



Window installation and window replacement can be dangerous. Precautions must be taken when working on a ladder or scaffold, lifting heavy objects and working around glass to avoid any potential injuries. Replacement applications in older homes often encounter paint that contains lead. Lead is deemed a health hazard and as such is to be treated with caution. For details please refer to the following government website for specific handling requirements. [www.epa.gov/lead](http://www.epa.gov/lead)



## **Disposal & Recycling**

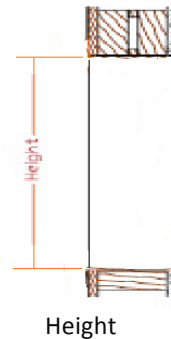
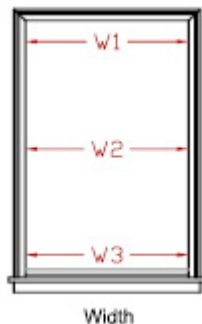
Follow all local regulations for proper disposal of all waste including old windows. Seek out any opportunities to recycle old window components to reduce the impact on the environment.

## **Flashing**

Please reference your preferred flashing supplier's website for their specific recommended installation practices around a window. Below, basic directions are included for the use of flashing, sill pans and drip caps.

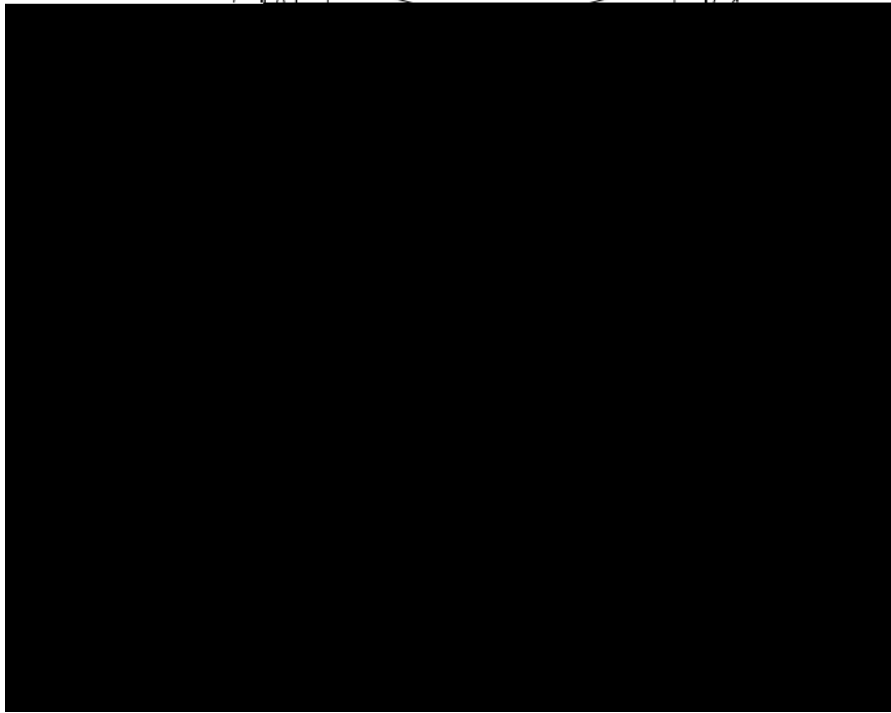
## **Measuring for New Construction & Full Frame Replacement Installations**

Measure the Rough Stud Opening (RSO) width & height in several locations. Note the smallest measurement and deduct 1/2" (1/2 inch or 12.5mm) from each dimension to establish the overall frame dimensions. If you are using a sill pan, ensure to deduct the thickness of the pan from the RSO prior to determining the window dimensions. If the opening requires combination windows, ensure that your calculations include any additional dimensions for the mullion.

