Carpentry NTQF Level II

Learning Guide #66

Unit of Competence: **Install and Replace Windows and Doors**

Module Title: **Installing and Replacing Windows and Doors**

LG Code: **EIS CRP2 M14 LO3-LG-66**

TTLM Code: **EIS CRP2 M14 TTLM 0919v1**

LO3: Replace window units and door frames

Instruction Sheet	Learning Guide #66

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics.

- Removing Architraves and nosing
- specifying Sill bricks or removal of cladding
- cutting Fasteners, removing packing and detaching flashing from frame
- Removing Window unit/door frame
- Installing Window unit/door frame to plumb, level and wind
- Replacing Architraves and moldings

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Remove Architraves and nosing
- specify Sill bricks or removal of cladding
- cut Fasteners, removing packing and detaching flashing from frame
- Remove Window unit/door frame
- Install Window unit/door frame to plumb, level and wind
- Replace Architraves and moldings

Learning instruction

- ✓ Read the specific objectives of this Learning Guide.
- ✓ Read the information written in the “Information Sheets 1”. Try to understand and familiarize what are being shown and discussed. Ask your teacher for assistance if you have hard time understanding them.
- ✓ Accomplished and submit “Self-checks 1” for evaluation.
- ✓ If you earned a satisfactory evaluation for "self-check 1" then proceed to “Operation Sheet 1”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Information Sheet 1.
- ✓ Read the “Operation Sheet 1” and try to understand the procedures discussed.
- ✓ Accomplish and submit “Operation Sheet 1” for evaluation.
- ✓ If you earned a satisfactory evaluation for one "Operation Sheet 1" then proceed to the next “Information Sheet”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Operation Sheet where you get unsatisfactory evaluation.
- ✓ Continue to the next “Information Sheet” and follow instruction for learning activities in “2-7”.
- ✓ After all “Self Check” and “Operation Sheet” is accomplished and evaluated proceed to “LAP Test”.

- ➢ Your teacher will evaluate your output either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work. But if satisfactory you can proceed to the next topic.

Information Sheet 13	Removing Architraves and nosing

13.1 Removing Architraves and nosing

Porta's range of **architrave and skirting** help you create an overall framework for your home decorating theme. ... **Skirting's** help protect your walls from everyday wear and tear while **architraves** have a functional purpose of hiding the gap between the wall lining, door jamb or window frame.

The purpose of the **architrave** for doors is to hide that joint and any following shrinkage and movement between the two. Similarly, a skirting board would be **used** to cover the weaker plaster at the base of the wall, and act as a trim where the walls meet the floors.

The purpose of an **Architrave** is to hide the join between the Door Liner or Casing and the Wall where it meets.

Tools Needed For Fitting Architrave

- Tape measure.
- Hand saw.
- Safety glasses.
- Pencil.
- Drill/driver and bits.
- Spirit level.
- 40mm nails.
- Nail punch.

