

Plasterer

Occupational Analysis Report

June 2009



Commission
de la construction
du Québec

The purpose of this report is to describe as accurately as possible the trade of plasterer as currently practiced in Québec's construction industry. It is a record of discussions held by a group of workers who met for the occasion after industry partners recommended them to the Commission de la construction du Québec for their expertise in the trade.

The vocational analysis is a first step in the definition of the skills required for practicing the trade. This report becomes one of the reference and decision-making tools used by the Commission for teaching and learning purposes.

The Commission is not responsible for the contents of this report. The latter has no legal effect and is meant as a reflection of discussions held on the date of the analysis workshop.

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The masculine gender is used generically
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1. Association paritaire pour la santé et la sécurité du travail du secteur de la construction.

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INTRODUCTION

In early 2009, the CCQ's Direction de la formation professionnelle launched a large-scale operation to review the occupational analyses² of all construction trades.

The CCQ undertook this operation for many reasons, notably:

- the project to reform the construction workforce apprenticeship and management system, and the eventual design of qualitative apprenticeship booklets requiring a detailed description of each trade;
- the fact that most construction occupational analyses³ had been conducted between 1987 and 1991 and had not been reviewed since;
- updates to vocational qualifying examination question banks;
- implementation of Chapter 7 of the Agreement on Internal Trade (AIT) and of the Québec-France Understanding on the Mutual Recognition of Professional Qualifications.

These factors demonstrate the necessity of performing occupational analyses in order to obtain a current and complete provincial profile of the various trades.

The occupational analysis for plasterers belongs to this context⁴. Its purpose is to describe the trade as currently practiced in the construction industry. The present report was written in order to collate and organize the information gathered during the occupational analysis workshop held in Laval on April 27 and 28, 2009.

This analysis aims to draw a portrait (tasks and operations) of the trade and its conditions, and to identify the skills and behaviours required. The report of the occupational analysis workshop is an accurate reflection of the consensus reached by the group of participants. A special effort was made to include all the data collected during the workshop and to ensure that the data accurately depict the realities of the trade analysed.

2. The terms "profession" and "trade" are considered synonymous.

3. Occupational analyses were then called "work situation analyses".

4. This occupational analysis was conducted according to the *Cadre de référence et instrumentation pour l'analyse d'une profession* produced in 2007 by the ministère de l'Éducation, du Loisir et du Sport (Direction générale de la formation professionnelle et technique) and the Commission des partenaires du marché du travail, ministère de l'Emploi et de la Solidarité sociale.

1. GENERAL CHARACTERISTICS OF THE TRADE

1.1 DEFINITION OF THE TRADE

According to the Regulation respecting the vocational training of manpower in the construction industry (Sched. A, group VI, art. 16), the term “plasterer” means:

[...] anyone who:

- a) by means of a trowel or mechanically, applies coatings such as plaster, celanite, mortar, cement, metal composition, stucco or other substitutes;
- b) sets metal corner mouldings or any other type of mouldings, as well as all accessories connected thereto;
- c) points and fills gypsum wallboard joints;
- d) does plaster moulding work and pours and sets ornaments.

After the above definition was read, the participants in the occupational analysis workshop unanimously stated that they did not understand the meaning of the terms “celanite” and “metal composition”.

1.2 JOB TITLES

During the workshop, the following titles of the trade were presented to the participants:

- plasterer
- plasterer-decorator
- finish plasterer
- exterior plasterer
- moulding plasterer
- ornamental plasterer

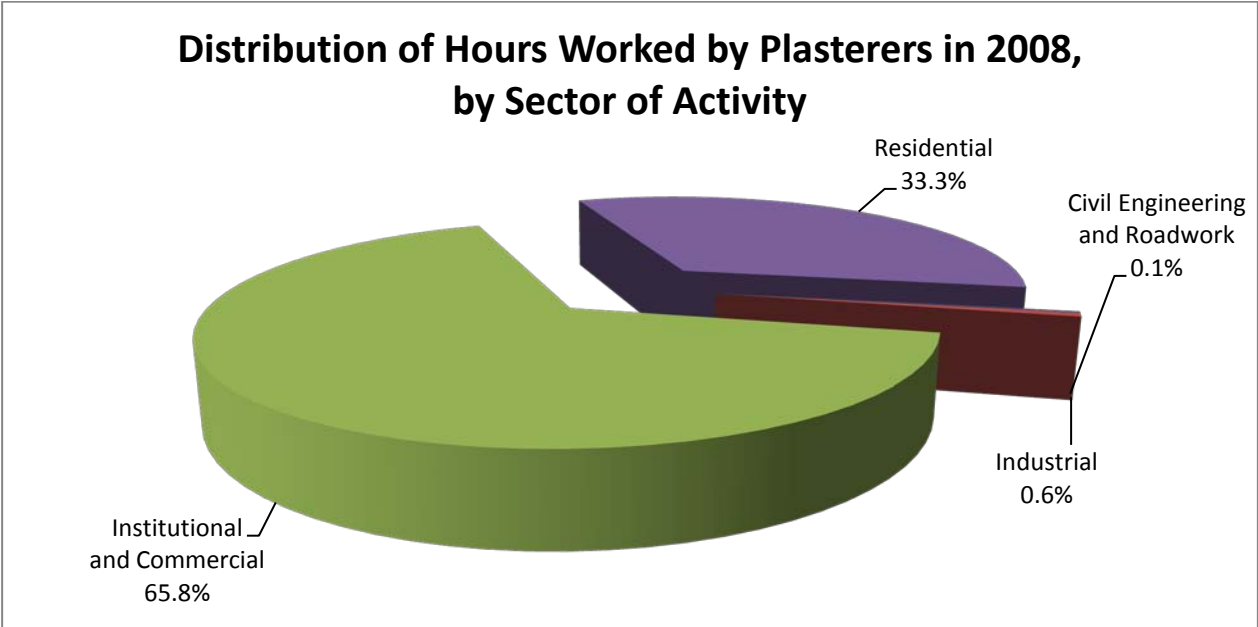
The participants consulted do not identify with the job titles presented, with the exception of “plasterer” and “exterior plasterer”.

In the workplace, plasterers are sometimes designated by titles referring to a specific aspect of the trade. Thus, we often hear the title “plasterer” followed by a sub-specialization such as “plasterer-acrylic coating applicator” or “plasterer-seam caulker”. Generally, the title “plasterer” is used when the person is able to perform all the tasks of the trade, even though some are less frequent than others.

In the present report, the job title retained is “plasterer”, since it is used in the Regulation respecting the vocational training of manpower in the construction industry.

1.3 SECTORS OF ACTIVITY

Plasterers are active in the four sectors of the construction industry, but to very different degrees. The following diagram illustrates the allocation of all Quebec plasterers’ work time in the four sectors for the year 2008⁵.



When questioned about the data presented, the participants said they were surprised by the low percentage of activity in the industrial sector. They believe these data do not reflect current reality perfectly.

5. Data compiled by the Commission de la construction du Québec.

Data such as 60% in the institutional and commercial sector, 5% in the industrial sector and 35% in the residential sector would better reflect, in their view, the allocation of plasterers' work time in the different sectors.

Representativeness of the participants

The thirteen plasterers attending the workshop work in the institutional and commercial sector. Only one of the participants works in the industrial sector, four often work in the residential sector, and four others say they work only occasionally in the latter. None of the participants works in the civil engineering and roads sector.

SECTORS	Number of Participants Working in Each Sector
Institutional and commercial	13 out of 13
Industrial	1 out of 13
Civil engineering and roads	0 out of 13
Residential	4 out of 13 (frequently), 4 out of 13 (rarely)

1.4 FIELD OF PRACTICE

The trade's field of practice is the construction industry. The Act respecting labour relations, vocational training, and manpower management in the construction industry (R.S.Q., c. R-20) defines construction as follows:

[...] the foundation, erection, maintenance, renewal, repair, alteration and demolition work on buildings and civil engineering works carried out on the job site itself and vicinity including the previous preparatory work on the ground;

In addition, the word "construction" includes the installation, repair and maintenance of machinery and equipment, work carried out in part on the job site itself and in part in the shop, moving of buildings, transportation of employees, dredging, turfing, cutting and pruning of trees and shrubs and laying out of golf courses, but solely in the cases determined by regulation.

The participants mentioned the trades of painter and cement finisher as being related to that of plasterer.

1.5 LEGISLATION AND REGULATIONS

Construction industry plasterers are subject to:

- the Act respecting Labour relations, vocational training and workforce management in the construction industry (R.S.Q., c. R-20);
- the Regulation respecting the vocational training of workforce in the construction industry (R-20, r.6.2);
- the four sector-based collective agreements for the construction industry;
- the National Building Code (NBC);
- the Quebec Building Code, Chapter I – “Building”;
- the Act Respecting Occupational Health and Safety (R.S.Q., c. S-2.1);
- the Safety Code for the construction industry (R.Q. c. S-2.1, r.6).

