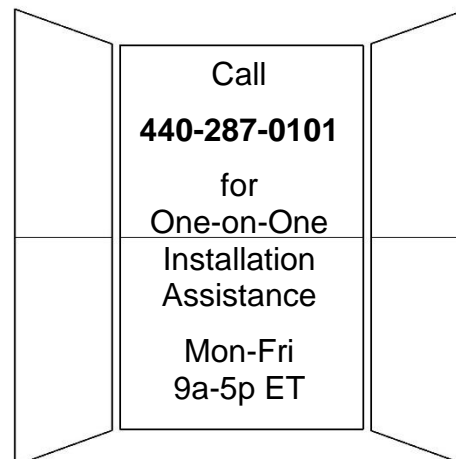
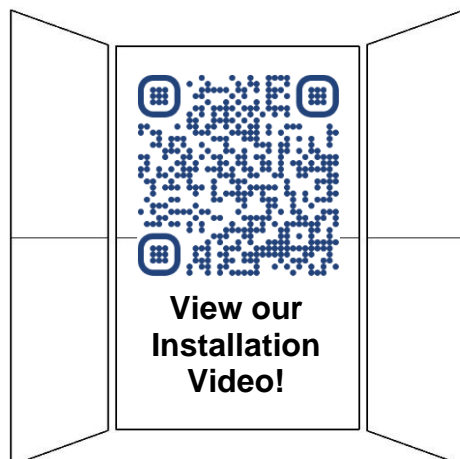


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INSTALLATION INSTRUCTIONS

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READ ME FIRST!

**** PLEASE READ PRIOR TO BEGINNING YOUR INSTALLATION ****

Synthesis™ porcelain shower wall panels should always be cut with water. Dry-cutting Synthesis™ panels will produce silica dust which, when inhaled, is known to cause silicosis, an irreversible but preventable lung disease. Exposure to respirable silica dust may also cause other serious diseases including lung cancer. If panels must be cut without water, a safety dust mask approved for silica dust is required.

Whenever possible, it is best to acclimate your Synthesis™ porcelain shower surround to the surrounding environment for at least 24 hours prior to installation. This will prevent condensation from forming on the panels, which may prevent your suction cups from gripping properly.

When opening and unpacking your Synthesis™ porcelain shower surround kit, please be sure to lift the panels vertically out of the carton. DO NOT drag the panels horizontally, as this may damage the panels underneath.

The Synthesis™ panels are designed to be removeable for ease of repairing future plumbing issues. To preserve this key feature of your Synthesis™ installation, please be sure to adhere to all directions regarding type and quantity of adhesives to be used throughout the process.

We recommend verifying the color of the color-matched silicone sealant with the end user prior to installing the finish sealant. We have done our best to provide a color-matched product, however, the end user may want a different color or a contrasting look. If this is the case, the 100% silicone sealant may be purchased locally in the color of the end user's choice.

Synthesis™ large-format porcelain panels with polished finishes exhibit a "rippling" effect when viewed in direct light. This is a characteristic of all porcelain products and is simply more noticeable in large-format panels with a polished finish. This is not a basis for replacement of the product.

Some Synthesis™ wall panels can be rotated 180° at time of installation based on the end users preference. We **STRONGLY RECOMMEND** determining the location and veining direction for all of your Synthesis™ panels **PRIOR** to cutting or trimming. When doing so, the 3/4" thick edge of the side wall panels **MUST** remain at the front of the shower alcove.

See [Installing your Accessories](#) for important information about drilling and cutting Synthesis™ porcelain composite wall panels.



INSTALLATION INSTRUCTIONS

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PLANNING YOUR INSTALLATION

[Installing the Receivers](#) is the most important part of your Synthesis™ installation. The correct use of the vertical and horizontal jigs to install and verify the receiver locations will ensure that all edges and seams will align properly upon final installation.

Warped framing may present an installation challenge, depending on which way the warp occurs. If the warp is causing the framing to protrude into the shower enclosure, the framing must be planed down to flat. If the warp does not protrude into the shower enclosure, it can likely be corrected when [Installing the Receivers](#).

Stud cavities at *far right and far left of each wall* must be clear of all obstacles from top to bottom. If these stud cavities contain cross-bracing, plumbing pipes or vents, or any other obstructions that will interfere with the receiver installation, these items must be relocated prior to installing Synthesis™.

Consider the location of the Synthesis™ seams when placing plumbing fittings and valves. Some clients prefer to align these items with the seams while others choose to avoid the seams altogether. Whichever path you choose, it is best to consider it ahead of time.

Plumbing fixtures are to be configured for a 1-1/4" finished wall thickness.

Consider the locations of your shower accessories, such as shower niches, grab bars, and shelves, in relation to the Synthesis™ seams. In-wall blocking is required for grab bars and may be required for other items. Placement of these items is subjective but must be considered in advance.

Consider the method of finishing the exposed panel edges at the front of your Synthesis™ porcelain shower surround. The exposed panel edge is 3/4" thick and can be finished with a metal or plastic "L" trim or with a casing or trim of your choice. The 1/2" plywood strips at the front of the shower surround may be omitted and replaced with a 1/2" drywall return if necessary.

Framing width of side (return) walls cannot exceed 37-1/8" in depth (front to back).

