## Construction Details

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Introduction

Marvin Windows and Doors is an industry leader in providing high quality and energy efficient windows and doors. To obtain these results, Marvin windows and doors need to be properly installed and maintained. Failure to review and utilize these construction methods can result in poor product performance, premature failure and unnecessary call backs. It is the responsibility of the architect, builder, installer, and subcontractors to comply with code requirements for their area and to utilize the best method for attachments and fastener selections.

This chapter covers the water seal requirements of the window and door installation and provides visual detail in drawing format of our installation instructions.

The water seal method can be thought of as primary and secondary methods and systems;

- **Primary water seal**: window exterior seal to the exterior coating or finish of the building
- **Secondary water seal**: window seal to the wall weather resistive barrier so that any leakage within the wall is managed and controlled.
- **Window panning system**: drains the RO area to the wall resistive barrier
- **RO air area seal**: prevents RO pressurization and air movement through the RO
- **Wall thermal barrier**: provides continuity of the wall system by installation placed around the window in the RO gap. Marvin has two systems for this; (1) batten installation system and (2) spray foam
- **Vapor seal**: is the least important of the seal systems. The vapor barrier provides continuity across the RO with the wall vapor barrier.

Units must be shimmed in the opening, true, level, and square. Shim a minimum of 3/8" above sill plate to provide unit clearance over panning.

Contact your Marvin representative if you have questions or need further technical assistance at 1-800-346-3363.

**NOTE:** Details shown not typical and subject to change without notice. Always refer to your local code for proper construction and rough opening preparation.

**Important!** Details are shown with small spaces between items for clarity, visualization, and illustrative purposes. Actual assembly details may vary. Contact Marvin Architectural for project specific aids.

Step by step instructions with color illustrations on Marvin’s recommended rough opening preparation can be found at http://www.marvin.com/roprep/
Ultimate Direct Glaze Polygon - 2x6 Frame Wood Siding

Scale: 3" = 1"0"

Head Jamb and Sill

Jamb

Non-Continuous Plastic Sloped Shims
Use Plastic Shims to Level

Continuous Sealant Under Sloped Shim X 2

Continuous Sloped Shim

Backer Rod if Minimal Expansion Foam is Used

Sealant Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Accommodate for sill panning systems. Adjust rough opening height to allow for 1/2" (13) clearance at the head.
Ultimate Wood Direct Glaze Polygon - 2x6 Frame with Wood Siding

Scale: 3" = 1'0"

Accommodate for sill panning systems. Adjust rough opening height to allow for 3/8" (13) clearance at the head jamb.
Ultimate Direct Glaze Polygon - 2x4 Frame with Stucco

Scale: 3" = 1'0"

NOTE: Engineered water management stucco product. See stucco manufacture for specific details required by water management system.
Ultimate Wood Direct Glaze Polygon - 2x4 Frame with Stucco

Scale: 3" = 1'0"

Wall System WRB

Drainage Plane Gap
Self-Adhesive Flashing
Backer Rod
Rigid Head Flash
Continuous Sealant

Non-Continuous Plastic Sloped Shims
Use Plastic Shims to Level

Continuous Sealant X 4 (2 Under Sloped Shim)
Continuous Sloped Shim

Head Jamb & Sill

Accommodate for sill paning systems. Adjust rough opening height to allow for 1/2" (13) clearance at the head jamb.

Jamb

Sealant
Backer Rod
Loose Fill Fiberglass Insulation or Minimal Expansion Foam
Backer Rod if Minimal Expansion Foam is Used
Continuous Support

Frame Size
Rough Opening
1/2" (13)
1/2" (13)
Ultimate Direct Glaze Polygon - 2x4 Steel Stud with Brick Veneer

Scale: 3" = 1'0"

Wall System WRB
Drainage Plane
Self-Adhesive Flashing
Continuous Sealant X 3
Backer Rod
Rigid Head Flash

Non-Continuous Plastic Sloped Shims
Use Plastic Shims to Level
Continuous Sealant
Back Dam W/ Backer Rod if Over 5/8" (6)
Continuous Sloped Shim

