

PLEASE READ FOR BEST RESULTS

CEMENT TILE

# INSTALLATION GUIDE

[WWW.VILLALAGOONTILE.COM](http://WWW.VILLALAGOONTILE.COM)



**VILLA LAGOON TILE**

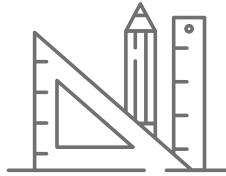
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**⚡ IMPORTANT** Cement tiles show nuances in design and colors. Individual tiles will not be identical. This is a result of the handcrafted process and the nature of cement. *Mixing tiles from different boxes during setting is necessary to produce a beautiful, naturally rich appearance.* Expect tonal variations of color in any batch of tile. This is the nature of hand-crafted cement products. Variations in color tone are not valid for claims or refunds.

## PRECAUTIONS

- Cement tiles are very absorbent. Tiles can be easily stained until they are appropriately sealed. Avoid walking on the raw tiles or handling with dirty hands, or making unnecessary marks.
- Tiles must be clean and dry before each coat of sealant. Moisture in the tile can become trapped by the sealant and cause discoloration later.
- Always test products on a single tile before applying to the entire floor.
- Avoid dark, heavily pigmented, or contrasting grout colors, such as black with white tiles, or white with black tiles. Using new (or new to you) sealants, grouts, or methods should be tested first, as grout haze can be very difficult to remove later.
- Do not make any unnecessary pencil marks on cement tiles, as they may be impossible to remove later.
- Cement tiles, as with all building materials, are subject to contraction and expansion depending on climate. If you are covering a large area, install it as a “floating floor” using an uncoupling membrane or a similar product and use expansion joints to prevent cracks in your tile. Ensure that the products you are using provide adequate support for the tile.
- Cement tile must be stored indoors until time of installation. Storing outdoors or in a covered shed may result in stained or discolored tiles.
- All tile must be examined by buyer before installation. Villa Lagoon Tile shall not be responsible or liable for any complaint or claim after the installation.
- All cement tiles are very porous and **MUST** be sealed. Cement tile will not show its final brilliant colors until it is sealed.
- Material manufacturer specifications take precedence over VLT installation manuals regarding the use of sealants, grouts, and adhesives.
- **CAUTION:** If you are using VLT Nano Sealant, please note that it is a water-based product and can freeze. Do not use this product if it has been stored at a temperature below 30°F. Freezing will cause the emulsion to separate and may prevent the product from properly sealing the tile.

**PREPARE** Setting our cement tile is not difficult. Preparation is a key component of success. Remember, these tiles are porous and can be stained by dirt, thinset, chalk, pencil marks, and greasy hands. Try to plan your installation so it is the last major step of your project, to prevent other trades from needing to traffic or work over the new installation.



## MISCELLANEOUS SUPPLIES & EQUIPMENT NEEDED

### ■ Marking and Measuring

- Level
- 6-8 Foot Straight Edge
- Tape Measure
- Carpenter's Square
- Pencil (do not make unnecessary marks)
- Chalk Line
- A Quarter (or other large coin)

### ■ Tile Wet Saw

- Diamond Blade
- Saws can be rented from many hardware stores.
- Read Directions, and Use Appropriate PPE.

### ■ Prep Tools

- Sponges
- Clean Rags
- Buckets (for water and for mixing)
- Drill and Mixing Paddle Attachment
- Wet/Dry Shop Vacuum
- Mixing Bucket Dust Collector (WaleTale, Dust Hog, etc)

### ■ Tile Setting Tools

- Grout Float / Rubber Trowel
- Notched 1/2" Hand Trowel
- Tile Spacers

### ■ Personal Protective Equipment (PPE)

- Goggles / Safety Glasses
- N95 Respirator, or Better

### ■ Sealant Tools


- VLT Nano Sealant, Fila FOB, or Equivalent Sealants
- Roller/Pad for Sealant

# STEP 1. PREPARATION



## 1.1 INSPECTING AND PREPARING TILE

Make sure to inspect your tile upon its arrival. Take photos of the freight and documents, and note any damage on the driver's documents before you sign for it. Store the tiles inside, in a clean, dry place. On installation day, make sure to set up multiple boxes so that tiles can be examined, cleaned, and set in a rotation from different boxes. This helps disperse slightly lighter or darker tiles harmoniously through the installation. When stacking tiles, try to always stack "face to face" and "back to back". The rougher back can scratch the front surface, as weight stacks on.