Clear framing width of rear wall cannot exceed 60" in overall width.

Overall height of wall panels is 94-1/2" (two 47-1/4"H panels stacked.) Bottom panel may be trimmed by up to 5" on the bottom edge. Top panels may be trimmed by up to 22" on the top edge. See [Altering a Panel](#) for additional information.

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LIST OF INCLUDED COMPONENTS

- A 2 58-1/2"W x 47-1/4"H vitrified porcelain composite wall panels
- B 4 35-7/8"W x 47-1/4"H vitrified porcelain composite wall panels
- C 7 60" Lengths of Receiver
- D 56 Receiver mounting brackets
- E 112 #8 x 3/4" Receiver screws
- F 112 #10 x 3/4" Receiver installation screws
- G 7 Fixed clips
- H 21 Floating clips
- I 4 36" x 7" moisture-resistant skirt boards
- J 2 60" x 7" moisture-resistant skirt boards
- K 40 screws and collars for moisture-resistant skirt boards
- L 4 48" x 2" x 1/2" plywood strips
- M 24 #6 x 1-5/8" drywall screws
- N 10 Lippage control posts & caps
- O 1 Roll of closed-cell foam weatherstripping
- P 1 Roll of watertight flashing
- Q 2 Tubes of translucent adhesive/sealant
- R 1 Tube of color-matched 100% silicone sealant
➤ *The color is shown on the bottom of the tube.*
- S 1 Cartridge of 2-part epoxy adhesive with extra mixing tips



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LIST OF TOOLS AND SUPPLIES

5" electric angle grinder
Angle grinder blade designed for cutting porcelain
(4.5" Diamax Cyclone Porcelain Blade or similar) ►



Pencil
Tape measure
Caulk gun
6ft spirit (Bubble) Level
2ft spirit (Bubble) Level
Painters tape
Carpenters square
Phillips screwdriver
Screw gun with Philips screwdriver bit
Spray bottle of water

Angle grinder core bits designed for cutting porcelain in sizes to match your plumbing fittings
(Apexx UCS/Porcelain Core Bit or similar) ►

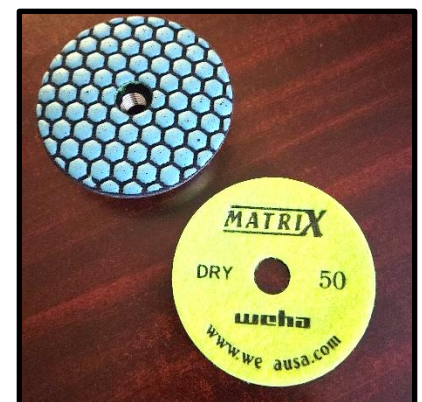


1 pair 8" glass-handling suction cups
Electric miter saw

Eye protection
Safety dust mask approved for silica dust
Hearing protection

360 degree laser level (optional)

Angle grinder base attachment with 50-grit stone polishing pad
(Weha Matrix Dry 50 or similar) ►



Right-angle adapter for screw gun (optional)

Synthesis™ Installation Kit *
 ► Epoxy applicator gun *
 ► Synthesis™ vertical aluminum jig *
 ► Synthesis™ horizontal aluminum jig *

* Available separately from Panel Composite Systems, Inc.

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LIST OF TOOLS AND SUPPLIES

Continued



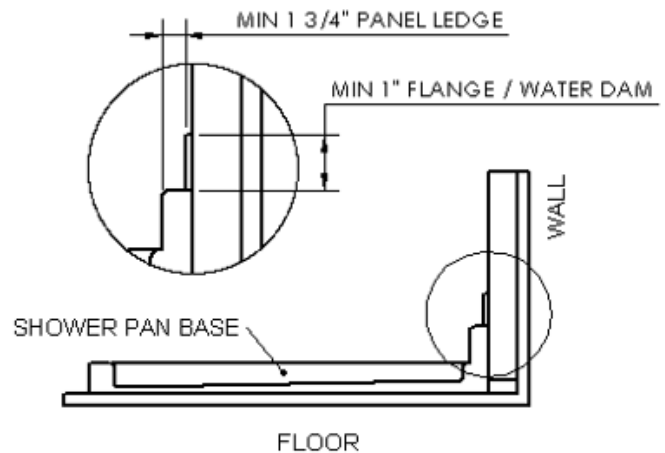
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COMPATIBLE SHOWER PANS

The Synthesis™ porcelain shower surround system is compatible with multiple types and styles of shower pans.

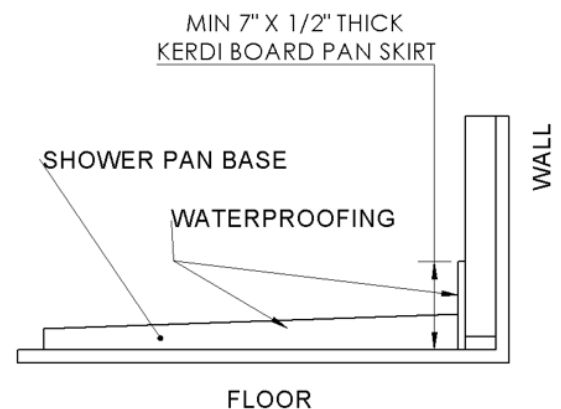
Modular one-piece shower pans may be manufactured from acrylic, fiberglass, cultured marble, solid surface, or any other material.

