

# Installation Instructions

## TrueDEK® Classic

ARC inc.



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**I**nstalling a TrueDEK® shower foundation on top of properly supportive framing is an easy and fast process, and the decorative design options are unlimited. When finished, you'll enjoy a beautiful, curbless, spa-style shower.

TrueDEK structural, pre-pitched, tileable foundations provide the flexibility to build showers of nearly any size on wood or engineered joist systems, or on concrete. And the shower's pitch begins at the same elevation as the subfloor, so there's no need to lower or raise the floor or re-engineer a code-compliant support structure. Your shower surface will align with the surrounding floor for graceful, enlightened transitions and universal accessibility.

After reading through this step-by-step presentation, you'll know how to install a TrueDEK tileable shower base directly on wood joists in a common bathroom situation. This detailed example provides practical, straight-forward tips and techniques that will be useful for installing TrueDEK foundations in most shower projects. Keep in mind that every successful installation begins with a well constructed load-bearing joist structure. Once that prerequisite is satisfied, the rest is easy. And you'll be surprised how quickly an installation moves along when the underpinnings are strong and level. With an ARC system, it's possible to install and waterproof a shower base in one day, and tile the next day.

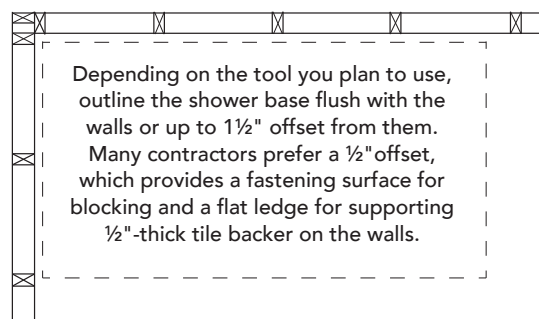
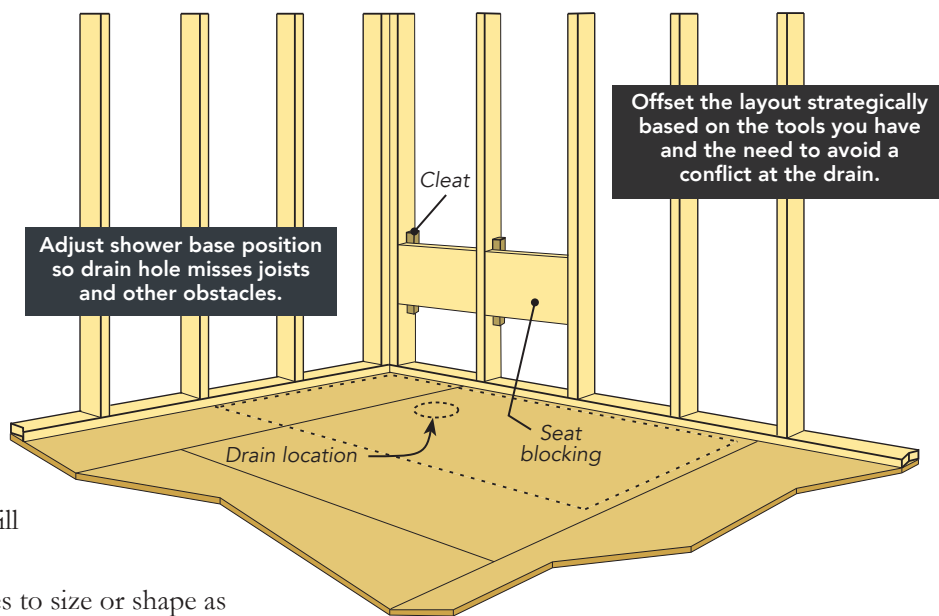
# Layout Tips

Begin by outlining the shower base on the subfloor. Since the drain hole is off-center, you can turn the base and maneuver it to avoid interference with joists (joist locations are usually easy to spot based on nailing patterns) and other obstructions. Installers often pull the shower base away from the walls a bit—the amount depends on the tool used for cutting the subfloor. Don't worry about small gaps between the base and walls; they'll be covered when you fasten tile backer to the walls or you'll fill them, if necessary.

