



Wood Patio Door Installation

LINCOLN WOOD PRODUCTS, INC.

These installation instructions are to be used when installing Wood Sliding and Swing Patio Doors.

These installation instructions provide the minimum recommended procedures to correctly prepare the rough opening, install a wood exterior door unit and apply flashing within a new residential or light commercial structure that will have the weather resistant barrier applied before the door is installed. Local climate may dictate additional flashing at the discretion of the installer.

Proper installation and maintenance of Lincoln windows is essential to proper door performance. **Failure to follow these installation and flashing guidelines may void Lincoln's Limited Warranty.** Lincoln recommends installation of its product by experienced contractor personnel. If you have questions regarding door installation, contact your Lincoln dealer, an experienced contractor or contact Lincoln at (800) 967-2461.

Preparing the Rough Opening (R.O.)

Clearance: Lincoln Wood Products Inc. published rough openings allow for a 1/4" of clearance on all sides of the unit for insulation purposes. Doors must be set on level sills. If sills are not level the use of rot proof shims to level sills are recommended. Sills that sag or hump up will affect the operation and performance of your Lincoln doors. It is the installer's responsibility to insure that doors are installed plumb, level, and square.

NOTE: Unit must be installed square, plumb and level or warranty may be void.

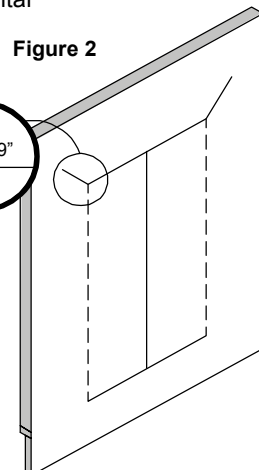
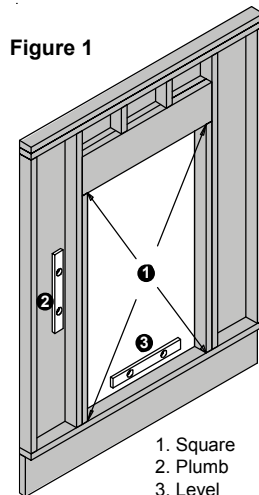
Measuring for square: Take measurements from bottom left corner to top right corner and bottom right corner to top left corner and compare. If measurements are equal the R.O. is square. If measurements are not equal, R.O. is out of square and it is then the responsibility of the installer to remedy this problem prior to installation (fig.1).

Checking for Plumb: Place a level on both sides of the R.O. making sure the vertical measurement of each side is true. If R.O. is not plumb, it is then the responsibility of the installer to remedy this problem prior to installation (fig.1).

Checking Level: Place a level on the sill of the R.O. making sure the horizontal measurement on the sill is level. If opening is not level, the use of rot proof shims may be used to level the sill. Be sure to support the entire sill to prevent the sill from sagging (fig.1).

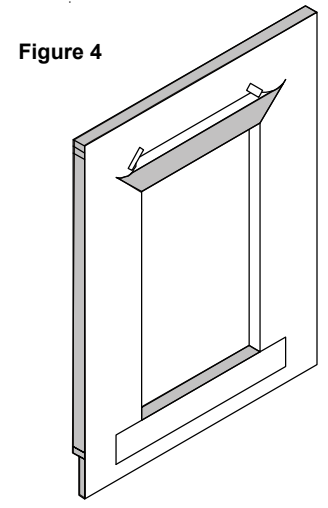
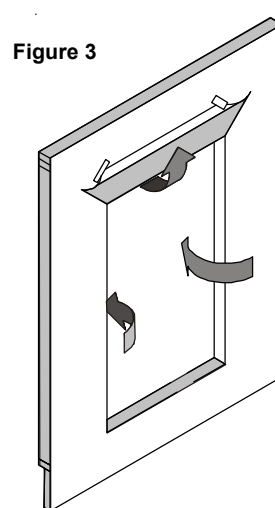
Preparing the Weather Resistant Barrier

Draw an "I-Cut" with a marker on the weather resistant barrier. Start from the top left of the R.O. and continue to the top right of the R.O. making sure mark is flush with rough opening. Repeat



process on the sill of the rough opening. From the middle of the top of the R.O. drop a line vertically so that it intersects with the sill R.O. (fig.2).

