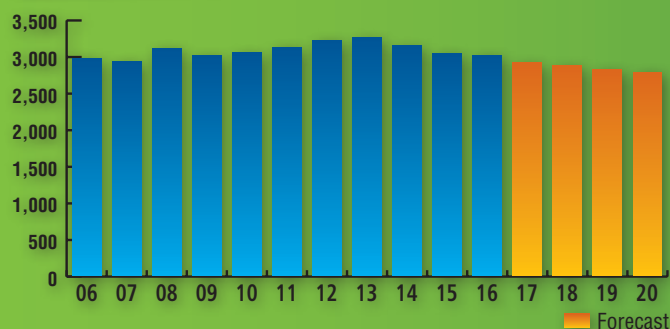
Worker mobility

Proportion of workers who travel from one region to another:*

Plasterer	11%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	32	51%	45%	4%	1,187
Journeyman	44	12%	68%	20%	1,822
Total, plasterers	39	27%	59%	14%	3,009
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Installs, overhauls, alters, repairs, and maintains refrigeration and air-conditioning systems

Refrigeration mechanic

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Refrigeration and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the four apprenticeship periods of 2,000 hours each (8,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire basic knowledge of mathematics, physics (pneumatics, hydraulics, and electricity), use of a computer, and reading plans and specifications
- Have an analytic mind
- Be resourceful and careful
- Have good manual dexterity
- Be able to work in a team
- Apply workplace health and safety rules with regard to electricity, mechanics, and handling of hazardous products

Average annual salary*

Apprentice**	\$22,609
Journeyman***	\$64,492
Journeyman working at least 500 hours	\$75,934
Proportion****	84%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	216	182
Placement rate of graduates*	7.2%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

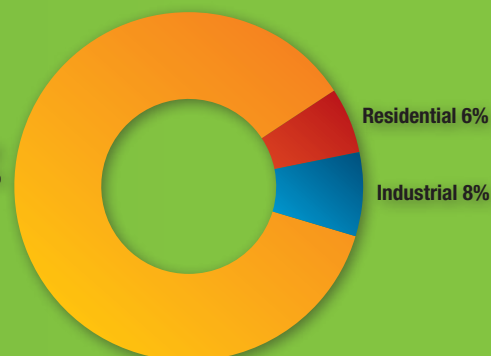
Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$19.00	\$19.01	\$17.83
2 nd period	\$22.79	\$22.81	\$21.39
3 rd period	\$26.59	\$26.81	\$24.96
4 th period	\$32.29	\$32.31	\$30.30
Journeyman	\$37.99	\$38.01	\$35.65

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 86%



Residential 6%

Industrial 8%

Job prospects



- The number of refrigeration mechanics active on construction reached 3,503 in 2016. A total of 719 companies used their services.
- The work is performed primarily in the institutional and commercial sector (86% of hours), where activity will diminish in coming years. Refrigeration mechanics, however, are not dependent solely on new construction, because maintenance and repairs also provide a great deal of work. Jobs therefore are available year-round. In addition, growing use of air conditioning in buildings favours this trade.
- In 2016, the industry brought in 182 new apprentices, slightly below the average for the past four years (216). Apprentices can earn an average of \$22,600 in the first year, while journeymen working at least 500 hours (84% of journeymen) can hope to earn more than \$75,900 a year. The annual average hours worked rank among the highest for all trades.
- Job prospects are quite good for refrigeration mechanics, with employment rising slightly. Note that part of the workforce demand will be met by workers currently available. Despite this, graduates find work very easily.

Training

Study program:

Diploma of vocational studies (DEP) -
Réfrigération (5315) and Refrigeration (5815)

Duration of training: 1,800 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Centre-du-Québec
- Estrie
- Laval
- Montérégie
- Montréal*
- Saguenay-Lac-Saint-Jean

* Training also offered in English in this region.

To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org



Number of employed workers in 2016

Abitibi-Témiscamingue	53
Bas-Saint-Laurent-Gaspésie	65
Côte-Nord	18
Estrie	135
Island of Montréal	324
Laval-Laurentides-Lanaudière	1,101
Mauricie-Bois-Francs	230
Montérégie	897
Outaouais	70
Québec	475
Saguenay-Lac-Saint-Jean	105
Outside of Québec and Baie-James	30
Total	3,503

Number of employed women 13

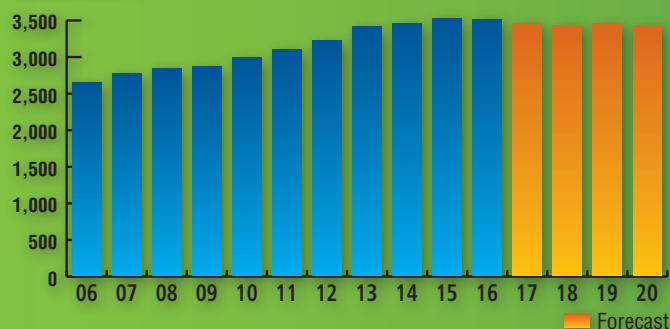
Worker mobility

Proportion of workers who travel from one region to another:*

Refrigeration mechanic	12%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	29	66%	33%	1%	1,048
Journeyman	41	12%	76%	12%	2,455
Total, refrigeration mechanics	38	28%	63%	9%	3,503
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Installs rods, metal laths, or any other similar material to reinforce concrete
- Cuts, bends, ties, welds, places, and installs reinforcing steel used in the construction of formwork, columns, beams, slabs, or other similar work
- Fabricates and installs reinforcing rods and prefabricated components.
- Installs mechanical joints, anchors and pins.