- The modular shower pan must have a minimum 1" high flange/water dam and a minimum 1-3/4" wide panel ledge.
- Install your modular one-piece shower pan according to the manufacturer's instructions, being sure to make it level, then proceed with installation of your Synthesis™ porcelain shower surround system.



Tiled shower pans may be installed using a traditional mud pan method, a thin-mud-bed-and-membrane method, or a pre-sloped pan form such as those manufactured by Schluter, Noble, and others.

- No matter which method is used, the following requirements apply:
 - The pan must be installed and waterproofed according to the manufacturer's instructions.
 - The bottom of the walls must include a 7" high strip of 1/2" moisture-resistant backer board (included with the Synthesis™ kit).
 - The pan and the 7" high moisture-resistant strips must be waterproofed as part of the pan installation and as recommended by the manufacturer.
 - The edges of the pan should be as level as possible to avoid unsightly gaps at the bottom of the Synthesis™ panels.
- We recommend tiling your shower base **AFTER** the Synthesis™ panels are installed to help conceal any gaps at the bottom of the panels.



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ALTERING A PANEL

Alter the SynthesisTM porcelain wall panels by cutting with a 5" angle grinder **USING A BLADE DESIGNED FOR CUTTING PORCELAIN**. See [Cutting a Panel](#) and [List of Tools and Supplies](#) for more information.

The panels may be cut either wet or dry; see [Read Me First](#) for additional information on dry cutting SynthesisTM porcelain composite panels.

PRO TIP

We do not recommend cutting panels where they meet at the horizontal seam or on the vertical front edges of the side panels. Factory edges produce the best edges and seams.

START BY FINDING THE HIGHEST POINT OF YOUR SHOWER BASE

1. Using a spirit (bubble) level or a laser level, draw a level line around the perimeter of the shower 6" above the flange of the shower pan.
2. Measure down from your level line to your shower pan in all four corners of your shower to locate the highest corner and lowest corner of the shower pan. **Make note of the highest corner for future reference.**

ALTERING THE WIDTH OF A BACK WALL PANEL

When altering the width of a back wall panel, either the left or right side of the panel may be cut. These edges will be concealed when the installation is complete.

The width of the back wall panel must always be 1-1/2" narrower than the width of the framing to allow for the installation of the seam and pan skirts on the side (return) walls.

For Example: For a stud-to-stud measurement of 40", the back wall panel width must be 38-1/2".

ALTERING THE WIDTH OF A SIDE (RETURN) WALL PANEL

When altering the width of a side (return) wall panel, cut **ONLY** the 1-1/4" thick edge of the panel. Never alter the 3/4" thick edge of the panel, which is much more visible when the installation is complete.

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ALTERING A PANEL

Continued

ALTERING THE HEIGHT OF A WALL PANEL

PRO TIP

Most installations will not require bottom panels to be reduced in height. Cutting bottom panels for height may result in uneven seams and will require resetting your vertical jig so should be done with caution.

All panels may be modified for height as follows:

- Up to 22" may be cut from the top edge of the top wall panel.
- Up to 5" may be cut from the bottom edge of the bottom wall panel.
 - Be sure to cut the same amount from the bottom of all wall panels to ensure alignment of the horizontal seam between the top and bottom panels.
 - The height of the provided moisture-resistant pan skirts may need to be modified to accommodate this modification.
 - Cutting from the bottom of a panel will change the heights at which receivers are installed in the stud bays and the locations where clips are installed in the vertical jig.

PRO TIP

The most accurate method of determining the height of a top wall panel is to install the bottom panel and the lippage control spacers, measure from the ceiling to the spacers, and deduct 1/16"

FOR SHOWER PANS THAT ARE SIGNIFICANTLY OUT OF LEVEL

1. Starting at your lowest point, cut the bottom edge of the bottom panel out-of-square to accommodate the difference between the highest and lowest points of your shower pan.
 - This modification **MAY** require altering all of the bottom panels in the Synthesis[™] system.
 - This modification **WILL** require the clips on your vertical jig to be reconfigured. See [Setting up the Vertical Jig](#) in these instructions for more information.



INSTALLATION INSTRUCTIONS

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CUTTING A PANEL

Alter the Synthesis™ porcelain wall panels by cutting with a 5" angle grinder **USING A BLADE DESIGNED FOR CUTTING PORCELAIN**. See [List of Tools and Supplies](#) for more information.

The panels may be cut either wet or dry; see [Read Me First](#) for additional information on dry cutting Synthesis™ porcelain composite panels.

1. Carefully lay out the location of your cut on the face of the panel and mark the line with a pencil.
2. Apply painters tape on the PANEL SIDE of the cut with the edge of the tape aligned with your pencil line.
3. Use your 5" angle grinder to cut the panel approximately 1/16" away from the edge of the tape.
4. Use your angle grinder base attachment and 50-grit stone polishing pad to grind the edge back to the tape line. This method will remove any small chips that may have occurred and result in a perfectly smooth and even cut.