Using a utility knife, cut the lines in the weather resistant barrier starting with the head and working your way down to create the "I-Cut". Fold the side flaps over and into the interior side of the rough opening. Using staples every 12" to 16" fasten the flaps to the interior and trim excess (fig.3).



Per ASTM standards Lincoln Wood Products Inc. recommends a minimum of 9" wide flexible flashing. For that reason measure 9" up and 9" over from the top left corner of your rough opening and mark. Repeat on top right corner. A scrap piece of flashing 9" x 9" may be used to simplify this step. Once marked cut the weather barrier diagonally from the top corners of the rough opening to the mark made previously (fig.2). Fold weather barrier up and tape or tack temporarily out of way (fig.3).

Sill Flashing: Flashing can be flexible or adhesive back flexible. All flashing must be at least 9" wide & meet (ASTM D-779; water resistance of at least 24+ hours).

Cut sill flashing length 9" beyond each side of the R.O. (R.O. + 18") Apply sill flashing level with top edge of R.O. allowing 9" of flashing to extend to each side of R.O. (fig.4). In some installations, this step will not be possible i.e. doors on concrete slabs or at grade.

If using non-adhesive flashing, fasten the top and sides of the sill flashing with staples located 12" to 16" apart.

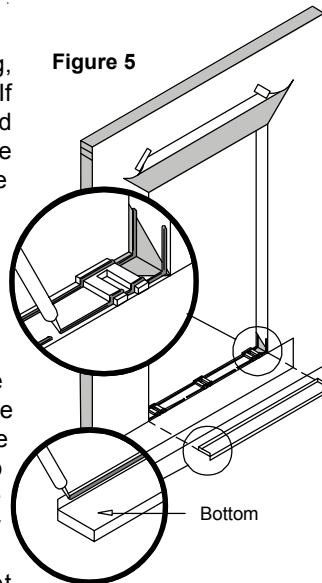
Sill Pan Flashing Installation

Lincoln Wood Products, Inc. requires the use of sill pan flashing under all Lincoln door products. The sill pan flashing should be used in conjunction with flexible flashing per Lincoln's instructions. Failure to comply with these recommendations may void Lincoln's Limited Warranty.

The sill pan flashing is to be the exact size of the sill R.O. with an up turned leg height of 1" on the sides and back of the sill pan. The intersection between the sides and back of the up turned leg must be sealed in a watertight fashion. The front edge of the sill pan should be down turned to seat against the framing material. In some installations, a down turned leg on sill pan will not be necessary.

Before installing sill pan flashing, determine if sill condition is level. If sill is not level, shims are required to level sill. Be sure to support the entire sill and not allow it to sag. The installer is responsible to install the door level. Rot proof shims are recommended for under sill applications.

Apply two continuous beads of sealant to the rough sill. One on the interior edge the second on the exterior edge. Both are to continue 6" up the R.O. on each side jamb (fig.5). If a shim is necessary place a shim into sealant and apply sealant over the top of the shim. This will insure water will not penetrate under or over the shim (fig.5).

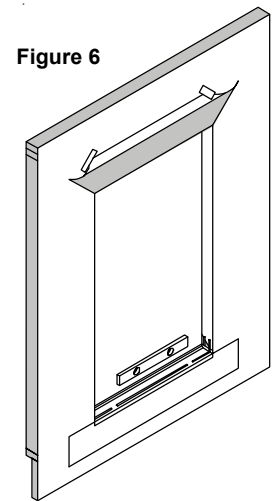


Pre-drill the sill pan at a maximum of 16" between fasteners before it is set into position, and apply a bead of sealant to the back side of the down-turned leg on the front edge of the sill pan to insure a water tight seal to framing material (fig.5).

Place sill pan into position, compressing it down into sealant and over any flexible flashing materials (fig.6).

Check sill pan for level before final installation. Apply sealant to the pre-drilled holes, attach fasteners, and apply sealant over the fastener heads (fig.6).

Place a bead of sealant on the interior side of the upturned leg on the inside edge of the sill pan. This will seal the inside edge of the doorsill to the sill pan and not allow any water or air to penetrate to the interior. A second bead of sealant is to be applied in a discontinuous bead on the exterior edge of the sill pan. Allow gaps of 1" to 2" in the sealant every 15" to 18". Continue both beads up the sill pan end cap to insure sealing between the sill pan and side jamb.



