

Modern Standard Mulling

ABSTRACT: These mulling instructions must be used in conjunction with the installation instructions sent with your door. Please read these instructions in their entirety before beginning to install your Marvin window or door product.

The English language version of this instruction is the official version and shall take precedence over any translation.

USAGE DATES: These instructions are relevant for doors manufactured 12/15/2020 to present and windows 12/15/2019 to present.

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Hazard Notations

 **WARNING!**

Always practice safety! Wear the appropriate eye, ear, and hand protection, especially when working with power tools.

 **WARNING!**

Do NOT lift or move without proper equipment.
Read, understand, and follow all lift equipment manufacturers’ instructions and safety information.

 **CAUTION!**

Wear gloves and protective clothing when handling the frame components. Some high-density fiberglass surfaces are not coated and can leave splinters in bare skin.

Casement and Direct Glaze Mulling

Units are prepped for mulling and include an attached mull pin to the right hand jamb of the left side unit (A1 as seen from the exterior). Subsequent units at the middle of the mull will have the mull pin fastened to the right hand jamb at the factory. Units prepped for mulling will also have the shim spacers attached at the fastener locations, and nailing fin where applicable. See Figure 1.

IMPORTANT

A level and flat sill is crucial when installing and mulling units in the opening. The sill should be within 1/16" flat and level to achieve a successful mull and installation.

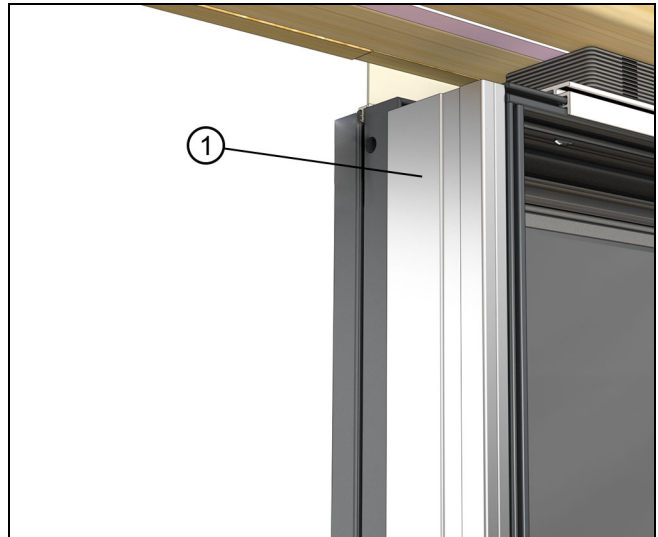


Figure 1 A1 units prepped for field mull (viewed from interior)

1	Mull pin (fastened from the inside of A1 unit)
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Prep for Mulling

NOTE: If you are mulling an assembly in place set the first window (A1) in the opening and fasten the jamb, sill, and head jamb. See Figure 2. The illustrations that follow in this section show a 3-wide unit with two vertical mulls, mulled in the opening. If you are mulling the assembly before installation follow step 1 on page 2 through step 6 on page 5.

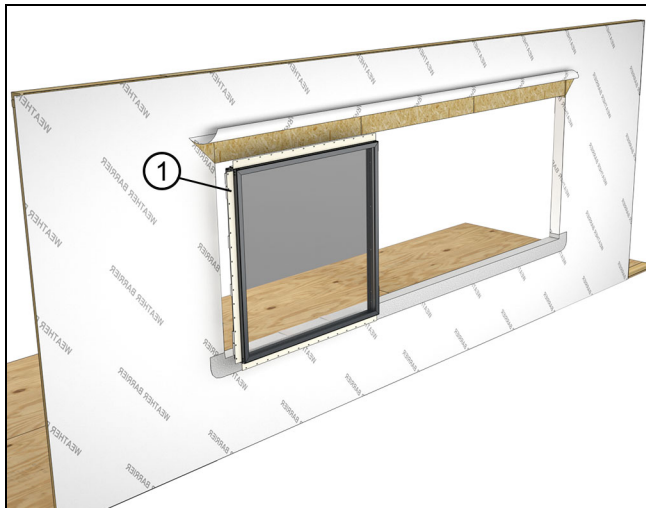


Figure 2 Install the first window (A1)

1	A1 (in mull configurations)
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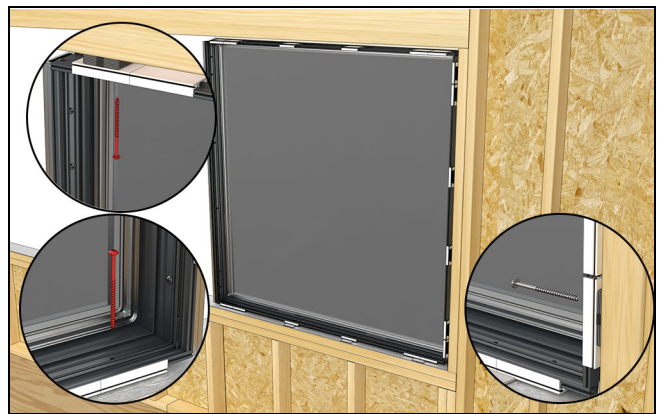


Figure 3

1. Apply a continuous 1/4" (6) bead of sealant along the length of the frame. See Figure 4.

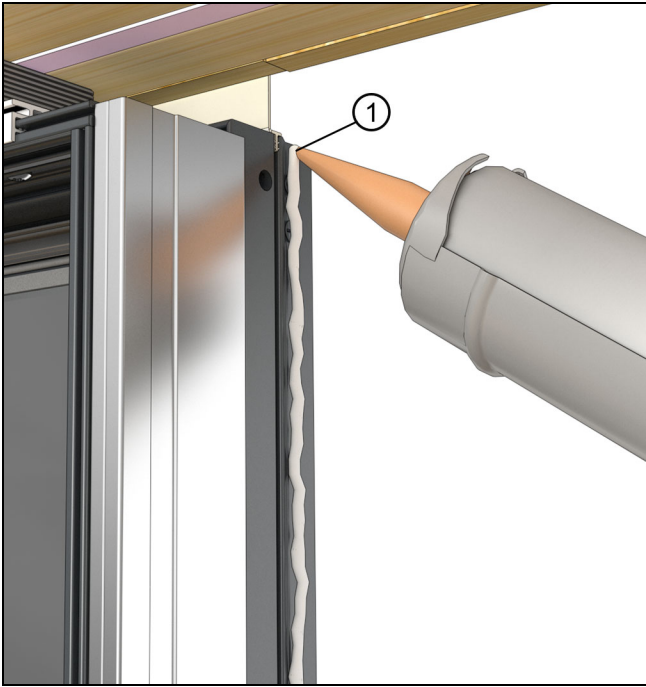


Figure 4

1	Apply sealant full length.
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Join the Assembly

IMPORTANT

Make sure the sill is level and flat before installing and mulling assemblies.

