

EMPERVIOUS™

RIGID WATERPROOF SHOWER SYSTEM

SHOWER SYSTEM INSTALLATION GUIDE

Step 1 – Preparation for Installing your Shower System:

Check that included accessories and all parts of the Brass drain kit are present (the drain comes pre-installed in the pan for shipping and should be removed prior to starting installation):

- 1.) Drain Kit:
 - a.) Solid brass caulking nut with tightening insert key
 - b.) Rubber caulking casket
 - c.) Solid brass drain body
 - d.) Rubber and fiber gaskets
 - e.) Solid brass locking nut
- 2.) Stainless Steel Drain Grate
- 3.) 2" Wide mesh tape (for final shower pan joints)
- 4.) Straight and corner putty knives

Ensure there is a horizontal 2x4 on the base plate between each stud to support the wallboard. This provides the wallboard with the necessary support needed at the shower pan joint.

The subfloor must be solid, level and properly constructed to meet deflection standards. For wood floors, joists must be 16" OC with 3/4" T & G plywood or equivalent glued and screwed.

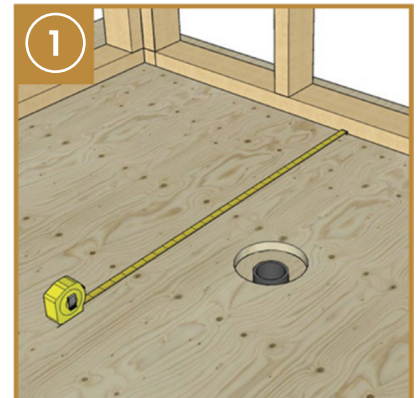
The drainpipe must be securely fastened below the subfloor so that it will not move under load. The drain should be centered through a 5" round opening in the subfloor to allow the proper fit of the drain assembly. Cut the 2" ABS or PVC drainpipe flush to the subfloor. Clean off any burrs on the 2" pipe after cutting.

For curb-less showers, the entire bathroom floor must be waterproofed as well as walls, at least 2". See curb-less install section at end for details.

Perform a final floor and wall measurement check to ensure all walls are square and make any adjustments required BEFORE installing your shower system. Remove and clean up any construction dust, dirt, and debris from the shower install area. [fig. 1]

Installation Tools and Materials Required

- Tape measure & fine point marker
- Level, straight edge, and utility knife
- Empervious Shower System joint sealant¹
- Empervious Sausage Gun or Caulk gun for joint sealant
- Drill/Driver with a #2 Philips screwdriver bit
- Large flat head screwdriver
- 5 Gallon plastic bucket, sponge, and drill with mixing paddle
- Modified thinset and 3/8" minimum notch trowel
- 7 1/4" Circular saw with a standard wood blade
- Cleaning supplies (recommended: paper towels, citrus wipes, rags, dust pan and brush)



¹ *Recommended sealant is SikaFlex 11FC. Failure to use recommended sealant will negate warranty

Step 2 – Cut the pan to size if needed

Scenario 1 – Drain is centered in the shower.

If your drain is centered in both the length and width, then follow these instructions.

A) Measure the length of the shower space and subtract from the length of the pan. Divide that number by 2 and cut that amount from each side of the pan. You'll need to leave a 1/8" gap between the pan and walls so make sure your account for this.

Example: Length = 32" Pan =36"
 $36-32 = 4$
 $4 \div 2 = 2$
Cut 2" from each side

B) Repeat Step 1 for the width.

Scenario 2 – Drain is not centered in the shower.

If your drain is not exactly centered on the floor, then you must remove a different amount from each side and add the cut-off to the other side. Follow these instructions:

A) Measure from the center of the drain to the wall on one side. Take the measurement and subtract from Half the dimension of one side of the Pan.

Example: Distance from Center =16" Pan =36"
Half of 36" = 18"
 $18"-16" = 2"$
Cut 2" from one side

B) Save your offcut to install on the other side of the pan to fill the gap if needed.

Step 3 – Replace the Factory Notch

Re-cut the factory notch (1/4" deep x 1/2" wide) on any cut edges. For off-set drain pans and pans 84" or greater, the factory notch is 1/2" x 1/2" and must be re-cut to match, see important note below.

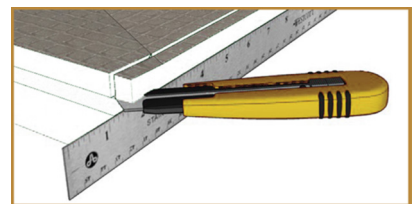
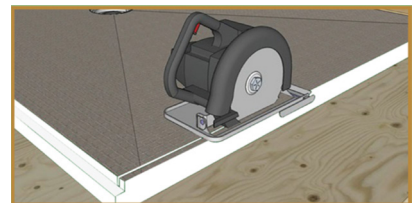
Tips for Trimming a Shower Pan to Size:

Shower Pans can be cut to size using a power saw (minimum 40 tooth blade for a 7 1/2" circular) or a sharp utility knife. The 1/4" x 1/2" notch MUST be re-cut on any side where it is trimmed away in order to ensure a proper seal around the shower pan.