 *Pull tiles from different boxes for a natural look, and make sure you or your tile setter understands the layout.* Many patterns must be rotated as they are set to complete the pattern. Some patterns repeat in a single tile, while others may require multiple tiles.

### ALL CEMENT TILE MUST BE SEALED

Visit [villalagoontile.com](http://villalagoontile.com) for help selecting the best sealant for your project.

## 1.2 SELECTING SEALANT

All cement tile must be sealed BEFORE GROUTING (even those called "pre-sealed", or "pre-treated"). Make sure to understand and have available the appropriate sealant for your application.

Most sealants fall broadly into two categories: "penetrating" or "topical". Topical sealants can only adhere to raw tiles, so any pretreatments, polishing, or use of penetrating sealants or grout release will prevent topical sealants from adhering well, and they will likely peel over time.

## 1.2 SELECTING SEALANT CONTINUED

Villa Lagoon Tile supplies two primary sealant options for handcrafted cement tile (see below). While other commercially available products may be used, the manufacturer's specific instructions for any sealant, grout, or adhesive always take precedence over VLT's tile installation guidelines.

### Fila FOB (Penetrating Sealant)

- Solvent-based, natural-look protection.
- Best For: Wet areas (showers, bathrooms, patios), food-prep zones, and high-traffic commercial projects.
- How it Works: It travels deep into the tile's pores to create an invisible, breathable barrier that allows moisture vapor to escape while repelling oil and water-based stains.
- Product of Italy.
- Fila FOB should be stored between 32°F and 86°F

### VLT Nano Sealant (Topical Sealant)

- Water-based, high-durability copolymer.
- Best For: Dry interior spaces (kitchen backsplashes, living areas) and projects requiring high scratch/chemical resistance.
- How it Works: It forms a high-performance protective film on the surface. It is exceptionally resistant to abrasion and chemicals once fully cross-linked.
- Product of the United States.
- VLT Nano Sealant is a water-based formula; it is susceptible to freezing. **Do not use this product if it has been stored in conditions below 30°F, as the emulsion will separate and fail to seal the tile properly**



**Mandatory Patch Test:** Apply selected sealant to a sample area (a couple of spare tiles or a small, inconspicuous area) prior to the main installation. Evaluate the tile for any significant color enhancement or changes in surface looks. This test is critical to ensuring the sealant acts as a proper grout release, protecting the tile face from permanent staining during the grouting phase.

## 1.3 SUBSTRATE PREPARATION

Make sure you have a surface appropriate for tile installation. The surface should be a cement slab, cement backer board, uncoupling membrane, or another product designed for a tile installation with thinset. The surface should be clean and stable, with extra attention given to leveling the floor before installation. Any rigid tile or stone installed on a surface that flexes will develop cracks. Make sure that your installation is water-tight. Moisture entering behind the tile can carry salts, which are deposited as stains on the surface when it evaporates. This is called "efflorescence". Tiles should not be adhered directly to plywood subflooring, drywall, or painted surfaces.

For fresh concrete slabs, make sure the slab is sufficiently cured. This may take at least 4 weeks under normal conditions. As concrete cures, it shrinks and releases moisture that can frequently cause two major failures. Shrinkage can cause mechanical stress to the tile installation, causing cracks in the tiles and grout. Moisture released can also cause efflorescence, carrying dissolved salts to the surface, discoloring the tile. For larger installations, consult your engineer about the need for expansion joints and uncoupling membranes.

If you have transitions to other materials, plan them accordingly. Particularly, ensure that the edge of the cement tile installation is water-tight, such as when transitioning to very different materials such as carpet.

## 1.4 SELECTING ADHESIVE AND GROUT

Tile adhesive should be regular or modified thinset.

Grout should be a regular, unsanded grout of neutral color. Epoxy grouts can be more difficult to clean, causing grout haze. We recommend MAPEI Flexcolor CQ grout, as our internal testing has found it to provide superior cleanup versus other products tested.

 **High-contrast grouts (such as black grout with white tiles, or white grout with black tiles) are not recommended, as they can increase the likelihood and noticeability of grout haze.** Please proceed at your own risk, test first, and use extreme care.