Remember, you can cut these shower bases to size or shape as you want—just keep the cuts at least 6" from the drain hole. If you cut off any prebored pilot holes, simply drill new countersunk pilot holes along the new perimeter about 8" apart.

With framing exposed, this is a great time to take care of other possible needs a homeowner eventually might have—what we call *future-proofing*. For a shower seat, install 2x blocking between studs at appropriate locations using cleats. Also, consider adding 3/4"-thick plywood for installation of grab bars and accessories. Install the plywood between studs, again using cleats.

Typically, shower area stud walls will be covered with 1/2"-thick tile backer, which will match up perfectly with 1/2"-thick drywall used to cover framing in the rest of the bathroom. Always check with your local code authority for material requirements and usage.



## Choose a Foundation, Drain Assembly, and Waterproofing Kit

To install an ARC TrueDEK® shower system you'll want to select a shower foundation, a drain assembly for tile, and a waterproofing kit. ARC offers several drains and three waterproofing kits to meet most needs, and all waterproofing materials are also available separately in case you need more to complete a project.

Our Premium Waterproofing Kit (shown below) includes many convenience items in addition to ARC's proprietary TANK/10® liquid waterproofing compound and reinforcement tape supplies—we highly recommend this kit for first time installers as it puts all odds and ends at your fingertips, and avoids an extra trip to the store. ARC's Standard Waterproofing Kit contains the same waterproofing supplies as the Premium Kit, though without the convenience items. For a slimmed down option, our Pro Kit has enough tape and compound to cover a shower base only (developed to serve installers who prefer to use other waterproofing materials on shower walls and the surrounding floor).

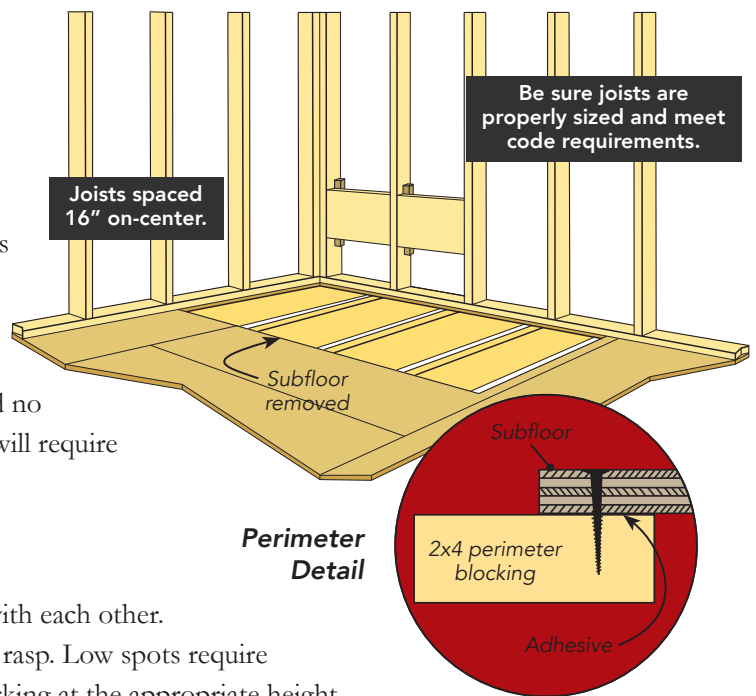


Requirements of every project are different, depending on the complexity of the shower, the presence of a built-in bench or shelving niches, the number of joints between tile backer panels, and the amount of area to cover. Please see our TrueDEK® shower system catalog for details on shower foundation sizes, drain style and color options, and the complete line of waterproofing supplies. To view ARC's catalog online go to [www.arcfirst.net](http://www.arcfirst.net).

# Cut the Subfloor

Use a flush cut, circular, or reciprocating saw to cut the subfloor along your layout lines. For your safety and to prevent accidental damage, check for electric wiring, plumbing, and ductwork before you make any cuts. If you can't view joists or utilities from below, consider cutting out small access holes within the shower base layout first, so that you can reach in to feel for obstructions. Set the depth of the circular saw blade to avoid cutting into joists.

To properly support the shower base, joists must be spaced no more than 14½" apart (16" o.c.). Anything greater than that will require additional blocking to meet the 16" o.c. spacing interval.