Reinforcing steel erector

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Pose d'armature de béton and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the apprenticeship period of 2,000 hours in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to application of geometric forms and volumes, and mathematical concepts and physics principles related to handling concrete structures
- Be dextrous
- Have good physical coordination
- Be able to work in a team
- Be in very good physical condition
- Be able to move heavy objects, execute repetitive movements, and work at heights

Average annual salary*

Apprentice**	\$22,803
Journeyman***	\$53,170
Journeyman working at least 500 hours	\$63,227
Proportion****	81%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	78	39
Placement rate of graduates*	n/a	n/a

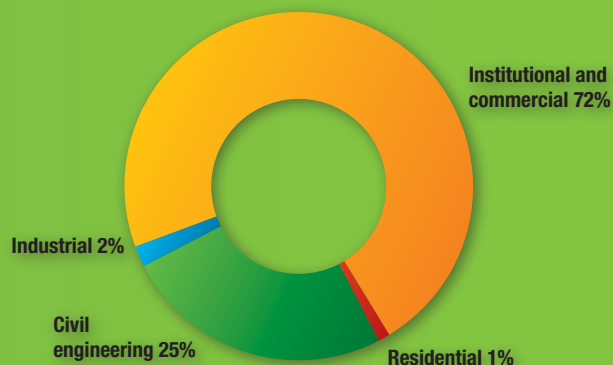
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice	\$32.61	\$32.59	\$29.67
Journeyman	\$38.37	\$38.34	\$34.90

*Wage in May 2016.

Volume of work per sector



Job prospects



- There were 1,430 active reinforcing steel erectors on construction sites in 2016 and 209 employers used their services. A high proportion of reinforcing steel erectors were journeymen in 2016.
- A slight decline in activity in the institutional and commercial sector should affect employment of reinforcing steel erectors since much of their work is performed in this sector. However, one fourth of the work volume for this trade is in the civil engineering and roadwork sector, expected to grow in coming years, which may offset the drop in work volume in the institutional and commercial sector.
- There were 39 new apprentices in 2016, half the annual average from 2012 to 2015. On average, apprentices earn \$22,800 the first year. Journeymen who work at least 500 hours average \$63,200 a year.
- Job prospects for reinforcing steel erectors are fairly limited. Employment will decline slightly and worker availability is high.

Training

Study program:

Diploma of vocational studies (DEP) -
Pose d'armature du béton (5076)

Duration of training: 735 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following region:

- Montréal



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	17
Bas-Saint-Laurent-Gaspésie	65
Côte-Nord	29
Estrie	64
Island of Montréal	147
Laval-Laurentides-Lanaudière	407
Mauricie-Bois-Francs	74
Montréal	267
Outaouais	65
Québec	246
Saguenay-Lac-Saint-Jean	46
Outside of Québec and Baie-James	3
Total	1,430

Number of employed women 7

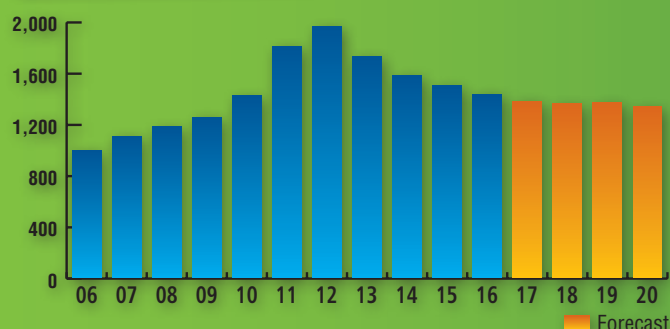
Worker mobility

Proportion of workers who travel from one region to another:*

Reinforcing steel erector	30%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	29	60%	38%	2%	167
Journeyman	38	27%	64%	9%	1,263
Total, reinforcing steel erectors	37	31%	61%	8%	1,430
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Lays resilient vinyl, asphalt, rubber, cork, linoleum or any other flooring glued but not nailed.
- Lays carpet, rugs and underpadding, except acoustic tile installed on walls and ceilings.

Resilient flooring layer

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Installation de revêtements souples and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed three apprenticeship periods of 2,000 hours (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to application of concepts of mathematics, properties of materials and products, interpretation of plans and technical specifications
- Be careful
- Have good dexterity
- Be well organized
- Be in good physical condition
- Be capable of moving heavy objects
- Be flexible

Average annual salary*

Apprentice**	\$17,885
Journeyman***	\$32,750
Journeyman working at least 500 hours	\$49,296
Proportion****	61%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	66	80
Placement rate of graduates*	n/a	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

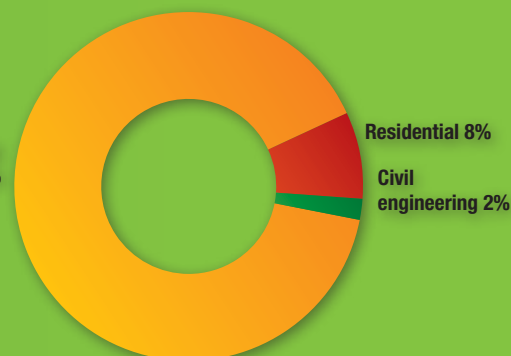
Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$21.20	\$20.13	\$18.64
2 nd period	\$24.73	\$23.49	\$21.75
3 rd period	\$30.03	\$28.52	\$26.41
Journeyman	\$35.33	\$33.55	\$31.07

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 90%



Residential 8%

Civil
engineering 2%

Job prospects



- In 2016, 1,242 resilient flooring layers were active, slightly more than in 2015. These workers were hired by 590 different employers, almost 80% of whom hire only one or two resilient flooring layers.
- Almost all the work volume for this trade is in the institutional and commercial sector. A slight drop in activity is expected for this sector, mainly due to declining demand for institutional buildings. New residential construction accounts for 8% of work volume for this trade and is also expected to decline in coming years. It is interesting to note, however, that there is still demand for replacement of existing flooring.
- In 2016, 80 new apprentices were admitted, a much higher number than the annual average for the past four years (66). In this trade, an apprentice earns an average of \$17,800 in the first year of work. A journeyman working at least 500 hours earns an average \$49,200 a year.
- Job prospects are good for the coming years and graduates find work easily. High turnover, especially due to retirement, is driving demand for new workers, but this need could be met by workers currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Installation de revêtements souples (5334)

Duration of training: 900 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Laval
- Montérégie
- Montréal



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	20
Bas-Saint-Laurent-Gaspésie	62
Côte-Nord	15
Estrie	43
Island of Montréal	148
Laval-Laurentides-Lanaudière	319
Mauricie-Bois-Francis	52
Montérégie	223
Outaouais	83
Québec	211
Saguenay-Lac-Saint-Jean	54
Outside of Québec and Baie-James	12
Total	1,242