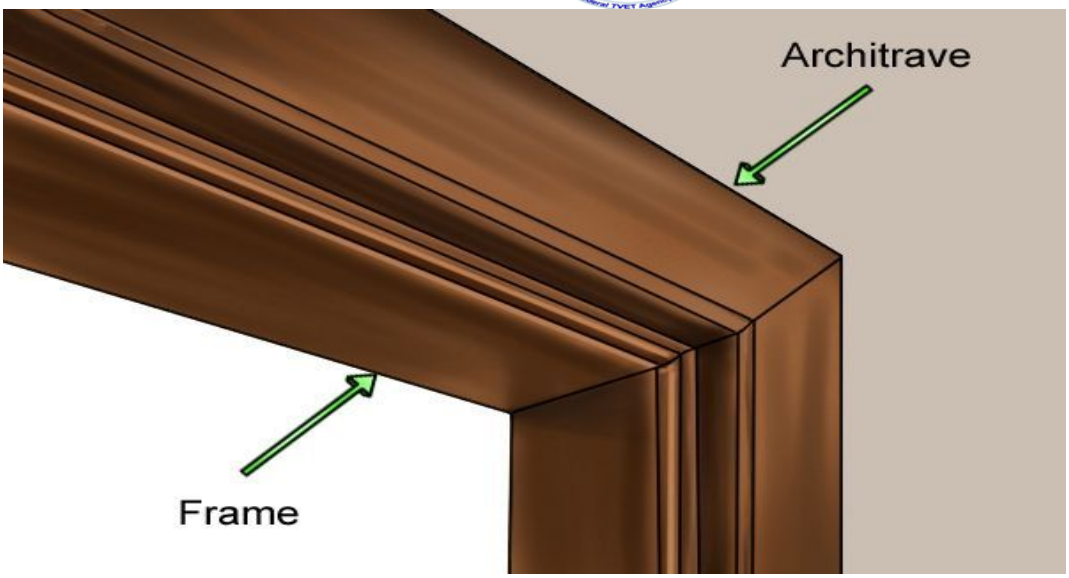


Figure 1 window architrave

Figure 2 architrave removing

✓ Nosing Window

Figure 3 nosing

- Nosing is commonly used to frame underneath a window and is known as a sill. A further moulding is used underneath the nosing to finish off the sill (most commonly scotia).

✓ Types of nosing

- Craft wood MDF – Nosing
- Pine FJ – Nosing
- Tasmanian Oak – Nosing

✓ How do you remove a window sill?

Open the window, then use your putty knife to **remove** the side window trim. Next, wedge your pry bar or chisel underneath the **window sill** and loosen it as much as possible.

What you'll need to replace an interior window sill:

1. Utility knife.
2. Putty knife.
3. Pry bar or chisel.
4. Pliers.
5. Wood.
6. Pencil.
7. Table saw.
8. Sandpaper.

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the purpose of architrave ?

Note: **Satisfactory above – 4 out of 8 points Unsatisfactory - below 4 out of 8 point**

Information Sheet 14	specifying Sill bricks or removal of cladding

14.1 specifying Sill bricks or removal of cladding

Cladding: The function of the **cladding** is to provide a lower refractive index at the core interface in order to cause reflection within the core so that light waves are transmitted through the fiber.

- ✓ **Common types of cladding are described below.**

- Curtain walling.
- Sandwich panels.
- Patent glazing.
- Rain screen.
- Timber cladding.
- Metal profile cladding.
- Tensile fabric coverings.
- Brick slips.

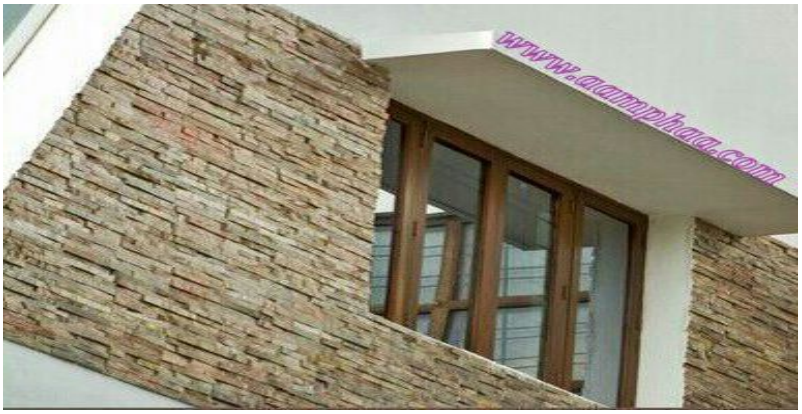


Figure 4 window cladding

- ✓ The bricks for window sills are processed as smooth extruded bricks with a drip edge. They come in red and soft blue, unglazed. Glazed bricks for window sills are available in stock in 5 standard colors. Glazed bricks for window sills are impervious to dirt and water coming down from the window.

Width: 68 mm
Maximum height: 56 mm
Length: 170 mm

The standard range of our bricks for window sills contains:

Unglazed

Red extruded bricks and smoked bricks.

Glazed

Transparent (T101), brown (K101), medium blue (A182), black (G101) and white (H101)

PRE-FABRICATED WINDOW SILL ELEMENTS
- THE OPTIMAL SOLUTION FOR DETAIL

The bricks for window sills can be delivered as a pre-fabricated element of extruded bricks. The element creates an aesthetically pleasing solution with many advantages:

- Delivery with frost-proof joints with very low water absorption.
- Glazed window sill elements are resistant to algae and similar organisms.
- Time is spent in fitting the element, as opposed to laying individual bricks.
- Elegant and symmetrical distribution

Dimensions: 170 x 68 x 56 mm (maximum length: 2.80 metres)

The window sill elements are available in 3 grout colors:

Dark grey, light grey and light yellow.

Figure 5 window sill bricks

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write the common types of cladding.

Note: **Satisfactory above – 4 out of 8 points Unsatisfactory - below 4 out of 8 point**

Information Sheet 15	cutting Fasteners, removing packing and detaching flashing from frame

15.1 cutting Fasteners, removing packing and detaching flashing from frame

15.1.1 Fastener

- ✓ A **screw** is an externally **threaded fastener** capable of being inserted into holes in assembled parts, of mating with a preformed internal thread or forming its own thread, and of being tightened or released by torqueing the head.