# Add Blocking

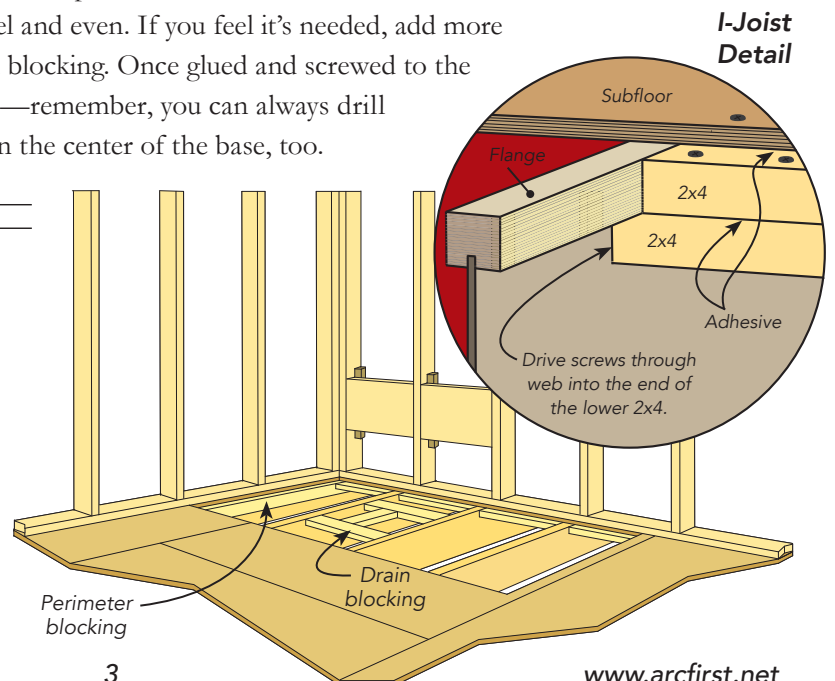
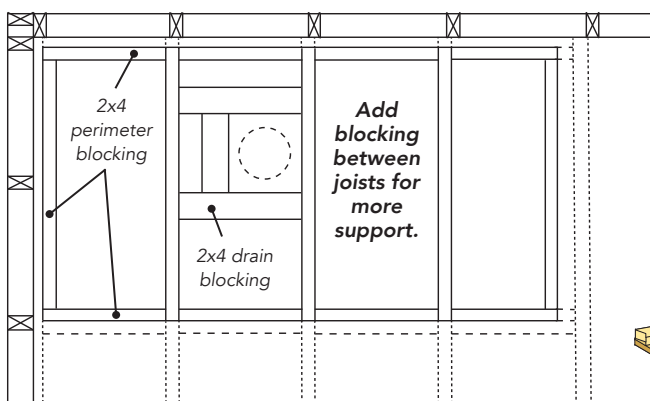
Using a long spirit level, check that joists are level and even with each other. If there are high spots, remove material with a belt sander or rasp. Low spots require shims, or better yet, alongside low joists fasten 2x4 sister blocking at the appropriate height.



Next, add blocking to support all edges of the shower base and the adjacent subfloor edges. You want a full 1" or more of support under every shower base and subfloor edge. The drain hole area also requires blocking. Notice the raised reinforcement ring around the drain hole (at left). It is very important that the reinforcement ring hang freely from all blocking and joists. Locate blocking 1" to 2" outside the reinforcement ring.

The circumstances of every installation are different, so you'll have to sort out the best way to arrange and secure blocking given the situation you have. For typical installations, blocking with 2x4s is sufficient, though you can always use bigger material. Install blocking on edge or, it often works to install 2x4s flat, especially around the shower base perimeter, so that each 2x4 supports both a subfloor and shower base edge (see Perimeter Detail). Apply construction adhesive between any 2x4 and the subfloor, and drive screws through the subfloor to pull the blocking tight underneath. Drive screws, as well, through joists into the ends of all blocking. With I-joists, do not drive nails or screws into the sides of the flanges. The best method is to sandwich two 2x4s per joist bay, as shown in the I-Joist Detail.