Number of employed women 24

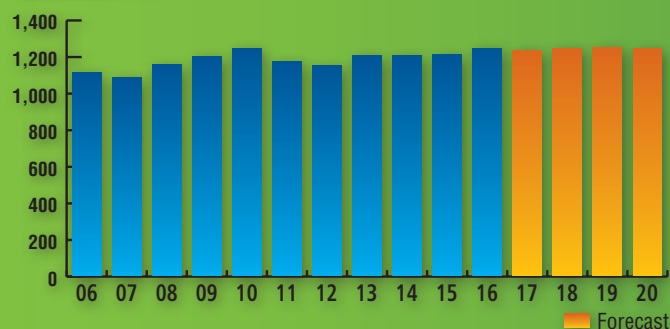
Worker mobility

Proportion of workers who travel from one region to another:*

Resilient flooring layer	11%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	33	48%	46%	6%	335
Journeyman	46	9%	63%	28%	907
Total, resilient flooring layers	43	20%	58%	22%	1,242
All trades and occupations	39	26%	58%	16%	153,700

Roofer



Description of the trade

- Installs roof coverings that may be composed of asphalt-impregnated felt, hot bitumen, and gravel; elastomeric, liquid, and thermoplastic membranes; and different types of shingles
- Repairs and insulates roofs
- Prepares the roof decks
- Applies techniques of lifting, handling, chipping, waterproofing, attaching, spreading, and welding of membranes

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Pose de revêtements de toiture and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed two apprenticeship periods (4,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to application of concepts of mathematics, properties of products and materials, and in ventilation.
- Be well organized
- Be capable of working in a team and at heights
- Be able to move heavy objects
- Be in good physical condition and be able to adapt to extreme temperature changes
- Have good manual dexterity
- Have good movement coordination
- Have patience and perseverance in the execution of details
- Have good visual acuity

Average annual salary*

Apprentice**	\$16,697
Journeyman***	\$37,693
Journeyman working at least 500 hours	\$52,164
Proportion****	68%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	515	451
Placement rate of graduates*	10.3%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

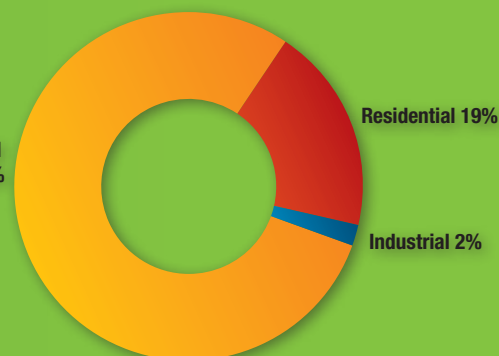
Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$26.80	\$26.89	\$24.96
2 nd period	\$32.54	\$32.65	\$30.30
Journeyman	\$38.28	\$38.41	\$35.65

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 79%



Residential 19%

Industrial 2%

Job prospects



- In 2016, 5,468 Roofers were active in the construction industry, hired by 955 employers in 2016. It should be noted that this trade is highly seasonal because the work is done outdoors.
- The institutional and commercial sector provides much of the work in this trade. Although activity in commercial buildings should remain stable in coming years, a decline in activity is expected for the institutional segment. Thus, an overall decline in activity is expected in the institutional and commercial sector over the medium term.
- In 2016, 451 new apprentices entered construction sites, less than the annual average of 515 from 2012 to 2015. One fourth of new apprentices in 2016 had a diploma. In their first year of work, apprentices earn an average of \$16,600. A journeyman working at least 500 hours in construction covered by collective agreements takes home an average income of \$52,100 a year.
- Job prospects for the roofer trade are quite good and graduates easily find work. Turnover is high in the trade, creating a need for new workers.

Training

Study program:

Diploma of vocational studies (DEP) -
Pose de revêtements de toiture
(Old program: 5032; new program: 5351)

Duration of training:

600 hours
(Old program: 600 hours; new
program: 630 hours)

Academic prerequisite:

Category 2*
* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Laval
- Montérégie



To find out which public facilities are authorized to offer this study program, consult the website
www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	89
Bas-Saint-Laurent-Gaspésie	125
Côte-Nord	16
Estrie	260
Island of Montréal	507
Laval-Laurentides-Lanaudière	1,730
Mauricie-Bois-Francs	474
Montérégie	1,121
Outaouais	326
Québec	675
Saguenay-Lac-Saint-Jean	132
Outside of Québec and Baie-James	13
Total	5,468

Number of employed women 33

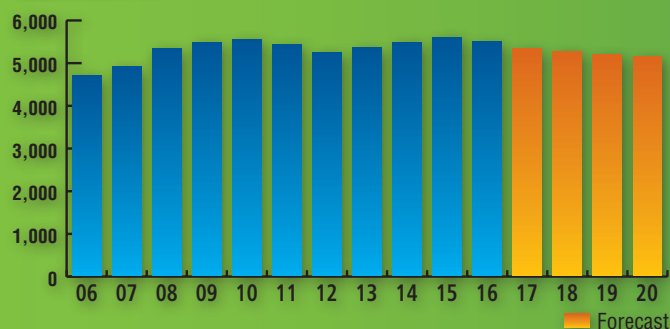
Worker mobility

Proportion of workers who travel from one region to another:*

Roofer	11%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	31	58%	38%	3%	2,131
Journeyman	40	23%	64%	13%	3,337
Total, roofers	36	37%	54%	9%	5,468
All trades and occupations	39	26%	58%	16%	153,700



Description of the trade

- Operates all types of mechanical shovels, cranes equipped with a clamshell or dragline bucket, robotic arm excavators and any other similar excavation equipment on wheels or tracks, fixed or mobile.