Lincoln Wood Patio Doors may be ordered with or without the exterior casing applied.

If you need to apply the casing in the field, proceed to page 3. If this unit has the exterior casing factory applied, proceed to page 4 for the rest of the instructions.

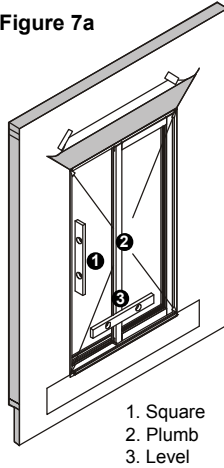
PATIO DOOR INSTALLATION: FIELD APPLIED CASING

Before installation check door to make sure unit is complete and without defects. If there are any problems with your door contact your Lincoln dealer.

Installation: Set door into sill pan and center it in the R.O. Apply shims as required and check that door is level, plumb, and square (fig7a).

Fasten one of the upper corners on the side jamb. Check that door is level, plumb, and square. Apply additional shims as needed and continue to attach door into the R.O., continually checking unit for level, plumb, and square. Lincoln Wood Products Inc. recommends the use of fasteners that penetrate door framing a minimum of 1". Stainless or galvanized nails or screws may be used. However, Lincoln Wood Products Inc. does not recommend the use of pneumatic nail guns and will not be responsible for any damaged caused by the use of these nail guns.

Figure 7a



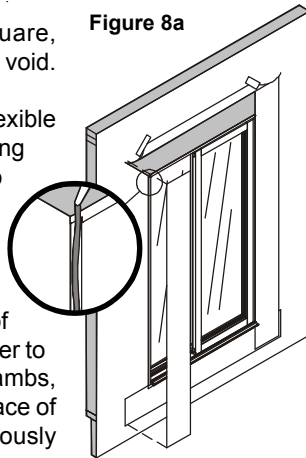
1. Square
2. Plumb
3. Level

NOTE: Unit must be installed square, plumb and level or warranty may be void.

Jamb Flashing: Flashing can be flexible or adhesive back flexible. All flashing must be at least 9" wide and cut so length will extend 8-1/2" beyond the head and sill on both sides of R.O. (R.O. + 17").

Apply a continuous vertical bead of sealant approximately 3/8" in diameter to the face of the door frame at the jambs, and attach the jamb flashing to the face of the door frame and over the previously applied sealant (fig8a).

Figure 8a



Repeat above steps for jamb flashing on the opposite side of the door unit.

Head Flashing: Flashing can be flexible or adhesive back flexible. All flashing must be a minimum of 9" wide and cut so length is approximately 10" beyond the sides of the R.O. (R.O. + 20"). This will allow the head flashing to overlap the jamb flashing applied earlier.

Apply a continuous horizontal bead of sealant approximately 3/8" in diameter to the face of the doorframe at the head, and attach the head flashing to the face of the doorframe and over the previously applied sealant (fig9a).

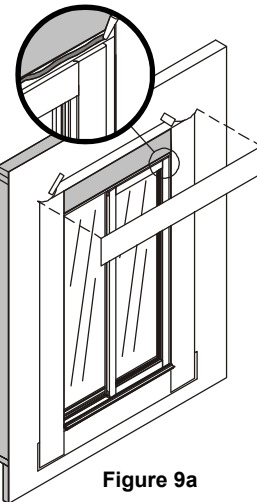


Figure 9a

Casing: Apply sealant on the face of the flashing in line with the previously applied sealant and attach side casing and then the head casing (fig10a).

Rigid Head Flashing: A piece of rigid head flashing is recommended when using casing to assist in the shedding of water away from the unit.

The rigid head flashing must be long enough to run the full length of the head casing, and allow for the ends to be capped (about 1"-1-1/2" longer than the casing). The ends of the rigid head flashing will also need to be cut to fold over the exposed ends of any casing.