- ✓ How we can remove packing?

Using forceps or sterile gauze, gently remove the packing from the wound.
If packing material adheres to the wound, soak the packing with sterile normal saline or sterile water before removing. Removing packing that adheres to the wound bed without soaking can cause trauma to the wound bed tissue.

- ✓ **Flashing** as a noun refers to the strips of membrane applied to the perimeter of the window. Flashing as a verb is the act of placing those strips of membrane around the window with the intent of keeping water out of the building. Therefore, we use flashing when flashing a window.

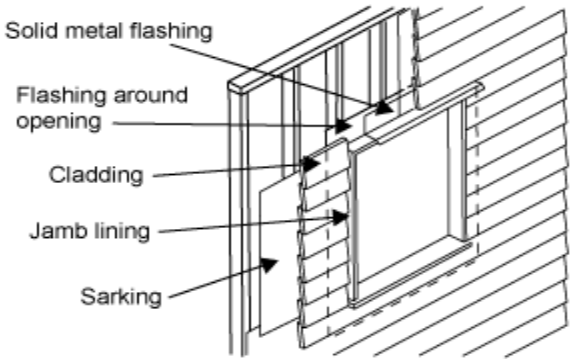


Figure 6 window flashing

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. How we can remove packing?

Note: **Satisfactory above – 4 out of 8 points Unsatisfactory - below 4 out of 8 point**

Information Sheet 16	Removing Window unit/door frame

16.1 Removing Window unit/door frame

To remove the old window, remove the outside trim using a hammer and pry bar.

1. Prev. removes aluminum trim. ...
2. Make opening big enough to accommodate window. Remove the Old Sill. ...
3. Re nail old sill to reinforce it. Form the New Sill. ...
4. Nail in frames. Attach the Framing. ...
5. Add caulk and place new frame in opening. Caulk and Finish the Frame.

✓ ***Remove the Frame***

To strip the walls to studs, use a hammer and a pry bar to pound off the old plaster. Be careful of electrical wires and boxes.

Pry the lathe away from the studs and remove the old nails.

Save some of the old lath just in case you need to fur out the studs when putting up the new drywall later.

To remove the old window, remove the outside trim using a hammer and pry bar.

STEP 1

Figure 7 removing frame

Figure 8 remove the trim

Remove the Trim

Remove the aluminum trim (Image 1) as well, and be careful not to damage the siding. Save pieces to reuse.

Also remove any trim material to expose the nails that hold the window in place.

Inside the house use the reciprocating saw to cut through the nails. Slide the blade through the gap (Image 2) and cut. Have a helper to make sure the window does not fall out.