1.6 WORKING CONDITIONS

The following information provides an overview of the conditions and context of the work of plasterers, as commented by the participants. To obtain up-to-date and complete information that has legal effect, it is necessary to refer to the four collective agreements for the construction industry sectors.

Salary⁶

The average annual salary of a journeyman plasterer was \$28,711 in 2008. A journeyman plasterer’s hourly wage varies according to the sector of activity and the applicable wage schedule.

6. Salary data are taken from the 2007-2010 collective agreements for the four sectors of the Quebec construction industry.

At April 26, 2009, a journeyman's daytime hourly wage was:

- Civil engineering (Schedule D): \$31.11
- Industrial (Schedule B), and institutional and commercial (Schedule C): \$31.03
- Heavy residential (Schedule R1): \$31.10
- Light residential (Schedule R): \$28.29

Vacations and time off⁷

Mandatory annual holidays of four weeks – two weeks in summer and two in winter at periods predetermined in collective agreements – are the general rule in the construction industry. To avoid penalizing employers and employees experiencing special constraints, the industry's four collective agreements allow certain possibilities for changing the vacation periods prescribed by the general rule.

To these vacation periods are added eight not paid statutory holidays, as well as a lump sum for sick leaves not otherwise paid.

Pension plan

Construction industry workers participate in a pension plan. They retain their eligibility for this pension plan throughout their career in construction, even if they change employer, trade or sector.

Insurance

The group insurance plan (medications, illness, disability, death) is fully paid by employers. Workers (and their families, as the case may be) are eligible for it so long as they remain active in the construction industry and work the required number of hours, whether or not they change employer.

7. Data on vacations and time off, the pension plan and insurance are taken from the following document, published in 2009 by the Commission de la construction du Québec: *La construction au Québec : c'est bien plus payant!* Clarifications were made following comments issued by the CCQ's Direction de l'application des conventions collectives.

Physical requirements

The work of plasterers requires:

- good physical shape and flexibility, to work in occasionally difficult positions;
- a lot of physical endurance, particularly for working on a ceiling for long periods;
- physical strength, to erect scaffolds in areas of difficult access such as staircases, to carry pails containing products, or to hold the hawk with one hand, which weakens the arm over time;
- manual dexterity to handle tools such as a trowel, and tactile sensitivity to evaluate surface finishes;
- good adaptability to various weather conditions (humidity, cold, heat).

Stress factors

Among workplace stress factors, the participants mentioned reliable schedule performance despite occasionally unrealistic production deadlines, rapid execution to compensate for time constraints due to accumulated delays on the construction site, the wide variety of situations encountered, frequent contingencies and the necessity of adapting to them.

Problems related to the choice, preparation and adherence of materials, the often noisy environment, risks of muscle injuries, working from heights, and difficult weather conditions are other stress factors.

The participants mentioned that coordinating their work with that of other trades is also a major stress factor, since they are the last ones to work on the construction site before painters arrive. Plasterers often have to correct or rectify work previously done on the site by other workers. So they are obliged to make many repairs before performing their own tasks, which increases their workload.

They mention that the calculation of their work time does not take this additional time into account. In addition, they often face a lack of equipment at the workplace.

The participants deplore the sometimes difficult relations with other trades. They all think their trade is not sufficiently appreciated and valued by employers, foremen, clients and other construction workers.

Finally, stress may be due in part to pressure exerted by certain employers for plasterers to bear difficult working conditions. Plasterers dare not complain, for fear of being replaced by other workers.

Main motivations to practice the trade

Despite a working context that can be difficult, the participants attending the workshop emphasize that their motivation to practice their trade is satisfaction in work well done and interesting working conditions, such as vacations, pension plan and salary.

Autonomy

Plasterers generally work alone to perform tasks related to seam caulking and repairs. There is more teamwork in other tasks, such as applying acrylic coatings, surface parging and applying mouldings. A certain supervision is required for preparing equipment and verifying specific needs.

Depending on the company's size, plasterers may be supervised by a team leader or an expert specialized in interior systems. However, the participants deplore that expert's misunderstanding of the plasterers' work.

Versatility

The plasterers' work requires versatility, due to the variety of their tasks and operations.

Work schedules

A 40-hour work week from Monday to Friday is the general rule in all construction industry sectors. The daily limit is 8 hours per day, except in light residential construction, where it can reach a maximum of 10 hours within a 40-hour work week.

To avoid penalizing employers and employees experiencing special constraints, the industry's four collective agreements allow many possibilities for changing the vacation periods prescribed by the general rule: compressed schedule, schedule shift, make-up time in light residential construction, etc. These special schedules confer flexibility to the work schedules in effect in the construction industry.

1.7 WORK ORGANIZATION

The participants compared the characteristics of work organization in the residential sector to those of the commercial and industrial sector. In their view, the work organization is generally less structured in the residential sector. Since clients often change their minds, unforeseen circumstances are very frequent and work teams less well structured.

1.8 JOB MARKET ENTRY CONDITIONS

To obtain the apprentice competency certificate in any construction industry trade, candidates must first⁸:

- supply proof that they are at least 16 years of age;
- supply their social insurance number;
- supply their home address;
- present their certificate for having passed the course *Santé et sécurité générale sur les chantiers de construction*;
- pay the required fees;
- designate the union association to which they wish to belong.

In addition, candidates who have obtained a diploma recognized by the CCQ (DEP) in plastering must, to have access to construction sites⁹:

- Present the original version of an academic transcript or apprenticeship transcript attesting that they have passed the DEP in plastering;

8. Source: http://www.ccq.org/E_CertificatsCompetence/E02_Apprenti.aspx?sc_lang=en&profil=GrandPublic.

9. Source:

http://www.ccq.org/E_CertificatsCompetence/E02_Apprenti/E02_3_CandidatDiplome.aspx?sc_lang=en&profil=GrandPublic.

- Present a guarantee of employment from an employer registered with the CCQ for at least 150 hours within a period of not more than three consecutive months.

Although the construction industry favours graduates for access to the trade, labour shortages may at times make it necessary for the CCQ to admit candidates without a diploma. Thus, candidates without a diploma are eligible to obtain a competency certificate-apprentice (CCA) in a trade only during a labour shortage and must¹⁰:

- Supply proof that they have the academic prerequisites for the program leading to a vocational studies diploma (DEP) in the trade referred to in the application or pledge, by signing a consent letter, to take the necessary training to obtain those academic prerequisites;
- Present a guarantee of employment registered during a labour-pool opening by an employer registered with the Commission de la construction du Québec (CCQ), for at least 150 hours over a period of at most three consecutive months¹¹.

The apprentice plasterer must have completed 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 competency certificate-journeyman for the trade. 810 hours are credited to the apprenticeship record book of an apprentice plasterer who has obtained his DEP¹².

In addition to training in an educational institution or a learning situation, certain qualities are sought by employers hiring new plasterers. The following is a list¹³ of the main qualities mentioned by the participants:

- workmanship
- efficiency
- bravery
- honesty
- reliability (work regularity)

10. Source:

http://www.ccq.org/E_CertificatsCompetence/E02_Apprenti/E02_6_CandidatNonDiplome.aspx?sc_lang=en&profil=GrandPublic.

11. The CCQ must have received the employee's complete file within 14 working days following the date of reservation of a place authorized by an employer in a situation of labour shortage and labour-pool opening in order for the employee to obtain the competency certificate applied for.

12. Source: http://www.ccq.org/F_Formation/F03_MesuresIncitatives/F03_2_CreditsHeures.aspx?sc_lang=en&profil=Syndicales.

13. This list is not presented in order of importance.

- clean tools (toolbox, trowel, etc.)
- neat personal appearance
- punctuality
- sense of teamwork
- stability

1.9 PLACE OF WOMEN IN THE TRADE

Section 126.0.1 of the Act respecting labour relations, vocational training, and manpower management in the construction industry pertains to women's access to the construction industry: "The Commission, after consultation with the Commission des droits de la personne et des droits de la jeunesse, shall develop measures to favour the access of women to and their maintenance and greater representation on the labour market in the construction industry."

According to the CCQ¹⁴, the proportion of women active in the plasterer trade was 4% (123 women out of 3,092 plasterers) in 2008.

Although the trade is accessible to women, the participants consulted confirm that few women practice it. Female plasterers do not practice the trade for a long time – from six months to three years on average. According to the participants, women's hesitation to commit themselves to the trade may be explained by fear of not having the necessary physical strength and endurance.

1.10 CAREER PROSPECTS

The career prospects of plasterers are quite varied. Those who pursue their career in the trade may eventually become contractors, union representatives, inspectors, instructors, or product and material representatives.