1. Set the next unit close to the A1 unit. Clamp the two units together making sure the windows are flush to one another on all planes (interior/exterior and top and bottom). See Figure 5 and Figure 6.

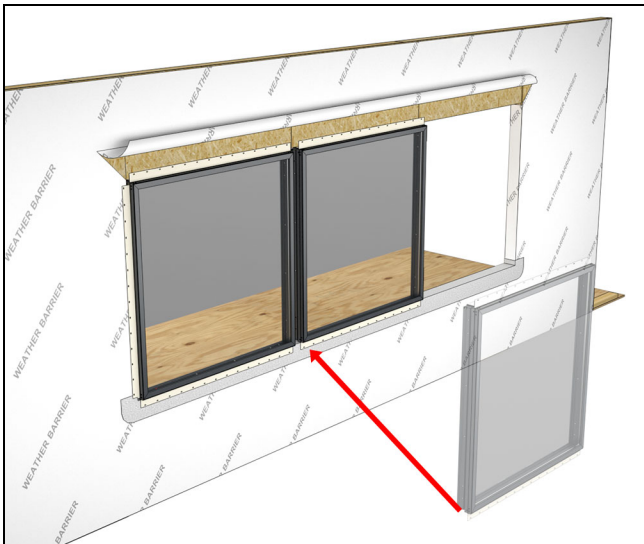


Figure 5

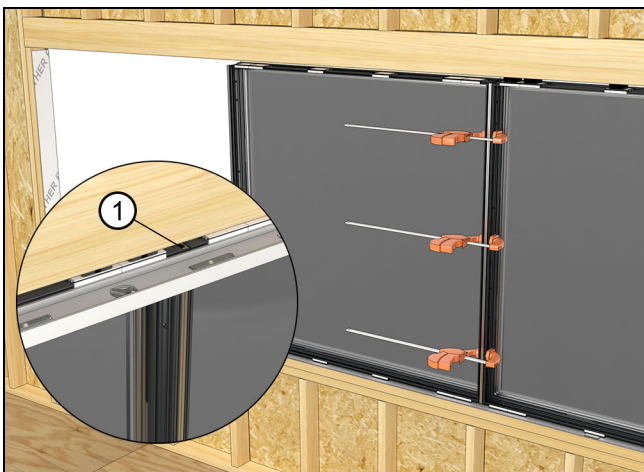


Figure 6

1	Flush the frames to one another.
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2. Fasten at each pre-drilled hole location with the #8 x 7/16" Phillips head self drilling screws provided. See Figure 7.

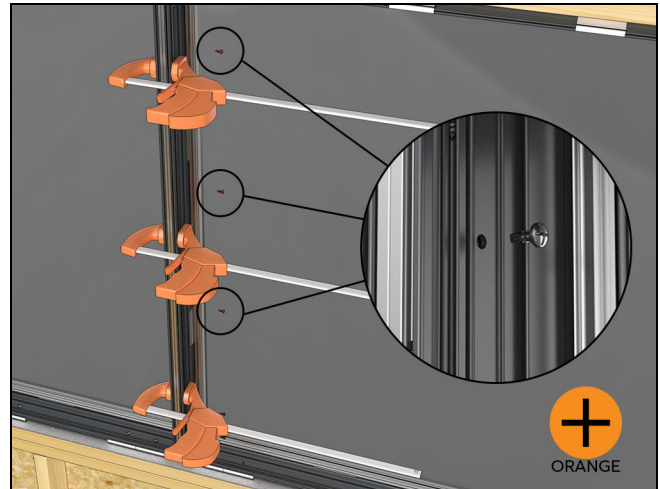


Figure 7

3. Apply the exterior covers. These can be seated with a rubber mallet. Make sure the covers are flush to the exterior accessory kerf. See Figure 8.

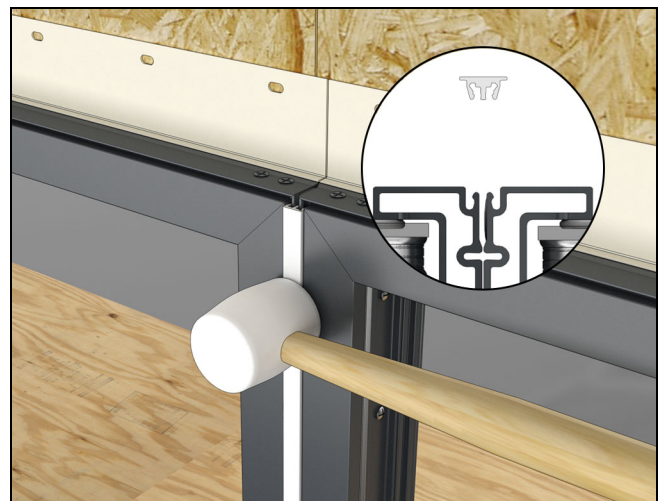


Figure 8

4. Fasten at the head jamb and sill with #10 x3" installation screws. Make sure the frame is plumb to the interior/exterior. See [Figure 9](#) and [Figure 10](#).



Figure 9

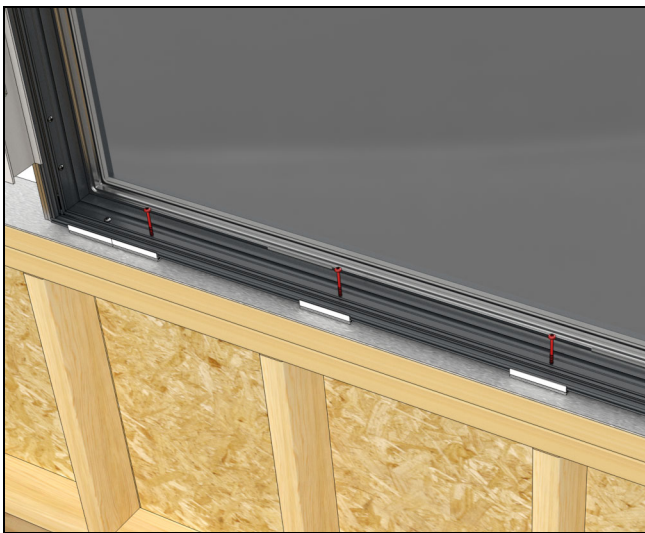


Figure 10

5. Apply the interior aluminum covers. These are barbed on and can be seated with a rubber mallet. Make sure the covers are flush to the interior accessory kerf. See [Figure 11](#).

