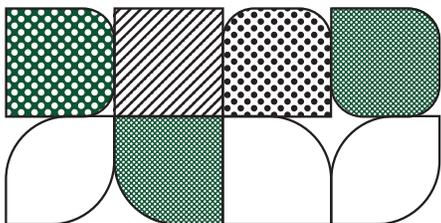




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1. INSTALLING IVY HILL TILE

These instructions are meant to be a guide for most installations, under normal conditions. Please follow best practice instructions found in the [Tile Council of North America \(TCNA\) 09300 Handbook](#) for specific installation types.

Before getting started, inspect all installation materials—including tile, substrate, Thinset, and grout—and be sure they are compatible with one another.

Always use appropriate personal protective safety equipment when handling, drilling, cutting, or grinding tile—such as (but not limited to) eye, ear, and hand protection.

2. SUBSTRATE PREPARATION

An installation is only as good as the structure it rests on. While the preparation for installation will depend on whether the substrate is gypsum board (dry wall), cement board, concrete masonry units, or plywood, all substrates must be structurally sound and free from any sealers or contaminants—for both vertical and horizontal installations. Avoid plywood, as it will warp and is less water-proof, even after tiling.

Installer Tech Tips:

- Try the drip test. Drip water on your substrate. If water is absorbed, your mortar adhesive will have a mechanical and chemical bond. If the water beads up, there is a bond breaker, possibly wax or sealer, on your substrate, which must be removed.
- Use a straight edge and level. According to ANSI A108.02, deviations of flatness on the substrate should not exceed 1/4 inch of change in 10 feet, 1/8 inch for most tiles, with no bump greater than 1/16 inch.
- Always check your adhesive instructions, noting the suitable substrates and limitations.

3. LAYOUT

Take careful measurements of your space and develop a layout plan. To ensure the final look will meet your expectations, dry-lay your tile or create a mockup prior to installation to confirm your final layout, cut locations, grout joint size, and overall look. Use proper equipment—wet saw, drill bits, snap cutter, or grinder—to cut your tiles. Be sure to follow all safety precautions and protections recommended by manufacturers.

Installer Tech Tips:

- Grout may discolor tiles. To minimize discoloration, set tiles with a 3/8-inch grout joint and use a grout bag.
- Lay out your mosaic sheets in a brick pattern, if possible. This should help conceal the sheets' perimeters and make the installation appear more seamless.
- The amount of adhesive needed will depend on tile size.
- Tiles larger than 3-by-3 inches should be back-buttered with a continuous layer of Thinset applied with the flat side of the trowel.

4. CUTTING

Use a glass cutter (score and snap) with a new diamond wheel for best results when cutting glass tiles. Wetting the diamond wheel with oil before cutting will produce the smoothest cuts. In some cases, it may be possible to use a wet saw with a new, continuous-rim diamond blade specifically designed for cutting glass. To cut angles without a wet saw or grinder, drill a small hole at the apex of the angle prior to cutting. In most cases, this will allow the use of a score and snap cutter and avoid small cracks that can happen at the angle. Cut edges and corners will be sharp. Edges can be sanded after cutting.

5. DRILLING

If possible, drill holes before installing tile, and if the hole will be visible after installation, drill from both sides to ensure a cleaner finish. Use a new diamond coring bit (for large holes) or a spade bit (for small holes) with a diamond tip made for glass drilling for the best results. Lubricating the bit and tile surface with a continuous spray of oil/water mix will prolong the life of bits and provide a better-finished edge. When possible, the use of a jig will ensure precise placement of holes to be drilled. When drilling holes for anchoring bolts, provide a minimum of 1/8 inch clearance around the tile to prevent cracking due to disparate expansion and contraction rates or stress transfer.

6. ADHESIVES AND MORTAR

Make sure to use the proper directional troweling techniques and proper trowel size. To achieve the appropriate coverage, refer to the trowel chart below:

Longest Edge Measurements Tile Size	Suggested Trowel Size
Mosaic Tile	1/8" x 1/8"
2" through 3"	1/8" x 1/8"
3" though 6"	1/4" x 1/4"
6" through 12"	1/4" x 3/8"
12" though 24"	1/2" x 1/2"

If you are installing tile with any edge greater than 15 inches, be sure to use a large-format mortar specifically made for large and heavy materials.

Install overview:

1. Mix the mortar according to instructions.
2. Clean the substrate with a damp sponge.
3. With the flat side of the trowel, "burn" the mortar into the substrate.
4. Trowel material onto the floor or wall with the appropriately sized trowel in a consistent direction, leaving a ridged setting bed.
5. Lay the tile in the mortar and flatten the mortar ridges by pushing the tile perpendicular to the trowel direction.
6. Install spacers or wedges as needed.
7. Make sure grout joints are clean.
8. Pre-seal the tiles. This step will help your tile avoid the absorption of grout pigment. We recommend the Laticrete BulletProof Sealer.
9. Let the system cure fully before grouting, usually 24 hours.

Installer Tech Tips:

- Don't work too far ahead. Make sure that the mortar stays fresh and has not skimmed over.
- Mosaic tile sheets can be offset to hide some sheet joints.
- Use a beating block or grout float to set your mosaic tile.
- Take a step back and make sure the size of the perimeter joints between sheets is the same as the joints within each sheet. If you can make out the individual sheets, you may need to adjust them by removing tiles from the edge to bridge the gap.
- Minimum mortar coverage should be evenly distributed and cover 80 percent of tiles in dry areas and 95 percent in wet areas. Once you set tiles, pull up a couple to check for proper coverage.
- Choose the appropriate grout joint size; remember, smaller is not always better. Grout joint size depends on how consistent the edges of your tile are.
- For proper directional troweling: <https://www.youtube.com/watch?v=Way5bMh-eYg&t=31s>

7. GROUT

Grout can make or break a new tile project. A great grout job can aesthetically enhance a project, while a poor one can undermine even the best work.