14. Commission de la construction du Québec, *Carrières construction*, 2009-2010 edition, p. 61.

1.11 DEVELOPMENT OF THE TRADE

According to the participants, career prospects will be good for as long as construction needs will exist. However, the participants expressed some worry about ever-more demanding working conditions on construction sites. Although views differ and some participants have a somewhat negative opinion of the trade, others very much appreciate the work and find it interesting, because it involves working both indoors and outdoors, requires creativity, provides occasions for interrelating with other persons, and offers good working conditions.

The participants do not foresee major changes in work techniques, tools or materials in coming years, except for applying liquid membranes on exterior building surfaces. The participants consider that introducing such coatings in Quebec could increase plasterers' working hours.

1.12 IMPACT OF ENVIRONMENTAL STANDARDS ON THE PRACTICE OF THE TRADE

At the moment, the impact of environmental standards is barely felt in the practice of the trade. Some participants notice a few initiatives in the recovery of materials and products, as well as a few changes in the composition of certain products, but those actions or changes do not affect plastering work.

2. WORK DESCRIPTION

2.1 TASKS AND OPERATIONS

List of tasks

A list of tasks and operations that resulted from the 1989¹⁵ analysis of plasterers' work situation was first presented to the participants. Modifications have been made to the tasks, so as to reflect the practice of the plasterer trade in 2009. It should be noted that the order in which the tasks are presented does not necessarily reflect their importance in the trade.

Task 1	Finish drywall joints
Task 2	Finish off ¹⁶ a surface
Task 3	Glaze a surface
Task 4	Apply acrylic coatings
Task 5	Parquet concrete surfaces
Task 6	Do restoration work on old finishes and ornaments
Task 7	Install prefabricated ornamental elements
Task 8	Form plaster mouldings

Table of tasks and operations

Among the main changes made to tasks by the participants, we note the grouping of two tasks listed in the 1989 analysis report on plasterers' work situation, i.e., the tasks of applying Stucco and applying plaster. Accordingly, the formulation of task 6, "Do restoration work on old finishes and ornaments", allows for grouping those two tasks, which are always part of plasterers' work. We also note the addition of two tasks, i.e., task 2 consisting of finishing a surface, and task 4 consisting of applying acrylic coatings.

15. Ministère de l'Éducation. Plâtrier, plâtrière: rapport d'analyse de la situation de travail, Direction de la formation professionnelle, 1989, 21 p.

16. Definition taken from the Grand dictionnaire terminologique: "Terminer complètement un travail, en supprimant par un artifice quelconque toutes les irrégularités ou tous les défauts qui peuvent subsister."

Clarifications of those tasks are presented in Section 2.2 of the present report. Other changes made to the table concern the formulation of certain operations.

Table 2.1 presented in the following pages, describes the tasks and operations performed by plasterers.

Table 2.1 Tasks and Operations

TASKS	OPERATIONS					
1. Finish drywall joints	1.1 Evaluate the work to be done	1.2 Choose materials and tools	1.3 Make repairs if necessary	1.4 Install mouldings	1.5 Tape the seams	1.6 Tape the angles
	1.7 Fill mouldings and double the flat seams	1.8 Double all seams, angles and mouldings	1.9 Sand	1.10 Apply the finish coat	1.11 Sand	1.12 Verify the work
	1.13 Clean the premises					
2. Finish off a surface	2.1 Evaluate the work to be done	2.2 Choose materials and tools	2.3 Prepare the work areas	2.4 Prepare the surface	2.5 Mix the products	2.6 Apply the products
	2.7 Sand as necessary		2.8 Clean the premises			
3. Glaze a surface	3.1 Evaluate the work to be done	3.2 Choose materials and tools	3.3 Prepare the work areas	3.4 Prepare the surface	3.5 Mix the products	3.6 Apply the products
	3.7 Sand as necessary		3.8 Clean the premises			
4. Apply acrylic coatings	4.1 Evaluate the work to be done	4.2 Choose materials and tools	4.3 Prepare the work areas	4.4 Prepare the surfaces	4.5 Sand	4.6 Apply mouldings and corners
	4.7 Mix the base coat	4.8 Tape flat seams and angles if necessary	4.9 Incorporate the coat to the mesh	4.10 Sand	4.11 Apply the second coat as necessary and allow to dry if necessary	4.12 Sand
	4.13 Apply a primer		4.14 Apply the finish coat	4.15 Clean the premises		

TASKS	OPERATIONS					
5. Parquet concrete surfaces	5.1 Evaluate the work to be done	5.2 Choose materials and tools	5.3 Prepare the work areas	5.4 Clean and prime surfaces	5.5 Mix the products	5.6 Apply the products
	5.7 Groove if it is necessary to apply a second coat, and finish	5.8 Apply the second coat as necessary	5.9 Finish the surface	5.10 Clean the premises		
6. Do restoration work on old finishes and ornaments	6.1 Evaluate the work to be done	6.2 Choose materials and tools	6.3 Take an imprint of the ornament as necessary	6.4 Build the template or ornament at the workshop, as necessary	6.5 Prepare the surfaces	6.6 Install the guides if necessary
	6.7 Mix the products	6.8 Install the products or ornaments	6.9 Complete the work	6.10 Clean the premises		
7. Install prefabricated ornamental elements	7.1 Evaluate the work to be done	7.2 Choose materials and tools	7.3 Prepare the work areas	7.4 Fasten the ornaments	7.5 Make repairs	7.6 Close the seams
	7.7 Sand the seams	7.8 Clean the premises				
8. Form plaster mouldings	8.1 Examine the template plan	8.2 Build the template	8.3 Align and straighten walls and ceilings	8.4 Install the guide	8.5 Produce the necessary mix	8.6 Fill the angle
	8.7 Form the moulding	8.8 Close the mitres				

2.2 OPERATIONS AND CLARIFICATIONS

It should be mentioned that during the workshop, the participants did not describe sub-operations related to tasks and operations. We recall that sub-operations¹⁷ are actions included in operations and constitute the details of the work, such as methods and techniques. They are the steps for performing an operation and are thus the sub-steps of tasks.

The following information groups supplementary information in the form of clarifications of all the plasterer tasks presented above.

Table 2.2 Task Clarifications

TASK 1:	Finish drywall joints
Clarifications	
The work is done in a wide variety of situations. The locations are often difficult to access, and safety hazards are high.	
TASK 2:	Finish off a surface
Clarifications	
This task consists of preparing, repairing or retouching an existing surface that is not new. The plasterer uses limestone coatings such as plaster, cement, stucco, aggregate or others. The work can be done inside or outside a building, alone (80% of the time) or by a team (20% of the time), and under the supervision of the foreman, client or contractor.	
TASK 3:	Glaze a surface
Clarifications	
According to the participants, this task consists of applying a thin limestone coating to make a new or semi-finished surface. The purpose is to make a surface uniform, whether on walls exposed to sunlight or other light, under a concrete slab (ceiling) or following major finishing work. The work can be done inside or outside a building, in the residential and commercial sectors, alone or by a team of two, occasionally without supervision, or under the foreman's supervision.	
TASK 4:	Apply acrylic coatings
Clarifications	
This task is evolving, due to the introduction of liquid coatings. The work can be done inside or outside a building, by a team, under the foreman's or team leader's supervision.	

17. The definition is excerpted from the *Cadre de référence et instrumentation pour l'analyse d'une profession* (glossary, p. 4).

TASK 5: Parget concrete surfaces
<p>Clarifications</p> <p>This task is very demanding physically, because the plasterer must often work in a crouched position. The work can be done inside or outside a building, by a team, under the foreman’s supervision.</p>
TASK 6: Do restoration work on old finishes and ornaments
<p>Clarifications</p> <p>Although this activity is performed more rarely nowadays, it still belongs to the plasterer trade. The participants agreed to formulate the task to include applying stucco and plaster, as well as other materials such as aggregate, mouldings and old ornaments.</p> <p>The work can be done inside or outside, in the residential, commercial and institutional sectors, alone (50% of the time) or by a team (50% of the time), with little supervision by the foreman.</p>
TASK 7: Install prefabricated ornamental elements
<p>Clarifications</p> <p>The work can be done inside or outside (example: ornament on an acrylic system), in the residential, commercial and institutional sectors, by a team, with or without supervision.</p>
TASK 8: Form plaster mouldings
<p>Clarifications</p> <p>According to some participants, this task requires specific expertise. The work can be done inside a building, in the residential, commercial and institutional sectors, by a team, under the supervision of a specialized journeyman.</p>

2.3 ACHIEVEMENT CONDITIONS AND PERFORMANCE CRITERIA

2.3.1 ACHIEVEMENT CONDITIONS

Although data on achievement conditions were obtained from participants for each task of the trade, this information has been grouped in a single report for the purposes of this report. We recall that achievement conditions¹⁸ are the modalities and circumstances that have a determining impact on the execution of a task and that pertain notably to the work environment, occupational health and safety hazards, equipment, materials and reference documents used in performing a task.