Wall System WRB
Drainage Plane
Rain Skirt (Optional)
Self-Adhesive Flashing or Metal Panning
Backer Rod
Continuous Sealant
Sill Plate
Continuous Sealant Under Sloped Shim X 2

Frame Size
Rough Opening
1/2" (13)
1/4" (6)
Masonry Opening
1/4" (6)
Head Jamb and Sill

Sealant
Backer Rod
Loose Fill Fiberglass Insulation or Minimal Expansion Foam
Backer Rod if Minimal Expansion Foam is Used

Accommodate for sill panning systems. Adjust rough opening height to allow for 1/2" (13) clearance at the head.
Ultimate Wood Direct Glaze Polygon - 2x4 Steel Stud with Brick Veneer

Scale: 3" = 1'0"

- Wall System WRB
- Drainage Plane
- Self-Adhesive Flashing
- Backer Rod
- Rigid Head Flash
- Continuous Sealant

Non-Continuous Plastic Sloped Shims Use Plastic Shims to Level

Continuous Sealant X 4 (2 Under Sloped Shim) Continuous Sloped Shim

- Rain Skirt (Optional)
- Self-Adhesive Flashing or Metal Panning

Masonry Opening

Frame Size

Rough Opening

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Loose Fill Fiberglass Insulation

Continuous Support

Accommodate for sill panning systems. Adjust rough opening height to allow for 1/2" (13) clearance at the head jamb.

Head Jamb & Sill

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Ultimate Direct Glaze Polygon - Concrete Block with Brick Veneer

Scale: 3" = 1'0"

Accommodate for sill panning systems. Adjust rough opening height to allow for 1/4" (13) clearance at the head.

Head Jamb and Sill

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Ultimate Wood Direct Glaze Polygon - Concrete Block with Brick Veneer

Scale: 3" = 1'0"

Accommodate for sill panning systems. Adjust rough opening height to allow for 1/2" (13) clearance at the head jamb.

Use Plastic Shims to Level

Non-Continuous Plastic Sloped Shims

Continuous Sealant X 4
(2 Under Sloped Shim)

Continuous Sloped Shim

Wall System WRB

Drainage Plane

Self-Adhesive Flashing

Continuous Sealant

Backer Rod

Rigid Head Flash

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Continuous Support

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam is Used

Sealant

Backer Rod

Mixed Insulation

Continuous Sealant

Masonry Opening

Frame Size

Rough Opening

Head Jamb & Sill

Non-Continuous Plastic Sloped Shims

Use Plastic Shims to Level

Continuous Sealant X 4
(2 Under Sloped Shim)

Continuous Sloped Shim

Wall System WRB

Drainage Plane

Self-Adhesive Flashing or Metal Panning

Backer Rod

Rain Screen (Optional)

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Continuous Support

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam is Used

Sealant

Backer Rod

Mixed Insulation

Continuous Sealant

Masonry Opening

Frame Size

Rough Opening
Ultimate Direct Glaze Poly - Wood Siding Combination Wall Sheathing, WRB and Air Barrier

Scale: 3" = 1'0"

Note: In some wall systems, the proprietary seam tape can be used as an alternative to self-adhesive flashing.
Ultimate Direct Glaze Polygon - Foam Plastic Insulated Sheathing (FPIS) over WRB

Scale: 3" = 1'0"

- WRB Tape
- Wall System WRB
- 1" Extended Foam
- Drainage Plane
- Self-Adhesive Flashing
- Continuous Sealant X 3
- Backer Rod
- Rigid Head Flash

Non-Continuous Plastic Sloped Shims
Use Plastic Shims to Level
Continuous Sealant Under Sloped Shim X 2
Continuous Sloped Shim

Sealant Backer Rod
Loose Fill Fiberglass Insulation or Minimal Expansion Foam
Backer Rod if Minimal Expansion Foam is Used

Head Jamb and Sill

Accommodate for sill panning systems. Adjust rough opening height to allow for 1/2" (13) clearance at the head jamb.