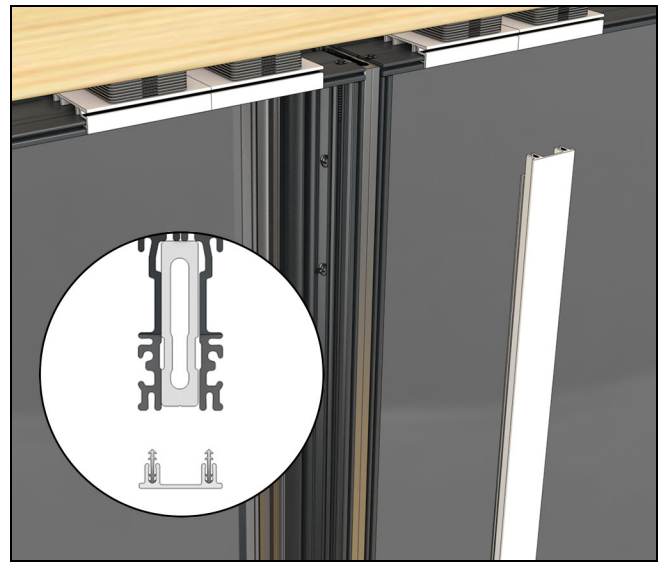


Figure 11

IMPORTANT

Apply the mull caps between each window in multiple assemblies before joining the next window.

6. Repeat the previous steps until the entire assembly is complete. See [Figure 12](#).



Figure 12

Horizontal Mulls

Use the techniques outlined in the previous sections to apply a horizontal mull. Install the lower units first. They will have the mull pin attached. Then set the top unit above, being careful not to disturb the sealant bead until you have the assembly aligned correctly. See [Figure 13](#).

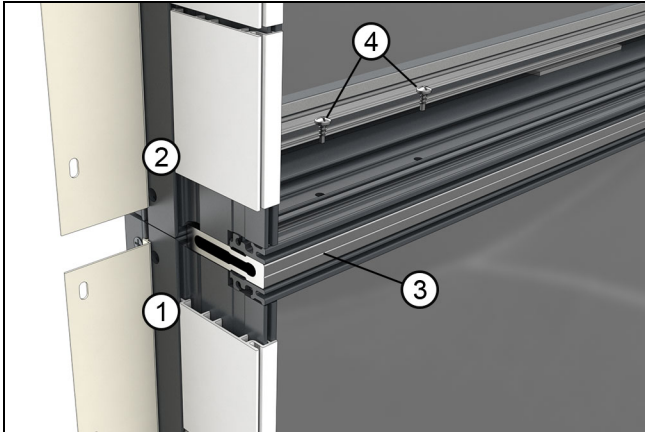


Figure 13 Horizontal mull (framing not shown for illustrative purpose)

1	B1 unit
2	A1 unit
3	Mull pin
4	#8 x 7/16" Torx T20 self drilling screws

Multiple High / Multiple Wide Assemblies

On multiple high/multiple wide assemblies a continuous mull pin must be applied to the mull direction with the shortest span. The non-continuous mull pins will be factory installed. Use the techniques outlined in the previous sections to mull the units with factory applied mull pins first. See [Figure 14](#).

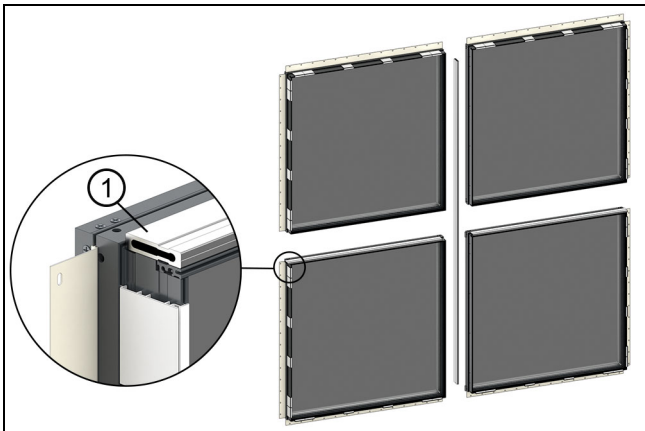


Figure 14 Multiple high and wide assemblies

1	Mull pin factory applied.
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Swinging Door Mulling

Using a smartphone or similar device, scan the QR code or click [here](#) to play a video of this procedure.



When a Direct Glaze, Casement, or Awning is the center mull unit, the aluminum mull pin will be factory applied to both sides of the window. See Figure 15.

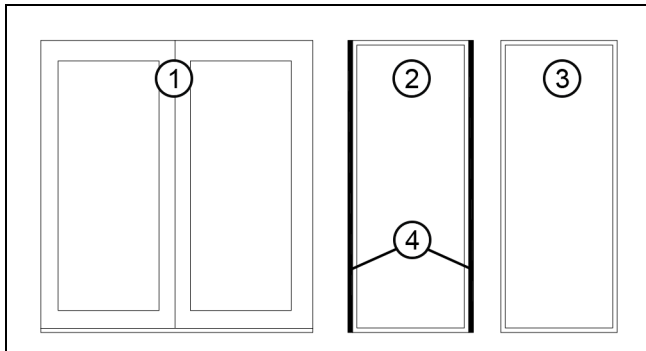


Figure 15 Door/window/window configuration with the mull pins attached to center window

1	Swinging Door
2	Direct Glaze or Casement/Awning
3	Other door or window
4	Mull pins attached to both sides

When a Swinging Door is the center mull unit, the aluminum mull pin(s) will be factory applied to the side of the window(s). See Figure 16.

