

Tile & Stone Installation Systems

Installing wood plank tiles



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Wood-plank-tiles (both porcelain and ceramic) have recently become very popular. These tiles mimic the look and texture of natural wood and are usually rectangular, with formats like 4" x 24" (10 x 61 cm), 6" x 24" (15 x 61 cm), 8" x 36" (20 x 91 cm), etc. The challenges with wood plank installations are typically lippage and disappointment with the grout color when using a Portland-cement-based grout.

As with any flooring installation, having clear expectations can help the end user to select the proper products, as well as avoid common pitfalls. Listed below are some considerations that should be taken into account when grouting wood-plank-tiles:

Mortar selection

Wood-plank-tiles are considered "large-format tiles" because they usually have one dimension larger than 15" (38 cm) and, as such, should be installed with Large and Heavy Tile mortars (formerly known as medium-bed mortars). Large-and-heavy-tile mortars such as MAPEI's *Ultraflex™ LFT™* and Large Tile & Stone Mortar are designed with special polymers and ingredients that do not slump once the mortars are troweled, and they adhere strongly to the substrate and the tile.

Following industry guidelines for installing large-format tile, use a trowel that allows for a minimum of 80% coverage for interior applications once the tile is installed (95% in wet areas and 95% for exterior applications). It is important to check the tiles periodically during installation to ensure proper coverage.

Use of a mechanical edge-leveling system may also help to reduce lippage.

Grout selection

Typically, the goal when selecting a grout color with the wood-plank-tiles is either to closely match the color of the tile to create a monolithic appearance or to mimic a dark space in between the tiles to achieve the look of a natural wood floor.

Grout color accuracy is a major factor in achieving the realistic aesthetic appearance of a natural wood floor. Traditional Portland-cement-based grouts often don't develop even coloration due to the challenges of cleaning a more textured tile such as wood planks, which wash away some color pigmentation. The additional texture of such tile requires additional cleanup water, which can wash away some color pigmentation. MAPEI *Flexcolor™ CQ*, *Kerapoxy® CQ* and *Ultracolor® Plus* are recommended for wood-plank-tiles.

MAPEI *Flexcolor CQ* ready-to-use grout has been designed as a cleanable grout that does not compromise color consistency because color is not dependent on the addition of water. MAPEI *Flexcolor CQ* can be used in grout joint widths from 1/16" to 1/2" (1,5 to 12 mm) to provide stain resistance, crack and shrinkage control, and a textured appearance. MAPEI *Flexcolor CQ* can be used up to 1 year after opening in original packaging. It does not require the use of a sealer and cures in 3 days.

Kerapoxy CQ premium epoxy grout has been designed for areas that require high resistance to stains and chemicals. *Kerapoxy CQ* is efflorescence-free, color-consistent and durable. *Kerapoxy CQ* can be used in floor as well as wall

applications due to its nonsag, nonslump formulation. *Kerapoxy CQ* is recommended for high-traffic areas requiring high strength, chemical resistance and nonsagging. *Kerapoxy CQ* can be used in joint widths from 1/16" to 3/8" (1,5 to 10 mm). *Kerapoxy CQ* also gives a textured appearance, does not require the use of a sealer, can be exposed to water or chemicals after 7 days, and cures fully in 14 days.

Ultracolor Plus is specially formulated with MAPEI's High-Hydrated Cement Technology (HCT™) to eliminate the common problems related to Portland-cement grout, such as color consistency and efflorescence. *Ultracolor Plus* can be used in joint widths from 1/16" to 1" (1,5 mm to 2,5 cm). To help with grouting wood-plank tiles, lightly moisten the tile or stone surface with a damp sponge before grouting. Some tile manufacturers recommend using a grout release or a sealer to help in the cleanup process for grouts.

If a cement-based grout is selected, care must be taken in mixing, applying and cleaning in order to achieve uniform results. For details, refer to the Technical Data Sheet of the grout being considered. A stiff-bristled brush also may be helpful in removing grout residue from the surface without over-saturating the grout, as using a wet sponge would.

Installation best practices

Planning is critical for success when installing plank tiles. The two critical parameters for this are the width of the grout joint and the offset from one row to the next. Per the Tile Council of North America (TCNA) Handbook:

"The actual grout joint size shall be at least three times the actual variation of facial dimensions of the tile supplied. Example: for tile having a total variation of 1/16" [1,5 mm] in facial dimensions, a minimum of 3/16" [4,5 mm] grout joint shall be used. Nominal centerline of all joints shall be straight with due allowances for hand-molded or rustic tiles. In no circumstance shall the grout joint be less than 1/16" [1,5 mm]." [This industry guideline and tile manufacturing tolerances disallow the use of an unsanded cement-based grout.]

"For running bond/brick joint patterns utilizing tiles (square or rectangular) with any side greater than 18" [46 cm] (nominal dimension), the grout joint shall be, on average, a minimum of 1/8" [3 mm] wide for rectified tiles and, on average, a minimum of 3/16" [4,5 mm] wide for calibrated (non-rectified) tiles." [The Handbook goes on to recommend increased grout joints for tiles with higher warpage.]

"Running bond/brick patterns utilizing tiles (square or rectangular) where the side being offset is greater than 18" [46 cm] (nominal) dimension, the running bond offset will be a maximum of 33% unless otherwise specified by the tile manufacturer. If an offset greater than 33% is specified, specifier and owner must approve mock-up and lippage."

"For tiles with at least one edge 15" [38 cm] in length, maximum allowable variation is 1/8" in 10' [3 mm in 3,05 m] from the required plane, with no more than 1/16" [1,5 mm] variation in 24" [61 cm] when measured from the high points in the surface." [Lippage is minimized by installing over a very flat subfloor.]

Maintenance

Cleaning and maintenance starts with the installation. Proper cleaning and removal of the grout residue is a must. If a cement-based grout was used and residue is present after installation, clean the tiles using MAPEI's *UltraCare* Cement Grout Haze Remover. If an epoxy grout was used, and grout residue is present, clean the tiles using MAPEI's *UltraCare* Epoxy Grout Haze Remover. These products will help to ensure that all grout residue is completely removed from the surface.

Once the tiles are properly cleaned and all grout residue is gone, sealing the tile is recommended using MAPEI's *UltraCare* Penetrating Plus SB Stone & Porcelain Tile Sealer. This sealer is specifically designed to penetrate into the tiny pores found in porcelain tiles. Once these holes are filled, the tile becomes easier to clean and to keep clean.

Sweep or vacuum the installation area often to remove sand, dirt and debris. Damp-mop the floor as often as needed to keep the floor in optimal condition. Use MAPEI's *UltraCare* Concentrated Tile & Grout Cleaner to maintain the floor on a regular basis. This neutral-pH product is designed to maintain a variety of surfaces and will not harm *UltraCare* Penetrating Plus SB Stone & Porcelain Tile Sealer. Attend to spills as soon as possible, because the risk of damage increases with the amount of time that a contaminant sits on the surface. Proper cleaning and maintaining of wood-plank tiles will ensure a lifetime of beauty to your valuable investment.

Limitations

Always check with the tile manufacturer before selecting wood-plank-tiles to ensure that they are suitable for the service environment expected in the installation. Jobsite conditions vary and may present installation issues not covered in this technical bulletin.

For the most current installation instructions, Technical Data Sheets and Safety Data Sheets, always refer to MAPEI's Website at www.mapei.com. For additional information, please contact MAPEI's Technical Services Department.

