

Installation of Floor Tiles

Always consult a tile installation professional prior to installing the tile.

Always read the warnings, warranty and instructions provided thoroughly and contact the manufacturer(s) prior to application if you require clarification regarding proper handling & use.

The use of safety glasses, respirators, dust masks, gloves and knee pads is strongly recommended when handling any materials that contain chemicals.

The steps and materials used for installing tile floor are different than installing wall tiles. Ensure you select the right materials and are following the right processes for your installation project.

Preparing to install floor tile

Before tile installation, please ensure enough cartons for the entire project are obtained of same caliber, shade, and tonality. Tile cutting, wastage as well as installation patterns will necessitate having extra tiles available for the job. It is also recommended to save extra tiles from the same lot in case any future replacements are required. Work with a professional to calculate how much tile will be required and to plan or perform the installation.

All tiles should be inspected for any visual defects prior to installation. For best results in any tile project, tiles must be blended from various cartons to achieve an aesthetically consistent blend to avoid forming any unwanted patterns in your new floor.

Prepare the substrate

The substrate must be properly prepared before laying any tile.

It is not recommended to install tile directly onto a wood subfloor. No matter how firm the subfloor; the plywood will expand and contract at a different rate as the tile, causing cracks to develop in the grout lines or tiles over time. On a plywood subfloor, you need either a layer of cement backer board or an underlayment membrane between the subfloor and tile for the thin-set adhesive to achieve a good bond.

When applying cement backer board over a plywood subfloor, be sure to adhere the two surfaces together with thin-set adhesive; and screw the cement backer board down with special screws that countersink into the backer board.

Ensure a suitable subfloor / substrate that meets the geographical building code requirements for your region. Make sure the subfloor is uniform, level, the right thickness and in good condition. Clear the substrate of any dirt, debris or contaminants that can prevent adhesion. It is recommended to consult a professional installer to determine if there are any special requirements for your project.

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Dry Layout

Mark the centre of two opposing walls and snap a chalk line between these two marks. Do the same thing for the other two walls, forming a cross in the centre of the work space. Check if the inner section is square. This cross section will identify the starting point of the tile.

Lay the tiles loosely along each of the reference lines, use tile spacers for a more accurate measurement. Leaving approximately a $\frac{1}{4}$ inch between the perimeter tiles and the walls or cabinets to allow some room for expansion.

If the gap between the last full tile and the wall is less than a half tile, adjust the reference lines to make the tiles wider along the perimeter, keeping equal widths on each parallel side. Once the reference lines are set, remove the loose laid tile. For larger areas, mark a grid of 3' squares along the floor, creating smaller work areas, allowing you to ensure accuracy and to adjust as necessary as you go.

For more detailed specifications on flatness and lippage, grout joint size and pattern considerations, always consult a tiling professional and the latest edition of the Tile Council of North America (TCNA) Handbook for Ceramic, Glass and Stone Tile Installation.

Installing floor tiles

Start by mixing the thinset mortar to the recommended consistency – mix the mortar in workable batches. You will start laying the tiles at the cross section in the centre of the room, as per the reference lines, and work out from there, that way the full tiles are in the centre of the room and any cut tiles will be along the edge.

Starting at the cross section in the room, spread the thinset with a trowel, work in small sections approximately 3' x 3' at a time (use the reference grids created during the dry layout stage). Try not to cover your reference lines.

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Once the thinset mortar is down, run the notched side of the trowel over the mortar at a 45 degree angle. Work in one direction to ensure a consistent and uniform application. Remove any excess mortar with the trowel.

Lay out tiles onto the mortar along the reference lines, lightly pressing and gently twisting the tile into mortar, use spacers between the tiles. You can lift the tiles to check if the mortar is sticking to the tile. If the mortar is not sticking, you can apply additional thinset to the back of the tiles. It's recommended to periodically check the tiles to ensure that there is proper adhesion.

Once your tiles are set, check for any high spots using a level. Even them out using a rubber mallet. Continue to check that the tiles are level as you complete the installation across the room. Make adjustments to the installation as necessary to ensure that the tiles are aligned straight.

Any mortar on the face of the tiles can be wiped away with a damp sponge.

Use a tile cutter or wet tile saw to cut tiles to fit into place along the room's perimeter where necessary. Be sure to remove any chalk or materials made to mark the cuts off of the tile prior to installation.

Allow the thinset mortar to dry for at least 24 hours before grouting.

Polished porcelain tiles should be sealed prior to grouting. While porcelain floor tiles are dense, durable materials that require little maintenance, polished porcelain tiles are slightly different. The polishing process leaves tiny, nearly invisible surface pits, which can catch grout and other debris, dulling the shine. To prevent this from happening, polished porcelain tiles should be sealed with an impregnating sealer prior to grouting. The sealant will fill these tiny holes, and act as a grout release. The impregnating sealer will not affect the surface or finish of the tile the way a topical sealer would. For best results follow the manufacturer's instructions and future maintenance recommendations.

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For tiles that are 12 inch by 12 inch or larger it's recommended to lightly coat the backs of the tiles with thinset prior to setting the tiles.

Installation Question

Please contact the Tile Council of North America with any technical installation related question <http://www.tcnatile.com/contact-us.html>, or connect with your local flooring dealer who can help you find a professional installer to assist with your tile installation project.

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