STEP 2

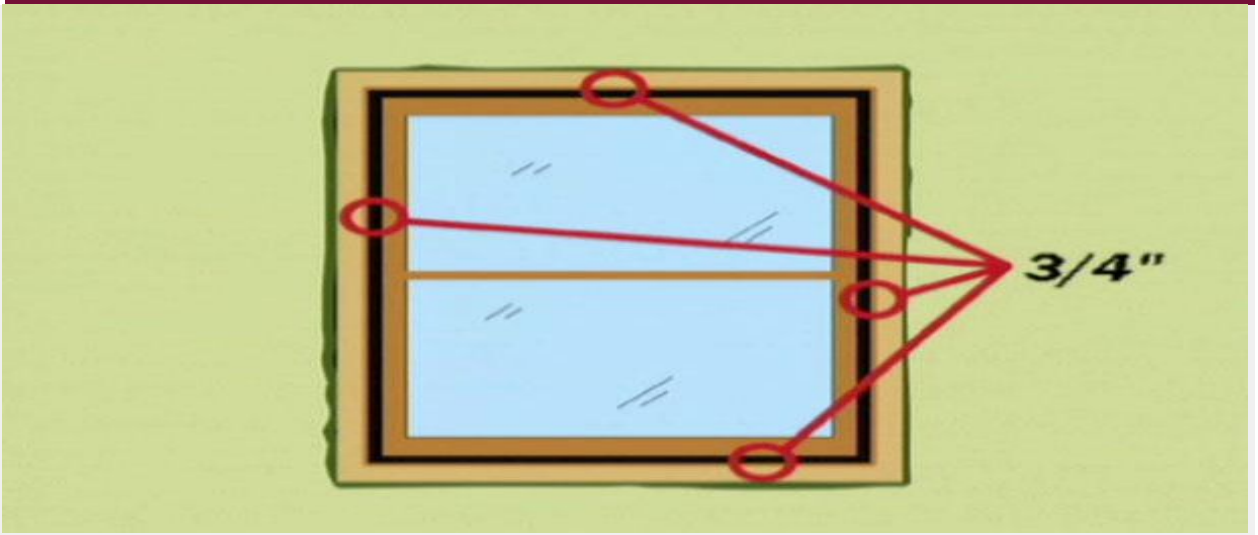


Figure 9 removing old sill

Remove the Old Sill

Note: When you build a rough opening for a new window, make it big enough to accommodate the window and a false frame that will finish the rough opening. Then add 3/4" on all sides to allow some wiggle room to make the window plumb and level. Remove the old sill using chisel and hammer.

Mark the center of the old sill so the new window will be centered.

STEP 3

Figure 10 form the new sill

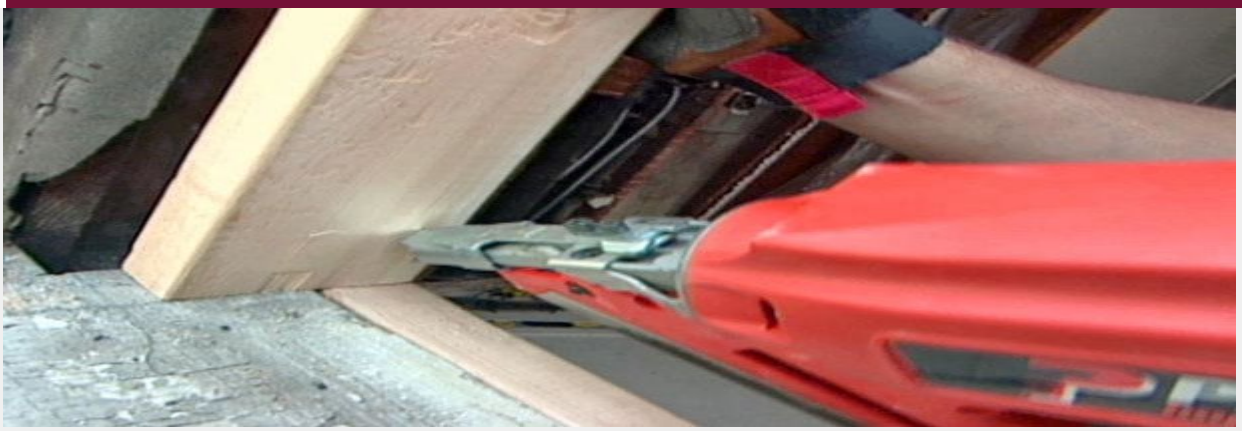
Form the New Sill

Using a cordless impulse power nailer, re-nail the old sill to reinforce it.

Then nail down a new 2" x 2" to form the new sill.

Drag the center line down the new sill using a square, and use a tape measure to make the new markings for installing the new window.

STEP 4



Attach the Framing

Once you have the measurements, it's time to put up the new 2" x 4" framing in place.

Simply nail in the frames on the two sides and top.

STEP 5

Caulk and Finish the Frame

Caulk the seam between the new and old window sill and the corners of the framing for added security.

Use a trim gun to nail in the false frame in place at the bottom and the stops.

Caulk and then it's time to place the new frame into the rough opening.

Note: You may need to use shims to level the window.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. To remove the old window, remove the outside trim using a hammer and pry bar write the steps we have to be follow

Note: **Satisfactory above – 4 out of 8 points Unsatisfactory - below 4 out of 8 point**

Information Sheet 17	Installing Window unit/door frame to plumb, level and wind

17.1 Installing Window unit/door frame to plumb, level and wind

- ✓ **Carpenters** can always **install** wooden **windows** and doors and, along with a glazier that they work with, can also often manufacture **windows** and doors to your custom specifications.

✓ Install a replacement window

1 Remove the old window

Depending on the type of window, it may be easier to remove the window either from the inside or the outside.

1.1 - Remove the trim from around the window.

1.2 - Lift out the window panels.

1.3 - Remove the wood shims and screws maintaining the frame.

1.4 - Take off the window frame.

Figure 11 the old window

2. Prepare the opening

2.1 - Remove approximately 9" of the exterior vinyl cladding all around the window.

2.2 - Ensure that all parts are in good condition. Clean all debris from the wood frame.

2.3 - Check the sill: it should slope evenly to the exterior over the entire width of the window. Adjust or replace the sill if necessary.