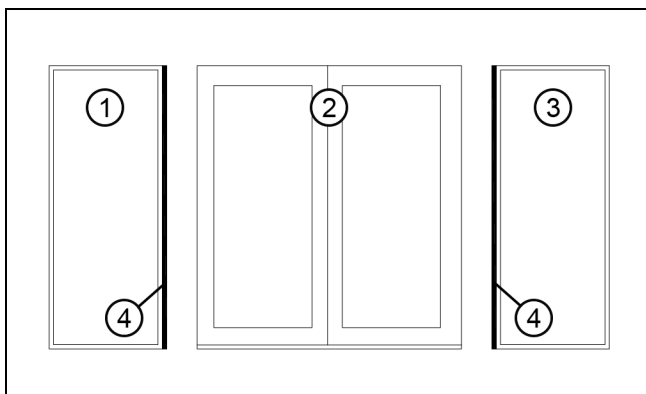


Figure 16 Window/door/window configuration with the mull pins attached to the sides of the window closest to the door.

1	Direct Glaze or Casement/Awning
2	Swinging door
3	Direct Glaze or Casement/Awning
4	Mull pins

On door to door mull configurations, mull pins are shipped loose. See Figure 17.

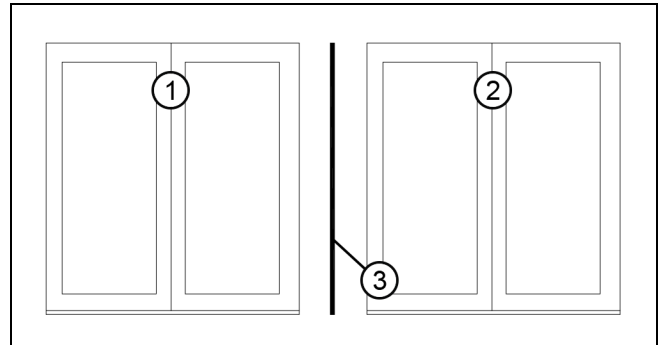


Figure 17 Door to Door configuration

1	Swinging Door
2	Swinging Door
3	Mull pin (loose)

Preparing Swinging Doors for Mulling

1. If not done from the factory, remove all shim blocks and nail fin on the side of frames that will be mulled.



Figure 18

2. If you are mulling to the **Inswing hinge side**, remove the two fasteners that attach the backer to the jamb and the six fasteners that attach the hinge to the backer. [See Figure 19.](#)

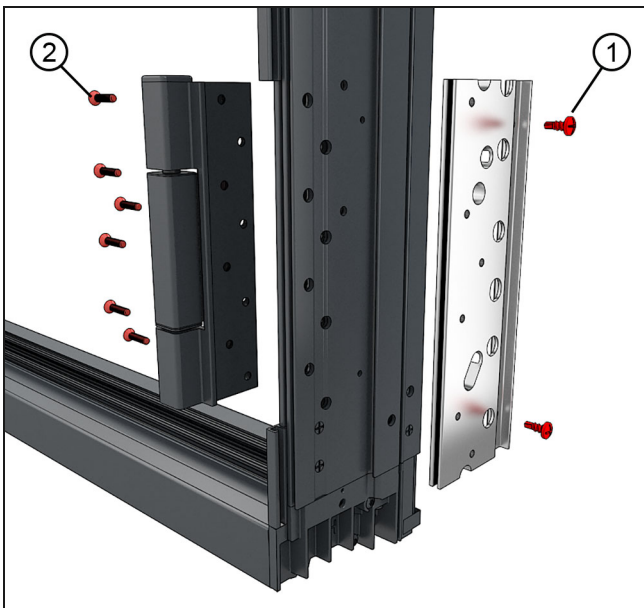


Figure 19

1	Remove screws that attach the backer
2	Remove screws that attach the hinge

3. Start with a flat and level opening. [See Figure 20.](#)

4. Establish an exterior plane along the sill. Use a laser level or snap-line. This will be helpful for larger multiple wide assemblies. [See Figure 20.](#)

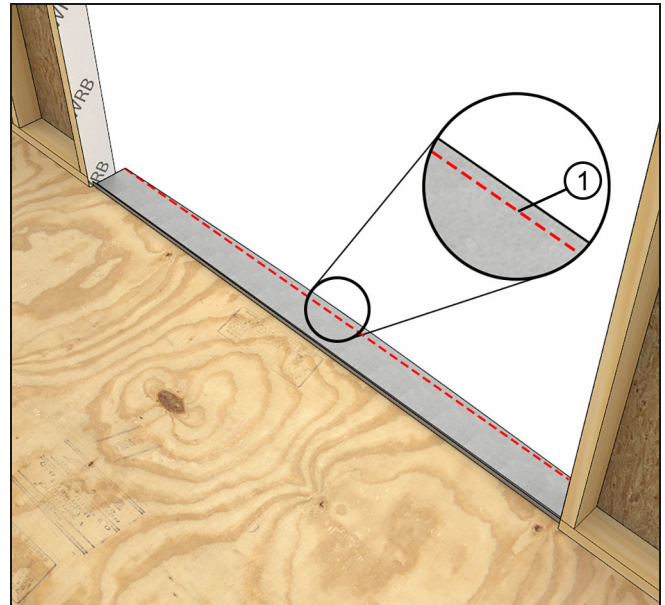


Figure 20

Vertical Mulling Assembly-Swinging Door to Window

IMPORTANT

As seen from the exterior, you will install the assembly in the opening in a left to right fashion unless stated otherwise.

1. For configurations where the first unit you install in an opening is a door, measure 5 3/16" away from the rough opening and install the sill support 3 5/16" from the exterior sheathing line. See Figure 21.

IMPORTANT

5 3/16" measurement is based on a 3/4" rough opening gap. Adjust this measurement accordingly if you are using less than 3/4".

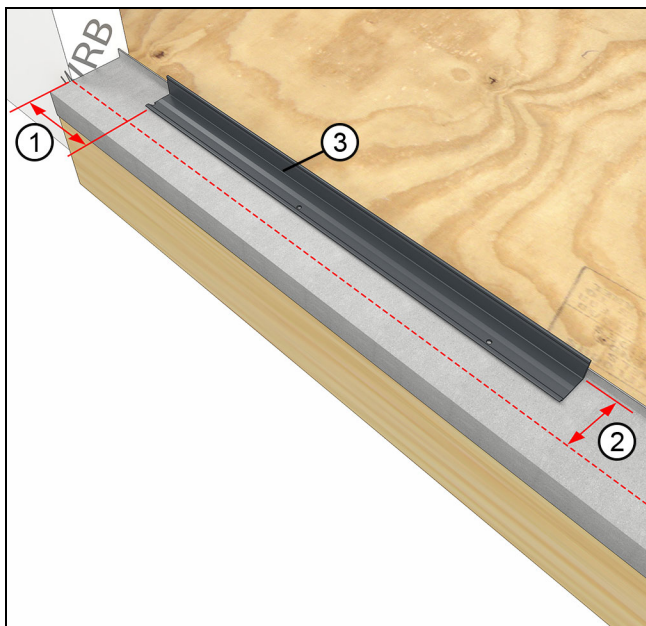


Figure 21

1	5 3/16" (132)
2	3 5/16" (84)
3	Sill support

2. Position the first unit in the opening. Shim and plumb the first jamb on the desired vertical plane, then fasten and shim along the jamb with screws into the rough opening. See Figure 22.



