

PORCELAIN INSTALLATION GUIDE



Installing porcelain tile is a process; proper preparation of the base is an absolute necessity for a successful installation. Don't let this dissuade you from a DIY porcelain tile installation! Below are instructions on how to complete your project successfully.

PREPARE

1. The success and longevity of tile installation relies on a solid base. Unless you are dealing with new construction, this usually means removing the original flooring material before you install your new tile.
2. Ceramic and porcelain tile should be installed on a clean, level and rigid floor. If your floors flex or have uneven areas, repair and add support where needed. Follow up with a cement board or fiber cement underlayment. Both are resilient to moisture and impervious to liquids.
3. Choose your installation pattern. There are an endless number of options, and the pattern should reflect the overall tone and look you are trying to achieve.
4. Map out your installation. Measure to find the center of a room on two opposite walls and use these points to snap a chalk line across the room. Do the same on the other walls to create perpendicular line, and check to make sure they are square.
5. Dry fit your tile starting from center point, leaving enough spacing for grout joints. The goal is to work with as many full tiles as possible.

INSTALLATION

1. Begin laying the tile from the center of the room, using your reference lines as your guide.
2. Spread thinset with the notched edge of a trowel. Larger tiles require more thin set and a larger notched trowel.
3. As you lay your tile, you can use plastic spacers to help ensure you have straight grout lines. You will remove the spacers before the thinset dries.
4. Clean up any excess thinset immediately using the manufacturer's instructions.
5. After a few rows of tile are installed, set them with a tile level and a mallet.
6. As you reach the perimeter of the room, cut and adjust tiles to complete your installation.
7. Allow the tile to set according to the manufacturer's instructions. Grout the tile.
8. Clean the tile surface with a damp sponge and clean water.



MAINTENANCE TIPS

As with any flooring material, general cleaning techniques of porcelain and ceramic tile depend on the surface, texture and condition of the surface. Water and a soft sponge will usually be enough to clean the surface of M S International ceramic and porcelain products.

If you clean with something other than water, however, opt for a neutral pH cleaner that will not affect the finish. You can find neutral cleaners at most home centers and tile showrooms. Always test the cleaner on a small area first. If tile or stone is heavily soiled, we recommend that a professional cleaning company determines the proper cleaning technique.





Floor & Wall Tile Installation Guide

Understanding Substrates and Surface Preparation

Floor, wall, and mosaic tiles must be installed over a structurally sound substrate that is clean, smooth, dry and free of moisture/grease/wax/chemicals. Concrete, cement board, plywood, and drywall are examples of common and acceptable substrates. Any damaged, loose or uneven areas must be repaired, patched and leveled. Remove any moldings, trim, appliances, etc., which could interfere with installation. Door jambs may be undercut for tile to slip under. When prepared correctly, these materials allow for proper mechanical bonding with the adhesive mortar materials. Thinset, mastic, and epoxy are all examples of common tile mortars. Carefully read and follow all instructions from the mortar manufacturer prior to installation.

Determining the Tile Layout

The ultimate goal when determining a layout is to minimize the amount of cut tiles across the entire installation. This requires careful planning prior to mixing the mortar and setting the tiles.

For floor tile installations, begin by marking the center point of all four walls. Use chalk snap lines to mark the center points of opposite walls and their intersection in the middle of room. Be sure that the lines are perfectly square at 90 degrees to one another. Place a row of loose tiles (no mortar) along a center line in both directions leaving spaces for uniform grout joints. Use tile spacers to achieve a consistent distance. If this initial layout results in awkward or small tile cuts at the base of the wall, adjust your chalk line and snap it again. Once satisfied with the layout, begin snapping additional chalk lines parallel to the original two. These will serve as a visual guide throughout the installation.

For wall tile installations, determine the height and width of the installation area. Use a carpenter's (or bubble) level to mark an initial horizontal and vertical line in the center of the installation. Since gravity won't allow the tiles to be laid out across the installation area, create a "jury stick" tool out of straight 1"x2" lumber to help visualize the tiles across the wall. Lay a horizontal row of tiles on the floor and mark the placement of the tiles on the wood following the pattern you plan to use. Remember to insert spacers between each tile. If the wall tiles used are not square, repeat this process to make a jury stick for vertical wall tile placement.

Working with Mortar

Select the correct adhesive mortar for the substrate. Carefully follow all instructions and precautions on the mortar packaging. Mix just enough mortar in the bucket for 30 minutes of installation to avoid premature curing. Spread a 1/4" coat of mortar on the substrate using the flat side of the trowel recommended on the packaging. Cover an area approximately 2'x3' on the floor, or 1'x2' on the wall. Next, use the notched side of trowel to comb the adhesive into standing ridges by holding the trowel at a 45-degree angle. This removes excess adhesive resulting in a uniform, ridged setting bed. Do not spread more mortar on the substrate than you can set tile in within 15 minutes.

Setting the Tile in Mortar

Variation in shading is an inherent characteristic of tile. Mix the tiles from several cartons prior to setting to avoid dramatic shifts in color tone from one area to the next. Begin installing tiles in the center of the room, one

chalk line section at a time. Finish each grid before moving on to the next. Place the first tile in the corner of the grid near the previous section and work outward. Do not slide tiles into place. Insert tile spacers as each tile is set and leave them in place until the mortar has cured. Place perimeter tiles last and leave a 1/4" gap between the tile and wall. Long linear tiles should never be set in a grid or running bond pattern. There should be no more than a 33% overlap between adjacent pieces. The grout joint should be expanded larger than a typical 1/8". If the field tile exceeds 15" in length in any dimension, spread a thin layer of mortar directly onto the back using the flat edge of the trowel prior to pressing into the mortar bed. This technique is called "back buttering" the tile and it ensures a complete bond. When the tiles in each chalk line grid are set, tap them down to ensure a proper bond and level plane. Remove excess mortar from open grout joints with a putty knife. Do not grout or walk on the tile until the mortar has completely cured (usually after 24 hours).

Making Tile Cuts

Carefully measure tiles to be cut and mark with a pencil or felt-tip pen. Make straight or diagonal cuts with a tile score and cut tool or a wet saw. Make curved cuts with a tile nipper by chipping away small pieces at a time. Full-length curved cuts should be made with a rod saw. Smooth all sharp edges by hand using a silicon-carbide stone.

Applying Grout to the Joints

Once the mortar has cured, carefully read and follow all instructions and precautions on the grout packaging. Mix just enough to fill the joints in an area that can be completed in less than 30 minutes. Remove all tile spacers and spread the grout across the tile surface. Apply pressure down into the joints with a silicon grout float tilted at a 45-degree angle. Remove excess grout from the tile surface immediately by tilting the grout float about 90-degrees and scraping it diagonally across the tile. Wait 20 minutes for the grout to begin to set then use a damp sponge to clean the excess from the surface and smooth the grout joints. Rinse the sponge often and change water in the bucket as it begins to turn cloudy. Let the grout dry until a haze forms on tile surface, then polish the tile with a soft damp cloth. Rinse again with a sponge and clean water. The grout should be completely cured within 24 hours of finishing the last step. Do not apply sealers to the tile or grout for at least two weeks, and only in accordance with manufacturer's recommendations.



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