

# PORTATEC PRODUCTS INSTALLATION GUIDE

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## **Introduction:**

Before installation, it is important to read, understand, and apply the standards, codes, and instructions provided by the manufacturer Portatec.

First and foremost, the Portatec product must have been shipped and stored safe from any damages.

Prior to commencing work, make sure you have received the right product and verify its dimension, width, and height. Also verify that the product is not damaged. You should not install the product if it is damaged; instead, please notify the manufacturer.

## **Tools:**

Tools needed:

- Level
- Square
- Measuring tape
- Caulking (caulking gun)
- Wood shims
- Hammer
- Screwdriver and socket set
- Screws (long enough to penetrate at least 1-½ in. to 3 in. into the structure)
- Insulating membrane (type: Blue skin)
- Insulating (insulating wool (R20) and/or high quality urethane)

## **Preparing the Opening:**

Before removing the old doors, you need to measure them at 3 different points for width and at 2 different points for height, and compare these measurements to the new doors' dimensions, to make sure the space required between the door frame and the wall opening is respected. The opening must be ¾ in. wider and 1 in. higher than the door measurements.

When installing in pre-existing homes, it is very likely that openings and walls will have moved over the years and no longer be plumb; openings, then, are no longer square and door sills, no longer level. \*\* If this is the case and the owner insists that you still proceed with the installation, offering to sign a discharge testifying that they will assume full responsibility in the event of a problem, do not accept to do the work, as YOU will be held legally responsible for any defect. \*\*

The worksite must be clean, dry, and free of all debris.

Make sure that the wood at the bottom of the openings is still in good condition. If it is not, you will have to change the wood before starting the installation. Ensure that the sub-flooring is level; if this is the case, apply three beads of caulking in parallel on the opening sill, across the entire opening and connecting at the ends, as illustrated in the photo below.



### Preparing the Opening: With Door Sill Flashing

You must install a wooden board (3/8" x 6" plywood) to create a 5 degree angle towards the outside to allow water to drain. A polyurethane spray foam was applied under the wood board and on the opening sill to prevent air circulation between the board and the flashing. A continuous self-adhesive membrane (ex: Blue Skin) was then installed across the sill and up the lower part of the jambs (minimum 1 foot high). For this type of installation, the product must be set on wood shims for water drainage.

A wood plank was added to raise the door sill.



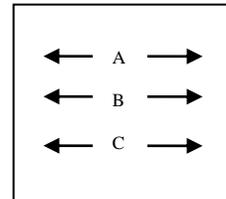
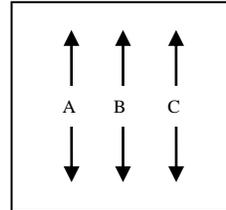
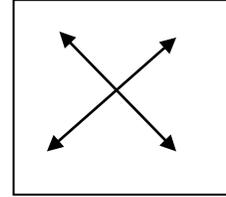
Flashing with auto-adhesive membrane (across and up the lower part of the jambs).

## Installing Portatec Products (Positioning of Wood Shims and Screws)

### Basic Principles:

To ensure sufficient space between the frame and the opening:

- You must measure both diagonals to verify that the opening is square. Both must be equal.
- You must measure the opening vertically at three different points. The product's final vertical dimension (height) must correspond to the smallest opening dimension minus the required tolerance.
- You must measure the opening horizontally at three different points. The product's finished horizontal dimension (width) must correspond to the smallest opening dimension minus the required tolerance.



### Doors must be installed:

**Level:** The sill is positioned horizontally and the height difference between the two sill ends must be no greater than 2 mm (1/16 in.).

Level all types of doors: it is essential that they are installed square and that the frame is not installed twisted (i.e. one corner toward the interior and one corner toward the exterior).

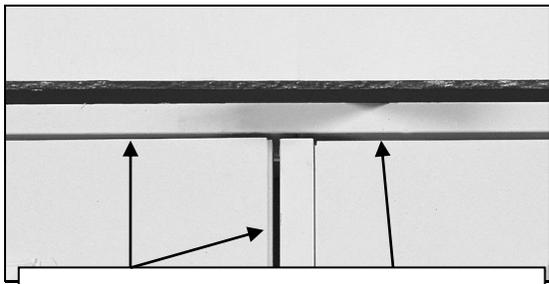
Verify the alignment by using this method: stand on the outside of the door, with the door slightly open to see the space between the door and frame. Spacing must be the same from top to bottom to ensure an even pressure on the weather-stripping.