Figure 22 Hinge jamb shown

1	Shim
2	# 10x 3" flat head screw (through hinge)

3. Apply foam blocks at the top and bottom of the jamb exterior, then apply 995 sealant to the first unit along the jamb. See Figure 23.

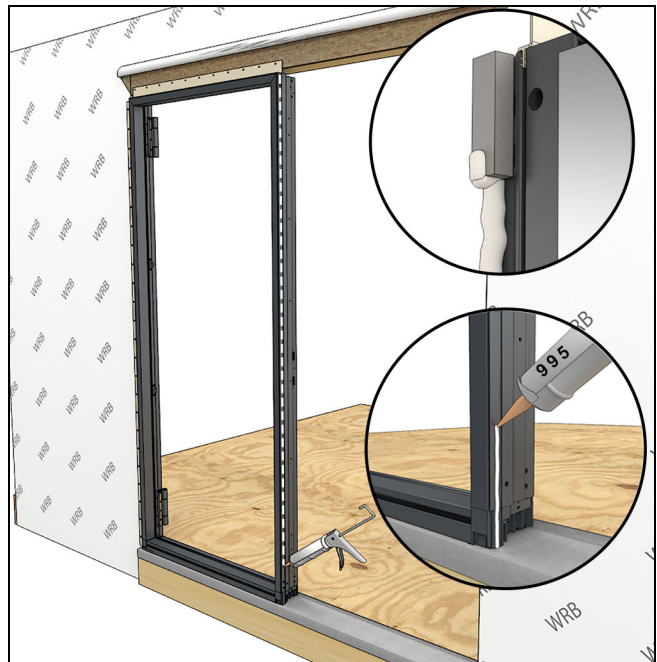


Figure 23

4. Slide the second frame into the first and if possible, clamp both side to side and in/out to flush the frames. See Figure 24.

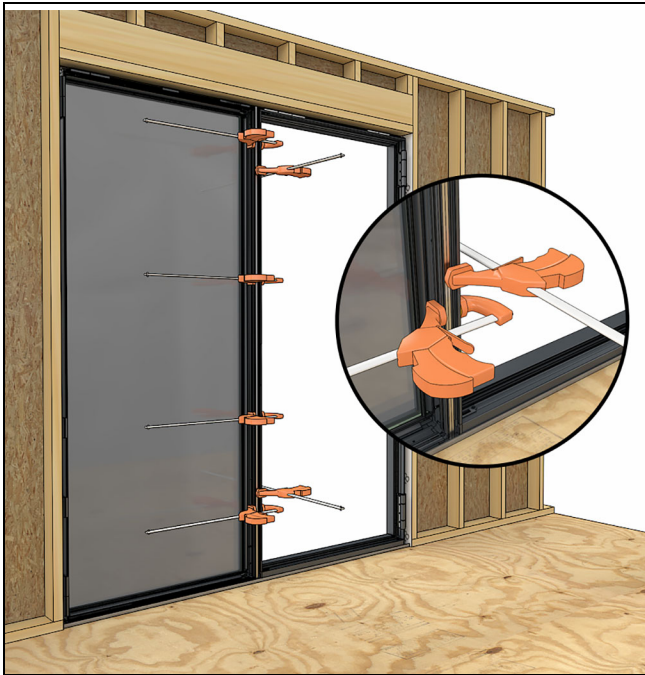


Figure 24

5. Fasten at the installation hole locations using the #8 x 7/16" self drilling fasteners. See Figure 25.

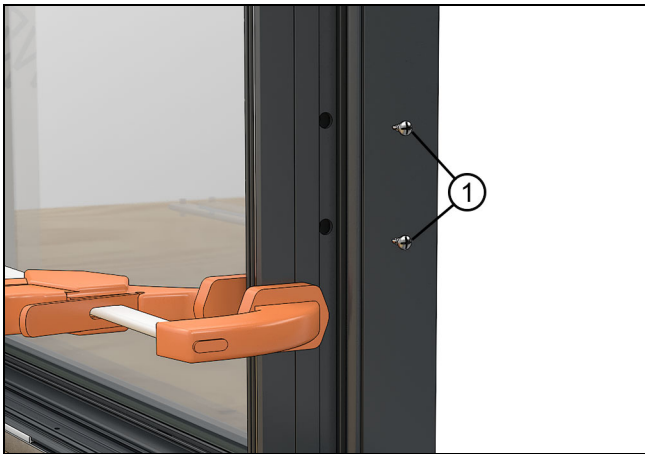


Figure 25

1	#8 x 7/16" self drilling fasteners
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6. Install the exterior mull cap. Seat in place with a rubber mallet. Figure 26



If you are mulling doors with saddle sills, trim the exterior mull cap by 1/2".



Figure 26

7. Repeat steps until the assembly is complete.

8. Making sure all the frames are aligned along the correct exterior plane, fasten the head jambs with #10 x 3" T20 Torx pan head installation screws. See Figure 27.



Figure 27

9. Complete fastening around the perimeter at the remaining installation holes. Maintain a square and plumb installation and shim at every fastener location between the frame and the rough opening. See Figure 28.



Figure 28

10. Using the hardware holes in the frame as a guide, drill holes into the aluminum mullin pin. Start with a #2 centering bit first and then follow up with the recommended drill bit. See Figure 29. See the table below for the correct drill bit and location details.