Shovel operator

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Conduite d'engins de chantier and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the apprenticeship period of 2,000 hours in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to application of concepts of mathematics, mechanics, hydraulics, and electricity, and the reading of plans and survey monuments
- Have dexterity and good physical coordination

Average annual salary*

Apprentice**	\$13,664
Journeyman***	\$38,237
Journeyman working at least 500 hours	\$56,675
Proportion****	64%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	113	61
Placement rate of graduates*	12.4%	n/a

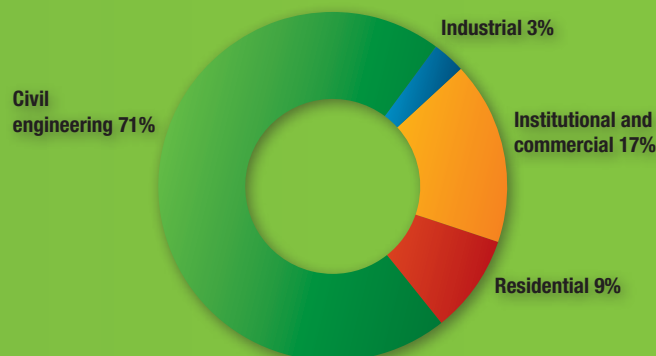
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice – Class AA	\$32.81	\$32.28	–
Journeyman – Class AA	\$38.60	\$37.98	–
Apprentice – Class A	\$31.80	\$31.38	\$29.08
Journeyman – Class A	\$37.41	\$36.92	\$34.21
Apprentice – Class B	\$30.78	\$30.45	\$28.19
Journeyman – Class B	\$36.21	\$35.82	\$33.16

*Wage in May 2016.

Volume of work per sector



Job prospects



- In 2016, there were 6,825 shovel operators, active mainly in the civil engineering and roadwork sector. More than 2,350 employers hire shovel operators.
- Activity should be stimulated by major civil engineering and roadwork projects in coming years, such as the Turcot interchange and the Champlain Bridge.
- The number of new apprentices in the industry dropped sharply, to 61 in 2016, compared with an average of 1,113 a year from 2012 to 2015. Entering a site poses a challenge, because operating these machines requires a great deal of composure by apprentice and employer alike! Although an apprentice's average income in the first year of work is just \$13,700, a journeyman working at least 500 hours (64% of workers) can earn \$56,700 a year. Seasonal variations have a major impact on annual income.
- Job prospects are quite good for shovel operators. The aging workforce will create demand for new workers, although this will be partly met by workers currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Conduite d'engins de chantier (5220)

Duration of training: 1,095 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Chaudière-Appalaches
- Montérégie



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	221
Bas-Saint-Laurent-Gaspésie	488
Côte-Nord	285
Estrie	363
Island of Montréal	172
Laval-Laurentides-Lanaudière	1,295
Mauricie-Bois-Francs	531
Montérégie	1,281
Outaouais	220
Québec	1,410
Saguenay-Lac-Saint-Jean	547
Outside of Québec and Baie-James	12
Total	6,825

Number of employed women 38

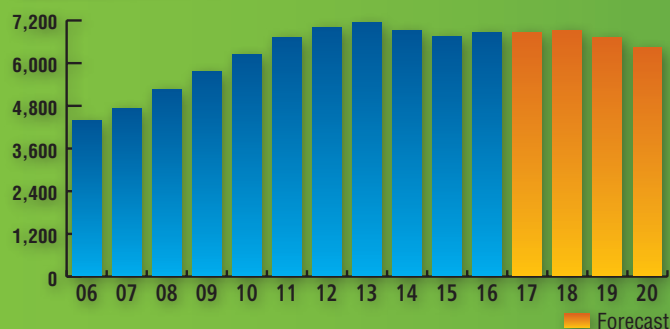
Worker mobility

Proportion of workers who travel from one region to another:*

Shovel operator	19%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	38	36%	50%	14%	753
Journeyman	44	14%	61%	25%	6,072
Total, shovel operators	43	17%	60%	23%	6,825
All trades and occupations	39	26%	58%	16%	153,700



Surveyor

Description of the occupation

- Gathers, transfers, calculates, and puts into plans surveying data using specialized instruments (electronic notebook, conventional or electronic total station, GPS receiver, calculation software, design software, etc.) in order to produce plans or define projected structures
- Supplies data regarding alignment, altitude, orientation, and dimension of various lots or types of infrastructure (industrial or commercial complexes, buildings, residences, roads, etc.)

ACCESS TO CONSTRUCTION SITES

- Individuals who show to the CCQ proof of graduation with a DEP - Arpentage et topographie may register for the 15-hour course Cours de connaissance générale de l'industrie de la construction (CCGIC), in order to obtain an occupation competency certificate.
- The number of places reserved for the CCGIC depends on labour needs established annually by the construction industry.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

SKILLS AND INTERESTS

- Like working outdoors
- Acquire knowledge linked to application of concepts in mathematics, geodesy, topography, surveying
- Be at ease with computerized equipment (software, calculators, etc.)
- Have a sense of team spirit and a good capacity for analysis
- Be independent, accurate, and careful
- Be available to travel to different regions

Average annual salary*

Surveyor**	\$49,231
Those working more than 500 hours	\$62,814
Proportion***	76%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average 2015 salary of those having reported at least one hour of work.

*** Proportion of workers in this occupation having accumulated at least 500 hours in 2015. Does not include income that may have been earned for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	62	44
Placement rate of graduates*	15.7%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Surveyor	\$37.21	\$37.21	\$31.78
Surveyor class 2	\$31.63	\$31.63	—

*Wage in May 2016.

Volume of work per sector

Civil
engineering 89%

Industrial 2%
Institutional and
commercial 9%



Job prospects



- The number of surveyors remained relatively stable in 2016, with 1,066 surveyors on construction sites. Almost 90% of the surveyors' work volume is performed in the civil engineering and roadwork sector.
- Almost one third of surveyors must travel outside their home region to work. Women represented 8% of the workforce for this occupation in 2016.
- In 2016, 44 new surveyors entered the industry, less than the annual average for the previous four years (62).
- The average annual income of surveyors is \$49,200, but those working more than 500 hours average \$62,800.
- Job prospects for this trade are quite good, although employment is declining slightly and part of the need could be met by workers currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Arpentage et topographie (5238)

Duration of training: 1,800 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Montérégie
- Montréal
- Saguenay-Lac-Saint-Jean



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	26
Bas-Saint-Laurent-Gaspésie	66
Côte-Nord	43
Estrie	40
Island of Montréal	68
Laval-Laurentides-Lanaudière	168
Mauricie-Bois-Francis	72
Montérégie	165
Outaouais	18
Québec	265
Saguenay-Lac-Saint-Jean	134
Outside of Québec and Baie-James	1
Total	1,066