After blocking is installed, test fit the shower base. Use a spirit level in all directions to ensure that this *dry run* is spot on—all joists and blocking must be level and even. If you feel it's needed, add more blocking between joists; you can never have too much blocking. Once glued and screwed to the substructure, a TrueDEK base will become very rigid—remember, you can always drill countersunk pilot holes and drive screws to hold down the center of the base, too.



# Setting the Base

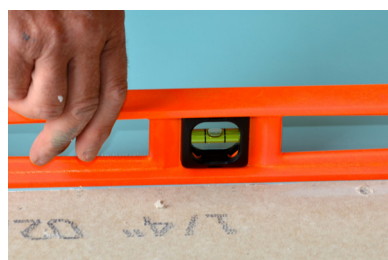
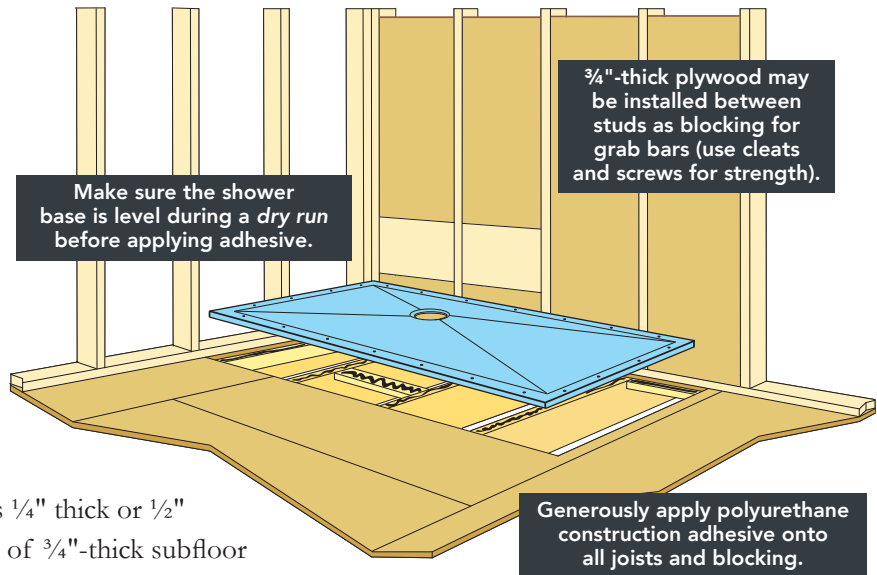
Once you're satisfied that the shower base is resting solidly and evenly on all joists and blocking, that it is level all around, and you're sure the drain reinforcement ring hangs freely from all obstructions, you can proceed with the TrueDEK installation.

Ideally, you want the top surface of the shower base, when installed, to be slightly lower than the surrounding floor after tile backer is installed over the subfloor. Typically, subfloor is nominally  $\frac{3}{4}$ " thick, and tile backer is  $\frac{1}{4}$ " thick or  $\frac{1}{2}$ " thick (check your local codes). The combination of  $\frac{3}{4}$ "-thick subfloor and  $\frac{1}{4}$ "-thick tile backer is ideal with a TrueDEK base placed directly on joists. If your local code requires  $\frac{1}{2}$ "-thick tile backer, then cut  $\frac{1}{4}$ "-thick plywood to fit the shower base cutout and fasten it to the joists and blocking with construction adhesive and screws before installing the shower base on top of it.

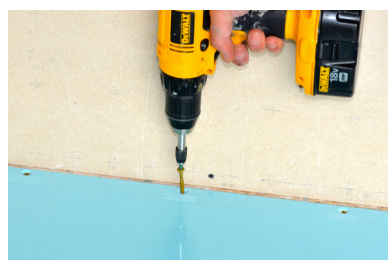
For purposes of this installation example, we'll assume that the shower base will be installed directly on joists and blocking. With your caulking gun loaded, apply thick, continuous beads of polyurethane construction adhesive to the top edge of all joists and blocking (be sure the adhesive you use states that it bonds with plastic and wood). Be generous with the adhesive—it will fill gaps, and ensure continuous bonding and support of the shower foundation. Use a minimum of five 10 oz. tubes of polyurethane construction adhesive for the installation of any TrueDEK foundation that's 15 sq. ft. or more in size.