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SETTING UP THE VERTICAL JIG

1. Place both top and bottom back wall panels face down on a flat soft surface.
2. Place lippage control spacer between panels at the center seam.
3. At the edge of the panel, insert one fixed clip in the top and bottom track of each panel and tighten to secure. *These fixed clips will be removed after reconfiguring the vertical jig.*
4. Lay the vertical jig next to the row of clips you just installed.
5. Align the jig such that it overhangs the bottom of the bottom panel by 1/8" to allow for a caulk joint when the panels are installed.
6. Use a carpenters square to align each of the clips on the jig with the clips installed on the panels and tighten to secure.
7. Double check to ensure that all clips are installed in the jig with the angle of the clips facing down.
8. Remove the fixed clips from panel tracks and retain for future use.



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SETTING UP THE HORIZONTAL JIG

The horizontal jig will need to be set up once for each wall of the shower.

1. Hold the horizontal jig against the framing of the wall where the receivers will be installed.
2. Using a pencil, mark the horizontal jig with the approximate center of each stud bay where the receivers will be installed.
3. Move the fixed clips on the horizontal jig to be approximately 1" away on each side of the marks.
4. Verify that the clips are approximately 2" apart and tighten all four fixed clips to secure, holding them square to the jig with a carpenter's square.
5. Using the same steps and methodology, repeat this process to set up the horizontal jig for each wall of your install.
6. Double check to ensure that all clips are installed in the jig with the angle of the clips facing down.

PRO TIP

Vertical and horizontal jigs can and should be cut down for smaller showers and shorter ceiling heights. However, be sure to install your larger shower(s) first to make sure your jigs are long enough to install them.

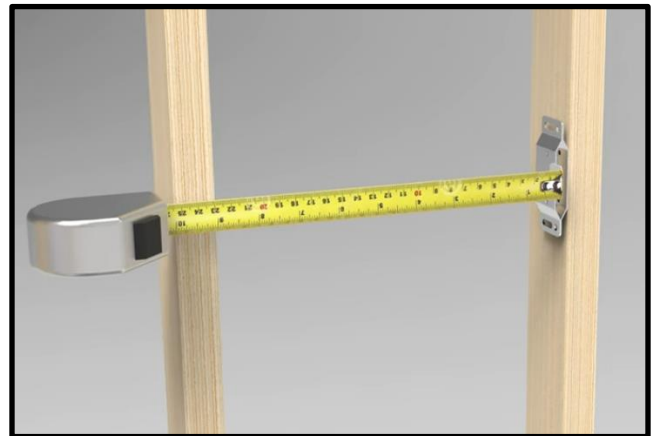
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CHARTING THE RECEIVERS

Receivers will be installed in the left-most stud cavity and the right-most stud cavity in each wall that is to receive the SynthesisTM porcelain wall panels.

Receivers must fit TIGHT within the width of the stud cavity, so each receiver location must be measured for width to accommodate for variations in the width of the stud cavities. This is called Charting the Receivers.

1. Take each measurement for holding two Receiver brackets together, pressing them against the inside of the stud, and measuring from the open side of the brackets to the inside of the other stud. (See *Example at Right*)



2. Width measurements should be taken at the following heights above the panel ledge for modular one-piece shower pans or from the shower floor for tiled shower pans.
 - 83-1/4" high
 - 58-1/2" high
 - 36-1/4" high
 - 11-1/2" highThese heights will need to be modified for installations where the panels are being trimmed significantly for height.
3. Repeat these measurements in each stud cavity in which Receivers are to be installed. Document the measurements on the worksheet on the next page for ease of reference.



INSTALLATION INSTRUCTIONS

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RECEIVERS CHARTING WORKSHEET

For most standard installations, width measurements are to be taken at the following heights above the panel ledge for modular one-piece shower pans or from the shower floor for tiled shower pans.

- 83-1/4" high
- 58-1/2" high
- 36-1/4" high
- 11-1/2" high

These heights will need to be modified for installations where the panels are being trimmed for height.

BACK WALL

Left-Most Bay	4		3	
	3		2	
	2		1	
	1			

Right-Most Bay	4		3	
	3		2	
	2		1	
	1			

LEFT RETURN WALL

Left-Most Bay	4		3	
	3		2	
	2		1	
	1			

Right-Most Bay	4		3	
	3		2	
	2		1	
	1			

RIGHT RETURN WALL

Left-Most Bay	4		3	
	3		2	
	2		1	
	1			

Right-Most Bay	4		3	
	3		2	
	2		1	
	1			

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ASSEMBLING THE RECEIVERS

Each receiver requires two metal receiver brackets – one at each end of the receiver. It is **CRITICAL** that the receiver brackets are installed correctly on the receivers as outlined below.

1. Refer to your completed Receivers Charting Worksheet and cut all receivers to length. Mark the length on each receiver so they can be easily identified when installing them later.
2. Refer to the images below for the correct orientation of the receiver brackets. When properly installed, the bracket edge is flush with the back (flat side) of the receiver.
 - a. Note that the slotted part of the bracket is at the front (open side) of the receiver and the round screw hole is at the back (flat side) of the receiver.
3. Attach the receiver brackets to the pre-cut receivers using two #8 x 3/4" Receiver screws on each bracket.



