3100 Series Window Installation Instructions

This Document describes the key steps in installing the frame and sash of a 3100 fixed, projected, and sliding window into a properly prepared opening. It is intended as an informational guide only and shall not be used as a substitute for proper training and certification.

Precautions & Safety

- Do not work alone. It is recommended that at least two people work together to avoid personal injury or damage when handling glass & frame/sash members.
- Use caution when handling glass – broken or cracked glass can cause serious injury.
- Wear necessary protective gear (shoes, ear, and eye protection, etc.)
- Follow equipment manufacturer's operation instructions, warnings, and cautions when using tools, ladders, scaffolding, lift, and hoisting equipment.

Notice to Installer

- Installer is responsible for site measurements and will ensure that structural and architectural requirements are met before installation of the 3100 series windows.

- Installation of Monumental Windows & Doors™ products must be in accordance with standards as outlined in ASTM E2112.

- Building design, construction methods, building materials, and site conditions unique to your project may require methods different from those contained in these instructions. It is the responsibility of the installer, architect, and/or design/construction professional to select the appropriate installation method for each project.

- All construction details and wall systems must be designed to manage the possibility of unanticipated infiltration of moisture past the exterior wall cladding. Incidental moisture penetrating past the wall cladding must be prevented from entering moisture sensitive areas through the use of a barrier and/or membrane(s) that divert water to the exterior of the building.

- Monumental Windows & Doors™ is not responsible for claims or damages related to moisture infiltration resulting from:

    - Failure to install in accordance with local building codes which, when integrated with the 3100, allows for excessive moisture within the wall system.
    - Deficient building maintenance.
    - Unanticipated water infiltration.
    - Neglect
- The site-specific suitability of all building details, including the appropriate selection of Monumental Windows & Doors™ products, installation details, the means of protection against air, water, and structural forces is the responsibility of the installer, architect, and/or design/construction professional.

Advance Preparation

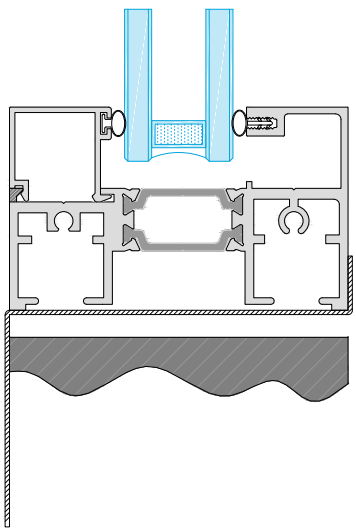
Measuring and Sizing

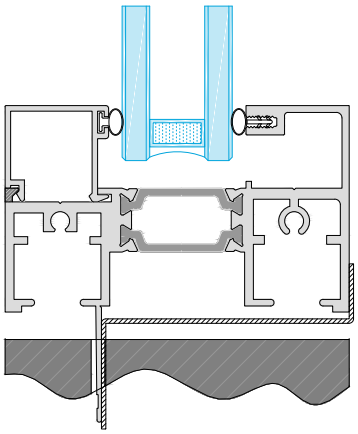
The 3100 window is designed for installation with or without the integral nail-fin. The nail fin installation requires integration with a multi-surface barrier system in a shingle-lap manner. Installation with the nail fin removed requires integration with a membrane/drainage system to direct incidental water onto the outer wall surface. In both installation methods, the use of a sill pan is appropriate.

Rough openings are best obtained by adding ½" to net frame dimension width & height. Alternately, or if measuring existing openings, deduct ½" from opening dimensions to obtain optimal frame size.

Sill Pans and Drainage Concerns

Special attention should be paid to concerns regarding proper sill pan selection, application, and installation. Bottom and side draining sill pans will require a depressed sill. Front draining sill pans will require allowance for drainage beneath the exterior finish. In any case, a properly installed and glazed frame should allow only incidental moisture into the frame cavity.





Frame Installation

Frame Assembly – Jobsite

3100 series frames are usually provided factory assembled. In some cases, as with larger frames, or corner units, the frames may need to be field assembled.

1. Assemble frame in clean, dry, and dust-free environment, free of debris and obstructions. . Protect frame from abrasion, impact, or other jobsite damage. Before assembling frame, confirm dimensions and orientation with customer order.