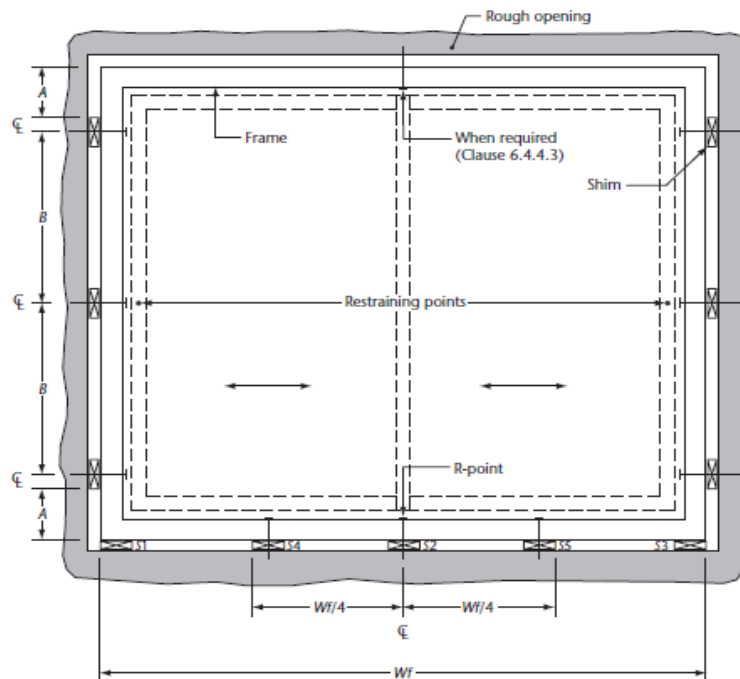


## **New Construction & Full Frame Replacement Installations**

- Ensure the openings and the backs of the window frames are free of any dirt, debris or defects.
- Fold the house wrap into the RSO and secure except at the head where it must remain loose.
- Locate and secure the sill pan if used according to the manufacturers recommendations.
- If a nailing flange is employed apply a bead of high performance caulk around the head and jambs of the flange set back 3/8" from the edge.
- Place the sill of the window onto the sill plate, press the window firmly into the caulk and loosely fasten a top corner
- Level the sill by shimming and check for plumb and squareness, shimming in the indicated locations in the diagram below as required.
- Close the sashes ensuring a uniform gap between the sash and the sill or head and at the jambs. Adjust this reveal via the shims.
- Fasten through every other hole of the nailing flange ensuring complete contact of the flange, caulk and wall.
- Drill a 1/8" hole through the balance pocket of the frame and into the structure at the indicated locations and install installation screws ensuring that the screws penetrate the building's structure by a minimum of 1 inch.
- Insulate the cavity with recommended fiberglass insulation or low expansion foam taking care to ensure the frames do not bow or distort.



Casement Full Frame Installation using Installation Clip



Jamb		Shims		Anchor	
Min. A (in)	Max. B (in)	Max. Wf, for 3 shims, (in) (S1, S2)	Max. Wf, for 5 shims, (in) (S1, S2, S3)	Max. Wf, no Anchor, (in)	Max. Wf, one Anchor, (in) (R point)
7 7/8"	23 5/8"	63"	94 1/2"	63"	94"

Fasteners must penetrate the structure a minimum of 1". When painted a dark color, add 2" to dimension A.



## Flashing & Drip Caps

- Apply self adhering flashing primer as per the manufacturers recommendations taking care to protect the window and surrounding building materials.
- Apply the self adhering flashing along either jamb side tightly to the window frame and cut 12 inches longer than the height of the window frame and with 5 inches extending above the frame at the head of the window.
- If required for the application, install a drip cap above the head of the window extending 2 inches beyond either jamb.
- Apply self adhering flashing cut 14 inches wider than the width of the window frame over the nailing flange and drip cap beginning at the head with the flashing tight to the head and extending 7 inches past each jamb.
- Apply a bead of sealant on the underside of the drip cap and along the head of the window to prevent any water or air leakage.
- Place the house wrap to the exterior side of the installation flange and drip cap and tape all joints with manufacturers approved tape.
- Apply a weather seal using a high quality caulk around the perimeter of the window following the installation of the cladding.
- Employ the use of a backer rod or bond breaker to prevent 3 sided adhesion of the sealant and to form the proper joint configuration that allows for expansion and contraction of the sealant and sufficient surface area to maintain adhesion.
- Following local building codes for the application of interior air barrier sealing at and the wall / window interface.
- Ensure that the sill water drainage path remains unblocked and operates freely.

