## 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/](http://www.marvin.com/roprep/)
Ultimate Direct Glaze Polygon - 2x6 Frame Wood Siding

Scale: 3" = 1"0"

- Wall System WRB
- Drainage Plane
- Self-Adhesive Flashing
- Continuous Sealant
- 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
- Sill Plate
- Backer Rod
- Drainage Plane
- Rain Skirt (Optional)
- Self-Adhesive Flashing or Metal Panning
- Wall System WRB
- Sealing Back Dam W/ Backer Rod if Over ½" (6)
- Continuous Sealing W/ Backer Rod if Minimal Expansion Foam is Used
- Backer Rod if Minimal Expansion Foam is Used
- Loose Fill Fiberglass Insulation or Minimal Expansion Foam
- Backer Rod
- Backer Rod
- Loops Fill Fiberglass Insulation or Minimal Expansion Foam
- Backer Rod

Accommodate for sill panning systems. Adjust rough opening height to allow for ½" (13) clearance at the head jamb.

- Head Jamb and Sill
- Jamb
Ultimate Wood Direct Glaze Polygon - 2x6 Frame with Wood Siding

Scale: 3" = 1'0"

Rough Opening

Frame Size

1/2" (13)

Continuous Sealant Under Sloped Shim X 2

Continuous Sealed

Continuous Sealant

Sill Plate

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Self-Adhesive Flashing or Metal Panning

Non-Continuous Plastic Sloped Shims

Use Plastic Shims to Level

Drainage Plane

Wall System WRB

Backer Rod

Rigid Head Flash

Self-Adhesive Flashing

2x6 Frame with Wood Siding

Minimal Expansion Foam

Sealant

Backer Rod

Rain Skirt (Optional)

Self-Adhesive Flashing

Wall System WRB

Continuous Sealant

Continuous Sloped Shim

Continuous Sealant

Sealant

Backer Rod

Loose Fill Fiberglass Insulation

Backer Rod if Minimal Expansion Foam is Used

Sill Plate

Sealant

Backer Rod

Drainage Plane

Wall System WRB

Self-Adhesive Flashing

Sill Plate

Continuous Sealant

Continuous Sloped Shim

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Self-Adhesive Flashing

Wall System WRB

Continuous Sealant

Continuous Sloped Shim

Sealant

Backer Rod

Loose Fill Fiberglass Insulation

Backer Rod if Minimal Expansion Foam is Used

Self-Adhesive Flashing

Wall System WRB

Continuous Sealant

Continuous Sloped Shim

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Self-Adhesive Flashing

Wall System WRB

Continuous Sealant

Continuous Sloped Shim

Sealant
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
- Rain Skirt (Optional)
- Non-Continuous Plastic Sloped Shims
- Use Plastic Shims to Level
- Sill Plate
- Continuous Sealant Under Sloped Shim X 2
- Continuous Sloped Shim
- Backer Rod
- Drainage Plane Gap
- Furring Strips
- Self-Adhesive Flashing
- Backer Rod
- Continuous Sealant

- Sealant
- Backer Rod if Minimal Expansion Foam is Used
- Loose Fill Fiberglass Insulation or Minimal Expansion Foam
- Minimal Expansion Foam
- Backer Rod
- Frame Size
- Rough Opening

Head Jamb & Sill

Rough Opening

Jamb

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

Scale: 3" = 1'0"

- Use Plastic Shims to Level
- Rigid Head Flash
- Self-Adhesive Flashing or Metal Panning
- Loosely Fill Fiberglass Insulation or Minimal Expansion Foam
- Backer Rod if Minimal Expansion Foam is Used
- Continuous Sealant Under Sloped Shim X 2
- Backer Rod if Minimal Expansion Foam is Used
- Minimal Expansion Foam

Accommodate for sill panning systems. Adjust rough opening height to allow for ½" (13) clearance at the head jamb.

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

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

Sill Plate
- Continuous Sealant
- Drainage Plane
- Self-Adhesive Flashing or Metal Panning

Jamb
- Rough Opening
- Frame Size
- 1/2" (13)
- 1/4" (6)

Masonry Opening
- Backer Rod
- Backer Rod if Minimal Expansion Foam is Used

Loose Fill Fiberglass Insulation or Minimal Expansion Foam
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
Backer Rod
Rain Skirt (Optional)
Self-Adhesive Flashing or Metal Panning

Sill Plate
Continuous Sealant Under Sloped Shim X 2
Continuous Sloped Shim

Head Jamb & Sill

Accommodate for sill panning systems. Adjust rough opening height to allow for ½" (13) clearance at the head jamb.

