

# Installation Instructions

## ShuffleDEK®

ARC inc.



Watch our installation videos:  
[www.youtube/ARC1st](http://www.youtube.com/ARC1st)

**W**ant to build a linear drain curbless shower quickly and without error? ARC's ShuffleDEK is the way to go. These bases are very strong and thin, which allows them to rest directly on top of joists and align flush with surrounding subfloor materials without cutting joists. Notching joists weakens the framework, which requires time and money to fix, and often demands that an engineer specify repairs to prevent excessive deflection. All this fuss is very expensive and causes delays. And keep in mind that some joists, like truss joists and TJI's, can't be cut at all; instead, the whole structure has to be altered — an even bigger expense.

Because it has a completely flat bottom, installers can place a ShuffleDEK in any orientation on the joists—no gully hangs down to limit the installation. This flexibility is a big plus.

With a ShuffleDEK installers also enjoy a first-of-its-kind, adjustable, completely sealed drain outlet that makes it easy to avoid most conflicts with joists. After adjusting the drain outlet to the left or right, you'll bypass an obstacle and have plenty of room for the drain line connection.

The ShuffleDEK offers a single pitch plane, which is ideal for laying large format tile without the need for valley cuts.

Successful ShuffleDEK installations, as with all ARC showers, begin with a well constructed, level, and even joist structure. Once the framework is properly prepared, shower construction moves along quickly. With an ARC system, it's common to install a base and waterproof the shower in one day, and be ready to tile the next day.

# Prepare the Site

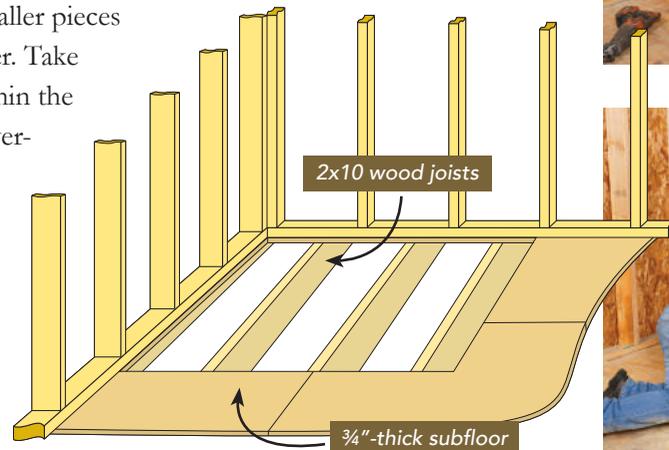
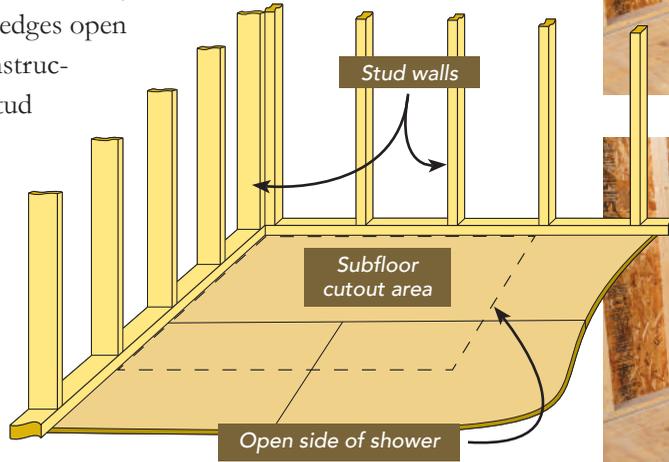
Place the ShuffleDEK upside-down on the subfloor and position it as you wish for the installation. To properly position the ShuffleDEK, make sure its back edge (the edge behind the drain) is against a stud wall; as for the side edges, you can choose to have both of them butt against stud walls (as in an alcove), or leave one or both edges open for side entry and exit. For these instructions the left edge is set against a stud wall and the right edge is open so that all edge treatments can be demonstrated.