2. Apply compatible sealant to ends of frame and assemble with screws provided, using wax to reduce friction.

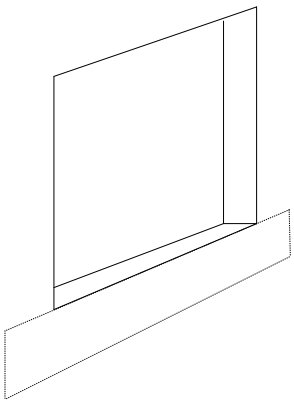
3. After assembly, apply sealant generously to inside corners of frame and tool across joints. Trim excess sealant and verify that joint is air and water-tight.

Notes:

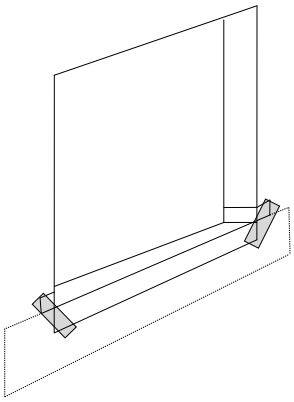
- Before assembling frame, inspect rough opening to confirm plumb, level, and verify dimensions.
- Frame **MUST** be installed plumb, level, and properly secured against twisting and warping.
- Typical shim spacing is ¼" at jambs & head, and should not exceed ½"
- Slab or other sill support **MUST** be level, solid, and smooth - free of lumps and cavities.

Typical Flashing Application

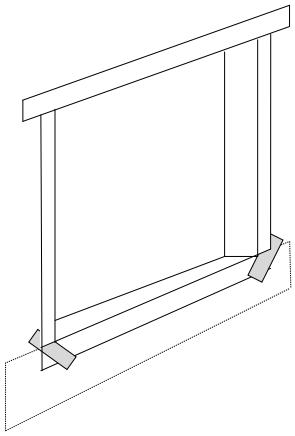
1. Flash, wrap, or otherwise prepare structure as required to provide a completely water-tight seal (*See Fig. 1*).



Apply sill flashing horizontally, allowing for the WRB to be tucked under, in weatherboard fashion.



Apply self-adhesive membrane over flashing, and 4" up jambs. Tape corners.



Apply aluminum-faced self-adhesive membrane at jambs & head, in weatherboard fashion.

Fig. 1

Wrap sill, jambs and head in self-adhesive membrane. Extend over sheathing a minimum of 4". Lap all joints.

2. Apply full bedding of compatible sealant to sill at location where sill pan will be placed. Sealant should run along sill and up structure jambs minimum 6". Apply sealant to face of sill and marry all joints. (*See Fig. 2*)

   a. If the frame extends to the slab, the slab should be level to within 1/8". Any shims used should support the full depth and length of sill as necessary, and should be set in sealant.

   b. Use liquid membrane waterproofing or other compatible barrier to ensure that no contact will be made with concrete (slab) and aluminum.

Fig. 2

3. Place sill pan in opening, aligning with structure jambs as necessary. Ensure sill pan is fully seated, centered, and level. Seal ends of sill pan against structure jambs.

Typical Frame Installation

Use only non-organic, non-corrosive shim material - high impact plastic shims are recommended. Window frames are not designed to absorb structural loads imposed by twisting and bowing lumber, or otherwise unreinforced framing. Framed window openings must be constructed plumb, level, and square, with all sides firmly secured. Lumber shall be sufficiently dried and/or treated to resist twisting, bowing, and splitting.

4. Apply sealant generously to back and side legs of sill pan prior to setting frame in place.

5. Set frame in opening, centered, plumb and level. Use temporary fasteners to secure the frame and make any necessary adjustments to ensure correct plumb and level placement. Confirm a continuous seal exists against sill pan back and side legs.

6. Securely attach frame at jambs first, then head. Use appropriate fasteners, shims, and anchoring for attachment to structure. Ensure that frame is secured against twisting and warping, and that all members are plumb and level.