Number of employed women 86

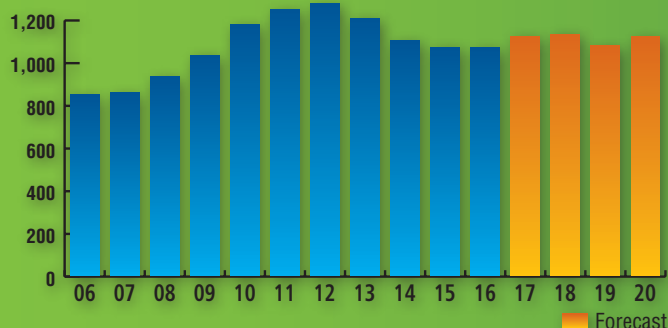
Worker mobility

Proportion of workers who travel from one region to another:*

Surveyor	30%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Surveyor	39	22%	67%	11%	1,066
All trades and occupations	39	26%	58%	16%	153,700

Tile setter

Description of the trade

- Prepares surfaces, cuts and lays marble, granite, terrazzo, slate, ceramic tiles, and all other similar or substitute materials
- Hand- or machine-polishes surfaces made of granite, marble, or any other material of a similar nature
- Applies cement and putty to joints

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Tiling and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to geometric calculation, materials used, preparation of surfaces, and application of alignment methods
- Be precise and careful
- Be concerned with the aesthetic quality of the finished product
- Have good dexterity and good colour perception
- Be capable of working in uncomfortable positions and executing tasks while moving

Average annual salary*

Apprentice**	\$21,920
Journeyman***	\$35,039
Journeyman working at least 500 hours	\$52,772
Proportion****	61%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	210	139
Placement rate of graduates*	14.8%	n/a

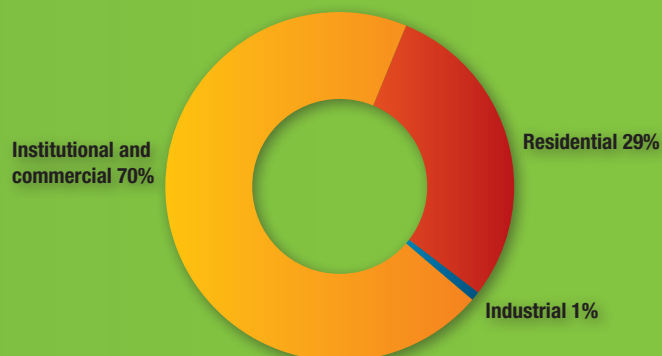
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.55	\$22.57	\$20.83
2 nd period	\$26.31	\$26.33	\$24.30
3 rd period	\$31.95	\$31.97	\$29.51
Journeyman	\$37.59	\$37.61	\$34.72

*Wage in May 2016.

Volume of work per sector



Job prospects



- In 2016, 2,402 tile setters were active on construction sites. Of these, 98 were women, placing tile setters among the 10 trades or occupations with the most women active in construction. In 2016, almost half of all tile setters were apprentices.
- In 2016, 959 companies hired tile setters, mostly in the institutional and commercial sector as well as the residential sector. Since they work indoors, there is little seasonal variation in work volume for tile setters. Volume is forecast to drop in sectors where tile setters are most active, but demand in residential renovations is expected to remain strong.
- There were 139 new apprentice tile setters in the industry in 2016. This number is well below the annual average of 210 new apprentices admitted between 2012 and 2015. On average, apprentices earn \$21,900 in their first year of work, while journeymen earn \$35,030 a year. The average annual income of journeymen working at least 500 hours is \$52,700. It must be remembered that these averages include only work covered by construction industry collective agreements.
- Job prospects are quite good for tile setters. There is high turnover, which will create demand for new workers.

Training

Study program:

Diploma of vocational studies (DEP) - Carrelage (5300) and Tiling (5800)

Duration of training: 690 hours

Academic prerequisite: Category 2*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Montérégie
- Montréal*

* Training also offered in English in this region.



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

Number of employed workers in 2016

Abitibi-Témiscamingue	29
Bas-Saint-Laurent-Gaspésie	57
Côte-Nord	18
Estrie	32
Island of Montréal	441
Laval-Laurentides-Lanaudière	523
Mauricie-Bois-Francis	108
Montérégie	444
Outaouais	115
Québec	464
Saguenay-Lac-Saint-Jean	65
Outside of Québec and Baie-James	6
Total	2,402

Number of employed women 98

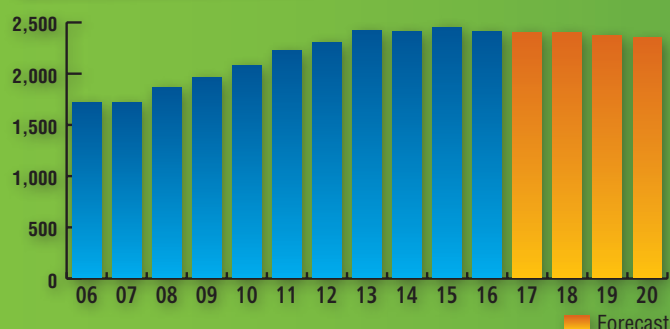
Worker mobility

Proportion of workers who travel from one region to another:*

Tile setter	13%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	33	48%	48%	4%	1,152
Journeyman	44	10%	71%	19%	1,250
Total, tile setters	39	28%	60%	12%	2,402
All trades and occupations	39	26%	58%	16%	153,700



Tinsmith

Description of the trade

- On construction sites, traces, fabricates, and installs all types of sheet-metal items
- Erects and repairs ventilation, air-conditioning, and warm-air-heating systems, as well as all exhaust systems for various materials
- Installs prefabricated metallic items, exterior coverings, and the coverings of metallic roofs
- Applies drawing, cutting, bending, anchorage, and mechanical and thermal assembly techniques

ACCESS TO CONSTRUCTION SITES

- Present to the CCQ proof of completion of DEP - Sheet Metal Work and of a job guarantee from an employer registered with the CCQ, for at least 150 hours spread over three consecutive months. This leads to an apprentice competency certificate in the trade.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

APPRENTICESHIP SYSTEM

- Have completed the three apprenticeship periods of 2,000 hours each (6,000 hours total) in order to be eligible for the provincial qualification examination that leads to obtaining the journeyman competency certificate for the trade.