Next, gently set the shower base into the adhesive and slowly press it downward until the base is firmly in position. Drive #9 x 2" ceramic-coated screws into the pre-bored pilot holes around the perimeter. If you've cut away any of the perimeter holes, drill new  $\frac{3}{16}$ "-dia. countersunk pilot holes about 8" apart. You'll get the best results by driving screws incrementally so they apply pressure uniformly around the base and keep it level. If necessary, drill countersunk pilot holes and drive screws in the middle area of the base to remove flex, though the adhesive will harden and fill most gaps.

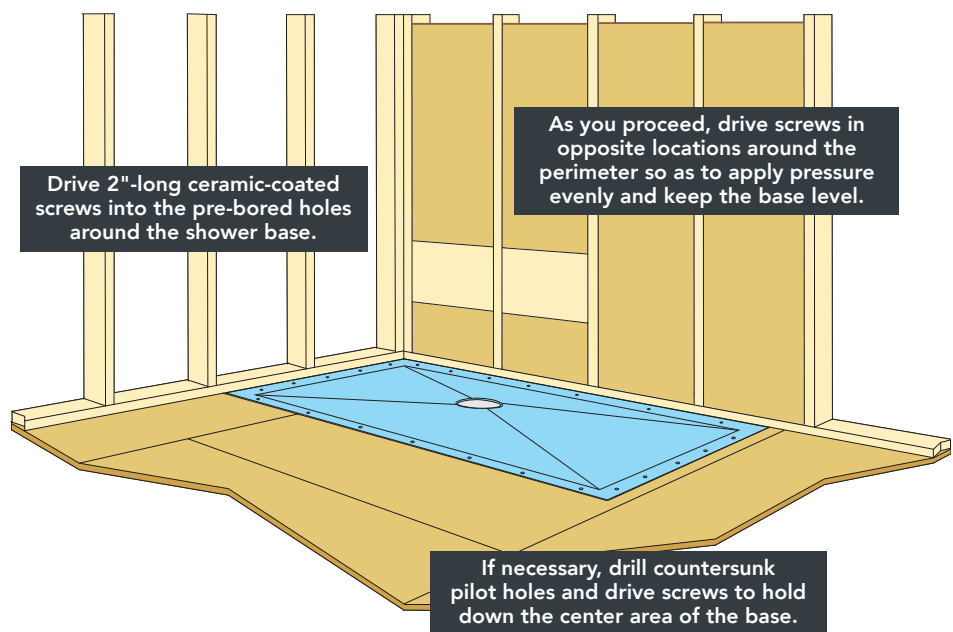
As you drive the screws, continually check the installation for level all around. You may need to back off a screw here and there to keep the base level. **THE SHOWER BASE MUST BE LEVEL.** After the base is secure and level, install the drain connector and drain adaptor as described on page 5.



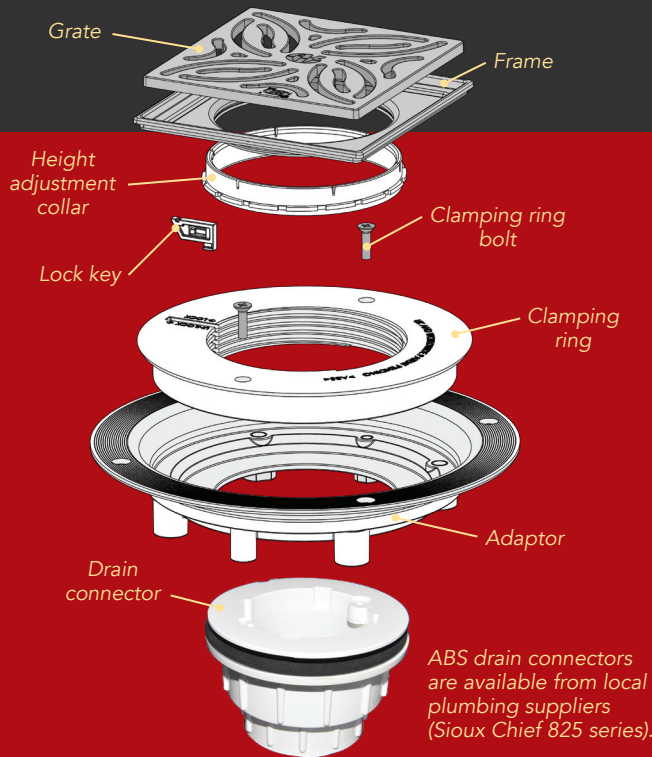
Make sure the shower base is level (bubble centered) all around. Check as you go.



