

## Bricklayer *On-the-Job Training Guide*

*Bricklayers lay concrete block, brick, pre-cut stone and other materials in the construction or repairing of structures.*

**Training Requirements:** 6000 hours and (4 years) including: three 8-week training sessions at Saskatchewan Polytechnic in Saskatoon.

Journey person to apprentice ratio for this trade is: 1:2

The information contained in this document serves as a guide for employers and apprentices, as summarizes the tasks to be covered by the apprentice during the on-the-job portion of apprenticeship training. Apprenticeship training is mutually beneficial to both employer and apprentice. The employer's investment in training apprentices results in skilled and certified workers. An apprentice spends approximately 85% of the apprenticeship term training on-the-job.

It is the employer's or journey person's training responsibility to supervise an apprentice's practical skills development until a satisfactory level of proficiency has been reached.

### EMPLOYER TRAINING RESPONSIBILITY

- introduce the apprentice to daily practice in approved safety procedures
- provide guided, hands-on, practical experience in the tasks and skills of the masonry trade
- where possible, expose the apprentice to new technology in the masonry trade

Employers should make every effort to expose their apprentices to work experience in as many areas of the trade as possible.

In-school apprentice instruction is listed first; suggestions to help employers assist the apprentice are listed next.

The content of the training components is subject to change without notice.

## **Level One - 8 weeks**

### **Construction Documents and Sketching**

Residential construction documents  
Basic masonry estimating  
Basic construction freehand sketches

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *assisting in the interpretation of relevant information on a drawing i.e. directions, wall identification, work area identification*

### **Tools and Equipment**

Use and care of hand tools  
Use and care of portable tools  
Use of powder actuated tools

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *demonstrating the proper use and care of common hand tools such as trowels, levels, hammers, chisels, etc.*
- *demonstrating the safe use and care of power tools such as saws, angle grinders, mixers, etc.*
- *ensuring proper use and maintenance of powder actuated tools*

### **Masonry Materials**

Development of clay and concrete products  
Classification and manufacture of masonry units

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *relaying information regarding the proper storage and care of cements and other materials and the location of lay-down area*
- *explaining the purpose of the care of materials*
- *familiarization with all types of units used in the trade*

### **Miscellaneous Masonry**

Identification and construction of piers and pilasters  
Construction of bond beams and lintels  
Walls and application of air/vapour barriers and insulation  
Maintenance and cleaning of masonry wall systems.

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *relaying the purpose of the different architectural and structural design*
- *showing the proper use and application of cleaning products, ie detergents, pressure washers, etc.*
- *showing the proper application and placement of air/vapour barriers and insulation*

### **General Safety**

Occupational Health and Safety Regulations  
Personal protective clothing and equipment  
Fall protection equipment  
Unsafe working environment  
Fire safety  
Industrial health hazards

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *ensuring that the proper personal protective equipment is worn*
- *accessing available safety training for the apprentice*
- *training in the daily awareness of safe working practices*

## **Walls**

Identification and construction of masonry wall systems

Various bond patterns

Wall systems and building code requirements

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *relaying the purpose of the different wall systems, i.e. tie system, core filling, flashing, insulation, etc.*

## **Mortars**

Development of mortar

Mortar types

Mortar joints

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *familiarization with types of mortars and their composition*
- *demonstrating proper mortar mixing techniques*
- *ensuring apprentices obtain quality tool time and proper mentorship*

## **Scaffolding**

Use of ladders and scaffolding

Erection, maintenance and dismantling of wood and metal access scaffolding

Basic rigging operations

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *identifying good practice and proper use when using rigging gear, including chokers, slings, spreaders*
- *ensuring the knowledge of proper hand signals*

## **Trade Mathematics**

Basic mathematics

Mathematical calculations used in the construction process

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *explaining basic math used in the trade*

## **Level Two - 8 weeks**

### **Construction Documents and Sketching**

- Construction documents and types of drawings
- Scaling and dimensioning
- Light commercial construction documents

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *ensuring that relevant information on a drawing and specifications can be interpreted, i.e. details, dimensioning, floor plan, structural vs. architectural plans*

### **Chimney Construction**

Chimney, flue liners and flashing description

Chimney construction

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *offering training and work opportunities in chimney construction including building code requirements for chimneys*