Usage	Fastener	Drill Size	Drill Depth
Installation Holes	#8 x 7/16" self drilling screws	NA	NA
Strike holes and panel alignment bolts	Color matched #8 x 7/8" trilobular screws	#29 (.136") Suggested 9/64" (.140) is acceptable	3/4"
Hinge holes and stationary brackets	#10 x 7/8" color matched trilobular screws.	#21 (.159") Suggested 11/64" (.171) is acceptable	3/4"

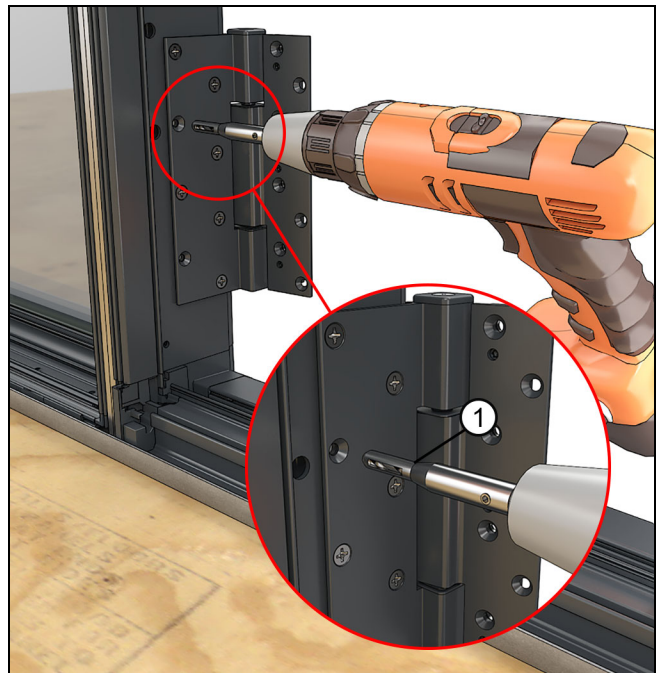


Figure 29

1	#2 centering bit
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Figure 30 Use a tape flag to drill to the correct depth.

11. Install the appropriate trilobular fasteners to attach through the hardware and frame into the mullin pin (attached to the unit next to it). See Figure 31 through Figure 35. See the table from step 10 on page 11 for appropriate fasteners and locations.



Tip

Adjust the clutch on your drill to avoid stripping out fasteners.

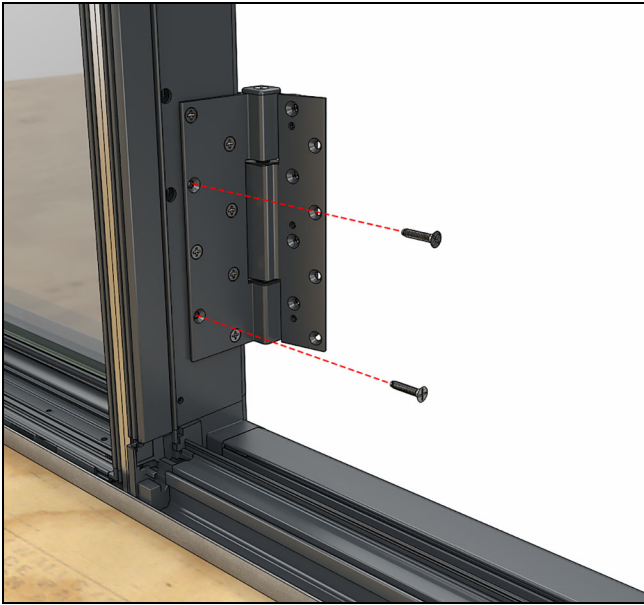


Figure 31 Outswing hinges shown.

1	#10 x 7/8" trilobular screw
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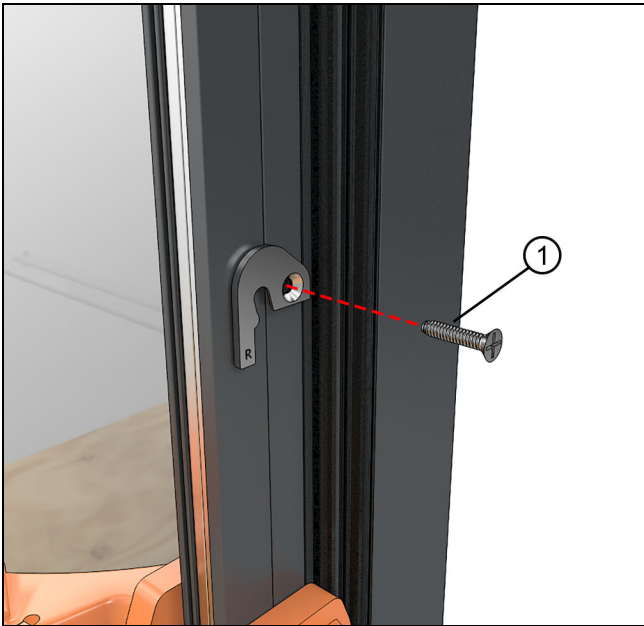


Figure 32 Inswing stationary brackets.

1	#10x 7/8" trilobular screw
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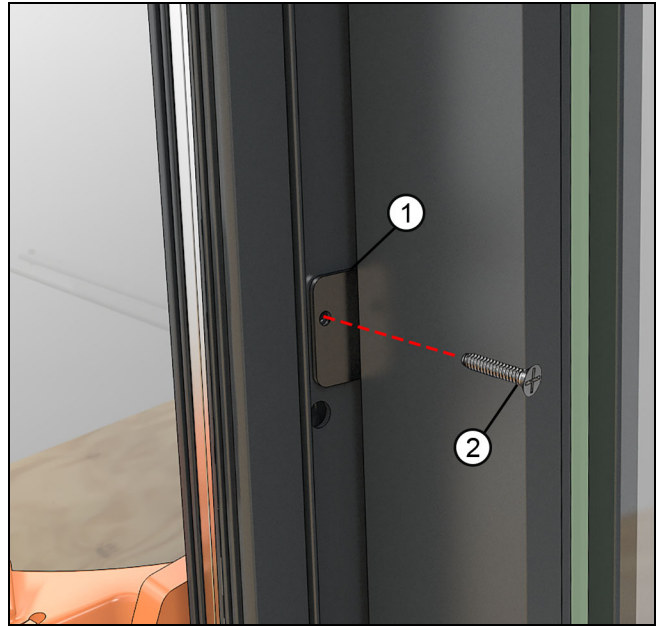