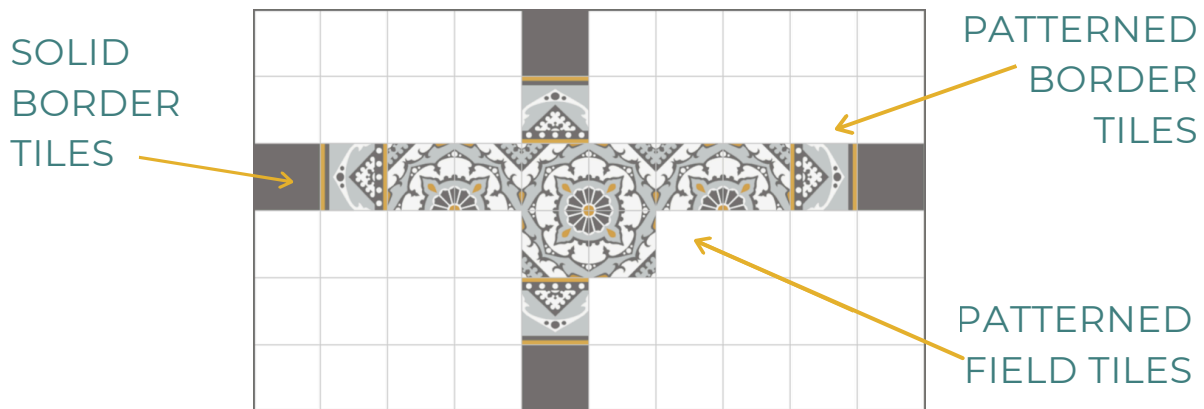
Many manufacturers will have slightly different mixtures for different situations. Make sure that the products you choose are suitable for the tile, substrate, surface, and grout width you are using.

# STEP 2. SETTING THE TILES



## 2.1 LAYOUT LINES

In most situations, you're going to want the installation centered in the room, so that the rows of tiles along the walls are the same width on opposite walls. Starting with the longest walls, find the center point with your tape measure, and mark it on the floor. Do the same on the opposite wall, and use your chalk line to snap a line between the two points. Then repeat the process on the other two walls, and you should have two lines that intersect at the center point of the room. Check that the lines are perpendicular to your carpenter's square.



## 2.2 DRY LAYOUT

Now you will likely want to check your layout dry. Without using adhesive or grout, start at the center, and lay the tile out to the wall, using tile spacers. You can now see how much space is left at the wall. If the space is less than half the width of a tile, you may want to shift the whole section by a half tile, essentially centering the first tile over the center line, rather than starting at the edge. This may not be desired for some patterns and layouts. Repeat the process in the other direction. You will have an "L" of tile from the center, outlining one quadrant of the floor. Double-check that this will give the layout you desire. You may want to measure and snap new chalk lines if you choose to shift the layout by a half-tile. It's also a good idea to double-check measurements and squareness before moving on.



**Pull tiles from different boxes for a natural look.**

## 2.3 PREPARING THINSET

Using a modified thinset or unmodified thinset, read the directions from the thinset manufacturer. Make sure that the product is intended for the substrate and tile being used. You will be mixing what is essentially a bag of cement with water. Mixing is typically performed in a 5-gallon bucket, using a mixing paddle attachment with a powerful corded drill or mixer drill. Make sure to follow the directions for the ratio of water and mixing method. Make sure to use a respirator, and even better, a mixing bucket dust collector. These attach to your shop vacuum to help keep the aerosolized powder from drifting around the room. This airborne silica dust is dangerous with repeated exposure and can cause cancer or lung disease.

## 2.4 APPLY MORTAR, AND SET TILES


Work in small sections, 2-3 square feet at a time. To prepare the surface, first "burn in" the thinset by taking a small amount and pushing it into the surface with the flat side of the trowel. The whole section should be "wet" with a thin smear of thinset. Then take a larger amount, and use the notched side to create ridges and valleys of thinset. Prepare the cleaned tile by wetting the back side of the tile with clean water, using a sponge. Then you'll want to "back butter" the tile by putting enough thinset on the back to press in a smooth, level layer.

Press tiles into place using steady hand pressure only.