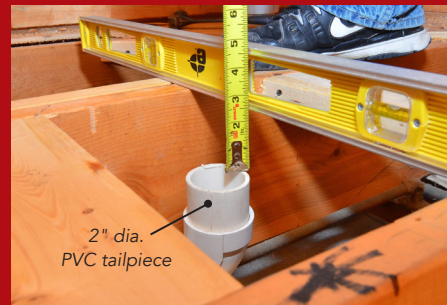
Drive perimeter screws so they are snug, but not so tight as to unlevel the base.



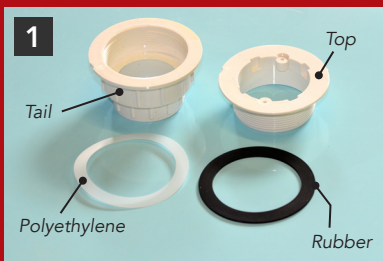
# Install the Drain



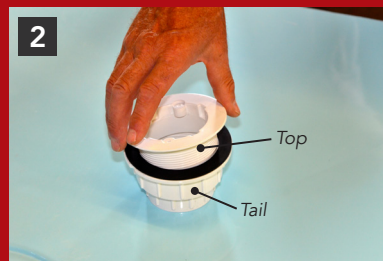
Each drain assembly for tile includes a shower drain connector. The instructions below will guide you through the drain connector and adaptor installations—all other drain assembly parts will be added later, after completing the waterproofing. Store all drain parts securely, especially the clamping ring bolts since they're easy to lose (just in case, they're flat head, 70 pitch, 4mm x 15mm stainless steel).



If you need to prepare the drain line before installing a shower base, cut the pipe 2 $\frac{3}{8}$ " to 2 $\frac{1}{2}$ " below the shower base's support structure.



The drain connector includes a female-threaded tail, polyethylene and rubber gaskets, and a male-threaded top.



When assembling the connector onto the adaptor, the polyethylene (clear) gasket goes underneath the rubber (black) gasket.



Solvent weld the PVC tail to the PVC drain line. Local code may require that a licensed plumber complete this step.



Put a bead of acrylic caulk (not silicone as it prevents adhesion of waterproofing) on the shower base and position the adaptor.



Use a 1/8" dia. drill bit for pilot holes.

Drill the four pilot holes, then drive the stainless steel screws (supplied with the drain) so they're snug—do not overtighten.



Fill gap

Wet the end of your finger and spread the squeezed out caulk to fill the gap around the adaptor.



Apply caulk to the top's flange. Here, you can use acrylic or silicone caulk, since there's no contact with waterproofing.



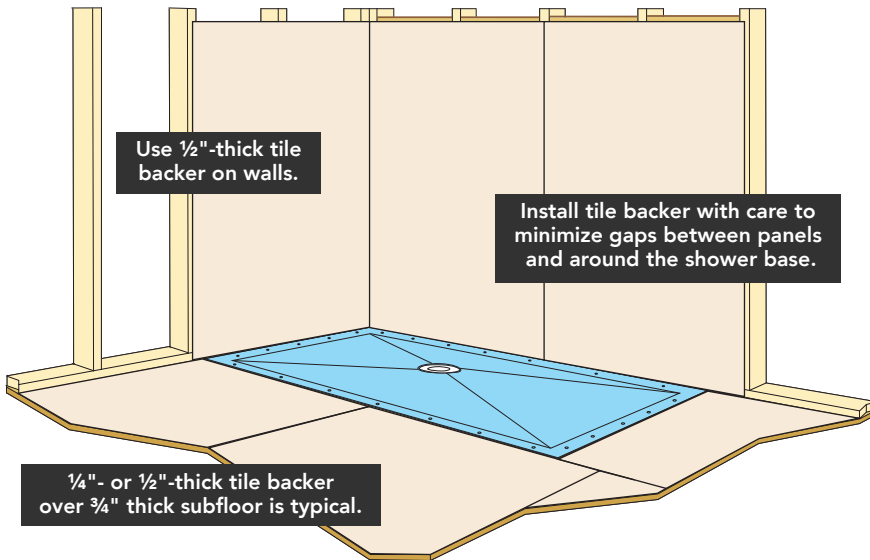
Connect top with tail after positioning the gaskets.