### **Fireplace Construction**

Components of masonry fireplaces

Construction of a masonry fireplace

Insulating practices for masonry fireplaces

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *ensuring the understanding of building code requirements when building fireplaces*
- *explaining the various fireplace types and how they are constructed*
- *building a complete fireplace*

### **Arches**

Arch types and terminology

Arch construction

Temporary arch support work

Bonded gauged arch

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *explaining arch type, purpose, component, and terminology*
- *familiarization with basic geometry of arch construction*

### **Stone Masonry**

Identify classifications of stone

Prepare stone for installation

Stone cladding

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *ensuring proper identification of materials by type, colour and texture*
- *hands-on training in preparing stone for installation*

### **Miscellaneous Masonry**

Glass block masonry

Step building, pavements and patio construction

Overlay, cleaning, insulation, parging, rope and caulking procedure

Cold weather masonry

Horizontal masonry

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *explaining the storage of materials, ie glass blocks, and preparation of surfaces*
- *understanding paver placement in terms of ground compaction, drainage and bonds*
- *understanding the basic principles and purpose of insulation, parging and caulking*
- *proper care and storage of masonry materials under cold conditions*

### **Trade Mathematics**

Basic numeracy skills

Metric and imperial systems of measurement

Equation problems

Building material estimates for brick, concrete masonry units and mortar

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *having the apprentice use fraction and decimal conversions in daily tasks*
- *discussing metric vs. imperial measurements where appropriate*

## **Level Three - 8 weeks**

### **Construction Documents and Sketching**

Plot plans and elevations for residential and commercial construction

Light commercial construction documents

Freehand sketching

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *supervising the apprentice's reading of plans and the layout of projects*

### **Estimating**

Estimate of materials for a commercial building  
Estimating procedures for masonry construction

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *training in basic estimating*

### **Masonry Overlays**

Decorative wall design  
Decorative wall construction  
Identify procedures in overlay work

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *training in decorative brick and stone work*

### **Advanced Bricklaying Techniques**

Building layout details  
Layout of the storey pole  
Planning a job

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *ensuring exposure to the basic use of the storey pole*
- *discussing public relations*
- *explaining the basics of a well-organized work site*

### **Masonry Restoration**

Analyzing restoration requirements for existing buildings  
Restoration procedures

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *relaying knowledge of cleaning products*
- *explaining proper and safe use of tools*
- *explaining types of mortars and colour matching of mortars*

### **Reinforced Masonry**

Reinforced masonry principles, uses, materials and placement  
Construction of reinforced masonry

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *training and exposure to the proper placement of reinforced masonry such as rebar size, stirrups, overlaps, etc.*
- *giving the apprentice a basic familiarization with building codes*

### **Refractories**

Common refractory vessels and their use  
Types of refractory materials  
Use of refractory materials

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *explaining the function and purpose of refractory work and materials*
- *explaining the safe use of equipment*
- *illustrating basic installation procedures*

### **Trade Mathematics**

Mathematical calculations involving decimals, fractions and per cents  
Metric and imperial system of weights and measures

Trade problems involving algebra  
Building material estimation involving concrete

*The employer can assist the apprentice to prepare for this section of technical training by:*

- *ensuring an understanding of the importance of compliance with structural drawings and building codes because of these forces: shearing, tensile and load forces*

**Consider apprenticeship training as an investment in the future of your company and in the future of your workforce. Ultimately, skilled and certified workers increase your bottom line.**

**Get involved in the apprenticeship training system. Your commitment to training helps to maintain the integrity of the trade.**

**Do you have employees who have been working in the trade for a number of years but don't have trade certification?**

**Contact your local apprenticeship office for details on how they might obtain the certification they need.**

### **Saskatchewan Apprenticeship & Trade Certification Commission**

2140 Hamilton St Regina SK S4P 2E3

Tel: (306) 787-2444

Fax: (306) 787-5105

Toll Free: 1-877-363-0536

Website: [www.saskapprenticeship.ca](http://www.saskapprenticeship.ca)

### **District Offices**

Estevan (306) 637-4930

La Ronge (306) 425-4385

Moose Jaw (306) 694-3735

North Battleford (306) 446-7409

Prince Albert (306) 953-2632

Saskatoon (306) 933-8476

Swift Current (306) 778-8945

Yorkton (306) 786-1394