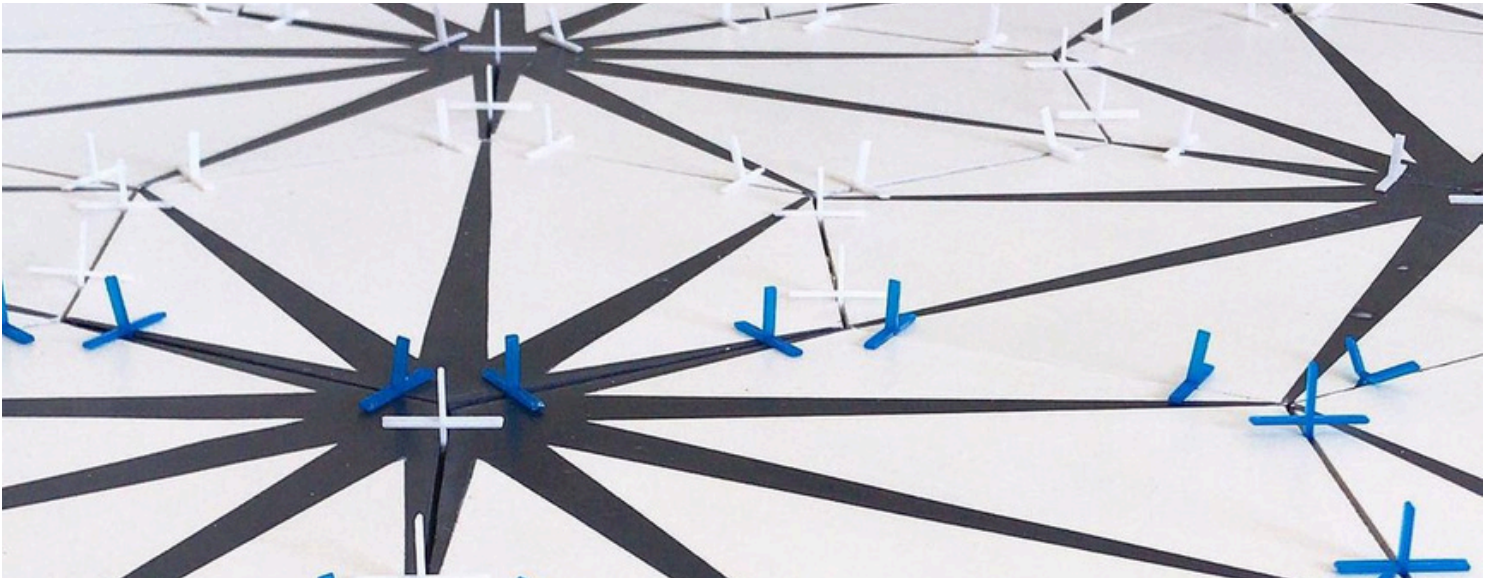
Tile spacers can do a great job keeping your spacing even, and many are designed to help keep tiles level. If not using spacers, slide a coin across adjacent tiles to check for lippage.

 **Check rows frequently to keep them straight and square**—handmade tiles can cause drifting.

Avoid over-tightening leveling spacers; if the spacer lifts a tile too much, or a tile is poorly mortared, it can create air pockets and lead to cracking.

 **Adjust tiles using hand pressure only. Never use a mallet or other tools with cement tile.** Even if it does not cause any immediately noticeable damage, the stress can lead to tiny surface cracking later.

Clean any thinset off the tile surface immediately to prevent staining.



## 2.5 ALLOW TO CURE

Allow sufficient time for the thinset to cure and dry. Typically at least 24 to 48 hours. For best results, test that the installation is dry using a moisture meter. If unsure, try taping down a square of plastic film using painter's tape (other tapes may dirty the tile with adhesive). Allow to sit overnight, and look for condensation on the underside of the film.

If you are installing a sub-floor heating system, do not under any circumstances allow the system to be powered on until the installation is cured and dry. Many subcontractors may want to test their system as soon as the tile is set, so they can move on to the next job. *Testing a sub-floor heating system beneath wet tiles can permanently damage your flooring.* Powering "on" a sub-floor heating system (even for a brief test) while the tile is still damp can permanently damage your installation.

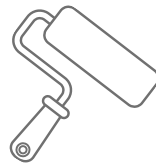
Protect the tile during this period at all times from other trades, foot traffic, and pets. Tile must be clean and dry before proceeding.

**⚡ Do not use acids or vinegars to clean cement tile (for instance, anything "lemon" or "citrus" is likely to be acidic).**

Protective products such as Ram Board® should be used if there will be a need for traffic during this time. **CAUTION: AVOID STAINING** — inspect protective products carefully, they usually have a top and bottom. The bottom should never have printing. Prolonged contact between the ink-printed surface and the tile may result in a "blue" residue that is difficult or impossible to remove.