\*\* Never use the wall as reference to square or level a door. The product itself must be level and square to ensure maximum performance and proper functioning. \*\*

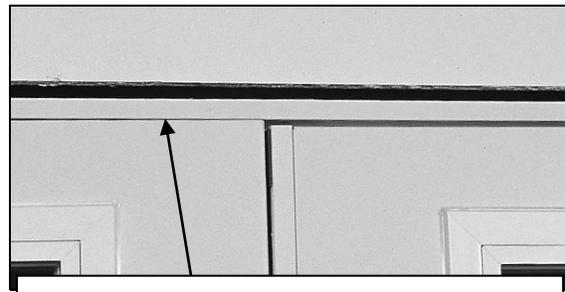


*In the above pictures, the weather-stripping is not evenly compressed from top to bottom, which may cause air and water infiltration and, therefore, frost during cold weather.*

**Square:** Height and Width



*Doors respecting the required 1/8 in. space*



*Doors **not** respecting the required 1/8 in. space*

All door models must be installed square; a space of 1/8 in. must be left around door slabs to ensure proper functioning and, as such, avoid long-term damages to the product.

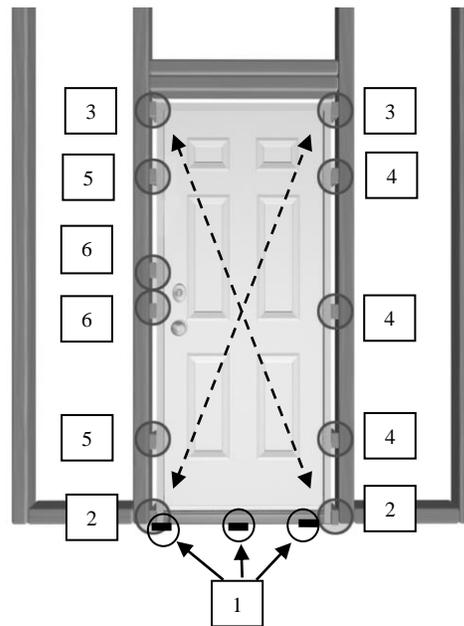
## Positioning of Wood Shims and Anchors by Door Model:

**SINGLE DOOR:** The method presented below facilitates the installation and protects the long-term squareness of the door and of the structure.

**Wood Shims:** As explained earlier, the door can be set directly on three beads of caulking applied on the opening sill, from one jamb to the other. In most cases, however, you will have to insert wood shims under the sill. If you have to install a sill flashing, set the door on wood shims, as demonstrated on page 3. Insert wood shims by following this **6-point** sequence. For doors, shims must be inserted at both ends of the top and of the sill, to avoid any movement in the frame when operating the door. Wood shims must be inserted with the right thickness. If the thickness is insufficient, an opening will be created between the slab and the frame when screwing into the jamb, thus causing air infiltration (overall, the frame will curve toward the jamb).

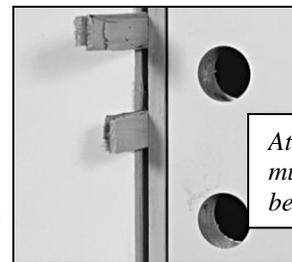
It will create the opposite effect if wood shims are too thick: in that area, the opening between the slab and the frame will be too small, which could cause friction and, thus, product malfunction (overall, the frame will curve toward the slab).

*Never insert any wood shims at the top of any door model, to avoid pressure on the product.*



*The difference between the 2 diagonal measurements should be no greater than 1/8 in., to ensure squareness.*

*The opening around the slab (between the slab and the frame) should be even and approx. 1/8 in.*



*At handle level, wood shims must be inserted above and below the dead bolt.*

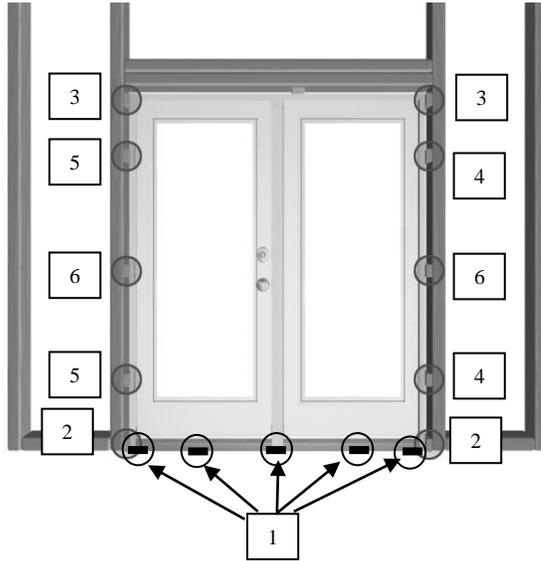
**Anchors:** You must first anchor the door jamb on the hinge side.