Table 2.3 describes those conditions in the following pages.

18. The definition is excerpted from the *Cadre de référence et instrumentation pour l'analyse d'une profession* (glossary, p. 3).

Table 2.3 Achievement Conditions¹⁹

ACHIEVEMENT CONDITIONS	
Workplaces per Sector	Description²⁰
Institutional and commercial sector	As defined by law, the sector of construction of buildings, including installations and equipment physically attached or not to such buildings, reserved primarily for institutional or commercial purposes as well as any construction that cannot be included in the residential, industrial and civil engineering and roads sectors (sec. 1.01 33, p. 9).
Civil engineering and roads sector	As defined by law, the sector of construction of public or private utility works in the general interest, including installations, equipment and buildings physically attached or not to such works, and in particular the construction of roads, waterworks, sewers, bridges, dams, power lines and gas pipelines (sec. 1.01 34, p. 13).
Industrial sector	As defined by law, the sector of construction of buildings, including installations and equipment physically attached or not to such buildings, reserved primarily for the carrying on of an economic activity involving the development of mineral resources, the processing of raw materials and the production of goods (sec. 1.01 35, p. 10).
Residential sector	As defined by law, the sector of construction of buildings or complexes of adjoining buildings, including installations and equipment physically attached or not to the buildings, at least 85% of the area of which, excluding parking space, is reserved for residential use, and the number of aboveground storeys of which, excluding any part of the basement and reckoned from any side of the building or complex, does not exceed six in the case of new buildings or eight in other cases (sec. 1.01 24, p. 7).
Note: <i>None of the workshop participants works in the civil engineering and roads sector.</i>	
Instructions	
Verbal instructions to the plasterer are given by: <ul style="list-style-type: none"> • the general contractor, foreman or project manager; • the client or owner; • the architect; • the designer or decorator; • the manufacturer. 	Written instructions come from: <ul style="list-style-type: none"> • plans and specifications (mainly excerpts from specifications regarding work to be done by plasterers); • the template plan (when moulding work is concerned); • lists of deficiencies (retouches related to after-sales service).

19. Non-exhaustive list.

20. Workplace descriptions are taken from collective agreements 2007-2010.

ACHIEVEMENT CONDITIONS
References
When necessary, plasterers consult product data sheets (application, mixes, etc.), the manufacturer's documentation about products to be applied, the colours and finishes chart, modification endorsements, safety manuals and material safety data sheets of the Workplace Hazardous Materials Information System (WHMIS).
Raw materials, Tools and Equipment
In Annex 1 of the present report is a list of material resources used by plasterers in the practice of their trade.
Health and Safety Hazards
<p>Annex 2 of the present report contains a list of the main hazards involved in the tasks and operations of the plastering trade, as well as applicable preventive measures.</p> <p>The participants mentioned the following hazards:</p> <ul style="list-style-type: none"> • cutting tools; • breathing dust from sanding; • falling when working from a height on a scaffold; • unclean construction site; • repetitive movements; • working in an electrical room; • holes on the construction site; • toxic fumes (glue, lime, other products); • muscle injuries; • cuts; • skin reactions; • electric discharges; • bursitis; • injuries caused by using the mixer; • skin and eye burns (products containing lime, etc.).

2.3.2 PERFORMANCE CRITERIA

Performance criteria were gathered for each task. They are used for assessing whether the tasks were performed satisfactorily. The criteria pertain to aspects such as the quantity and quality of work done, the observance of a work procedure, the attitudes adopted, etc. Table 2.4 describes those criteria.

Table 2.4 Performance Criteria

TASK 1: FINISH DRYWALL JOINTS	
Performance Criteria	
<p>For the expected outcomes</p> <ul style="list-style-type: none"> • Surface uniformity • Straight layout of metal mouldings • Work cleanliness <p>For the observance of standards, rules or procedures</p> <ul style="list-style-type: none"> • Observance of the Building Code • Observance of manufacturer recommendations • Observance of plans and specifications • Observance of health and safety rules <p>For autonomy</p> <ul style="list-style-type: none"> • Initiative • Quick and judicious decision-making 	<p>For using a tool or technique</p> <ul style="list-style-type: none"> • Appropriate use of tools • Correct use of work techniques • Choice of appropriate materials <p>For displaying specific qualities</p> <ul style="list-style-type: none"> • Concentration • Tactile sensitivity • Good physical strength • Meticulousness • Rapid execution
TASK 2: FINISH OFF A SURFACE	
Performance Criteria	
<p>For the expected outcomes</p> <ul style="list-style-type: none"> • Surface uniformity • Work cleanliness <p>For the observance of standards, rules or procedures</p> <ul style="list-style-type: none"> • Observance of the Building Code • Observance of manufacturer recommendations • Observance of plans and specifications • Observance of health and safety rules <p>For autonomy</p> <ul style="list-style-type: none"> • Initiative • Quick and judicious decision-making 	<p>For using a tool or technique</p> <ul style="list-style-type: none"> • Appropriate use of tools • Correct use of work techniques • Choice of appropriate materials <p>For displaying specific qualities</p> <ul style="list-style-type: none"> • Concentration • Tactile sensitivity • Good physical strength • Meticulousness
TASK 3: GLAZE A SURFACE	
Performance Criteria	
<p>For the expected outcomes</p> <ul style="list-style-type: none"> • Surface uniformity <p>For the observance of standards, rules or procedures</p> <ul style="list-style-type: none"> • Observance of the Building Code • Observance of manufacturer recommendations • Observance of health and safety rules <p>For autonomy</p> <ul style="list-style-type: none"> • Initiative • Quick and judicious decision-making 	<p>For using a tool or technique</p> <ul style="list-style-type: none"> • Appropriate work technique • Appropriate use of tools <p>For displaying specific qualities</p> <ul style="list-style-type: none"> • Concern for being in good physical condition • Concern for work well done • Manual dexterity • Tactile sensitivity • Good vision

TASK 4: APPLY ACRYLIC COATINGS**Performance Criteria****For the expected outcomes**

- Cleanliness
- Sanding the insulation well
- Uniform finishes and colours
- Full-size base
- Appropriate meshes

For the observance of standards, rules or procedures

- Observance of plans and specifications
- Observance of health and safety rules
- Observance of the Building Code

For autonomy

- Initiative
- Quick and judicious decision-making

For using a tool or technique

- Following work procedures
- Cleanliness of tools
- Synchronized work

For displaying specific qualities

- Physical strength
- Rapid execution
- Sense of teamwork

TASK 5: PARGET CONCRETE SURFACES**Performance Criteria****For the expected outcomes**

- Cleanliness
- No efflorescence
- Uniformity of finishes
- Adequate mouldings (vinyl, zinc)

For the observance of standards, rules or procedures

- Observance of plans and specifications
- Observance of health and safety rules
- Observance of the Building Code

For autonomy

- Initiative
- Quick and judicious decision-making

For using a tool or technique

- Synchronized work
- Choosing appropriate tools
- Complying with curing requirements

For displaying specific qualities

- Physical strength
- Rapid execution
- Sense of teamwork

TASK 6: DO RESTORATION WORK ON OLD FINISHES AND ORNAMENTS**Performance Criteria****For the expected outcomes**

- Faithful restoration of old finishes
- Impeccable finish
- Using the original product, if possible

For the observance of standards, rules or procedures

- Meeting occupational health and safety standards
- Meeting surface preparation standards
- Adequate protection of premises
- Observance of the Building Code

For autonomy

- Initiative
- Quick and judicious decision-making

For using a tool or technique

- Appropriate work technique
- Appropriate choice of products

For displaying specific qualities

- Concern for work well done
- Positive attitude
- Patience
- Concern for being in good physical condition
- Manual dexterity
- Tactile sensitivity

TASK 7: *INSTALL PREFABRICATED ORNAMENTAL ELEMENTS*

Performance Criteria

For the expected outcomes

- Impeccable finish
- Cleanliness
- Uniformity

For the observance of standards, rules or procedures

- Observance of products' material safety data sheets
- Observance of the work perimeter
- Observance of health and safety rules
- Observance of the Building Code

For autonomy

- Initiative
- Quick and judicious decision-making

For using a tool or technique

- Choice of appropriate materials
- Appropriate work technique
- Appropriate use of tools

For displaying specific qualities

- Concern for being in good physical condition
- Order and cleanliness
- Respect
- Manual dexterity
- Creativity

TASK 8: *FORM PLASTER MOULDINGS*

Performance Criteria

For the expected outcomes

- Impeccable finish
- Cleanliness
- Uniformity

For the observance of standards, rules or procedures

- Following the recipe
- Observance of products' material safety data sheets
- Observance of health and safety rules
- Observance of the Building Code

For autonomy

- Initiative
- Quick and judicious decision-making

For using a tool or technique

- Choice of appropriate materials
- Appropriate work technique
- Appropriate use of tools

For displaying specific qualities

- Concern for being in good physical condition
- Order and cleanliness
- Respect
- Manual dexterity
- Creativity

2.4 FUNCTIONS

Functions correspond to a set of related tasks. That set of tasks may be defined by the work's results or by a procedure.