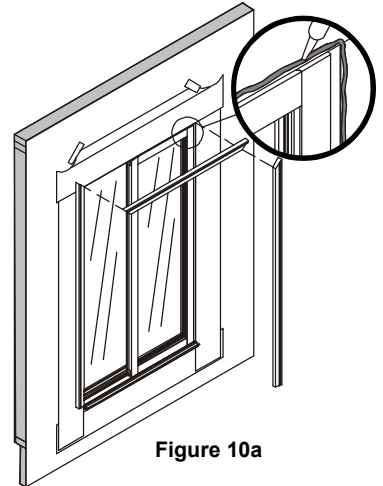
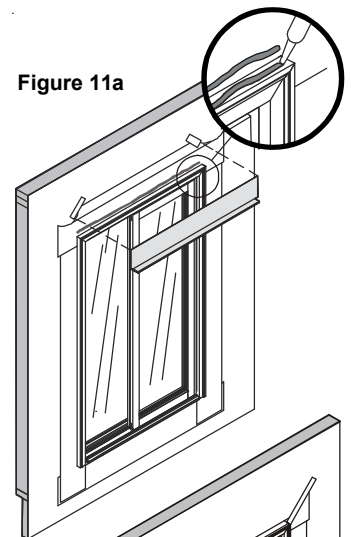


Figure 10a

Place a bead of sealant on the top of the casing and on the sheathing, directly above the unit, so that the flashing will be set in it. Attach the head flashing with fasteners and place sealant over fastener heads (fig11a).

Place a bead of sealant along the lower part of the upright leg of the rigid head flashing, and fold the weather resistant barrier over the upright leg and compress it into the sealant. Apply sheathing tape over the diagonal cuts in the weather resistant barrier (fig12a).

Figure 11a



Shims & Screws for Latches and Hinges:

For certain swing door applications Lincoln furnishes 2-1/2" long screws to secure the door to the framing material. These screws are bagged and taped to the glass of the door. One #10 x 2-1/2" screw is supplied for each hinge. You will find 1 screw missing from hinges on these units. Screws are also supplied for the latch strikes on certain swing doors. One #8 x 2-1/2" screw should be installed into each latch strike plate. Insert shims to insure jamb is plumb at screw locations and insert screw into strike latch or hinge and through shims material. If R.O. is correct screw will reach framing material. These steps must be followed to achieve structural performance per the products DP rating.

Figure 12a

On slide doors, the latch jamb should be shimmed at top, bottom & center to insure jamb is plumb. Fasteners should be installed at these locations through the jamb, shims and into the framing material. Longer screws can be inserted through the latch keeper into the framing lumber for security reasons. **Note:** these screws are not supplied.

***This completes your
Lincoln door installation.***

PATIO DOOR INSTALLATION: FACTORY APPLIED CASING

Before installation check door to make sure unit is complete and without defects. If there are any problems with your door contact your Lincoln dealer.

Jamb Flashing: Flashing can be flexible or adhesive back flexible. All flashing must be at least 9" wide and cut so length will extend 8-1/2" beyond the head and sill on both sides of R.O. (R.O. + 17").

Apply a continuous vertical bead of sealant approximately 3/8" in diameter to the weather resistant barrier at edge of rough opening and continue the bead 8-1/2" above the R.O. Attach the jamb flashing to the weather resistant barrier and over the previously applied sealant (fig7b).

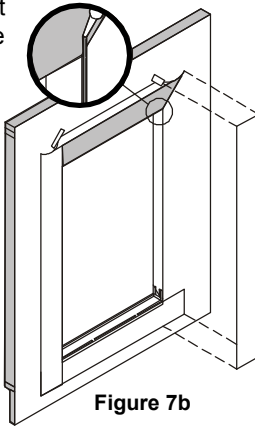


Figure 7b

Repeat above steps for jamb flashing on the opposite side of the window unit.

Head Flashing: Flashing can be flexible or adhesive back flexible. All flashing must be a minimum of 9" wide and cut so length is approximately 10" beyond the sides of the R.O. (R.O. + 20"). This will allow the head flashing to overlap the jamb flashing applied earlier.

Apply a continuous horizontal bead of sealant approximately 3/8" in diameter to the sheathing at edge of rough opening, and attach the head flashing flush with the R.O. at the head (fig8b).

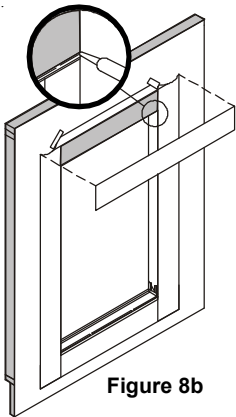


Figure 8b

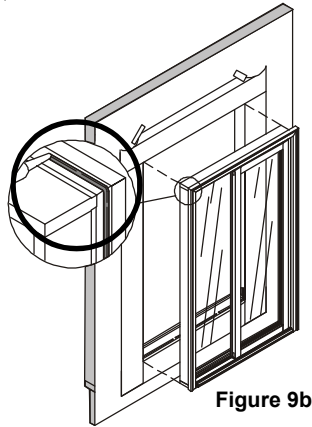


Figure 9b

Casing: Apply a continuous bead of sealant approximately 3/8" in diameter to the backside of the casing prior to setting the unit into position (fig9b).