SKILLS AND INTERESTS

- Acquire knowledge related to drawing and applied trigonometry
- Be able to interpret plans and technical specifications
- Be independent and careful
- Have a sense of analysis and coordination
- Have good dexterity
- Be able to work at heights
- Have endurance and be in good physical condition

Average annual salary*

Apprentice**	\$27,780
Journeyman***	\$51,777
Journeyman working at least 500 hours	\$63,522
Proportion****	79%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average salary of graduates admitted in 2014, for the 12 months following their admission.

*** Average salary in 2015 of those having reported at least one hour of work.

**** Proportion of journeymen in this trade having accumulated at least 500 hours in 2015. Does not include income that may have been made for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	274	120
Placement rate of graduates*	1.9%	n/a

* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

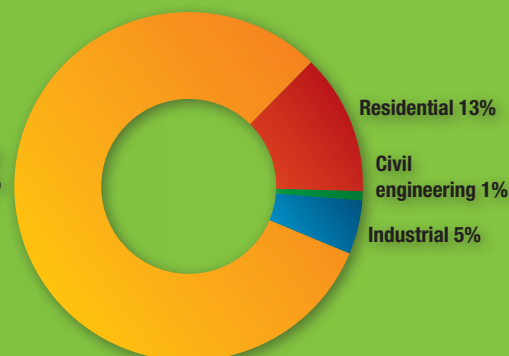
Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Apprentice			
1 st period	\$22.79	\$23.00	\$21.39
2 nd period	\$26.59	\$26.84	\$24.96
3 rd period	\$32.29	\$32.59	\$30.30
Journeyman	\$37.99	\$38.34	\$35.65

*Wage in May 2016.

Volume of work per sector

Institutional and
commercial 81%



Residential 13%

Civil
engineering 1%

Industrial 5%

Job prospects



- The number of tinsmiths working on construction sites declined to 4,260 in 2016. Almost one third of these are apprentices. This is one of the 10 trades with the largest number of women, 42 in 2016.
- A total of 1,016 construction companies hire tinsmiths. Most work is in the institutional and commercial sector, which is expected to slow in coming years.
- A total of 120 new apprentices were admitted in 2016, a significant decline from the average between 2012 and 2015. A graduate apprentice tinsmith earns an average of \$27,800 in the first year in the industry, while the average annual income of a journeyman working at least 500 hours (79% of journeymen) reaches \$63,500.
- Job prospects are quite good for tinsmiths. Despite a slight decline in demand and high availability of workers currently in the labour market, graduates have little trouble finding work.

Training

Study program:

Diploma of vocational studies (DEP) -
Ferblanterie-tôlerie (5233) and
Sheet Metal Work (5733)

Duration of training: 1,800 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Capitale-Nationale
- Centre-du-Québec
- Chaudière-Appalaches
- Laurentides
- Laval
- Montréal*
- Saguenay-Lac-Saint-Jean

* Training also offered in English in this region.

To find out which public facilities
are authorized to offer this study
program, consult the website
www.inforoutefpt.org



Number of employed workers in 2016

Abitibi-Témiscamingue	66
Bas-Saint-Laurent-Gaspésie	114
Côte-Nord	41
Estrie	125
Island of Montréal	342
Laval-Laurentides-Lanaudière	1,401
Mauricie-Bois-Francs	265
Montréal	939
Outaouais	167
Québec	641
Saguenay-Lac-Saint-Jean	182
Outside of Québec and Baie-James	7
Total	4,260

Number of employed women 42

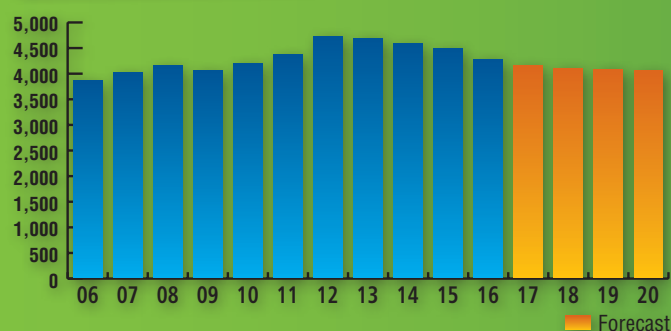
Worker mobility

Proportion of workers who travel from one region to another:*

Tinsmith	14%
All trades and occupations	17%

* Excluding travel between the Montréal, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Apprentice	31	55%	42%	3%	1,210
Journeyman	43	14%	70%	16%	3,050
Total, tinsmiths	40	26%	62%	12%	4,260
All trades and occupations	39	26%	58%	16%	153,700



Welder

Description of the occupation

- Interprets specifications and welding procedures
- Does preparation work for welding and fitting
- Cuts, prepares, and assembles pieces and pipes of different metals using various welding techniques

ACCESS TO CONSTRUCTION SITES

- Individuals who show to the CCQ proof of graduation with a DEP - Welding and Fitting may register for the 15-hour course Cours de connaissance générale de l'industrie de la construction (CCGIC), in order to obtain an occupation competency certificate.
- The number of places reserved for the CCGIC depends on labour needs established annually by the construction industry.
- Measures are in place to increase the presence of women on construction sites by 2018. Consult them at mixite.ccq.org.

SKILLS AND INTERESTS

- Acquire knowledge related to reading of plans, concepts of metallurgy, operation of various welding and cutting techniques, and controlling welding parameters
- Have professional ethics
- Be independent
- Have very good dexterity and good coordination of movement
- Be able to work in uncomfortable positions

Average annual salary*

Welder**	\$49,049
Those working at least 500 hours	\$68,376
Proportion***	69%

* Includes premiums, overtime hours, and compensation for paid statutory holidays and the obligatory annual vacations provided in the collective agreements.

** Average 2015 salary of those having reported at least one hour of work.

*** Proportion of workers in this occupation having accumulated at least 500 hours in 2015. Does not include income that may have been earned for work not falling under the construction collective agreements.