Reach into the hole with the gaskets and set them on the tail flange (clear gasket under black), then thread the top in by hand.



Speed square

To seal the drain connection, gain leverage by inserting a "speed square" into notches in the top, and turn the top until tight.



## Add Tile Backer

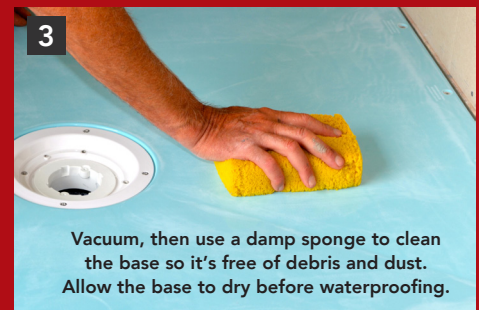
Use of fiber cement tile backer is recommended as a substrate for tile, though you should consult your local codes for all requirements. We like fiber cement tile backer because it's easy to handle and cut, and you can quickly sand the edges that butt against the shower base. Install tile backer according to the manufacturer's instructions using the specified screws. Some professional installers like to use an uncoupling membrane on the floor outside the shower base, which is fine.

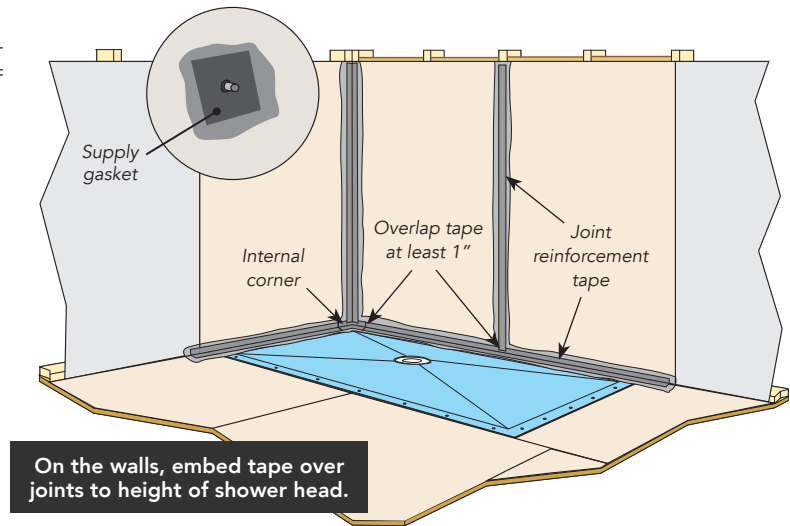
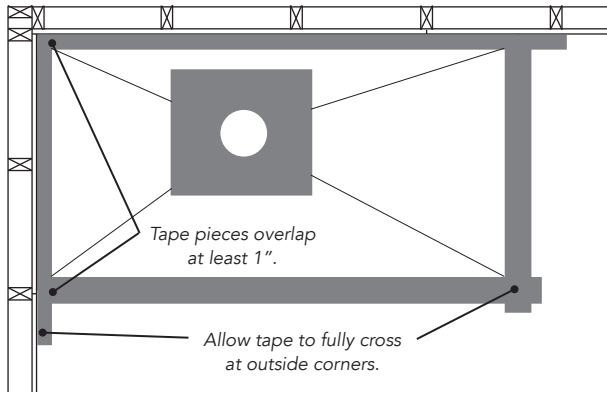
## Prepare for Waterproofing

Once tile backer is fastened to the walls you can take care of a few preparation details before moving on to the waterproofing steps. First, scuff the surface of the shower base with an orbital sander and sandpaper between 80 and 120 grit. Scuffing the shower base cleans it (removes oil from handling, footprints, dirt, etc.) and improves adhesion for the waterproofing compound. Use an orbital sander or a belt sander to blend the edges of the tile backer with the shower base. Sand the tile backer edges to a slope that roughly immitates the adjacent slope of the shower base. Later, when you install tile with thinset mortar, you will be able to blend these transition areas perfectly.