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INSTALLING THE RECEIVERS

USE THE VERTICAL JIG TO INSTALL ALL RECEIVERS IN THE FIRST STUD BAY

1. Begin installing your receivers in the stud bay at the **HIGHEST CORNER** of the shower pan.
2. Attach the receivers to the vertical jig you configured earlier, being sure to refer to your [Receiver Charting Worksheet](#) to place the receivers in the correct locations.
3. Place the vertical jig on the threshold/panel ledge of your modular one-piece shower pan or on the floor of your custom shower pan and tilt the receivers into the stud bay.
4. Place your 6ft level on the side of the vertical jig and plumb the jig from right to left.
5. Align the front of the receivers with the face of both wall studs.
6. Place your 6ft level on the back of the vertical jig (facing toward you) and plumb the jig from front to back. (**BACK WALL ONLY**)
7. Use the #10 receiver screws to install the receivers.



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INSTALLING THE RECEIVERS

Continued

USE THE HORIZONTAL JIG TO INSTALL THE BOTTOM RECEIVERS IN ALL STUD BAYS

1. Attach the bottom receiver for the adjacent stud bay to the horizontal jig that you configured earlier. Refer to your [Receiver Charting Worksheet](#) to place the receiver in the correct location.
2. Attach the remaining clips in the horizontal jig to the bottom receiver you just installed.
3. Place your level on the top of the horizontal jig and adjust for level.
4. Once the jig is level, use the #10 receiver screws to install the receiver, making sure to align the front of the receiver brackets with the front of the wall studs.
5. Attach the remaining three receivers for the new stud bay to the vertical jig you configured earlier, Refer to your Receiver Charting Worksheet to place the receivers in the correct locations.
6. Attach the bottom clips of the vertical jig to the bottom receiver you just installed.
7. Place your 6ft level on the side of the vertical jig and plumb the jig from right to left.
8. Align the front of the receivers with the face of both wall studs.
9. Place your 6ft level on the back of the vertical jig (facing toward you) and plumb the jig from front to back.
10. Use the #10 receiver screws to install the remaining receivers.

PRO TIP

Use your 2ft level to align the bottom receiver in a stud bay on an adjacent wall that is perpendicular to your installed receivers.



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INSTALLING THE RECEIVERS

Continued

USE THE VERTICAL JIG TO INSTALL THE UPPER RECEIVERS IN ALL STUD BAYS

1. Attach the remaining (upper) three receivers for the new stud bay to the vertical jig you configured earlier. Refer to your [Receiver Charting Worksheet](#) to place the receivers in the correct locations.
2. Attach the bottom clips of the vertical jig to the bottom receiver in the new stud bay.
3. Place your 6ft level on the side of the vertical jig and plumb the jig from right to left.
4. Align the front of the receivers with the face of both wall studs.
5. Place your 6ft level on the back of the vertical jig (facing toward you) and plumb the jig from front to back. (*BACK WALL ONLY*)
6. Use the #10 receiver screws to install the remaining receivers.



PRO TIP

Only the back wall of the shower needs to be plumb when installing the receivers. This will ensure that the closed cell foam gasket fits tightly between the side wall panels and the back wall panels.

Side wall panels should not be plumbed to avoid gaps between the wall panel and the framing where a shower door may be mounted.

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INSTALLING THE CLIPS

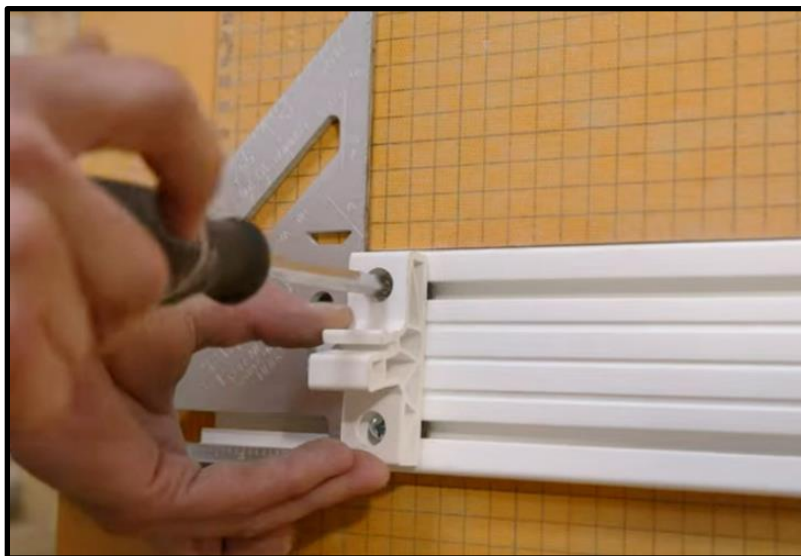
Use **FIXED** clips for the **BOTTOM ROW** of clips on each wall (*bottom row of bottom panel only*).

- *Fixed clips are used on the bottom row of each wall to ensure that the panels remain level for alignment of seams*

Use **FLOATING** clips for all other clips (*top row of bottom panel and all rows at top panels*).