Figure 33 Outswing stationary brackets

1	Outswing stationary bracket
2	#10x 7/8" trilobular screw

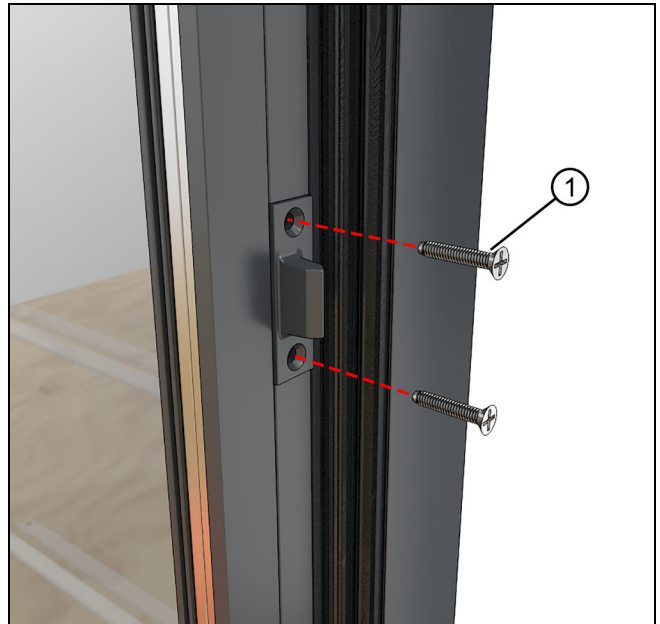


Figure 34 Fasten panel alignment bolts.

1	Panel alignment bolt holes: #8 x 7/8" trilobular screws
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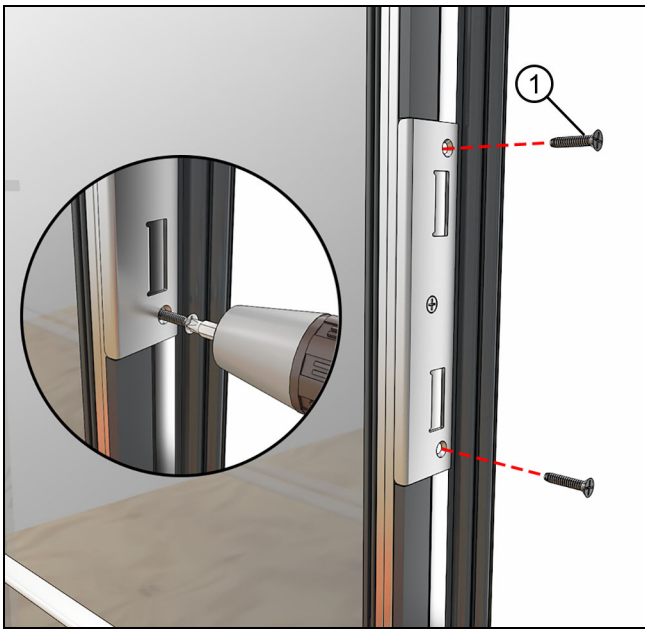


Figure 35 Fasten strikes

1	#8 x 7/8" trilobular screws
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12. Fasten strikes, panel alignment bolts, hinges, and stationary brackets to the rough opening. Shim at all fastener locations between the frame and the rough opening. See [Figure 36](#), [Figure 37](#) and [Figure 38](#).



Figure 36 Inswing Hinges shown

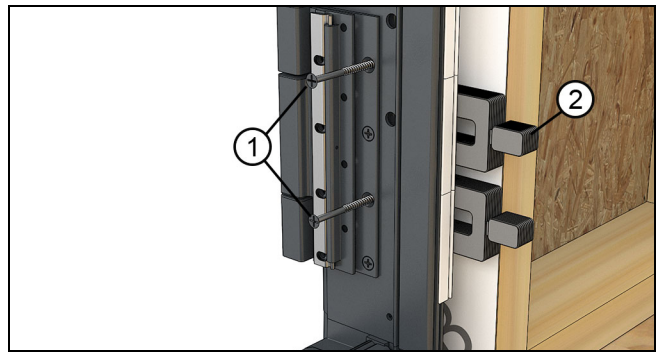


Figure 37 Outswing

1	#10 x 3" 2/3 thread Phillips flat head screws
2	Shims

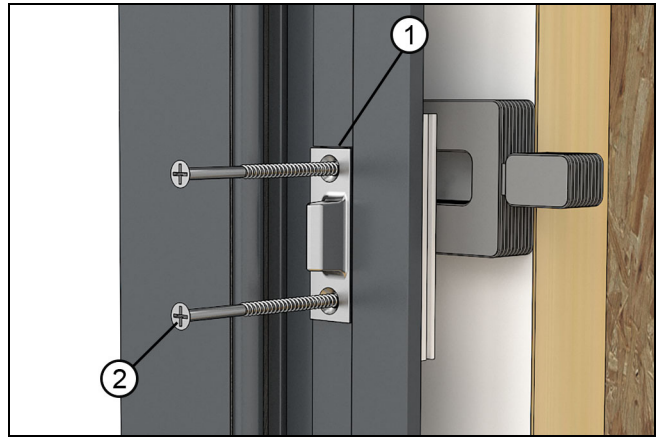


Figure 38

1	Panel alignment bolt
2	#8 x 3" 2/3 thread Phillips flat head

13. Install the interior mull cap at any time after assembly is complete. Seat in place with a rubber mallet. See [Figure 39](#).



Figure 39

Door to Door

1. Install the first door, following the steps outlined in the previous section, [Vertical Mulling Assembly-Swinging Door to Window](#) on page 9.

2. Install the mull pin on the second door about 5/16" below the top of the door frame. Clamp the aluminum mull pin to the side of the door. [See Figure 41.](#)



Figure 40

1	Horseshoe shim
2	#10 x 3" T20 Torx pan head screw

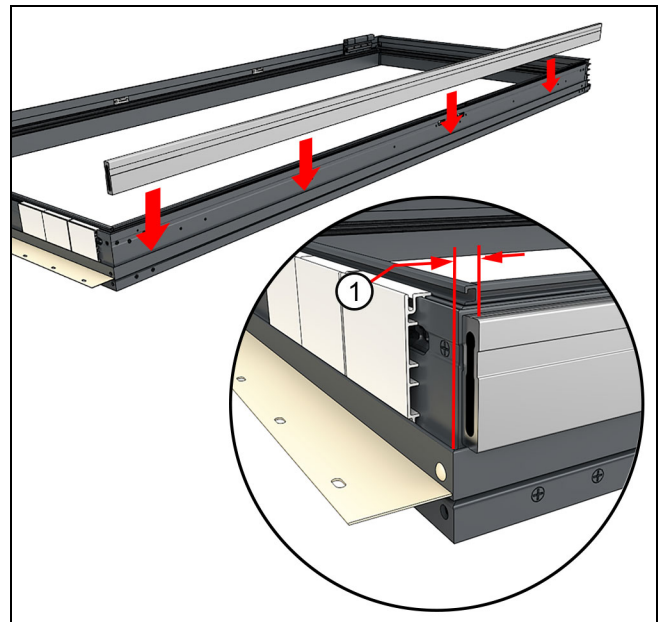


Figure 41 show frame laying down.