Although the participants did not have time to express themselves on this subject, two functions may be identified regarding the plastering trade, to wit:

- A function pertaining to **the application of coatings**, and grouping the following tasks:

Task 1: Finish drywall joints

Task 2: Finish off a surface

Task 3: Glaze a surface

Task 4: Apply acrylic coatings

Task 5: Parget concrete surfaces

- A function pertaining to **carrying out specialized work**, and grouping the following tasks:

Task 6: Do restoration work on old finishes and ornaments

Task 7: Install prefabricated ornamental elements

Task 8: Form plaster mouldings

3. QUANTITATIVE DATA ON TASKS

3.1 OCCURRENCE

Occurrence data concern the percentage of plasterers who perform a task in the same sector of the construction industry. The data presented in table 3.1 are averages of the 13 participants' results²¹. They provide information on tasks performed not only by the participants consulted, but also by all plasterers working in the companies represented. The tasks are classified **from most to least frequent**, according to the average results for the four sectors.

Table 3.1 Occurrence of Tasks

Task	Average for the Four Sectors
1. Finish drywall joints	90%
2. Finish off a surface	85%
3. Glaze a surface	80%
4. Apply acrylic coatings	47%
5. Parget concrete surfaces	25%
6. Do restoration work on old finishes and ornaments	15%
7. Install prefabricated ornamental elements	33%
8. Form plaster mouldings	8%

Interpretation of the results

The following findings stand out with regard to the nature of the work:

- tasks 5, 6 and 8 are least represented within companies;
- tasks 1, 2 and 3 are most commonly required and most available with regard to company specializations;
- we note a certain specialization within companies with regard to tasks 5, 6, 7 and 8.

21. Three of the thirteen plasterers attending the workshop work for the same employer, but in different regions.

3.2 WORK TIME

Work time, also expressed in percentages, represents the average time allocated to each task by the consulted participants, on an annual basis. In addition, Table 3.2 presents the number of participants who do not perform certain tasks of the trade, depending on the sectors of activity.

Table 3.2 Work Time per Task

Task	Average Work Time of Participants for the Four Sectors
1. Finish drywall joints	70%
2. Finish off a surface	8%
3. Glaze a surface	4%
4. Apply acrylic coatings	16%
5. Parget concrete surfaces	1%
6. Do restoration work on old finishes and ornaments	Less than 1%
7. Install prefabricated ornamental elements	1%
8. Form plaster mouldings	Less than 1%

Interpretation of the results

Compiling the data yields the following findings:

- tasks 1 to 5, related to the application of coatings, represent the largest percentage of the participants' work time; task 1 has the highest result, i.e., 70% of the participants' work time, all sectors taken together;
- tasks 6, 7 and 8, related to carrying out specialized work, represent the lowest percentage of the participants' work time.

3.3 IMPORTANCE AND DIFFICULTY OF TASKS

Importance of tasks

The importance of a task is estimated according to the more or less harmful consequences of performing a task poorly or not at all. The importance is assessed according to the following scale:

1. Not important at all: Poor execution of the tasks has no consequences on the overall quality of the product or service.
2. Not very important: Poor execution of the tasks could have minimal consequences on the overall quality of the product or service.
3. Important: Poor execution of the tasks could have serious consequences on the overall quality of the product or service.
4. Very important: Poor execution of the tasks could have very serious consequences on the overall quality of the product or service.

Difficulty of tasks

A task's difficulty is assessed according to the following scale:

1. Very easy: The task involves little risk of error; it requires no notable physical or mental effort. Performing the task is less difficult than average.
2. Easy: The task involves a few risks of error; it requires minimal physical or mental effort.
3. Difficult: The task involves many risks of error; it requires a good physical or mental effort. Performing the task is more difficult than average.
4. Very difficult: The task involves a high risk of error; it requires substantial physical or mental effort. The task is among the most difficult in the trade.

The data presented in Table 3.3 are the average results for the workshop participants.

Table 3.3 Importance and Difficulty of Tasks

Task	Importance	Difficulty
1. Finish drywall joints	3.8	2.8
2. Finish off a surface	3.5	2.5
3. Glaze a surface	3.5	2.1
4. Apply acrylic coatings	3.9	2.8
5. Parget concrete surfaces	3.4	2.1
6. Do restoration work on old finishes and ornaments	3.7	4
7. Install prefabricated ornamental elements	3.7	3
8. Form plaster mouldings	3.7	4

Importance: The number 1 indicates the least important task; the number 4, the most important.

Difficulty: The number 1 indicates the least difficult task; the number 4, the most difficult.

4. KNOWLEDGE, SKILLS AND ATTITUDES

The analysis of the trade enabled us to specify some of the knowledge, skills and attitudes necessary for performing the tasks. Those qualities are transferable, i.e., applicable to a variety of tasks and situations.

The following pages present the knowledge, skills and attitudes that, according to the workshop participants, are considered essential for performing the tasks.

4.1 KNOWLEDGE

Applied mathematics

- Knowledge of basic mathematical operations, application of the rule of three, and percentage calculations
- Calculating dimensions, surfaces and angles
- Pythagorean theorem
- International and imperial measuring systems
- Taking measurements
- Estimation (quantity of materials required, dimensions)
- Using a calculator

Materials chemistry

- Knowledge of products and their characteristics
- Concepts regarding the composition of materials and mixtures
- Concepts regarding compatibility between products and materials
- Concepts regarding dosage when mixing products

Reading and interpreting plans

Information on:

- finishes (table of finishes)
- types of materials

- dimensions (length, height, width, depth), surfaces and volumes
- graphical conventions
- measurement scales

Interpreting specifications

Information on:

- technical characteristics (type of paint, number of coats to apply, aesthetic criteria).

Occupational health and safety

The knowledge and application of occupational health and safety rules are essential for practicing the trade. Plasterers must behave safely when working.

Plasterers must know certain ergonomic concepts regarding:

- work techniques and postures;
- handling materials, tools and equipment.

Communication

- Interpersonal relations
- Teamwork
- Ability to listen
- Managing difficult situations with the client, contractor, foreman, other trades

4.2 SKILLS

Skills are types of know-how. They are divided into three categories: cognitive, motor and perceptual.

Cognitive skills

Cognitive skills involve intellectual strategies applied in working. The main cognitive skills necessary to plasterers are the following:

- problem-resolution (finding solutions to technical problems or constraints);

- planning the work (setting work priorities, sharing tasks as necessary, schedules, required materials and equipment, etc.).

Motor skills

Motor skills involve gestures and movements. The main motor skills necessary to plasterers are the following:

- coordinating gestures;
- manual dexterity.

Perceptual skills

Perceptual skills are sensory skills enabling a person to perceive by his senses what is happening in his environment. The main perceptual skills necessary to plasterers are the following:

- a sense of touch, to handle the trowel and other tools, detect surface imperfections, verify product texture and the good composition of mixtures;
- a sense of observation, to detect imperfections, produce shadings, etc.;
- the ability to locate oneself in space, so as to plan one's movements on scaffold platforms.

4.3 ATTITUDES

Attitudes are a way of acting, reacting and relating with others or with one's environment. They express personal skills. The main attitudes that plasterers must have are the following²²:

- patience
- concentration
- attention to detail
- reliability
- bravery

22. The attitudes are not necessarily listed in order of importance.

- concern for cleanliness
- punctuality
- constancy
- perseverance
- concern for work quality
- honesty

5. TRAINING SUGGESTIONS

During the trade analysis workshop, the workshop participants made a number of training suggestions. They are reproduced below.

Initial training:

- It is suggested to increase practice time for all tasks, particularly seam caulking.
- The current program leading to the vocational studies diploma (DEP) involves too much theory that is not necessary for practicing the trade (e.g. calculating a roof slope). The curriculum should be restructured so as to be based to a greater extent on the realities of the trade.
- The duration of some of the teaching leading to the DEP is too long. One expert mentioned, as an example, that the 30 hours allocated to erecting a scaffold are very excessive.
- There should be a focus on teaching work methods and techniques in relation to ergonomic principles.
- It is recommended to include a stage in the training.
- Students should have access to larger work surfaces to learn the trade.
- More time should be allocated to developing students' professional attitudes and behaviours.
- Training periods ending in mid-May should be reviewed, because employers do not hire plasterers at that time of year.
- Student selection criteria should be reviewed, to prefer students who demonstrate more interest in the trade.