- *Floating clips are designed to allow for 3/16" of movement both horizontally and vertically. This ensures that the clips will engage with the receivers even if the receivers are installed slightly "off."*

1. Measure the horizontal distance between the center of the left receiver and the center of the right receiver on the wall where the panel is to be installed. Mark the back of the panel with these measurements.
2. Slide the clips into the top and bottom tracks on the back of the panel to be installed, making sure that all clips are installed with the angle of the clips facing down.
3. Use a carpenter's square to square the clip to the track and tighten the mounting screws with a Philips screwdriver to install the clips.
 - Do not over-tighten the floating clips, as this will prevent the clip from floating as intended.
4. Using the same steps and methodology, repeat this process to install the clips on each panel to be installed.



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TEST-FITTING AND LABELING THE PANELS

***** DO NOT APPLY ANY ADHESIVES OR SEALANTS WHILE TEST-FITTING THE PANELS *****

PRO TIP

All panels may be moved or rotated to achieve satisfactory pattern consistency. The 3/4" edge on the side panels **MUST** remain at the front of the shower and any desired panel rotation **MUST** be performed prior to any cutting or fitting.

BACK WALL PANELS MUST BE FITTED & INSTALLED BEFORE SIDE WALL PANELS

1. Cut and fit the bottom panel for the back wall of the shower. Push the bottom panel into place, gently tapping it to ensure the clips are engaged. Look over the top of the panel and down toward the clips to verify clip engagement if necessary.
2. Place the seam skirt at the top of the bottom panel and in between the stud framing and the panel. Do not permanently attach the seam skirt at this time.
3. Place four lippage control spacers on the top edge of the bottom panel.
4. Cut and fit the top panel for the back wall of the shower. Rest the bottom edge of the top panel on the lippage control spacers at the top of the bottom panel. Push the upper panel into place, gently tapping it in to ensure the clips are engaged.
5. Using the same steps and methodology, repeat this process to cut and fit the panels on the right and left return walls.
6. Once the fit is satisfactory, **label all panels and their orientation** prior to removal to ensure they are installed in the correct location at final installation.

PRO TIP

A slight bow sometimes develops in larger Synthesis™ wall panels. This can be corrected by installing extra receivers and clips where necessary to remove the arc.

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INSTALLING PLYWOOD STRIPS AT FRONT VERTICAL EDGES

The 1/2" plywood pieces included in your Synthesis™ porcelain shower surround kit are to be used as backer pieces at the front of the shower to provide suitable attachment for shower doors. These pieces are to be attached to the doubled 2x4 wall studs on each side of the opening and behind the front edges of the Synthesis™ wall panels.

1. Place one of the 48" x 2" x 1/2" plywood pieces vertically on one side of the opening, against the doubled 2x4 wall studs, and resting on the flange (water dam) of your shower pan.
2. Attach the plywood using the provided 1-5/8" drywall screws. Use six screws per piece in a side-by-side format, placing two screws each at the top, middle, and bottom of the piece.
3. Place another plywood piece vertically on top of the piece that was just installed. If necessary, trim the length of the piece to fit your installation. Attach this second plywood piece using the provided 1-5/8" drywall screws in the same quantity and pattern as noted above in Step 2.
4. Using the same steps and methodology, repeat this process to install two plywood pieces on the opposite side of the shower opening.



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INSTALLING THE PAN AND SEAM SKIRTS

Start by installing the shower pan skirt on the back wall.

1. Place a heavy bead of clear sealant on the bottom edge of the moisture-resistant shower pan skirt.
2. Place the shower pan skirt horizontally on top of the shower pan flange and attach the skirt to the wall studs using two rows of the provided screws and collars in each stud, one at the top of the skirt and one at the bottom.
3. Install the shower pan skirts on the left and right return walls using the same steps and methodology as above but trimming them to fit between the 1/2" plywood and the back wall pan skirt. Add a heavy bead of clear sealant on the back edge of the skirt where it abuts the pan skirt on the back wall.



Once all shower pan skirts have been installed, continue by installing the seam skirt on the back wall.

The center of the seam skirt is located 47-1/4" up from the threshold/panel ledge of your modular one-piece shower pan or from the floor of your tile-ready shower pan. This will ensure equal overlap behind both the top and bottom panels.

1. Attach the seam skirt horizontally to the wall studs using two rows of the provided screws and collars in each stud, one at the top of the skirt and one at the bottom.
2. Install the seam skirts on the left and right return walls using the same steps and methodology as above but trimming them to fit between the 1/2" plywood and the back wall seam skirt. Add a heavy bead of clear sealant on the back edge of the skirt where it abuts the seam skirt on the back wall.



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INSTALLING THE FLASHING

Start by installing the pan flashing.

Use the 14ft length of flashing to flash the pan skirt to the shower pan flange from the left front of the shower all the way around to the right front of the shower using one continuous piece.



Continue by installing the vertical corner flashing.

Use the two 10ft lengths of flashing to flash the two back corners of the shower.

Starting at the top of the wall, apply the flashing down each corner in one continuous piece, covering the center seam skirt and continuing over the shower pan skirt before finishing inside the flange of the shower pan.