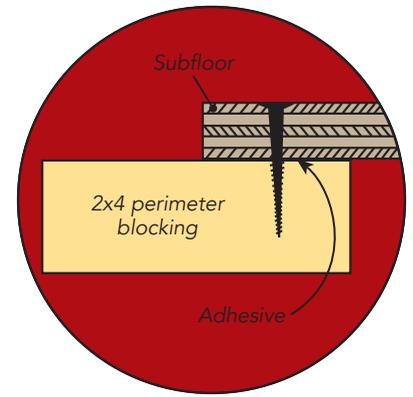
Please note: there is a slight step transition from the sloped shower base to the adjacent, unsloped floor in open-sided installations.

Once you decide on the ShuffleDEK's position, outline the perimeter of the base with a carpenter's pencil or black marker, then push aside the base to cut the subfloor. In most cases you'll want to use a circular saw and a reciprocating saw for the cutting. Set the cutting depth of the circular saw blade to match the thickness of the subfloor, which is usually  $\frac{3}{4}$ ". For your safety during the cuts, it's best to shut off electricity that runs through wires beneath the subfloor. Do not cut into "hot" wiring!

The subfloor may be glued to the joists, in which case cutting the waste area into smaller pieces will make their removal much easier. Take out the screws or nails that are within the waste area, then use a prybar to lever-age the waste away from the joists.

It's a good idea to check the joists for level and for evenness. You will need to correct any issues with the floor framework at this time, before you begin to add blocking to support the base and subfloor.





**Perimeter  
Detail**

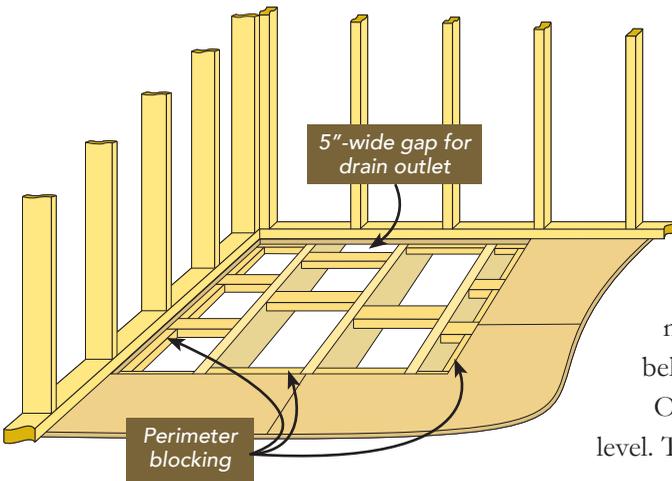
## Block Joists and Test Fit Base

Blocking between joists for a ShuffleDEK installation will vary depending on site details, but the principles are always the same. You want to install 2× blocking to support the entire perimeter of the base and the adjacent subfloor, except in the joist bay where the drain outlet lands. To support the drain outlet, allow a 5" gap between the blocking and the edge of the subfloor cutout—the drain outlet will fit into the gap. In addition to perimeter blocking, add blocking in each joist bay to stiffen the base. Blocking the site in a manner like the drawing and photos show will do the job handily.

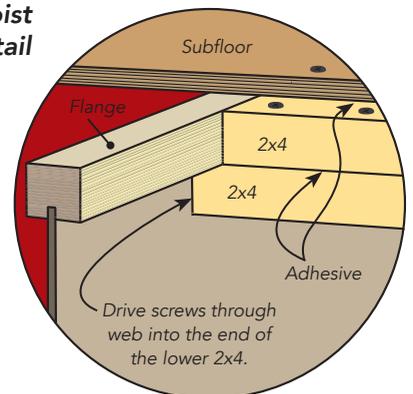
Fasten blocking to joists using 3"-long screws. To fasten subfloor to blocking, 2"-long screws will do, and it is a best practice to apply construction adhesive to blocking surfaces that support the subfloor (see Perimeter Detail). For TJI's, fasteners should penetrate the web or into the top and bottom of the flange, but not through the sides of the flange, as shown in the I-Joist Detail below. Stacked 2×4s for blocking works well with TJI's.