At points **4**: remove a screw from the hinge plate affixed to the door jamb and replace it with a countersunk screw long enough to penetrate at least 1½ in. into the side jamb (structure). We recommend a #8 screw (3½). \*\* Do not replace the screw in the T-nut. \*\*

At points **5**: install the screws into the frame (under the weather-stripping) all the way into the side jamb.

At points **6**: install the screws into the strike and side jamb.

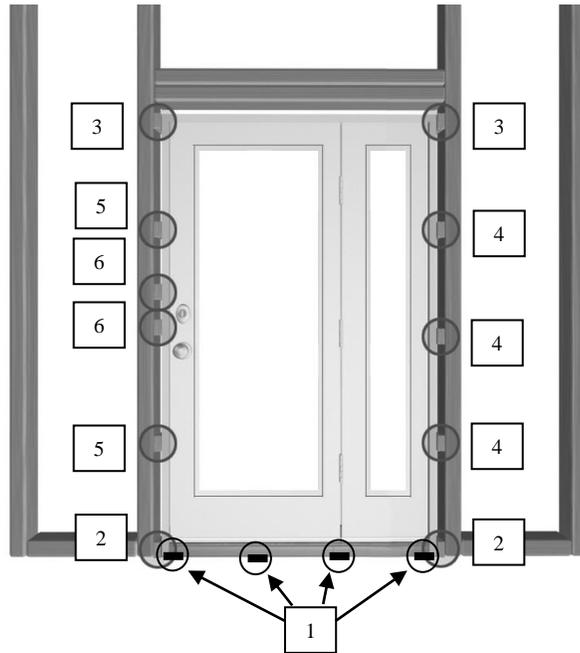
## DOUBLE DOORS:



Install wood shims at the positions indicated above, following the 6-point sequence.

- First, insert wood shims as needed at the bottom (points **1**). This will keep the slabs positioned in the middle against the sill.
- Insert wood shims at both ends of the sill and of the top (points **2** and **3**). Level with wood shims until you obtain an even opening of 1/8 in. between the slabs and the frame. You should be able to operate the slabs easily and freely. \*\* Caution: insert supports under the slab when opening it to screw the hinges, to prevent the frame from toppling over. \*\* (points **4**, **5**, and **6**).

## DOOR WITH SIDELITE:

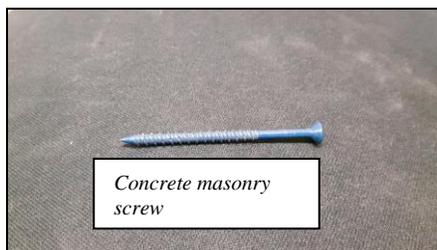


With an extruded aluminium door, use installation brackets provided with Portatec product. You must install them near hinges and at same levels on opposite handle side. \*\* Do not install any at the top. \*\*

Insert wood shims at positions indicated above, following the 6-point sequence.

- First, insert wood shims as needed at the bottom (points **1**). This will keep the slabs positioned square against the sill.
- Insert wood shims at the bottom of the frame, at the back of the jamb on the handle side (points **2**). Level with wood shims until you obtain an even opening of 1/8 in. between the active slab and the frame.
- Insert wood shims near the top of the frame, at the back of the jamb on the hinge side (points **3**), to maintain the door in place. You should be able to operate the door easily and freely. \*\* Caution: do not open the door at an angle greater than 30 degrees until screws have been installed (points **4**, **5**, and **6**). \*\*