Hinged windows	Attach frame within 2" above and below butt hinges. Ensure that frame jambs are level and square to each other.
Intermediates	Secure all intermediate horizontal and vertical members by attachment at each side of both ends, as necessary.
Sills	Avoid penetrating the frame sill, if possible. If sill attachment is required, fill hole with sealant and cap screw head with silicone to prevent moisture penetration.
Thermal Breaks	Do not attach frame through thermal break. Use cap bead of silicone at sill thermal break as a preventative measure against incidental moisture penetration
Nail Fins	Apply a generous bead of sealant at jamb & head nail fins. Leave (2) 2" gaps in caulk at sill nail fin to structure.

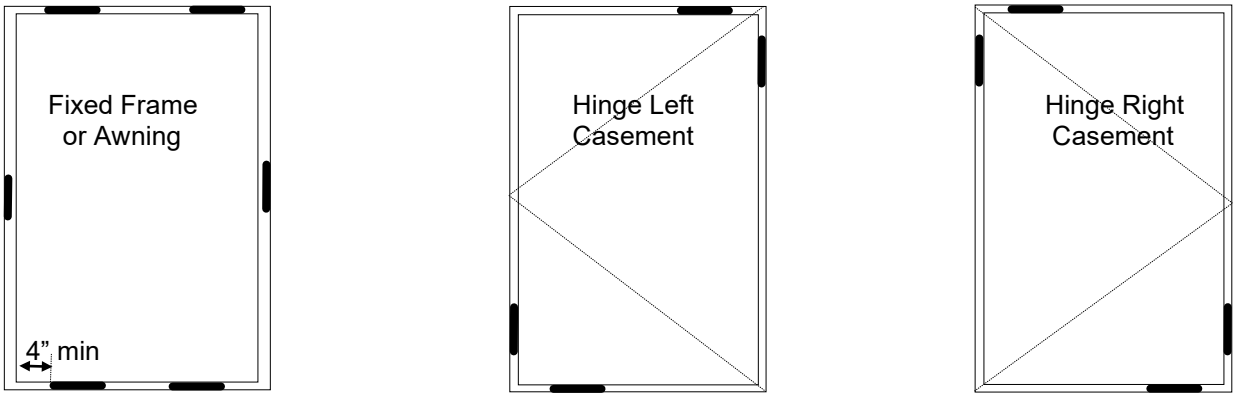
Glazing Fixed Frames & Sash

Large frames should be installed prior to glazing, for ease in handling. Fixed frames over 40sf or 120” in length will be provided with glass separate, to be set after frame installation.

7. Prior to glazing fixed frames, inspect frame to ensure that screw heads are flush and there are no obstructions or debris in the glass pocket.

8. Close and latch all operable sash as applicable prior to commencing glazing.

9. Remove stops, noting location of each, as stops are cut for a snug fit for each frame.



Place top & bottom setting blocks at ¼ points, or no less than 4” from edge of glass. Place edge blocks as required to prevent shifting.

Place setting blocks as shown to square the glass with the sash

Fig. 3

10. Apply sealant to frame at setting blocks to prevent shifting. Secure glass by applying sealant to frame at glass corners prior to setting glass. Place setting blocks and set glass, centered in opening. (see Fig. 3)

11. Replace stops after setting glass, and test operation of sash. Adjust setting blocks if necessary to ensure smooth and uninhibited operation of sash.

Sliding Window Panels

12. Vent panels over 12SF or over 40” wide will typically ship separate from frame.

13. Set vent panel(s) into frame by lifting into head, and lowering onto sill. Using a Phillips screwdriver, lift panel while adjusting rollers downward to contact the sill track. Adjust panel to align with plumbed jamb and interlock.

14. Confirm operation and latching before snapping screen retainers into head, sill, and jambs.

Sealing Frame to Structure

15. Apply backer rod at gaps and caulk exterior jambs & head to self-adhesive membrane. Apply sealant heel bead at frame sill (interior) and turn up at jambs approximately 6". Apply minimally expanding foam at interior jambs and head to reduce drafts Clean & trim any excess sealant.

16. Water test assembly for leaks as soon as practical after installation, prior to placement of drywall, if applicable, to avoid damage in the event of water intrusion. Make corrections as necessary.

17. Exterior trim moulding (stucco J-mould, etc.) should be set in sealant and overlap window frame by 1/8"–1/4"