Installation: Set door into sill pan and center it in the R.O. Apply shims as required and check that door is level, plumb, and square. Fasten one of the upper corners on the side jamb. Check that door is level, plumb, and square. Apply additional shims as needed and continue to attach door into the R.O., continually checking unit for level, plumb, and square (fig 10b).

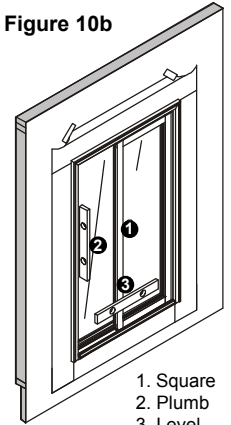
Lincoln Wood Products Inc. recommends the use of fasteners that penetrate window framing a minimum of 1". Stainless or galvanized nails or screws may be used. **Fastening through the factory applied casing requires pre-drilling.** Lincoln Wood Products Inc. does not recommend the use of pneumatic nail guns and will not be responsible for any damaged caused by the use of these nail guns.

NOTE: Unit must be installed square, plumb and level or warranty may be void.

Rigid Head Flashing: A piece of rigid head flashing is recommended when using casing to assist in the shedding of water away from the unit.

The rigid head flashing must be long enough to run the full length of the head casing, and allow for the ends to be capped (about 1"-1 1/2" longer than the casing). The ends of the rigid head flashing will also need to be cut to fold over the exposed ends of any casing.

Figure 10b



1. Square
2. Plumb
3. Level

Place a bead of sealant on the top of the casing and on sheathing so that the flashing will be set in it. Attach the head flashing with fasteners and place sealant over fastener heads (fig11b).

Place a bead of sealant along the lower part of the upright leg of the rigid head flashing, and fold the weather resistant barrier over the upright leg and compress it into the sealant. Apply sheathing tape over the diagonal cuts in the weather resistant barrier (fig12b).

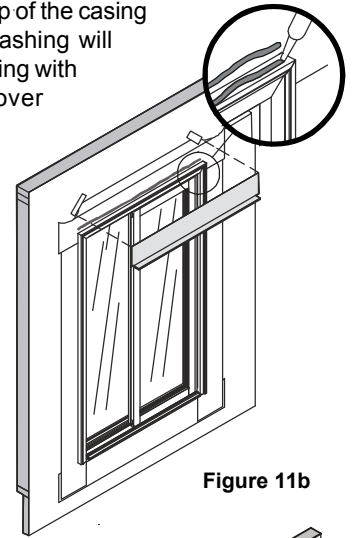


Figure 11b

Shims & Screws for Latches and Hinges:

For certain swing door applications Lincoln furnishes 2-1/2" long screws to secure the door to the framing material. These screws are bagged and taped to the glass of the door. One #10 x 2-1/2" screw is supplied for each hinge. You will find 1 screw missing from hinges on these units. Screws are also supplied for the latch strikes on certain swing doors. One #8 x 2-1/2" screw should be installed into each latch strike plate. Insert shims to insure jamb is level at screw locations and insert screw into strike latch or hinge and through shim material. If R.O. is correct screw will reach framing material. These steps must be followed to achieve structure performance per the products DP rating.

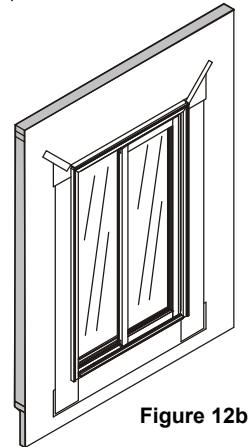


Figure 12b

On slide doors the latch jamb should be shimmed at top bottom & center to insure jamb is plumb. Fasteners should be installed at these locations through the jamb, shims and into the framing material. Longer screws can be inserted through the latch keeper into the framing lumber for security reasons. **Note:** these screws are not supplied.

***This completes your
Lincoln door installation.***