Sealant
Backer Rod
Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Sealant
Backer Rod if Minimal Expansion Foam is Used

Sealant
Backer Rod
Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Sealant
Backer Rod
Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod
Minimal Expansion Foam

Rough Opening
1/2" (13)
Frame Size
1/2" (13)

1/4" (6)
Masonry Opening
Jamb

Continuous Sealant
Self-Adhesive Flashing
Backer Rod
Drainage Plane

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Ultimate Direct Glaze Polygon - Concrete Block with Brick Veneer

Scale: 3" = 1'0"

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

1/2" (13) Rough Opening

Frame Size

Head Jamb and Sill

- Backer Rod
- Backer Rod
- Loose Fill Fiberglass Insulation or Minimal Expansion Foam
- Sealant Backer Rod
- Sill Plate
- Continuous Sealant Under Sloped Shim X 2
- Continuous Sloped Shim
- Non-Continuous Plastic Sloped Shims
- Use Plastic Shims to Level

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

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Marvin Architectural Detail Manual
Ultimate Wood Direct Glaze Polygon - Concrete Block with Brick Veneer

Scale: 3" = 1'0"

Wall System WRB

Drainage Plane

Self-Adhesive Flashing

Backer Rod

Rigid Head Flash

Continuous Sealant

1/2"

(13)

Rough Opening

1/4"

(6)

Masonry Opening

Masonry Opening

1/2"

(13)

Frame Size

Rough Opening

1/2"

(13)

Frame Size

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

Head Jamb & Sill

Continuous Sealant Under Sloped Shim X 2

Continuous Sloped Shim

Non-Continuous Plastic Sloped Shims

Use Plastic Shims to Level

Wall System WRB

Backer Rod

Drainage Plane

Self-Adhesive Flashing or Metal Panning

Rain Skirt (Optional)

Sill Plate

Continuous Sealant

Sealant

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Backer Rod

Loose Fill Fiberglass Insulation

Minimal Expansion Foam

Continuous Sealant

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Backer Rod

Sealant

Loose Fill Fiberglass Insulation

Minimal Expansion Foam

Backer Rod

Sealant

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Backer Rod

Sill Plate

Continuous Sealant

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Backer Rod

Sealant

Loose Fill Fiberglass Insulation

Minimal Expansion Foam

Continuous Sealant

Sealant

Backer Rod

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used

Backer Rod

Sealant

Loose Fill Fiberglass Insulation

Minimal Expansion Foam

Backer Rod

Sealant

Loose Fill Fiberglass Insulation or Minimal Expansion Foam

Backer Rod if Minimal Expansion Foam is Used
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.

---

Head Jamb and Sill

Jamb
Ultimate Direct Glaze Polygon - Foam Plastic Insulated Sheathing (FPIS) over WRB

Scale: 3" = 1'0"

**Wall System**

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

**Head Jamb and Sill**

- **Sill Plate**
- **Continuous Sealant Under Sloped Shim X 2**
- **Continuous Sloped Shim**
- **Non-Continuous Plastic Sloped Shims**
- **Use Plastic Shims to Level**
- **Continuous Sealant Back Dam W/ Backer Rod if Over 3/4" (6)**

**Jamb**

- **1/2" (13)**
- **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 jamb.**

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Marvin Architectural Detail Manual
Ultimate Wood Direct Glaze Polygon - Foam Plastic Insulated (FPIS) under WRB

Scale: 3" = 1'0"

Wall System
WRB
Drainage
Plane
Self-Adhesive
Flashing
1/2" (13)
Backer
Rod
Rigid Head
Flash
Continuous
Sealant X3

Non-Continuous
Plastic Sloped Shims
Use Plastic
Shims to Level

Backer
Rod
Drainage
Plane
Rain Skirt
(Optional)
Self-Adhesive
Flashing or
Metal Panning
1/2" (13)
Continuous
Sealant Under
Sloped Shim X2
Continuous
Sloped Shim

Wall System
WRB
Continuous
Sealant
Drainage
Plane
Self-Adhesive
Flashing
Continuous
Sealant

1/2" (13)
Rough Opening
Frame Size

1/2" (13)
Rough Opening
Frame Size

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

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

Jamb
Sill Plate
Continuous Sealant Under Sloped Shim X2
Continuous Sloped Shim

Loose Fill Fiberglass Insulation
Minimal Expansion Foam

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

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

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Ultimate Wood Inswing French Door - 2x6 Frame with Steel Siding

Scale: 3" = 1'0"

Wall System
WRB

Drainage Plane

Self-Adhesive Flashing

Backer Rod

Continuous Sealant

Rigid Head Flash

Self-Adhesive Flashing

Backer Rod

Sealant

Wall System
WRB

Drainage Plane

Self-Adhesive Flashing

Backer Rod

Continuous Sealant

Rigid Head Flash

Self-Adhesive Flashing

Backer Rod

Sealant

Loose Fill Fiberglass Insulation

Minimal Expansion Foam

Minimal Expansion Foam

Backer Rod

Sealant

Loose Fill Fiberglass Insulation

Minimal Expansion Foam

Minimal Expansion Foam

Backer Rod

Sealant
Structural Support Options

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