Jamb
Ultimate Wood Direct Glaze Polygon - Foam Plastic Insulated (FPIS) under WRB

Scale: 3" = 1'0"

Note: The wall system WRB could be the outer surface of the foam if the edges and seams are sealed and taped.
Ultimate Inswing French Door - Frame with Steel Siding

Scale: 3" = 1'0"

Wall System
WRB
Drainage Plane
Self-Adhesive Flashing
Continuous Sealant
Backer Rod
Rigid Head Flash

Head Jamb and Sill

Loose Fill
Fiberglass Insulation
Minimal Expansion Foam
Backer Rod

Jamb

Loose Fill
Fiberglass Insulation
Minimal Expansion Foam
Backer Rod

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Structural Support Options

- **LVL Vertical Mullion**
- **3/8" Mullion reinforcement supplied and applied by Marvin**
- **Solid mullion blocking supplied and applied by Marvin**
- **3/8" Vertical Mullion**
- **Solid Wood blocking Vertical Mullion**
- **4" Space Vertical Mullion detail With 4 9/16" Jambs**
- **4" Stud Pocket mullion detail With 6 9/16" Jambs**

**NOTE:** For structural support options, please contact your Marvin representative.

- Continuous Sealant
- Loose Fill Fiberglass
- Insulation
- Backer Rod
- Adhesive Flash
Modern Casement - 2x6 Frame with Stucco

Scale: 3" = 1'0"

- Wall System WRB
- Drainage Plane Gap
- Self-Adhesive Flashing
- Continuous Sealant X 3
- Backer Rod
- Rigid Head Flash

- Use Plastic Shims to Level
- Rain Skirt (Optional)
- Continuous Sealant Under Sloped Shim X 2
- Continuous Sloped Shim

- Backer Rod
- Drainage Plane Gap
- Self-Adhesive Flashing or Metal Panning
- Wall System WRB

- Non-Continuous Plastic Sloped Shims
- Use Plastic Shims to Level
- Continuous Sealant
- Back Dam
- W/ Backer Rod if Over 1/4" (6)
- Household Sealant
- Backer Rod

- Self-Adhesive Flashing
- Continuous Sealant X 3
- Drainage Plane Gap
- Head Clip (Optional)
- Minimal Expansion Foam

- Head Jamb and Sill
- Sill Plate
- Nail Clip (Optional)
- Accommodate for sill panning systems. Adjust rough opening height to allow for 3/4" (19) clearance at the head jamb.

- Jamb
- Backer Rod
- Minimal Expansion Foam
- Sealant
- Backer Rod

- Furring Strips
- Drainage Plane Gap
- Self-Adhesive Flashing
- Backer Rod
- Continuous Sealant

- Rough Opening
- Frame Size
- 3/4" (19)
- 3/4" (19)
Modern Casement - 2x6 Frame with Wall Sheathing

Scale: 3" = 1'0"

- Wall System WRB
- Drainage Plane Gap
- Self-Adhesive Flashing
- Continuous Sealant X 3
- Backer Rod
- Rigid Head Flash

Head Jamb and Sill

- Non-Continuous Plastic Sloped Shims
- Use Plastic Shims to Level
- Continuous Sealant Back Dam
- W/ Backer Rod if Over 1/4" (6)

- Continuous Sealant Under Sloped Shim X 2
- Non-Continuous Plastic Sloped Shims
- Continuous Sealant X 3

Wall System WRB

Rain Skirt (Optional)

- Use Plastic Shims to Level
- Continuous Sealant
- Drainage Plane Gap
- Backer Rod

Head Clip (Optional)

- Minimal Expansion Foam
- Sealant
- Backer Rod

Accommodate for sill panning systems. Adjust rough opening height to allow for 3/4" (19) clearance at the head jamb.

- Backer Rod
- Minimal Expansion Foam
- Self-Adhesive Flashing or Metal Panning
- Wall System WRB

Rough Opening

- Drainage Plane Gap
- Sill Plate
- Continuous Sealant

Head Jamb

- Rigid Head Flash
- Self-Adhesive Flashing
- Wall System WRB

Drainage Plane Gap

- Backer Rod
- Continuous Sealant

Furring Strips

- Self-Adhesive Flashing
- Drainage Plane Gap
- Backer Rod

- Continuous Sealant

Jamb

- Minimal Expansion Foam
- Sealant
- Backer Rod

Sealant