Both sanded and non-sanded grouts are acceptable for use in most cases. We recommend sanded grout for joints larger than 1/8 inch and non-sanded for 1/8 inch or smaller. Non-sanded grout that

is latex- or polymer-modified and compliant with A118.4 should be used for glass and marble material. If sanded, grout must be used for technical or aesthetic reasons (such as with mosaics with larger grout joints), gentle application of grout with a soft rubber float is recommended to minimize the possibility of surface scratching. A mockup or test installation can ensure the best results.

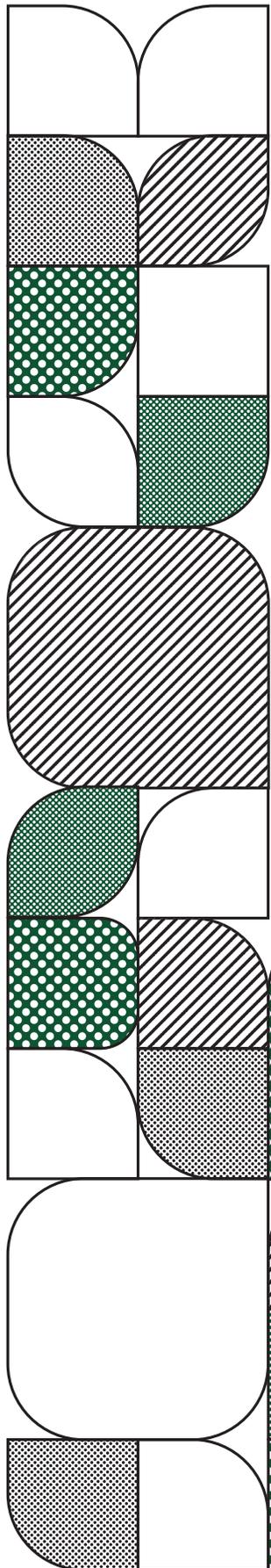
8. INSTALL OVERVIEW

The instructions below are for reference only. Please follow manufacturer's instructions when working with grout. Many tiles are naturally porous. We suggest using a grout release, which will make your grout easier to clean. Grout joints should be a minimum 1/16 of an inch.

1. Mix the grout according to instructions.
2. Remove spacers as needed.
3. Grout with a grout float positioned at a 45-degree angle to press in and fill all the grout joints. Be careful to keep grout in the joints and off the tile.
4. Drag the grout float across the top of the tile at a 90-degree angle as you would with a squeegee.
5. Once the joints are full, clean up with a sponge or scrub pad.
6. After 15-20 minutes, wipe clean once again with clean water and sponge, before allowing to cure.
7. After the grout has dried, there will be a haze that can be removed by buffing with a dry cloth. If more help is needed to remove the haze, you can use an acid-free remover such as Deterdek to remove it. Acids should never be used for cleaning grout haze.
8. Limit use until fully cured, usually 24 hours.

Installer Tech Tips:

- Clean what you just grouted in a timely manner.
- Clean sponge often. Swipe once, flip the sponge over, and swipe again before rinsing the sponge clean and repeating the process until the area is completely clean.
- Make sure the joints do not have dust or debris in them. Any Thinset that has squeezed up will need to be removed.
- All installations must have movement joints. Use a color-matched acrylic or silicone sealant to provide movement protection. Movement joints are for all transitions: the base as well as inside and outside corners.
- Expansion joints should be installed in all places where tile meets restraining surfaces. Silicone

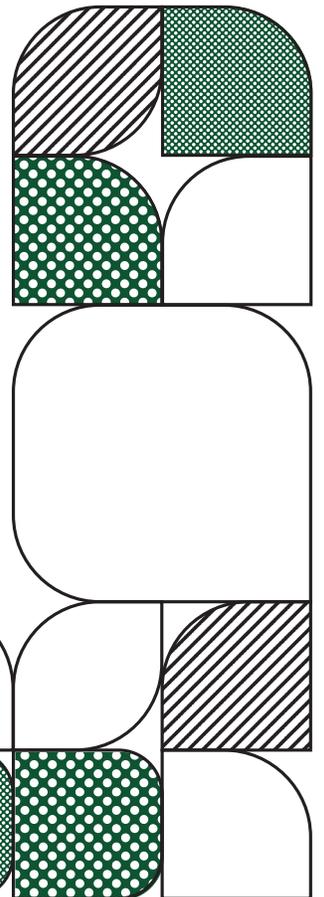


caulking sealant must be installed in all corner joints in place of grout.

- Keep the project area clean. Even the lightest dust could permanently stain any uncured grout joints.
- Use the right grout for your specific installation:
 - Standard polymer-modified grout
 - High-performance cement grout
 - Premixed grout
 - Epoxy Grout

9. CLEANING AND SEALING

Keeping an installation looking new is not as difficult as you may think. Many tiles are naturally porous, so a quality sealer should keep your installation protected. How often you need to reapply will depend on the amount of traffic in the area. Regular cleaning of the area with a neutral pH non-acidic cleaner should do the job. There are more harsh cleaners available if needed. Follow all manufacturer's instructions carefully and always test in a non-visible area before applying to the entire area.



IVY HILL
— TILE —
WHERE DESIGN GROWS