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INSTALLING THE FLASHING

Continued

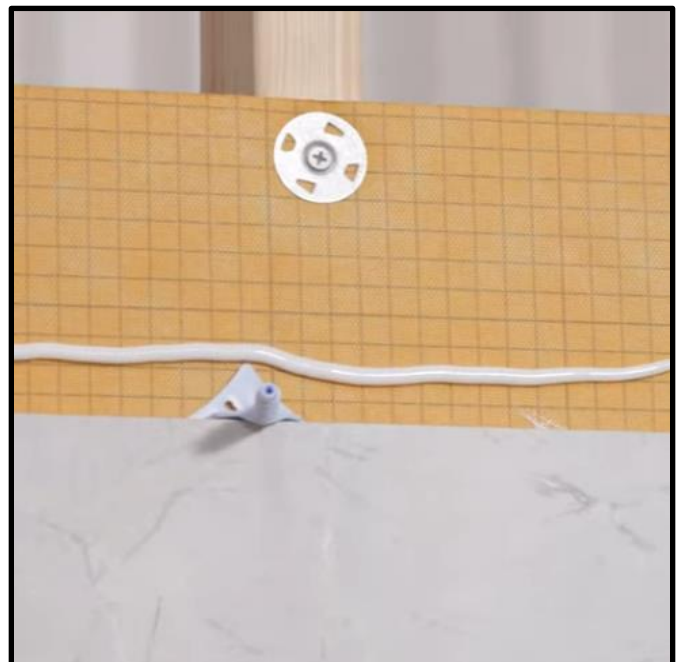


View our installation video at SynthesisbyPCS.com

INSTALLING THE PANELS

ALWAYS START BY INSTALLING THE BOTTOM PANEL ON THE BACK WALL

1. Apply a heavy horizontal bead of translucent adhesive/sealant on the face of the back wall shower pan skirt at 3" above the shower pan.
2. Apply a heavy horizontal bead of translucent adhesive/sealant on the face of the back wall seam skirt at 2" below the seam line.
3. Apply a 1/2" horizontal bead of 2-part epoxy adhesive on the face of the back wall seam skirt at 1" below the seam line.
4. Push the bottom panel into place, gently tapping it to ensure the clips are engaged. Look over the top of the panel to verify clip engagement if necessary.
5. Install lippage control spacers on the top of the bottom back panel.
6. Apply a 1/2" horizontal bead of 2-part epoxy adhesive on the face of the back wall seam skirt at 1" above the top edge of the bottom panel.
7. Apply a heavy horizontal bead of translucent adhesive/sealant on the face of the back wall seam skirt at 2" above top edge of the bottom panel.
8. Rest the bottom edge of the top panel on the lippage control spacers at the top of the bottom panel. Push the upper panel into place, gently tapping it in to ensure the clips are engaged.



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INSTALLING THE PANELS

Continued

9. Tighten the caps on the lippage control spacers to remove any misalignment between the faces of the top and bottom panels.
 - Time is of the essence when working with the 2-part epoxy. To avoid potential misalignment on the face of the panels, make sure that all panels are installed and the lippage control caps tightened before the 2-part epoxy adhesive has cured.
10. Apply the closed-cell foam weatherstripping to the back edge of all four return wall panels, **holding it back 1/8" from the face of the panel.**
 - This weatherstripping will provide an additional seal behind the color-matched silicone sealant in the joint between the side wall panels and back wall panels.
 - **BE SURE to push the side panel tightly against the back wall panel to ensure that the closed cell foam is fully and uniformly compressed.** This will ensure that this critical part of the water-proofing process will function as intended.
11. Using the same steps and methodology, repeat this process to apply the adhesives and install the panels on the right and left return walls, making sure that there is **NO GAP** between the panels and the 1/2" vertical plywood strips at the front edge of the panels.
12. Wait 30 minutes after the last panel was installed, then remove the lippage control caps from all panels. Use a utility knife to cut out the lippage control spacers on an angle so no part of the remaining spacer is protruding out of the seam.
13. Using the color-matched 100% silicone sealant, thoroughly fill and smooth the center seam, corner seams, and the seam between the bottom panel and the pan.



PRO TIP

It's always best to verify the color of the silicone sealant with the end user prior to installing it, as they may wish to use a color other than the one provided.

View our installation video at SynthesisbyPCS.com

INSTALLING YOUR ACCESSORIES

The Synthesis™ porcelain shower surround system is compatible with a side variety of accessories, including shower shelves, shower niches, grab bars, and more!

In-wall blocking is required for any grab bars, shower seats, or any other accessory that may be subject to sudden or prolonged pressure in any direction. The Synthesis™ porcelain shower wall panels do not provide sufficient support for these items.

When drilling holes through Synthesis™ porcelain wall panels, the hole must be a minimum of 1/8" larger in diameter than the fastener that is to pass through it. This is to avoid any contact between the fasteners or fastener threads and the porcelain.

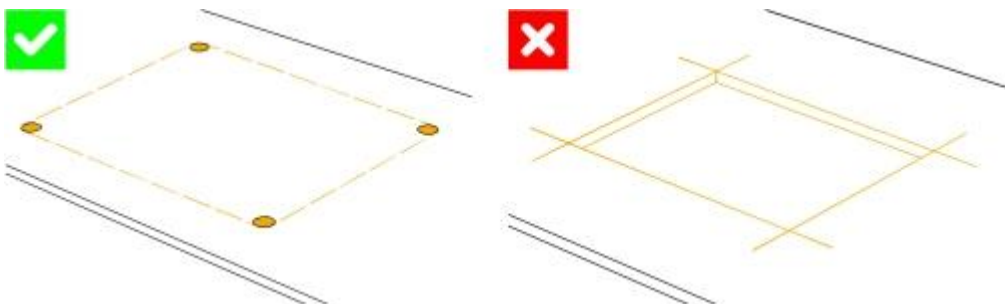
Installing a Shower Niche

One-piece stainless "drop-in" shower niches are **HIGHLY RECOMMENDED** for use with the Synthesis™ porcelain shower surround system. Their seamless, leak-proof construction matches our obsession with waterproofing and helps us sleep better at night.