Further training:

- Brief, easily accessible courses intended solely for journeymen should be offered.
- Plasterers should have access to updates on new products.
- Courses on reading plans and managing construction sites should be offered.

Annexes

RAW MATERIALS, TOOLS AND EQUIPMENT

During the workshop, the participants were presented with lists of raw materials, tools and equipment according to the 1989 work situation analysis²³ and the organizational guide accompanying the vocational studies program – Plâtrage (5286) and Plastering (5786) approved by the MELS in 2003.

The following pages contain, for each task, a list of tools, equipment and raw materials used by plasterers.

23. Ministère de l'Éducation. *Plâtrier, plâtrière: rapport d'analyse de la situation de travail*, Direction de la formation professionnelle, 1989, 21 p.

Table A.1 Raw Materials, Tools and Equipment

TASK 1: FINISH DRYWALL JOINTS

Tools and Equipment

- | | |
|--|---|
| <ul style="list-style-type: none"> • Auxiliary heater • Broom • Vacuum cleaner • Bench • Bazooka • Sanding block • Brush • Shears/scissors • Tin snips • Clincher with rubber sledge hammer • Compressor with nailer • Seam knife • Gypsum knife • Putty knife • Sharp knife • Flexible knife • Chalk • Pencil • Rolling scaffold (Baker) • Scaffold • Ladder • Sponge • Square • Safety equipment (safety glasses, working gloves, hard hat, sanding mask and harness with lanyard) • Stepladder • Plumb line • Edge finisher • Wall and floor scraper • Plasterer's hatchet | <ul style="list-style-type: none"> • Chalk line • File • Carpenter's hammer • Sanding mask • Mixer • Portable mixer • Power bar • Bubble level, laser level and laser measuring tape • Edge paddle • Pestle • Paint brush • Sprinkler plate • Telescoping sander • Mortar holder • Coil holder • Hand sprayer • Extension cord with light • Rasp • Ruler • Edge roller • Measuring tape • Hand sander with telescopic handle • Electric sander • Nail bag • Pail • Spatula • Phillips screwdriver • Electric screwdriver • Trowel • Fan |
|--|---|

Raw Materials

- | | |
|--|---|
| <ul style="list-style-type: none"> • Glue • Chemically setting joint compound (Durabond) • Joint cement • Slow-setting plaster | <ul style="list-style-type: none"> • Plaster of Paris • Joint tape • Fibreglass tape |
|--|---|

TASK 2: FINISH OFF A SURFACE

Tools and Equipment

- Drill agitator (mixer)
- Stapler
- Auxiliary heater
- Broom
- Vacuum cleaner
- Bench
- Sanding block
- Brush
- Shears/scissors
- Tin snips
- Seam knife
- Gypsum knife
- Putty knife
- Sharp knife
- Flexible knife
- Chalk
- Pencil
- Darby
- Scaffold
- Ladder
- Sponge
- Square
- Safety equipment (safety glasses, working gloves, hard hat, sanding mask and harness with lanyard)
- Stepladder
- Plumb line
- Edge finisher
- Wall and floor scraper
- Plasterer's hatchet
- Chalk line
- File
- Carpenter's hammer
- Mixer
- Portable mixer
- Power bar
- Bubble level or laser level
- Edge paddle
- Sanding mask
- Drill with bits
- Pestle
- Paint brush
- Impact gun
- Sprinkler plates
- Laser pointer
- Mortar holder
- Comb
- Hand sprayer
- Extension cord with light
- Rasp
- Ruler
- Edge roller
- Measuring tape
- Hand sander and telescopic handle
- Pail
- Spatula
- Mixing table
- Canvas and plastic
- Phillips screwdriver
- Electric screwdriver
- Trowel
- Fan
- Screws and nails

TASK 2: FINISH OFF A SURFACE

Raw Materials

- Aggregate
- Concrete (Admix)
- Hydrated lime
- Joint cement
- Masonry cement
- Drywall blade
- Glue
- Chemically setting joint compound (Durabond)
- Fresh water
- Acrylic coating
- Metal lath
- Mortar
- Transition moulding
- Metal moulding
- Perlite
- Primary plaster
- Fibre-free finish plaster
- Plaster of Paris
- Slow-setting plaster
- Joint tape
- Masking tape
- Rigid tape (Strait-Flex)
- Sand
- Stucco
- Vermiculite

TASK 3: GLAZE A SURFACE

Tools and Equipment

- Bench
- Corn brush
- Tin snips
- Compass
- Gypsum knife
- Pencil
- Rolling scaffold (Baker)
- Scaffold
- Ladder
- Sponge
- Safety equipment (safety glasses, working gloves, hard hat, sanding mask and harness with lanyard)
- Stepladder
- Plasterer's hatchet
- Chalk line
- File
- Carpenter's hammer
- Bubble level or laser level
- Measuring scoop
- Drill and bits
- Pestle
- Paint brush
- Drywall tape holder
- Mortar holder
- Hand sprayer
- Extension cord with light
- Rasp
- Paint rollers
- Masking tape
- Measuring tape
- Hand sander and telescopic handle
- Nail bag
- Spatula
- Canvas and plastic
- Phillips screwdriver
- Trowel

Raw Materials

- Staple
- Aggregate
- Primer
- Lime
- Hydrated lime
- Joint cement
- Masonry cement
- Portland cement
- Nail
- Glue
- Cement glue
- Fresh water
- Coating
- Acrylic coating
- Sanding sponge
- Composite
- Mortar
- Sandpaper
- Plaster
- Fibre-free finish plaster
- Plaster of Paris
- Retarder
- Joint tape
- Fibreglass tape
- Masking tape

TASK 4: APPLY ACRYLIC COATINGS

Tools and Equipment

- Drill agitator
- Stapler
- Bench
- Barrel
- Corn brush
- Wheelbarrow
- Compass
- Gypsum knife
- Putty knife
- Knife
- Flexible knife
- Chalk
- Pencil
- Scaffold
- Sponge
- Square
- Safety equipment (safety glasses, working gloves, hard hat, sanding mask and harness with lanyard)
- Stepladder
- Plumb line
- Float
- Template
- Hoe
- Chalk line
- File
- Stucco spraying machine
- Carpenter's hammer
- Mixer
- Bubble level, laser level and laser measuring tape
- Tools for interior and exterior corners
- Edge paddle
- Groove comb
- Shovel
- Measuring scoop
- Paint brush
- Whitewash brush
- Spray gun
- Laser pointer
- Mortar holder
- Pulley and rope
- Extension cord
- Rasp
- Measuring tape
- Sander
- Hand sander and telescopic handle
- Nail bag
- Pail
- Spatula
- Mixing table
- Phillips screwdriver
- Electric screwdriver
- Canvases and plastic covers
- Margin trowel
- Groove trowel
- Steel trowel
- Water hose

Raw Materials

- Primer (Primex or Acryroll)
- Reinforcing strip
- Adhesive base
- Insulation glue
- Portland cement
- Fresh water
- Base coating
- Textured finish coat
- Vinyl starting moulding
- Masking tape
- Reinforcement mesh
- Standard meshes

TASK 5: PARGET CONCRETE SURFACES

Tools and Equipment

- Mortar trough
- Bench
- Barrel
- Brush
- Wheelbarrow
- Shears/scissors
- Cold chisel
- Compass
- Gypsum knife
- Putty knife
- Flexible knife
- Chalk
- Pencil
- Darby
- Scaffold
- Supplementary lighting
- Sponge
- Square
- Safety equipment (safety glasses, working gloves, hard hat, sanding mask and harness with lanyard)
- Stepladder
- Plumb line
- Float
- Float-Sponge
- Template
- Scraper
- Wall and floor scrapers
- Hoe
- Chalk line
- File
- Stucco spraying machine
- Carpenter's hammer
- Mixer
- Level
- Edge paddle
- Groove comb
- Shovel
- Measuring scoop
- Drill
- Mixing drill with agitator
- Percussion drill
- Small sledgehammer or hammer
- Paint brush
- Spray gun
- Impact gun
- Chisel point
- Mortar holder
- Pulley and rope for working from heights
- Hand sprayer
- Grinder
- Straightedge
- Measuring tape
- Hand sander and telescopic handle
- Nail bag
- Joint spatula
- Mixing table
- Phillips screwdriver
- Electric screwdriver
- Chalk line
- Trowel
- Margin trowel
- Water hose

TASK 5: PARGET CONCRETE SURFACES

Raw Materials

- Concrete (Admix)
 - Cement
 - Masonry cement
 - Glue
 - Fresh water
 - Acrylic coating
 - PVC packing
 - Control and expansion joint
- Starting lathe
 - Metal lath
 - Mortar
 - Masking tape
 - Sand
 - Stucco
 - Vermiculite