Integration into the labour market

	Annual average 2012-2015	2016
New admissions to the CCQ	15	12
Placement rate of graduates*	9.8%	n/a

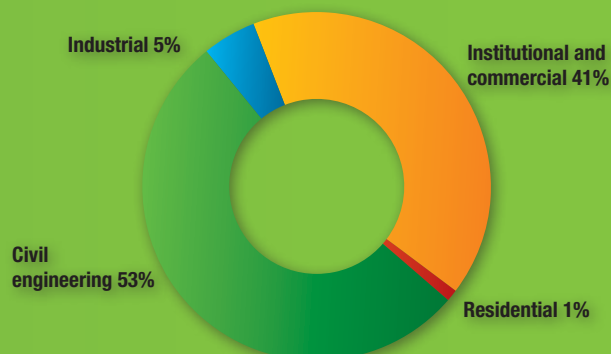
* Source: *La Relance au secondaire en formation professionnelle*, survey by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec. New graduates are asked about their employment situation on June 1, after they have obtained their diploma.

Hourly wage* according to the collective agreements

	Industrial, institutional and commercial	Civil engineering and roadwork	Light residential
Welder	\$35.48	\$36.70	\$33.78

*Wage in May 2016.

Volume of work per sector



Job prospects



- The number of welders active in the construction industry declined slightly in 2016, to 256. Almost a third of welders had to travel outside their home region to work.
- There are 130 companies hiring welders to work on construction sites. The civil engineering and roadwork sector provides more than half the work volume for welders. This sector should grow in coming years.
- Twelve new welders entered the industry in 2016, slightly below the annual average for the past four years (15). Welders earn an average annual income of \$49,000, while those working at least 500 hours average \$68,300.
- Job prospects are quite good for welders. Demand will decrease slightly in coming years but high employee turnover should create a need for new workers. Some workforce demand could be met by workers currently available.

Training

Study program:

Diploma of vocational studies (DEP) -
Soudage-montage (5195) and
Welding and Fitting (5695)

Duration of training: 1,800 hours

Academic prerequisite: Category 1*

* The academic prerequisites for all trades and occupations in this brochure are described on page 74.

Training generally offered in the following regions:

- Abitibi-Témiscamingue
- Bas-Saint-Laurent
- Capitale-Nationale*
- Centre-du-Québec
- Chaudière-Appalaches
- Côte-Nord
- Estrie*
- Gaspésie-Îles-de-la-Madeleine*
- Lanaudière
- Laurentides*
- Laval
- Mauricie
- Montérégie*
- Montréal*
- Outaouais*
- Saguenay-Lac-Saint-Jean



To find out which public facilities are authorized to offer this study program, consult the website www.inforoutefpt.org

* Training also offered in English in this region.

Number of employed workers in 2016

Abitibi-Témiscamingue	2
Bas-Saint-Laurent-Gaspésie	23
Côte-Nord	12
Estrie	1
Island of Montréal	29
Laval-Laurentides-Lanaudière	82
Mauricie-Bois-Francis	8
Montérégie	51
Outaouais	1
Québec	30
Saguenay-Lac-Saint-Jean	13
Outside of Québec and Baie-James	4
Total	256

Number of employed women 3

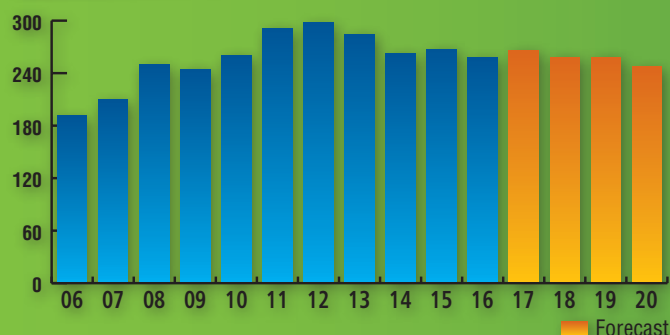
Worker mobility

Proportion of workers who travel from one region to another:*

Welder	33%
All trades and occupations	17%

* Excluding travel between the Montérégie, Island of Montréal, and Laval-Laurentides-Lanaudière regions.

Number of employed workers from 2006 to 2020



Age of the workforce in 2016

	Average age	Under 30 years	30-54 years	55 years and over	Total number of workers
Welder	42	16%	66%	18%	256
All trades and occupations	39	26%	58%	16%	153,700

Academic prerequisites associated with vocational study programs

*Here is the legend for the prerequisites categories appearing in the **Training** sections for the trades and occupations described in this brochure.*

CATEGORY 1

Individuals who hold a secondary studies diploma or its recognized equivalent, or of a post-secondary diploma such as a diploma of collegiate studies or a bachelor's degree.

OR

Individuals who are at least 16 years of age as of September 30 of the school year in which they begin their training and have passed the Secondary 4 units in language of instruction, second language, and mathematics in the study programs established by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec, or recognized equivalent training.

OR

Individuals who are at least 18 years of age when they begin their training and have the functional prerequisites – that is, have passed the general development test – as well as the specific prerequisites for the concerned study program, or recognized equivalent training.

OR

Individuals who have passed the Secondary 3 units in the language of instruction, second language, and mathematics in the study programs established by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec and will continue their general training concurrently with their vocational training in order to obtain the missing Secondary 4 units in language of instruction, second language, and mathematics in the study programs established by the Ministère.

CATEGORY 2

Individuals who hold a secondary school diploma or its recognized equivalent, or of a post-secondary diploma such as a diploma of collegiate studies or a bachelor's degree.

OR

Individuals who are at least 16 years of age as of September 30 of the school year in which they begin their training and have passed the Secondary 3 units in language of instruction, second language, and mathematics in the study programs established by the Ministère de l'Éducation, de l'Enseignement supérieur et de la Recherche du Québec, or recognized equivalent training.*