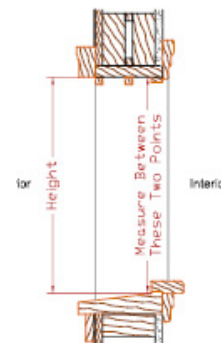
## Measuring for Replacement Installations

Measure the opening width & height in several locations between the parting beads. Note the smallest measurement and deduct 1/2" (1/2 inch or 12.5mm) from each dimension to establish the overall frame dimensions. For applications into windows with existing sloped sill, use the smallest measurement between the head and sill to establish the height and deduct 1/2" or 12.5 mm. If you are using a sill pan, ensure to deduct the thickness of the pan from the RSO prior to determining the window dimensions.

If the opening requires combination windows, ensure that your calculations include any additional dimensions for the mullion.



Width

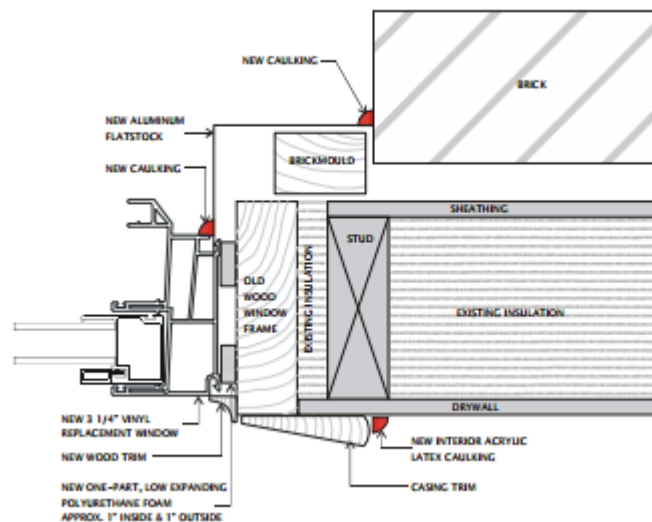


Height



## **Replacement Installations**

- Remove the sashes from the frame. Remove the parting bead.
- Clean opening of all dirt, debris and protruding nails and hardware. Properly clean the window frame ensuring there is no dirt or debris.
- Install blocking around the perimeter of the frame to create support for the new window.
- Install the head expander into the frame where necessary and attach the sill leg into the accessory groove by first filling the groove with a quality exterior caulk.
- Caulk the blind stops and insulate the sill.
- Carefully place the window into the opening with the sashes locked. Compress the window tightly against the caulk bead of the blind stops.
- Check for plumb, level and squareness and a uniform reveal between the frame and sashes, adjusting with shims as required.
- Install the installation screws at the recommended locations as per the above schematic ensuring that the frame remains square.
- Insulate around the perimeter with fibreglass insulation or low expansion foam.
- Check the operation of the window and finish trimming as required.
- Ensure that the sill water drainage path remains unblocked and operates freely.



## **Additional Reference Information**

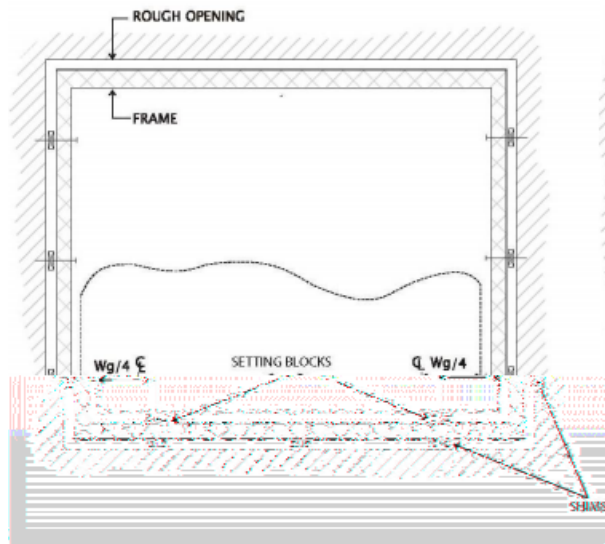
Royal Building Products references industry recognized standards and installation practices and participates in their development. Below are just a few of the documents that you can reference for additional information. Also there are numerous professional installation courses designed to improve industry knowledge surrounding window installation in new and replacement applications.