2.4 - Cover the sill and studs with adhesive waterproof membrane. The self-adhesive membrane should cover the nailing strip for the vinyl cladding.

Figure 12 prepare the opening

3. Position and install the window

3.1 - Run a bead of silicone caulk on the sill and around the exterior face of the window at the juncture point of the nailing strip.

3.2 - From the outside, center the window into the opening so that the nailing fin is well-supported.

3.3 - Secure the window with shims from the inside.

3.4 - Measure the window casing diagonally from corner to corner making certain the window is plumb, level and square.

3.5 - Level with shims from the inside if necessary.

3.6 - From the outside, nail the nailing fin around the perimeter; start with the lower corners, then the upper corners, then the center. Check the level regularly.

3.7 - From the inside, secure the window by inserting shims at the bottom of the window and on the sides. Plastic shims are preferable since they don't mildew.

3.8 - Cut the ends of protruding shims.

Figure 13 window installation

4 Insulate the window from the inside

4.1 - Lightly pack fiberglass insulation all around the window.

4.2 - Fit a neoprene backer rod around the window.

Figure 14 widow insulating

5 Waterproof the window

5.1 - Cover each side of the window with a self-adhesive membrane. Cover the edges of the frame and ensure the membrane is fully adhered.

5.2 - Install run-off moulding and apply a self-adhesive membrane on top of the winder under the air barrier.

5.3 - Apply sheathing tape on the self-adhesive membrane.

5.4 - Lower the air barrier on top of the window and glue.

5.5 - Glue a supplementary air-barrier on the nailing fin under the window.

Figure 15 waterproof the window

6 Reinstall the exterior cladding

6.1 - Measure around the window.

6.2 - Cut the moulding for the bottom of the window, adding 2" to the width.

6.3 - Cut a 1" notch on each side of the nailing flange on the part resting on the window sill, leaving the front intact.

6.4 - Nail the moulding under each overhang, leaving an extra 1" on each side.

6.5 - Cut two lengths of J-trim for the sides, 2" longer than the height of the window, and nail.

6.6 - Cut the J-trim for the top, 2" longer than the width of the window. At each end, cut a 1" notch at the bottom of both corners of the J-trim and fold back the strip at a right angle.

6.7 - Make a miter cut in the part before the J-trim at a 45° angle towards the roof line and nail.

6.8 - Fit the upper moulding strips into the notches of the two lateral mouldings to make a rain water run-off.

6.9 - Apply silicone-based caulk around exterior frame and on nail heads.

6.10 - Reinstall the vinyl cladding.

Figure 16 exterior cladding

7 Install the interior window trim

Just a few steps are necessary to correctly install door and window trim. Discover trade secrets from the professionals for installing finishing moldings.

Make sure to consult our project Install door or window trims.

Figure 17 interior window trim

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. How to install replacement window?

Note: **Satisfactory above – 4 out of 8 points Unsatisfactory - below 4 out of 8 point**

Information Sheet 18	Installing Window unit/door frame to plumb, level and wind

18.1 Replacing Architraves and moldings

- ✓ What is architrave Molding?

An architrave is a molding that sits above a door, window or other opening, where the architrave extends across the top of the side mouldings to the opening.

An architrave is decorative molding used to cover the gap between the lining board and the door or window frame. ... Cut the timber for one side at a 90 degree angle, attach a block at the top, then secure the architrave with nails.

The purpose of the architrave for doors is to hide that joint and any following shrinkage and movement between the two. Similarly, a skirting board would be used to cover the weaker plaster at the base of the wall, and act as a trim where the walls meet the floors.

- ✓ What is Architrave?

Architrave is a form of interior moulding that is featured in most houses, offices and other buildings. In this case, it is the strip of material that rounds off the wall and door. While 'architrave' is the correct term for the moulding, it can also be mistaken for:

- Door Casing
- Door Surround
- Door Frame

"But, what is an interior moulding?"

We hear you loud and clear...An interior moulding, or simply 'moulding' for short, refers to a strip of material that is used to cover the transitions between surfaces (in this case, the wall and door frame), or simply as an embellishment to a room

Figure 18 Replacing Architraves

Self-Check -6	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. ------ is a molding that sits above a door, window or other opening, where the architrave extends across the top of the side mouldings to the opening.

   A. Molding
   B. Architrave
   C. Skirting
   D. None

Note: **Satisfactory above – 4 out of 8 points Unsatisfactory - below 4 out of 8 point**

LIST OF REFERENCE

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