Once you complete the blocking, test fit the base and check it for level. The base must be level in all directions. You'll need to correct any

out-of-level results. The base must also rest evenly on the support framework—high or low spots can result in flex or distort the base when it is fastened down. After it is glued and screwed to properly prepared joists and blocking, a ShuffleDEK will be very rigid.

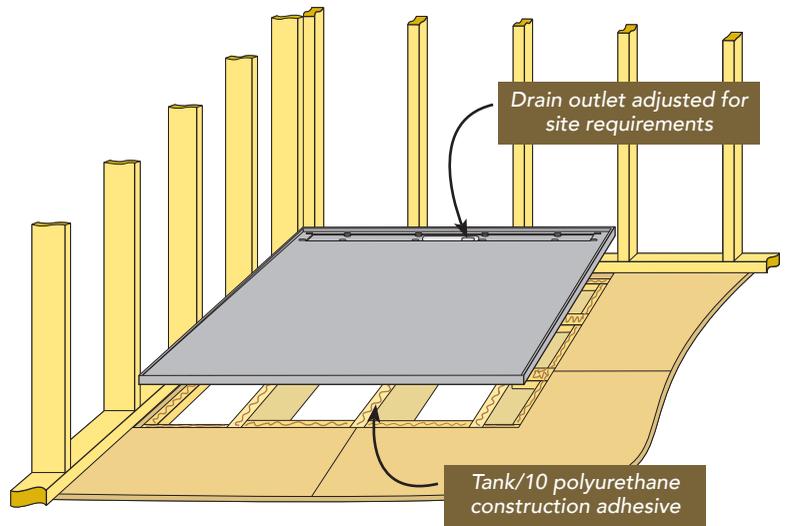


**I-Joist  
Detail**



# Install the Base

After successfully dry fitting the ShuffleDEK, drill  $\frac{3}{16}$ " diameter pilot holes near the edges of the base so they align with the joists and blocking below—space the pilot holes about 8" apart. Countersink the pilot holes so that screw heads sit slightly below the surface of the base. If you feel it's needed, there is no problem drilling pilot holes in the field area of the base—everything will get covered with waterproofing before laying tile. Do not drill holes in the drain gully.



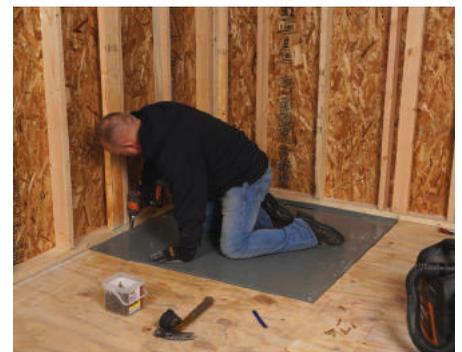
Vacuum your jobsite clean, then remove the base from its position on the framework. Now apply Tank/10 polyurethane construction adhesive to all blocking and joists. You must use high quality polyurethane construction adhesive that bonds well to plastic, fiberglass, and all types of wood and engineered wood surfaces. Apply the adhesive generously—use at least 4 tubes per ShuffleDEK.

Set the base into position on the framework and drive #9 × 2"-long fasteners into the pilot holes to snug the base to the framing. Don't overtighten the screws as you will squeeze out too much adhesive. Continually check the base to see that it is level in all directions. **THE SHOWER BASE MUST BE LEVEL.**

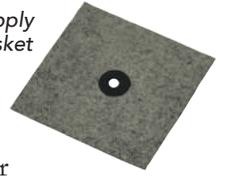
Install  $\frac{1}{2}$ "-thick tile backer board on the stud walls and  $\frac{1}{4}$ "-thick tile backer on the subfloor (assuming  $\frac{3}{4}$ " subfloor)—follow manufacturer's instructions. You'll see that tile backer on the walls rests on the ShuffleDEK upstands for a perfect match.

Sand the ShuffleDEK surface with 100-grit sandpaper to clean it and to scuff the surface for the best adhesion of Tank/10 waterproofing compound.