TASK 6: DO RESTORATION WORK ON OLD FINISHES AND ORNAMENTS

Tools and Equipment

- Bench
- Corn brush
- Tin snips
- Compass
- Gypsum knife
- Putty knife
- Chalk
- Pencil
- Scaffold
- Ladder
- Sponge
- Square
- Safety equipment (safety glasses, working gloves, hard hat, sanding mask and harness with lanyard)
- Stepladder
- Plumb line
- Float
- Moulding template
- Plasterer's hatchet
- Chalk line
- File
- Carpenter's hammer
- Mixer
- Bubble level or laser level
- Edge paddle
- Groove comb
- Measuring scoop
- Mixing drill with agitator
- Drill and bits
- Pestle
- Paint brush
- Whitewash brush
- Laser pointer
- Mortar holder
- Hand sprayer
- Extension cord with light
- Rasp
- Straightedge
- Paint roller
- Measuring tape
- Hand sander and telescopic handle
- Nail bag
- Spatula
- Mixing table
- Canvas and plastic
- Phillips screwdriver
- Trowel

TASK 6: DO RESTORATION WORK ON OLD FINISHES AND ORNAMENTS

Raw Materials

- Staple
- Aggregate
- Parting agent
- Substitutes
- Hydrated lime
- Joint cement
- Masonry cement
- Nail
- Metal corners (90° and 135°)
- Glue
- Cement glue
- Bristle or fibres
- Fresh water
- Chemically setting coating (Durabond)
- Acrylic coating
- Sanding sponge
- PVC trim
- Metal trim
- Metal lath
- Mortar
- L-moulding
- Sandpaper
- Perlite
- Moulding plasters
- Primary plaster
- Fibre-free finish plaster
- Plaster of Paris
- Imprinted polymer and silica
- Retarder
- Joint tape
- Masking tape
- Fibreglass tape
- Rigid tape (Strait-Flex)
- Sand
- Vermiculite
- Screws

TASK 7: INSTALL PREFABRICATED ORNAMENTAL ELEMENTS

Tools and Equipment

- Bench
- Corn brush
- Tin snips
- Compass
- Gypsum knife
- Putty knife
- Working knife, snap blade knife or OLFA cutter
- Flexible knife
- Chalk
- Pencil
- Darby
- Rolling scaffold (Baker)
- Scaffold
- Sponge
- Square
- Safety equipment (safety glasses, working gloves, hard hat, sanding mask and harness with lanyard)
- Stepladder
- Plumb line
- Template
- Angle template
- Wall and floor scraper
- Plasterer's hatchet
- Plumb line
- Chalk line
- File
- Stucco spraying machine
- Carpenter's hammer
- Drill bit
- Mixer
- Bubble level, laser level and laser measuring tape
- Measuring scoop
- Drill
- Mixing drill with agitator
- Crowbar (to remove nails)
- Paint brush
- Spray gun
- Impact gun
- Laser pointer
- Mortar holder
- Extension cord with light
- Rasp
- Straightedge
- Measuring tape
- Hand sander
- Sander with handle
- Nail bag
- Hacksaw
- Hand saw and mitre box
- Joint spatula
- Spatula
- Mixing table
- Screwdriver
- Phillips screwdriver
- Electric screwdriver
- Trowel
- Screws and nails

Raw Materials

- Fastener
- Glue
- Chemically setting joint compound (Durabond)
- Fresh water
- Prefabricated ornamental elements
- Acrylic coating
- PVC trim
- Plaster of Paris
- Joint tape
- Masking tape
- Fibreglass tape
- Sand
- Stucco
- Vermiculite

TASK 8: FORM PLASTER MOULDINGS

Tools and Equipment

- Nail puller
- Bench
- Barrel
- Corn brush
- Wheelbarrow
- Tin snips
- Compass
- Gypsum knife
- Putty knife
- Flexible knife
- Chalk
- Pencil
- Darby
- Rolling scaffold (Baker)
- Scaffold
- Sponge
- Square
- Safety equipment (safety glasses, working gloves, hard hat, sanding mask and harness with lanyard)
- Stepladder
- Plumb line
- Template
- Wall and floor scraper
- Wood guide
- Plasterer's hatchet
- Hoe
- Chalk line
- File
- Carpenter's hammer
- Mixer
- Bubble level or laser level
- Parfil
- Drywall saw
- Comb
- Shovel
- Measuring scoop
- Drill
- Pestle
- Paint brush
- Whitewash brush
- Spray gun
- Impact gun
- Laser pointer
- Mortar holder
- Hand sprayer
- Extension cord with light
- Rasp
- Straightedge
- Measuring tape
- Hand sander
- Hand sander with telescopic handle
- Nail bag
- Hacksaw
- Jigsaw
- Pail
- Spatula
- Mixing table
- Phillips screwdriver
- Electric screwdriver
- Wire mesh
- Trowel
- Water hose
- Driver

Raw Materials

- Concrete (Admix)
- Lime
- Hydrated lime
- Glue
- Chemically setting joint compound (Durabond)
- Joint compound
- Fresh water
- PVC trim
- Metal lath
- Moulding plasters
- Fibre-free finish plaster
- Plaster of Paris
- Joint tape
- Masking tape
- Fibreglass tape
- Vermiculite

OCCUPATIONAL HEALTH AND SAFETY GRID

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Table A.2 Description of Sources of Danger

No.	Sources of Danger	Effects on Health and Safety	Means of Prevention
1	Same-level fall hazards (slipping) - Condition of the premises (clutter, debris, hole) - Slippery surfaces (rain, oil)	Collisions, contusions, fractures, bruises	<ul style="list-style-type: none"> • Clean the workplace (pick up debris). • Absorb the oils. • Apply an abrasive to make the surface less slippery.
2	Fall-from-height hazards a) Using aerial automotive work platforms b) Using a small mobile scaffold (Baker) c) Using a metal frame scaffold d) Using a stepladder	Collisions, internal injuries, fractures, bruises, death, psychological and physical side-effects	a) <ul style="list-style-type: none"> • Wear the shock-absorbing harness in the jib boom platform. • Delimit the work area, to avoid the risk of collision. • Keep the feet on the platform floor. • Rise and descend in front of the equipment, with 3 support points. • Keep the platform access and floor clean. b) <ul style="list-style-type: none"> • Use the wheel lock device with each use. • Descend from the mobile scaffold before moving it. c) <ul style="list-style-type: none"> • In case of exposure to a risk of falling more than 3 metres, install a parapet or wear an energy-absorbing harness while using an anchor with a breaking strength of 18 kN or a vertical lifeline with safety code specifications. • Check the bearing capacity, install beds and jack screws if the site is sloped. • For each scaffolding section, make sure to install vertical locks. • Use safe means of access. • Fasten to the structure, which should be installed at intervals not exceeding three times the minimum scaffold width. • Use planks carrying the NLGA seal of approval and assemble a floor of sufficient width (min. 470 mm), while ensuring that the distance between the structure and the floor is less than 350 mm. d) <ul style="list-style-type: none"> • Using a class 1 stepladder with a rated payload of 250 lb. • Ensure that spreaders are fully open. • Install on a firm level surface. • Choose according to the height to be reached.

No.	Sources of Danger	Effects on Health and Safety	Means of Prevention
3	Chemical hazards - Glue contact - Masonry, joint cement - Lime (Stucco) - Silica dust (sand) - Carbon monoxide fumes (equipment with incomplete combustion)	- Skin injuries (dermatoses, burns) - Intoxication of the organism - Respiratory illnesses - Sensitivity to products - Eye injuries	<ul style="list-style-type: none"> • Have taken WHMIS training. • Keep the material safety data sheet at the workplace. • Carry respiratory protection and filters appropriate to contaminants. • Ensure mechanical or natural ventilation. • Wear personal protective equipment (gloves, coveralls). • Wear safety glasses or a visor. • Have access to emergency equipment (eye-wash station, fire extinguisher, etc.). • Favour the use of electrical equipment.
4	Ergonomic hazards - Postural constraints/ static - Repetitive movements - Handling - Task difficulty	- Musculoskeletal lesions - Sprains - Hernias - Fatigue, discomfort, pain	<ul style="list-style-type: none"> • Rotate tasks when possible. • Use handling equipment. • Use the largest muscles to move. • Move within the comfort zone to the extent possible. • Know handling techniques.
5	Electrical hazards - Contacts with an electric source (wires, service box) - Electric tools (cement mixer)	- Burns - Electrification - Electrocutation	<ul style="list-style-type: none"> • Ensure that electric tools have double insulation. • Use extension cords in good condition. • Lock out electric facilities.
6	Noise hazards (the source comes from the work environment)	- Hearing loss - Occupational deafness	<ul style="list-style-type: none"> • Isolate the source of noise. • Wear hearing protection (plugs or shells).
7	Tool-related hazards (rasp, file, putty or gypsum knife, trowel)	- Cuts, lacerations	<ul style="list-style-type: none"> • Store the blade as soon as the operation is completed. • Handle the trowel with care.
8	Weather-related hazards (humidity, cold, heat)	- Hypothermia, arthritis	<ul style="list-style-type: none"> • Drink water regularly.
9	Psychosocial hazards (stress)	- Anxiety, burn-out, skin problems	<ul style="list-style-type: none"> • Maintain regular work schedules. • Plan the work well (limit delays from upstream trades).