### Anchors:



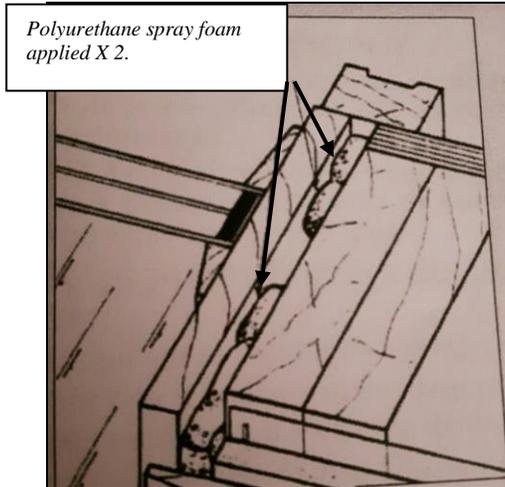
You can use screws, or any other equivalent mechanical mean, to anchor doors to building frames. The above pictures show the two most commonly used screws.

**Once the door is properly positioned and level, you will need to remove one screw per hinge and replace them with screws longer than 3". This way, the door frame will be well maintained in place in the house's structure.**

Here are the main required features:

- Sufficient resistance and quality for designated function;
- Compatibility with building frame and surrounding structure, to prevent corrosion (rust) on the anchors, the door frame, and the building frame;
- Non-corrosive material to avoid rusting and disintegration over time. Anchors must be coated with a corrosion-resistant product. This is all the more important when anchoring parts are inserted into acidic wood, such as sequoia (redwood), western red cedar, yellow cypress, or treated wood;
- Anchoring parts must be long enough to penetrate at least 1½ in. into the structure;
- For installation, the most commonly used screws are: nickel plated (silver) or cadmium plated (gold) steel wood screws #8 or, for masonry, steel masonry screw 3/16 in. (5 mm), which are typically plated or painted blue.

## Type de Materials to Use and Insulation:



If you are using polyurethane spray foam, it must be at least 40 mm (1½ in.) thick to prevent water vapour. Satisfactory vapour resistance is obtained with two applications. Start by applying it on the inside; this way it will begin to dry while you do the outside application. The foam should not exert any pressure on the frame.

If you are using mineral wool, insert it into the voids using a cedar shingle but taking care not to compact it, otherwise the wool will lose its primary function, which is to insulate. If too compact, it may also exert pressure on the frame. The wool must be applied in successive layers. Finally, make sure it is applied continuously, to avoid any insulation gaps.

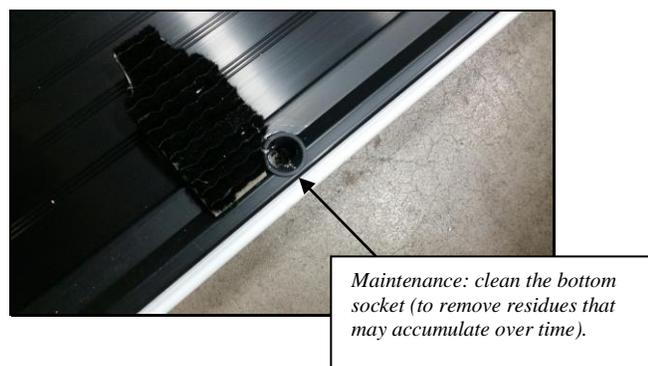
For products with no exterior finish: it is important, when installing a product that will be finished later, to apply caulking at the top and bottom of the door frame; also, for door models with a mullion, caulking must also be applied to the mullion, to avoid water infiltration and material expansion.



### Information on the Operation of Some Components and Product Maintenance (To Convey to Customer):

**For doors with high performing astragal:** The astragal is easy to use. Activate the lever upward to open the semi-active door slab. To close it, only push on the slab at the level of the mechanism (as demonstrated below); the upper and lower rods should align with the sockets. Then, activate the lever downward to insert the rods into the sockets.

\*\* Do not attempt to close it by pushing on the door at the top or bottom; this may cause medium-term damages to the astragal and make it more difficult to operate. \*\* To ensure proper functioning of the astragal, it is important to occasionally open it and clean the bottom socket, where residues may accumulate over time.



**For doors with multi-point handle:** about once a year, you must apply a few drops of oil at the three anchoring points (see photo).



**To clean steel or wood finish doors:** clean doors once a year with mild liquid soap diluted in warm water and applied with a soft cloth (microfiber).

Upon completion of the work, do a final appraisal with the owner and answer any questions, if needed.

For our products warranty, please visit Portatec's website: [www.portatecqc.com](http://www.portatecqc.com)