After finishing with the sander, vacuum all dust and debris from the site. Make sure you clean all cracks and crevices to remove every bit of sawdust and debris—you don't want anything to prevent joint tape from laying perfectly flat. Followup with a sponge and a bucket of water to clean the area thoroughly, then let it dry completely.

When you're satisfied with the clean up, fill all voids ( $1/8$ " and wider) to provide solid backing for the reinforcement tape and waterproofing compound. This typically includes all screw holes in the shower base, gaps around the shower base, and gaps between tile backer panels. Acrylic caulk does a great job as a void filler and it skins over in 30 to 60 minutes. You do not need to wait for the caulk to cure or harden before moving on to the waterproofing steps.





## Cover All Joints

Cut tape to length with a utility knife or scissors for each joint before tackling the waterproofing—batching saves time and it's best to do this now, with clean hands. For projects with a lot of joints to cover, consider numbering each reinforcement piece and its corresponding location. Allow for overlaps of at least 1" where tape pieces meet, except at outside corners of the shower base, where you want tape pieces to completely cross. Plan to embed wall joints to the height of the shower head.

So that you can avoid reaching over wet waterproofing, it's best to begin bedding tape at the back of the shower and work your way toward the front—all surfaces must be clean and dry. Start by embedding an internal corner reinforcement at the back wall-to-floor joint(s). Embedding tape follows the same procedure everywhere: 1) brush waterproofing compound onto the surfaces along a joint to coat an area that's a little bigger than the tape itself, 2) set the tape into position and press it into the compound with the brush (or lightly with a putty knife) to ensure uniform contact and eliminate air bubbles—be sure to remove any debris, and 3) brush waterproofing compound over the tape.

Once the wall-to-floor corners at the back of the shower are covered, embed tape over all wall joints, then cover the wall-to-floor joints. Keep in mind that, for wall-to-floor joints, you can fold the tape to make one leg longer than the other so as to cover floor joints set away from the wall, as happens when the shower base location is offset from the wall. If folded tape doesn't cover a joint, you'll need to embed another piece of tape to cover it. Proceed in this manner to cover all joints in the shower, and to install the supply line gasket(s)—every supply fitting requires a gasket. Lastly, embed tape over the outside joints of the shower base.

For a wet room treatment, continue by covering floor-to-wall joints and all corners throughout the room.



# Embed the Drain Gasket

Embedding the drain gasket follows the same sequence as the joints. Brush waterproofing onto the shower base in an area a bit larger than the gasket. Make sure you get waterproofing over the rim of the adaptor. Use the brush to gently press the gasket into position, then brush waterproofing over the gasket. Position the clamping ring and drive the two bolts by hand (do not power drive these bolts as you may strip the threads) to ensure a snug, but not too tight, fit. And lastly, brush compound onto the clamping ring, being careful to avoid getting waterproofing into the ring's height adjustment threads and lock key.



## “Tanking” the Shower

With the tape and gaskets embedded, *tank* the shower with two full coats of waterproofing compound. Waterproofing applied earlier does not have to be dry before applying the first full coat. Make sure you waterproof beyond the base by 12" or so. For a wetroom, cover the entire floor and up the walls 2" to 3".

Allow the first coat to dry (typically 1½ to 2 hours, depending on humidity, air flow, and temperature) before applying a second full coat. To encourage faster drying, you can use a dehumidifier and fan. Allow the second coat to dry at least 12 hours before performing a water test or installing tile.

Prior to tiling, test fit the drain grate, frame, and height adjustment collar subassembly—make sure the collar threads into the clamping ring and the lock key slides easily (clean out any waterproofing that might interfere with the operation of either component). You can adjust the grate elevation right up to the moment you tile around it—ideally, set the grate so that it's slightly below the surface of your tile.