- AAMA Installation Masters
- SAWDAC F.I.T. Window Installation Course
- CSA A440.4-07 Window, Door and Skylite Installation
- AAMA 2400-10 Standard Practice for Installation of Windows and Doors with a Mounting flange in Stud Frame Construction
- AAMA 2410-13 Standard Practice for Installation of Windows and Doors with an Exterior Flush Fin over an Existing Window Frame

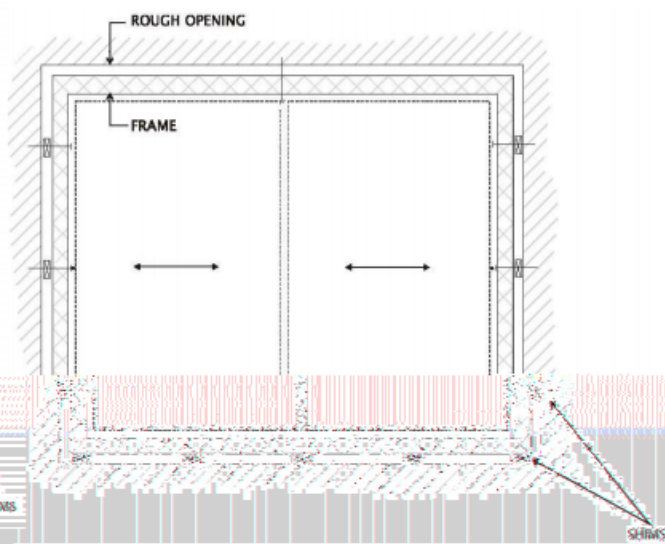


## Shimming Windows

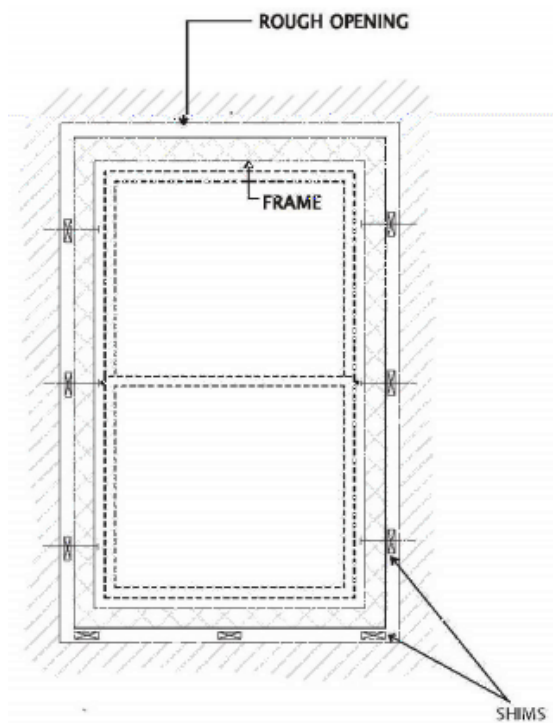
Below are several typical window types and the recommended shimming locations to create an installation that is plumb, level and square.



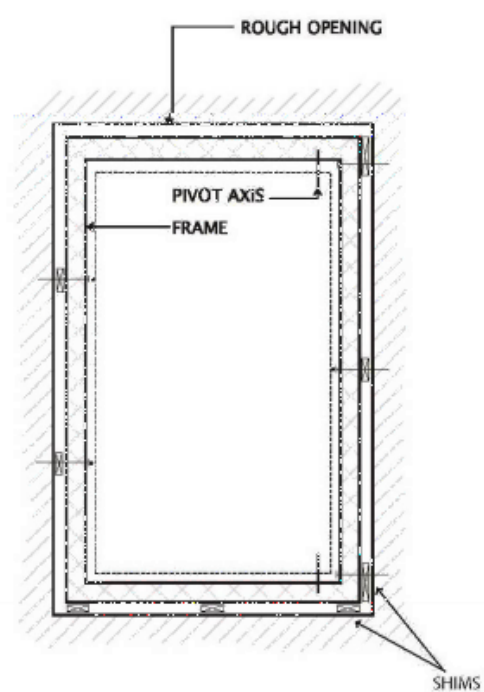
Fixed Windows



Horizontal Slider



Vertical Slider



Casement