Prior to installing the panels, carefully measure and lay out the location of the niche cutout on the face of the panel using painters' tape. Drill a 3/8" diameter hole at each corner of the cutout. Cut the opening from the face of the panel using a 5" angle grinder equipped with a blade designed for cutting porcelain. The panel may be cut either wet or dry. Install the panels and then your shower niche. Seal the perimeter of your niche with clear sealant.

PRO TIP

Inside corners **CANNOT** be cut square on Synthesis™ panels. Corners must be drilled/radiused first and then connected by straight cuts.





INSTALLATION INSTRUCTIONS

View our installation video at SynthesisbyPCS.com

INSTALLING YOUR ACCESSORIES

Continued

Installing a Surface-Mounted Stone Shower Shelf

Prep your quartz, granite, or marble shower shelves by drilling two 1/2" diameter by 1" deep holes in the back edge of each shelf using a core bit designed for drilling into stone products. Insert 3/8" diameter steel dowel rods into the holes so that they extend approximately 1-1/2" from the back edge of the shelf. Affix the rods in place by filling the surrounding hole with two-part epoxy adhesive.

After the wall panels have been installed, locate your shelf on the wall and mark the locations of the dowels, making sure that the shelf is level or slightly sloped for drainage, if necessary. Drill 1/2" diameter holes at the marked locations on the wall panel using a drill bit designed for use with porcelain.

Apply two-part epoxy adhesive to any shelf edge that will be against a panel, press the shelf in place, and tape or prop in place until the epoxy is fully cured.

Installing a Grab Bar

Prior to installing the panels, install in-wall 2x wood blocking where needed and make note of blocking locations for future reference.

Install the panels.

Measure and mark the location of the fasteners for your grab bar, making sure that they align with the previously-installed in-wall blocking.

Mark and drill holes for your grab bar fasteners using a drill bit designed for use with porcelain. The holes must be a minimum of 1/8" larger in diameter than your screws.

Install your grab bar, applying a small dab of clear sealant to each screw. Make sure that the screws are long enough to reach the in-wall blocking and DO NOT overtighten the screws.



INSTALLATION INSTRUCTIONS

View our installation video at SynthesisbyPCS.com

CARING FOR YOUR SYNTHESIS™ PORCELAIN SHOWER SURROUND SYSTEM

Your Synthesis™ porcelain shower surround is resistant to scratching, etching and stains, but it is not impervious to damage. Keep your Synthesis™ porcelain wall panels looking great by performing regular, basic cleaning with warm water and mild soap or a neutral, pH-balanced cleaner. You may use a gentle multipurpose spray cleaner to remove soap scum, hard water deposits, and mildew. Using a squeegee after each use can help minimize build-up. Do not use cleaning products that contain abrasives, acids, ammonia, or harsh chemicals as these may damage the finish on the surface of the panels.

SYNTHESIS™ WARRANTY

We provide a robust 10 year product warranty on the Synthesis™ vitrified porcelain panel against material and manufacturing defects under normal use and service. Panel Composite Systems, Inc. warrants to the original end-user that we will repair or replace, at our option, any product found to be defective under normal use and care at no charge for a period of ten years from the date of purchase. This warranty covers the product only and does not cover the labor to remove or reinstall the product.

A manufacturing defect is defined as a shortfall in the product to perform within manufacturer's specifications and industry allowable tolerances as set forth by the Tile Council of North America (TCNA) and the American National Standard Institute (ANSI). Variations in the following characteristics do not constitute a defect: color, shade, grain, movement, surface texture, and finish.

This Warranty does not cover:

- Minor conditions such as stains, scratches, chips, water spots and burns
- Mishandling or abuse of the products
- Structural design issues
- Failure of joints or seams or of any adhesive, sealant, or other accessory
- Failure to comply with Panel Composite Systems' Installation Instructions
- Poor installation practices or defects in installation
- Use for purposes other than normal interior use in the United States or Canada
- Any products moved from their original place of installation
- Any factors beyond the control of Panel Composite Systems, Inc

PANEL COMPOSITE SYSTEMS' OBLIGATION UNDER THIS WARRANTY IS LIMITED TO THE REMEDIES SPECIFIED IN THE FIRST PARAGRAPH OF THIS WARRANTY. NO IMPLIED OR EXPRESS WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR ANY OTHER WARRANTY EXCEPT THOSE SPECIFICALLY STATED IN THIS WARRANTY OR REQUIRED BY LAW IS GRANTED. EXCEPT FOR THE REMEDIES DESCRIBED IN THIS WARRANTY, PANEL COMPOSITE SYSTEMS HAS NO LIABILITY FOR ANY LOSS OR ANY DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE SYNTHESIS™ PRODUCTS.