Vacuum all dust and debris, then use a sponge and clean water to thoroughly clean all shower area surfaces. All surfaces must dry thoroughly before proceeding. Once the floor and walls are dry, use acrylic latex painter's caulk to fill gaps over  $\frac{1}{8}$ " wide around the shower base and between tile backer panels. Apply the caulk, then flatten the beads with a gloved finger, putty knife, or stick, and remove any excess.



Supply  
gasket



# Waterproof All Joints

The first step with waterproofing is to cut joint reinforcement tape for all joints around the shower base and the walls in the wet area of the shower. It is always wise to waterproof joints at least 12" beyond the defined shower area to ensure that no moisture can penetrate into the walls or floor.

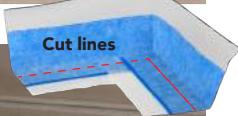
Next, cut a standard internal corner to fit any inside corners of the shower—in this demonstration, the rear, left corner. Just trim the corner to fit around the lugs of the drain area of the ShuffleDEK. You do not want the corner tape to enter the drain gully.

Begin embedding tape starting with a rear corner. Spread a generous amount of Tank/10 waterproofing compound on the base and walls in an area slightly larger than the corner tape. Back-butter the corner tape and press it into position. Now spread more compound over the corner tape, putting a little bit of pressure on the brush to make sure the tape is in complete contact with the walls and floor.

You'll want to embed a supply gasket at every water source. Use the same procedure as with the internal corner, including the back-buttering step.

For any open-side installations there is a transition tape required for waterproofing the spot where the shower base, the wall, and the surrounding floor meet. A transition tape is included with every stainless steel trim piece, which you'll also need for open-side installations. Every trim and transition tape is right-handed or left-handed. In this example, we are using right-handed trim and transition tape. Embed the transition tape as you would any joint tape.

Follow the same basic routine for all joint tape segments—brush compound along each joint, set tape into the compound (no need to back-butter gray tape), then brush more compound over the tape. Do this for all joints in the shower area and beyond for at least 12".



# Full Coats of Waterproofing

After embedding tape over all joints, proceed to roll on a full coat of waterproofing. As always, apply the compound generously with a 1/2" nap roller. Make sure your paint roller strokes criss-cross each other in an 'X' or 'W' pattern to ensure complete coverage of every bit of the shower area.

Allow the first coat to dry completely, usually in a couple of hours. To accelerate the drying time, put a fan or dehumidifier in the room. In high humidity conditions the compound will take longer to dry.

With the first coat totally dry, you can now add a second full coat to the area. Two coats ensures complete coverage and will provide a dependable waterproofing shield for the materials underneath.



# Considerations Before Tiling

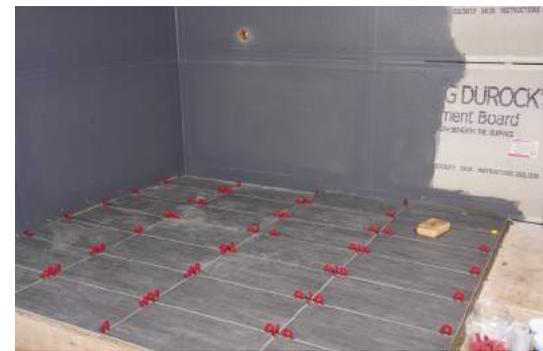
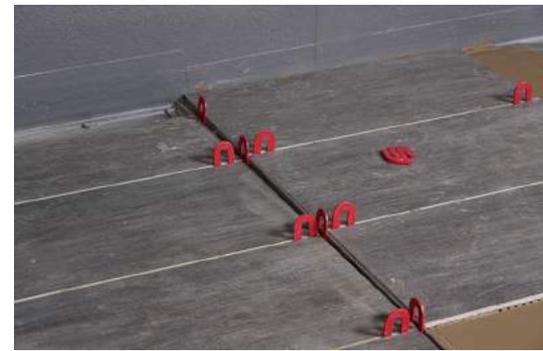
As mentioned earlier, the transition between the shower base and adjacent floor in an open-sided installation requires a special stainless steel trim piece. These are available in right and left hand units, in lengths to fit all ShuffleDEK models, and in different heights to work with tile of different thicknesses (see ARC's catalog).