OR

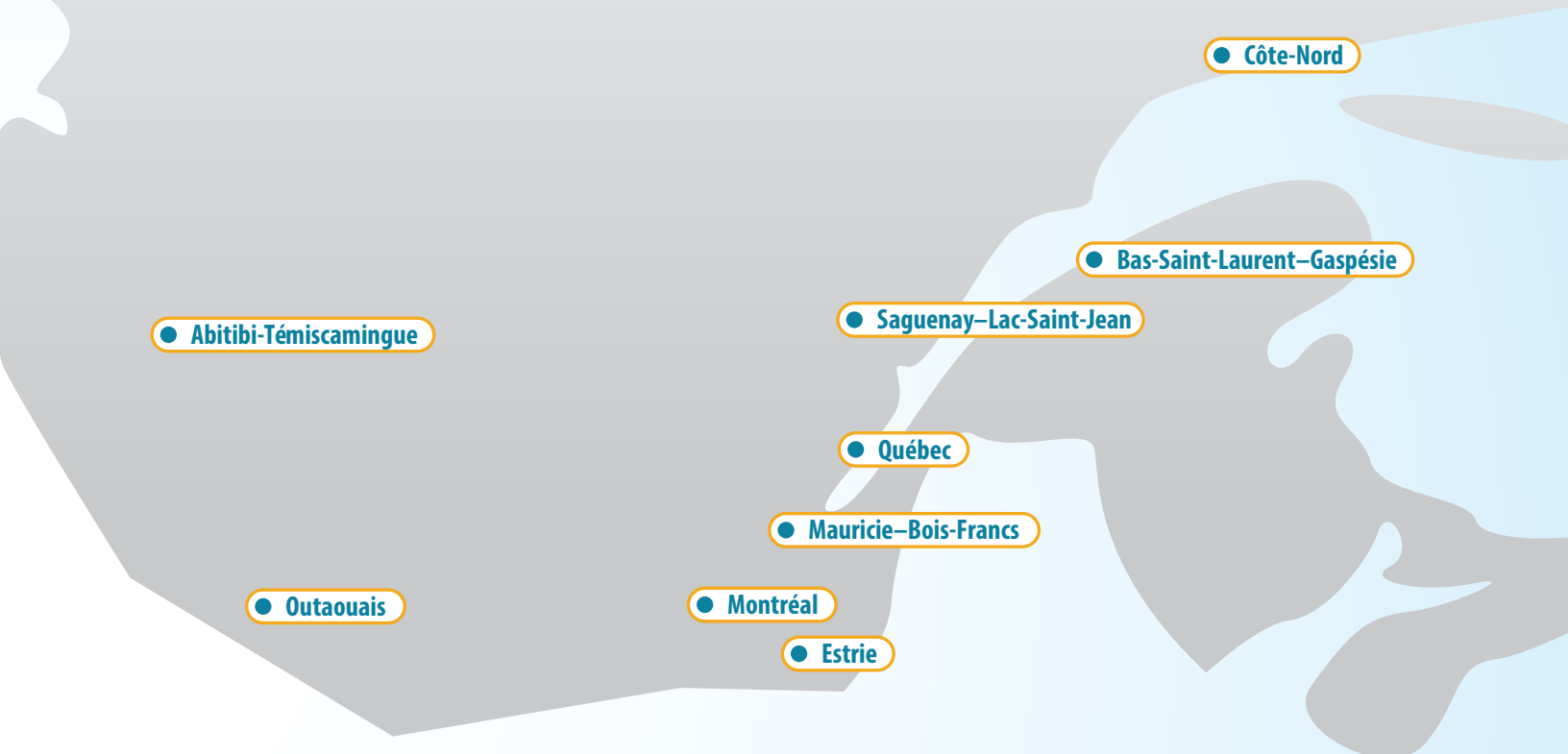
Individuals who are at least 18 years of age when they begin their training and have the functional prerequisites – that is, have passed the general development test – as well as the specific prerequisites for the concerned study program, or recognized equivalent training.

* The Ministère de l'Éducation et de l'Enseignement supérieur du Québec has authorized the institution of a temporary bridge for holders of a training certificate for a semi-specialized trade (certificat de formation à un métier semi-spécialisé, CFMS) for admission to certain study programs leading to a DEP. To benefit from this temporary bridge, individuals must be at least 16 years of age as of September 30 of the school year in which they begin their vocational training; hold a CFMS, and have passed the required units in language of instruction, second language, and mathematics of Secondary Cycle 1 of General Education – Youth Sector or Secondary Cycle 2 of General Education – Adult Sector.

Note: For study programs in this category, individuals may continue their general education concurrently with their vocational training on condition that they have passed at least the units of Secondary 3 in language of instruction, second language, and mathematics in the study programs established by the Ministère de l'Éducation et de l'Enseignement supérieur du Québec or be at least 18 years of age and have passed the general development test (GDT).

To ensure that you have the required academic prerequisites, please contact one of the vocational training centres that offer the concerned vocational study program.

List of offices of the Commission de la construction du Québec



To reach Customer Services, call **1 888 842-8282**

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125 Rue des Forges, 5th floor
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ccq.org

Regions* offering training for trades or occupations

Training

	Abitibi-Témiscamingue	Bas-Saint-Laurent	Capitale-Nationale	Centre-du-Québec	Chaudière-Appalaches	Côte-Nord	Estrie	Gaspésie- îles-de-la-Madeleine	Lanaudière	Laurentides	Laval	Mauricie	Montréal	Monterégie	Nord-du-Québec	Outaouais	Saguenay- Lac-Saint-Jean
Blaster-driller	●					●	●										
Boiler maker													●				
Bricklayer-mason		●	●				●				●	●	●	●		●	●
Carpenter-joiner	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
Cement finisher			●							●			●				
Crane operator													●				
Diver		●															
Electrician	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Electrician specializing in security systems installation			●										●				
Elevator mechanic													●				
Erector mechanic (glazier)			●								●						
Fire-protection mechanic											●						
Heavy equipment mechanic	●	●	●		●	●	●	●		●		●	●	●	●		●
Heavy equipment operator					●								●				
Insulator													●				
Interior systems installer			●	●									●	●			
Ironworker													●				
Lineman					●			●					●				
Millwright	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
Painter			●							●			●	●	●		●
Pipe fitter		●	●	●				●		●	●		●	●	●	●	●
Pipe welder (high pressure)	●	●			●		●				●	●	●	●		●	●
Plasterer			●	●									●	●	●		●
Refrigeration mechanic			●	●			●				●		●	●			●
Reinforcing steel erector													●				
Resilient flooring layer			●								●		●	●	●		
Roofer			●								●		●				
Shovel operator					●								●				
Surveyor			●										●	●	●		●
Tile setter			●										●	●			
Tinsmith			●	●	●					●	●		●				●
Welder	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●

* Government of Québec administrative regions.

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Version française également disponible.



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