IMPORTANT NOTE: The notch size on any offset pan or pan greater than 84" is a 1/2" x 1/2" notch.

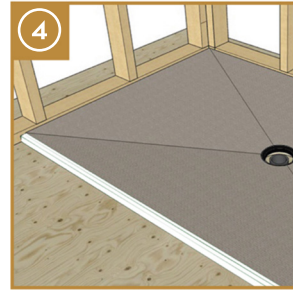
Cutting a Shower Pan Notch

- 1.) We recommend using a circular saw set for 1/4" depth to make a cut on the top of the shower pan 1/2" in from the new edge.
- 2.) Standing the pan on one end, use a straight edge and a sharp utility knife to make a 1/4" deep cut 1/2" in from the top of the pan to complete the notch.



Step 4 - Dry Fit Pan

Dry fit your pan into the shower area to ensure a good fit.
[fig 4]



Step 5 – Install the Drain Assembly

Disassemble the drain by unscrewing the locking ring from the back and the compression ring from the inside. Set rubber compression pipe seal and key aside for Step 6.

Set the pan on upright its side so that you have access with one hand on either side of the pan.

Place a solid bead of approved sealant to the top of the pan in the stepped flange area.
[fig. 5a]

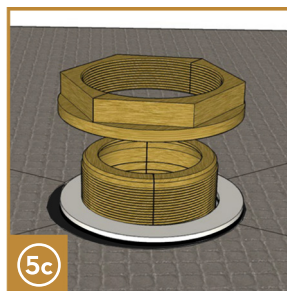
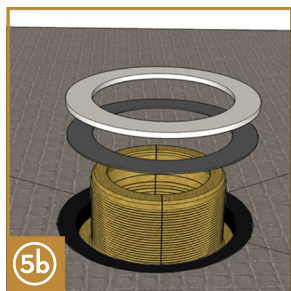
Place the brass drain body into the center hole and press down slightly to seat the drain into the flange.

From the other side of the pan place the rubber gasket around the drain body and seat against the back of the pan.

Place the paper gasket on and seat against the rubber gasket. [fig. 5b]

Thread the locking ring onto the drain both and hand-tighten until snug. [fig. 5c]

Remove excess sealant from the top side of the pan with a rag or citrus wipes.



Step 6 – Install the Pan

Check that the drain pipe was cut flush with subfloor in preparation for install. If not, see Step 1.

Mix your choice of polymer modified thinset according to the manufacturer's instructions. Apply thinset to the floor with a minimum 3/8" x 3/8" Notched trowel. Make sure the trowel lines are pulled straight towards the curb side of the shower opening and that the trowel lines do not cross. This ensures that air can escape creating a more even bond. [fig. 6a]

Apply a thin layer of thinset to the back of the pan and smooth out with the straight edge of the trowel. This is also referred to as "back-buttering".

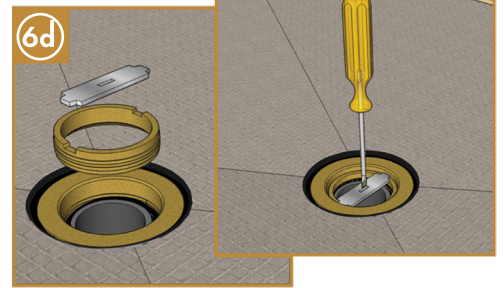
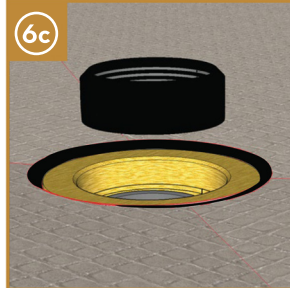
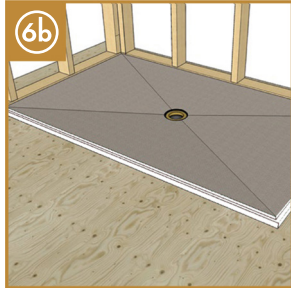
Set the pan in place and apply pressure by standing on the pan to set into the thinset. Move around the pan until it is fully seated. [fig. 6b]

Seat the Rubber Compression Seal (chamfer side up) over the pipe ensuring until the top of the seal is flush with the top of the 2" drain pipe. [fig. 6c]

Fasten the key to a flathead screwdriver with tape to ensure the key does not fall into the drainpipe. Thread the compression ring into the drain body and turn with the screwdriver until the seal is firmly seated and compressed to seal the pipe. [fig. 6d]

Hint: If your screwdriver has a hex shank then you can use an adjustable wrench to further snug the compression seal.

Scrape off excess thinset from the floor on the front edge of the pan with the flat edge of the trowel to accommodate installation of the curb.



Step 7 – Install the Wallboard

Measure the walls and cut the wallboard to length starting on the bottom row ensuring that the end of each wallboard is supported by a stud.

Hint: The rear wall should be installed first and go the full length (stud to stud) if possible.