Table A.3 Sources of Danger per Task and Operation

Legend

0	The risk is nil
+	The risk is low
++	The risk is average
+++	The risk is high

1. Risk levels are noted according to exposure to risk sources, not according to the gravity of effects on personal health and safety.

No.	Operations	Same-Level Fall Hazards	Fall-from-Height Hazards	Chemical Hazards	Ergonomic Hazards	Electrical Hazards	Noise Hazards	Tool-Related Hazards	Weather-Related hazards	Psychosocial Hazards
TASK 1 Finish drywall joints										
1.1	Evaluate the work to be done	++	++	0	0	0	++	0	++	0
1.2	Choose materials and tools	0	0	0	0	0	++	++	0	0
1.3	Make repairs if necessary	+++	+++	+++	+++	++	++	+++	+++	+
1.4	Install mouldings	+++	+++	+++	+++	++	++	+++	+++	+
1.5	Tape the seams	+++	+++	+	+++	++	++	+++	+++	+
1.6	Tape the angles	+++	+++	+	+++	++	++	+++	+++	+
1.7	Fill mouldings and double the flat seams	+++	+++	+++	+++	++	++	+++	+++	+
1.8	Double all seams, angles and mouldings	+++	+++	+++	+++	++	++	+++	+++	+
1.9	Sand	+++	+++	+++	+++	++	++	+++	+++	+
1.10	Apply the finish coat	+++	+++	+++	+++	++	++	+++	+++	+
1.11	Sand	+++	+++	+++	+++	++	++	+++	+++	+
1.12	Verify the work	++	++	+	+	+	++	+	++	++
1.13	Clean the premises	++	+	+	+	+	++	0	++	+
TASK 2 Finish off a surface										
2.1	Evaluate the work to be done	++	++	0	0	0	++	0	++	0
2.2	Choose materials and tools	0	0	0	0	0	++	++	0	0

No.	Operations	Same-Level Fall Hazards	Fall-from-Height Hazards	Chemical Hazards	Ergonomic Hazards	Electrical Hazards	Noise Hazards	Tool-Related Hazards	Weather-Related hazards	Psychosocial Hazards
2.3	Prepare the work areas	++	++	++	++	++	++	+	++	0
2.4	Prepare the surface	+++	+++	+++	+++	++	++	+++	+++	+
2.5	Mix the products	+	+	+++	++	+	++	+	++	++
2.6	Apply the products	+++	+++	+++	+++	++	++	++	+++	++
2.7	Sand as necessary	+++	+++	+++	+++	++	++	++	+++	+
2.8	Clean the premises	+	+	++	+	0	++	0	++	+
TASK 3 Glaze a surface										
3.1	Evaluate the work to be done	++	++	0	0	0	++	0	++	0
3.2	Choose materials and tools	0	0	0	0	0	0	++	0	0
3.3	Prepare the work areas	++	++	++	++	++	++	+	++	0
3.4	Prepare the surface	+++	+++	+++	+++	++	++	+++	+++	+
3.5	Mix the products	+	+	+++	+	+	++	+	++	++
3.6	Apply the products	+++	+++	+++	+++	+++	++	+++	++	++
3.7	Sand as necessary	+++	+++	+++	+++	+++	++	+++	++	+
3.8	Clean the premises	+	+	+	+	0	++	0	++	+
TASK 4 Apply acrylic coatings										
4.1	Evaluate the work to be done	++	++	0	0	0	++	0	++	0
4.2	Choose materials and tools	0	0	0	0	0	++	++	0	0
4.3	Prepare the work areas	++	++	++	++	++	++	+	++	0
4.4	Prepare the surfaces	+++	+++	+++	+++	++	++	++	++	++
4.5	Sand	+++	+++	+++	+++	++	++	++	++	++
4.6	Apply mouldings and corners	+++	+++	+++	+++	++	++	++	++	++
4.7	Mix the base coat	++	++	++	++	++	++	++	++	++
4.8	Tape flat seams and angles if necessary	+++	+++	+	+++	+	++	++	++	++
4.9	Incorporate the coat to the mesh	+++	+++	+++	+++	++	++	++	++	++
4.10	Sand	+++	+++	+++	+++	++	++	++	++	++

No.	Operations	Same-Level Fall Hazards	Fall-from-Height Hazards	Chemical Hazards	Ergonomic Hazards	Electrical Hazards	Noise Hazards	Tool-Related Hazards	Weather-Related hazards	Psychosocial Hazards
4.11	Apply the second coat as necessary and allow to dry if necessary	+++	+++	+++	+++	++	++	++	++	++
4.12	Sand	+++	+++	+++	+++	++	++	++	++	++
4.13	Apply a primer	+++	+++	+++	+++	++	++	++	++	++
4.14	Apply the finish coat	+++	+++	+++	+++	++	++	++	++	++
4.15	Clean the premises	+	+	+	+	0	++	++	++	+
TASK 5 Parget concrete surfaces										
5.1	Evaluate the work to be done	++	++	0	0	0	++	0	++	0
5.2	Choose materials and tools	0	0	0	0	0	++	++	0	0
5.3	Prepare the work areas	++	++	++	++	++	++	+	++	0
5.4	Clean and prime surfaces	+++	+++	+++	+++	++	++	++	++	++
5.5	Mix the products	++	++	++	++	++	++	++	++	++
5.6	Apply the products	+++	+++	+++	+++	+++	++	++	++	++
5.7	Groove if it is necessary to apply a second coat, and finish	+++	+++	+++	+++	+++	++	++	++	++
5.8	Apply the second coat as necessary	+++	+++	+++	+++	+++	++	++	++	++
5.9	Finish the surface	+++	+++	+++	+++	+++	++	++	++	++
5.10	Clean the premises	+	+	+	+	0	++	++	++	+
TASK 6 Do restoration work on old finishes and ornaments										
6.1	Evaluate the work to be done	++	++	0	0	0	++	0	++	0
6.2	Choose materials and tools	0	0	0	0	0	++	++	0	0
6.3	Take an imprint of the ornament as necessary	+++	+++	+++	+++	++	++	++	++	++
6.4	Build the template or ornament at the workshop, as necessary	0	0	0	0	0	++	++	0	0
6.5	Prepare the surfaces	+++	+++	+++	+++	+++	+++	+++	+++	++

No.	Operations	Same-Level Fall Hazards	Fall-from-Height Hazards	Chemical Hazards	Ergonomic Hazards	Electrical Hazards	Noise Hazards	Tool-Related Hazards	Weather-Related hazards	Psychosocial Hazards
6.6	Install the guides if necessary	+++	+++	+++	+++	+++	++	+++	+++	++
6.7	Mix the products	++	++	++	++	++	++	++	++	++
6.8	Install the products or ornaments	+++	+++	+++	+++	+++	++	+++	++	++
6.9	Complete the work	+++	+++	+++	+++	+++	++	+++	++	++
6.10	Clean the premises	+	+	+	+	0	++	++	++	+
TASK 7 Install prefabricated ornamental elements										
7.1	Evaluate the work to be done	++	++	0	0	0	++	0	++	0
7.2	Choose materials and tools	0	0	0	0	0	++	++	0	0
7.3	Prepare the work areas	++	++	++	++	++	++	+	++	0
7.4	Fasten the ornaments	++	+++	++	+++	++	++	++	++	++
7.5	Make repairs	+++	+++	+++	+++	+++	++	+++	++	++
7.6	Close the seams	+++	+++	+++	+++	+++	++	++	++	++
7.7	Sand the seams	+++	+++	+++	+++	+++	++	++	++	++
7.8	Clean the premises	+	+	+	+	0	++	++	++	+
TASK 8 Form plaster mouldings										
8.1	Examine the template plan	0	0	0	0	0	++	0	+	0
8.2	Build the template	0	0	0	0	0	++	++	0	0
8.3	Align and straighten walls and ceilings	+++	+++	+++	+++	+++	+++	+++	+++	++
8.4	Install the guide	+++	+++	+++	+++	+++	++	+++	+++	++
8.5	Produce the necessary mix	+	+	+++	+	+	++	+	+	0
8.6	Fill the angle	+++	+++	+++	+++	+++	+++	+++	+++	+++
8.7	Form the moulding	+++	+++	+++	+++	+++	+++	+++	+++	+++
8.8	Close the mitres	+++	+++	+++	+++	+++	+++	+++	+++	+++