1	5/16" (3)
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3. Fasten the mull pin to the door using the installation holes. Fasten with #8 x 7/16" self drilling screws. [See Figure 42.](#)

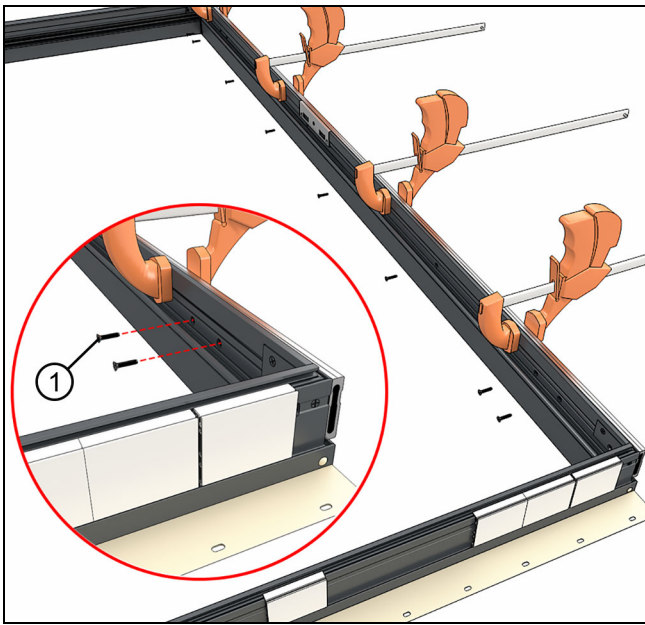


Figure 42

1	#8 x 7/16" self drilling screws
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4. With the first door installed, measure 4 7/16" (113) from the jamb of the first door. Make a mark and install the second sill support at this location, 3 5/16" (84) from the exterior sheathing line. See Figure 43.

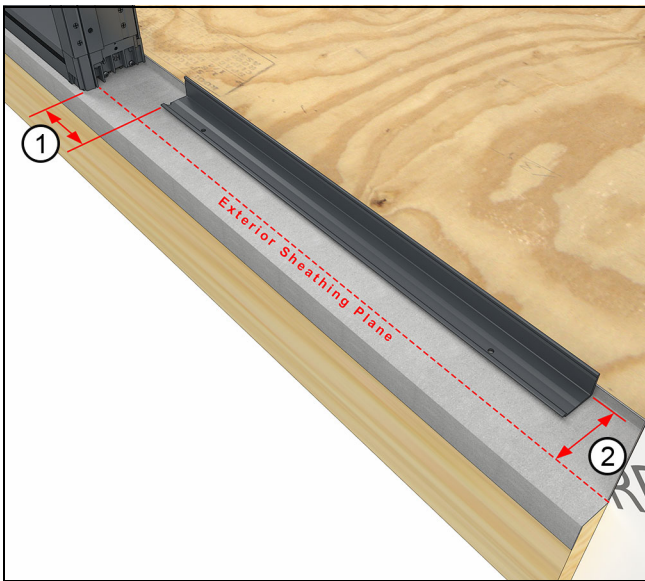


Figure 43

1	4 7/16" (113)
2	3 5/16" (84)

5. Install consecutive frames following procedures in the Inswing vertical mulling procedures. See Figure 44.



Figure 44

Inswing Horizontal Mulling

NOTE: The mull pin will always be attached to the direct glaze or awning window on horizontal mulls.

1. Use the techniques outlined in the previous sections to apply a horizontal mull. Install the lower units first. Then set the top unit above, being careful not to disturb the sealant bead until you have the assembly aligned correctly. See [Figure 45](#).



Figure 45



Figure 46

Final Steps

Refer to the installation instructions sent with your window or door for other details and integrating your assembly into the wall.

Technical Specifications

The following details are specified for proper installation of the unit to meet the advertised performance grade (PG) rating.

- Rough Opening Width: 1/4"-1 1/2" (6-38) wider than unit frame outside measurement.
- Rough Opening Height: 1/4"-1 1/2" (6-38) taller than unit frame outside measurement.
- Masonry Opening Width: 1/4"-1/2" (6-13) wider than unit frame outside measurement.
- Masonry Opening Height: 1/8"-1/4" (3-6) taller than unit frame outside measurement.

ATTENTION

Architectural Detail Manual Specifications:

Rough Opening: Width up to 1 1/2"(38); Height up to 3/4" (19)

Masonry Opening: Width 1/4"

- The panning must drain water to the exterior of the cladding OR the exterior surface of a concealed weather resistive barrier.

! CAUTION!

Be aware that the use of sill pans and other barriers will decrease the rough opening height clearance. Adjust opening dimensions accordingly.

- The panning system used in these instructions is one component in a structure's overall water management system. It should be used in conjunction with an appropriate drainage plane compatible with the exterior wall cladding.
- Flashing materials must comply with ASTM E2112, and be compatible with all materials used in installation including panning systems, air barriers and building papers, sheathing, and the window unit.
- Properly flash and/or seal all windows at the exterior perimeter.

IMPORTANT

Flashing material must not contain asphalt and must be compatible with flexible PVC (vinyl) if nailing fin is used as a backing material.

IMPORTANT

Sealants used for installation must be Grade NS Class 25 per ASTM C920 and compatible with the building exterior, window or door exterior surface, and flashing/water management materials.

- Optional foams used for installation must be low expansion only. Foam and foam application must comply with ASTM E2112.
- Shims are required at every fastener location.
- Do not use chemically treated products for shim material.
- Fasteners penetrating chemically treated lumber must be a minimum of 0.90 oz/ft² zinc hot dipped galvanized or stainless steel type 304 or 316.
- The frame must not come into direct contact with chemically treated wood products.