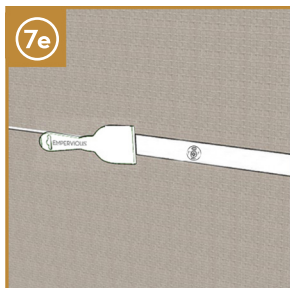
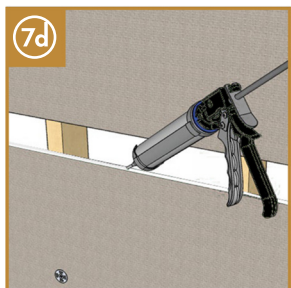
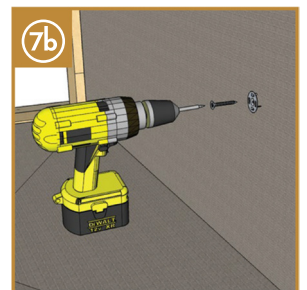
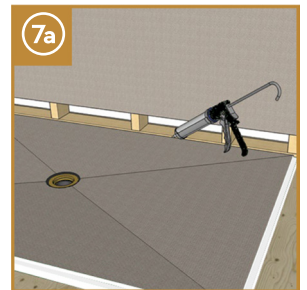
Hint: If you are transitioning to drywall, be sure to measure the curb width to accommodate for your transition. Also ensure that there is a stud to support the end of the wallboard and drywall at the transition line.

Apply a solid bead of approved sealant to the notch on the pan and insert the wallboard at a slight angle while pushing down firmly on the top to seat wallboard fully into the notch. There should be enough sealant in the notch that excess sealant will squeeze out. [fig. 7a]

Fasten the wallboard to the studs with approved screws and washers staying 12” up from the pan. [fig. 7b]

Hint: You can fasten the seam between 2 pieces of wallboard with a single screw and washer ensuring that the screw is on the center of the stud.

To complete the installation of the second row and so on, apply a solid bead of sealant to the exposed edges of foam to ensure a proper waterproof seal. [fig. 7c] [fig. 7d] Wipe off excess sealant with the straight putty knife supplied with your pan. [fig. 7e]



Step 8 – Install the Curb

Measure the width of the opening where the curb will be installed.

Cut the curb to length leaving 1/8" per side for clearance.

Apply a solid bead of approved sealant to the notch on the pan and on the floor where the curb will be installed and at the corner where the pan meets the floor and on the adjacent wallboard vertically in the corner. [fig. 8a]

Apply thinset to the floor where the curb will be installed ensuring that you leave a 1/2" strip at the edge of the pan to accommodate the sealant. [fig. 8b]

Back butter the bottom of the curb with thinset.

Carefully place the curb into position pushing down to seat the curb. [fig. 8c]

Scrape off excess thinset from the floor on the front edge of the pan with the flat edge of the trowel.



Step 9 – Apply Mesh Tape at Pan

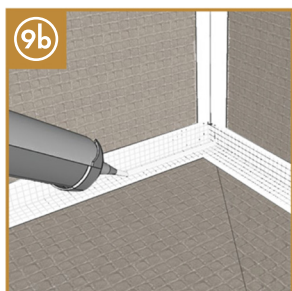
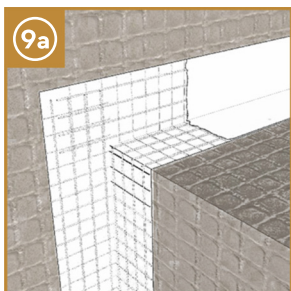
Measure between each wall and subtract 2"/side (4" total) for clearance. Cut all mesh tape to length as needed including the edge where the curb is.

Apply a generous bead of sealant to the corner where the pan and wallboard meet.

Use the straight putty knife supplied with your pan to gently push the mesh tape into the corner along the entire edge.

Starting from one end push your straight putty knife firmly into the corner to secure the tape while pulling the corner putty knife along the entire edge to smooth out the sealant and bury the mesh tape. Repeat for all sides of the shower pan. Ensure you have enough sealant to cover 1" on either side. [fig. 9a]

Add another solid bead of sealant into all corners of the pan where it meets the wallboard/curb and smooth it out with the corner putty knife. Again, ensuring that there is at least 1" per side of coverage. [fig. 9b]



Step 10 – Cover Screws with Sealant

Cover remaining screws with approved sealant. [fig. 10]



Step 11 – Installing the Drain Cover and Tray

Place the drain tray onto the pan. [fig. 11]

Install the tile up to the drain tray ensuring that the tray is set into the thinset.

| *Hint: If your tile is thicker than the drain tray, use tile black Riser to set the height.*



Curb-less Installations – Important Note:

The entire bathroom floor must be waterproofed, including a waterproof transition to the walls and up the walls at least 2". Install 1/4" Empervious Foam board on the floor and 1/2" Empervious Board for the wall base (at least 2 inches). An alternate liquid waterproofing method may be used when installing a floor warming system with a heat membrane mat for heat wire (following manufacturers instructions).

For shower pans greater than 84" or any Offset Drain Pans, 1/2" tile backer is required on the bathroom floor if your pan recess is 3/4" to achieve a flush transition. Due to the overall length to achieve the required slope, these Shower Pans are 1-1/4" thick at the perimeter versus the standard 1" thickness.

For full curb-less installation requirements, please visit our website EmperviousSystems.com or scan [HERE](#):