## STEP 3. FIRST SEALING



### 3.1 SEAL FOR GROUT RELEASE

The tile surface must be sealed prior to grouting. Because cement tile is highly porous, grout pigments can easily penetrate the surface or become trapped in the pores. If grout is allowed to cure (dry) on the tile face for too long, it may cause permanent staining. This initial coat of sealant acts as a grout release, making the cleanup process significantly easier.

Before sealing, the mortar and tiles should be completely dry.

**⚡ Trapping moisture into the installation can cause moderate to severe aesthetic problems, such as ghosting, or a blotchy appearance.** The installation will need at least 24-36 hours to cure and dry before the pre-grout sealing. This may take longer in high humidity. The tile should be completely clean as well; any dirt, pencil marks, or mortar stains in the tile when sealed will remain there forever.

With any sealant or grout release, you will want to apply the product very thinly: more is rarely better. Thick applications of any product can dry unevenly, cause a gummy surface, or drip over the sides of the tile.

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## 3.1 SEAL FOR GROUT RELEASE (CONTINUED)

Not all sealants perform the same. Some only provide waterproofing, with little stain protection, while others may not perform well in frequently wet areas. Follow the sealant manufacturer's individual instructions for application and cure time.

Keep the roller or pad surface wet. Ensure the roller remains thoroughly saturated with sealant throughout the process. Roll slowly and deliberately. Avoid "Dry Rolling": If you continue to roll after the tool has become dry, it will cause two major issues:

- It creates unsightly streaks along the roller path.
- The dry roller will actually absorb or lift the sealant back off the tile surface. This leads to uneven coverage and significantly compromises the stain resistance of the floor.

**⚡ Do not rework drying sealant.** If you are using the topical sealant, please note that the sealant begins to dry very quickly. Once the sealant has been applied and has started to dry (flash off), do not drag the roller back over that area. Rolling over a drying surface will introduce air bubbles (foaming) and permanent texture streaks into the finish.



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## STEP 4. GROUTING



### 4.1 GROUT, CLEAN, CURE

You should ensure that you have a grout that is appropriate for the installation (See Step 1.4). Mix as directed by the manufacturer.

Working in 2-3 square foot areas, spread the grout on the tile surface, then using the grout float move the grout at 45 degree angles to the grout lines. This ensures a smooth even grout joint.

Quickly clean up excess from the face of the tiles using a soft sponge and clean water. Avoid pulling the grout from the grout line by wiping at an angle to all grout lines.

Be sure to get the tile surface as clean as possible, to prevent grout staining.

Let cure for at least 24 hours, or longer depending on the grout manufacturer's recommendations or humidity level.

## STEP 5. FINAL SEALING



### 5.1 SEAL FOR LASTING PROTECTION


As with the first sealing, ensure the installation is clean and dry before proceeding. The final coat(s) of sealant will also protect grout lines from staining. As before, follow the sealant manufacturer's instructions.

# STEP 6. LOVE YOUR TILE!



## 6.1 ART FOR GENERATIONS TO COME

With a little tender loving care, cement tile installations will last for generations. Even at demolition, cement tiles have a great resale value as antique reclamations. To increase the service life and maintain an attractive appearance, a proper maintenance and cleaning schedule is recommended for all cement tiles.

 Cement tiles should be regularly mopped with clean water and PH-neutral floor cleaners. ***Never use acids to clean the encaustic cement tiles as it will cause damage.*** Visit our page on cleaning cement tile for more information. You may consider our new VillaWax, a floor cleaner initially developed for hardwood parquet flooring, which also renews a layer of protective natural wax with each cleaning.

In some cases, particularly with new construction, settling and shifting of the substrate may cause cracks to develop. Often this occurs along grout lines, but it may open a crack in the sealant layer. This will allow moisture to penetrate, particularly in wet areas such as bathrooms. When this occurs, our NanoSealant / Fila Fob can be carefully reapplied along the crack. Make sure to allow plenty of time to dry, before doing so.

## 6.2 SHARE YOUR PROJECTS!

Let everyone see your vision brought to life, tag us on your favorite social platform with [@villalagoontile](#) or send your project photos and info to [social@villalagoontile.com](mailto:social@villalagoontile.com) for the chance to be featured on our site!



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# CONTACT US!



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## ONLINE RESOURCES:

- [www.villalagoontile.com/cement-tile/how-to-install/](http://www.villalagoontile.com/cement-tile/how-to-install/)
- [www.villalagoontile.com/tile-design-tool/](http://www.villalagoontile.com/tile-design-tool/)