Trim pieces are installed by embedding them in thinset mortar as you lay tile. When you have a trim piece in hand you will see that it has a flange with many holes so that it can be pressed into the mortar for a secure bond.

Lay tile up to the trim piece, allowing for grout gaps on either side. The wedge-shaped small amount of stainless steel trim that remains visible is attractive and provides a fine finished appearance to the shower floor.

Behind the drain, bring wall tile right down to the shower floor. There will be a gap that remains between the face of the tile and the drain cover. This gap, along with gaps outside each edge of the drain cover, facilitate drainage. The narrow gaps provide a discreet drainage allowance befitting a modern shower design.





# Tile to Completion

ShuffleDEK bases are ideal for large format tile, though they certainly can be covered in mosaic tile, too. Please choose a tile that will not be slippery when wet. This is one concern associated with large tile.

Before you get rolling with the tile, take a moment to coat the inside of the drain cover with Tank/10 waterproofing compound. Tank/10 bonds tenaciously to many surfaces, including metal, and it provides a bonding layer for the modified thinset mortar used to install tile in the cover. Remove any compound from the rim and outside of the cover to maintain the cover's appearance.

Tiling will most likely begin in the corner of the shower base. As you progress, apply mortar to the transition edge of the shower base and install the trim, pressing the flange into the mortar. Once the trim is in position you can add tile on both sides of it (allow for grout). From this point you continue with the floor tile.

After completing the floor tile apply the wall tile. Remember, wall tile should come right down to the shower base behind the drain. Aside from this drain area consideration, tiling the walls is straightforward.

To install tile in the drain cover, simply apply a layer of mortar in the appropriate thickness and bed the tile. Bear in mind that you want the tile in the cover to end up flush with the tile on the shower base. Matching grout lines in the cover with grout lines in the adjacent floor adds a professional touch.

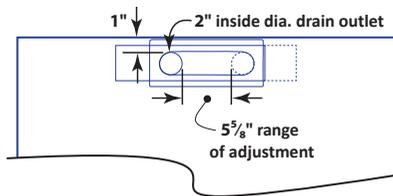
Add the rest of your wall tile, then grout, and your curbless ShuffleDEK shower approaches completion. The overall look is impressive, and you'll save time and effort compared to any other curbless, level-entry shower construction methods.



# Drain Connection

Among the many advantages of a ShuffleDEK is the adjustability of the drain outlet. The drain mechanism is totally sealed at the factory and should never leak, even after sliding it back and forth to position the outlet to miss obstacles like joists, wiring, plumbing pipes, and so forth. About the only instance when the ShuffleDEK drain will fail to miss a joist is when a joist is located under the drain and parallel with the travel of the drain outlet.

Sliding the drain outlet along the track takes a firm push or pull, or you can spare your hand from this abuse and use a rubber mallet (or a hammer and a block of scrap wood to protect the outlet) to tap the outlet into position. Be sure to allow clearance for the no-hub coupling to slip over the outlet — the wall thickness is about  $\frac{3}{8}$ ".



No-hub coupling —  
Fernco #1056-22  
for 2" ID drain pipe

A no-hub coupling is supplied with each ShuffleDEK — Fernco model 1056-22. These couplings or comparable units are widely available through plumbing suppliers. You'll want a model that fits 2" inside diameter (ID) plumbing pipe.

The coupling slips over the drain outlet and is secured by tightening the top band clamp with a screwdriver or socket wrench (installation torque: 60 lbs.). Do not overtighten the clamp as doing so may break the mechanism — band clamps are easily acquired at hardware stores. After inserting a plastic drain line into the coupling, tighten the second band clamp to complete the connection. The use of no-hub couplings is code approved throughout North America.

Please be aware that to complete the drain line connection, you must have access from below the installed shower base. A drain line connection cannot be completed from above the ShuffleDEK.

