


















TILE & STONE

**TILE INSTALLATION GUIDE**

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# TILE INSTALLATION GUIDE

## 1. BASIC INFORMATION & RECOMMENDATIONS

MM Tile & Stone is a natural stone importer that focuses on Italian & Turkish collections. With the support of quarries around the world, we offer a huge selection of different tile & mosaic designs with premium quality.

Following this guide should help you achieve a successful tile installation of our products. Still, if you're not confident in your DIY skills, it is better to consider hiring a professional installer/contractor. We are willing to help you if you need any assistance on our special products

The contents of this guide are not meant to be a complete guide to tile installation. We strongly encourage you to read through the entire guide and speak with a qualified tile installer/contractor before making any decisions. MM Tile & Stone is not responsible for any installation problems and the information provided in this guide should be taken as general guidelines/recommendations that may not apply to all tile & stone installations.

### BEFORE YOU BEGIN :

- 1 PLAN YOUR PROJECT**  
Measure the area to determine the number of tiles you'll need. Consider the layout and pattern you want to achieve.
- 2 SELECT THE RIGHT TILES**  
Choose the appropriate type, size, and style of tiles for your project. Make sure they are suitable for the intended location.
- 3 GATHER TOOLS AND MATERIALS**  
Ensure you have all the necessary tools and materials for the job. Below is a list of recommended tools that you may need during the installation process.

## 2. RECOMMENDED TOOLS YOU MAY NEED



### ADHESIVE SPREADER

With the appropriate size of notched edges for your tile size, this tool spreads adhesive evenly.

### DRILL

Use tile or masonry drill bits.



### ELECTRIC WET TILE SAW

A wet tile saw is a portable power saw specifically designed for cutting ceramic, porcelain, and stone tiles. It works similarly to a table saw or radial arm saw and uses a stream of water to keep the cutting blade, which is encrusted with diamonds, cool as it cuts through hard materials. This makes cutting tiles much easier, quicker, and more accurate and helps prevent the blade from overheating and becoming damaged. For safety reasons, please refer to the manufacturer's guidelines.

### EPOXY SQUEEGEE

This tool is used for the application of epoxy grouts.



### GAUGING TROWEL

It is used to place the adhesive onto a trowel from the container where it is mixed.

### GROUT FINISHING TOOL

A grout finishing tool is a specialized tool used in the final stages of a tile installation project to shape, smooth, and finish the grout lines between tiles. Properly finished grout lines not only enhance the appearance of the tiled surface but also contribute to the longevity and durability of the grout.



### PENCIL

A pencil also known as a "china-graph pencil" is for marking the tiles that need to be cut.

### RUBBER TROWEL

Rubber trowels are primarily used to apply grout to the gaps between tiles. After applying grout, a rubber trowel is used to remove excess grout from the tile surface. To ensure longevity and good performance, clean the rubber blade thoroughly after each use to remove any grout residue.



### SPACERS

Tile spacers are essential tools used during the installation of tiles. They help maintain uniform and consistent gaps between tiles, ensuring a professional-looking finish. The size of the tile spacers you use will determine the width of the grout lines between the tiles once the installation is complete.

### SPONGE

It's important to use a specific type of sponge to effectively remove grime, dirt, and stains without damaging the grout itself. The best type of sponge to clean grout is a "grout sponge." Grout sponges are specially designed for this task and are readily available at home improvement stores.



### SELF PROTECTION TOOLS

It is very important to use gloves, eye protection goggles, etc., to prevent any harm before you go on.

### TILE CUTTER

Tile cutters are valuable tools for DIY tile projects as well as for professionals, allowing you to make precise and clean cuts in tiles to fit your specific installation needs. The choice of tile cut depends on the type of tiles you are working with.



### TILE NIPPERS

It is used to cut unnecessary parts of the tile.

### WEDGES

Tile wedges are used in conjunction with the spacers. These wedges are inserted into the spaces created by the spacers and serve to level the tiles by applying upward pressure, ensuring that they are at the same height.





### 3. TILING TERMINOLOGY

#### **ADHESIVE**

The material, often cement-based or adhesive mortar, used to bound tiles to a substrate. It is better to ask an installer/contractor which type of adhesive to use according to your project and tiles you are willing to use in your project

#### **BACK-BUTTERING**

To ensure a strong bond, this is the process of applying adhesive to the back of a tile before installing it.

#### **BACKER BOARD**

A type of substrate used in wet areas such as bathrooms or kitchens to provide extra support and moisture resistance.

#### **GROUT**

A cement-based or epoxy material is used to fill the gaps between tiles, preventing moisture infiltration, enhancing the appearance of the tile, and providing stability. Please take advice from your installer/contractor which type of grout to use for your project needs.

#### **LAYOUT**

It is the process of planning and arranging tiles on a surface to determine tile placement in a visually pleasant design.

#### **MOVEMENT / TRANSITIONAL JOINT**

Transitional joints are primarily used to bridge the gap between two different flooring materials, such as tiles and hardwood or tiles and shower trays. They provide a level and secure transition point, ensuring a smooth surface for foot traffic and enhancing the visuality by creating an aesthetically clean and finished look.

#### **POINTING**

It is the process of filling the gaps between tiles with grout, usually with the help of a squeegee and giving a nice finish using a rubber trowel.

#### **RENDER**

Rendering refers to applying adhesive to a substrate or wall surface in preparation for installing tiles. This step is crucial because it creates a bond between the tiles and the substrate.

#### **SILICON SEALING**

Rather than grout, using silicon sealant between tiles and movement/transitional joints gives us a flexible, aesthetic and especially a waterproof connection.

#### **SUBSTRATE**

Any surface where the tiles are applied, such as floor or wall.

#### **THIN SET**

It is the adhesive used for installing tiles directly onto the substrate with a depth of less than 1/4".

## 4. TILE SELECTION

Selecting the right tiles can be a significant decision when it comes to interior design and home improvement. Ordering samples is a good way to see how they fit into your interior/exterior design.

As well as choosing the right size, selecting the type of the tile is very important. If you are not certain about selecting tiles for your specific needs, it's better to get in touch with our customer associates for information and recommendations.

## 5. SUITABILITY

The suitability of tiles for a specific application depends on various factors, including the type of tile, the location where they will be installed, the expected use, and your design preferences. Below is some information on the suitability of our tiles for your different project needs.

### **BASALT**

Basalt is a popular natural stone material used in tiling for various applications. Basalt is a volcanic rock, which is very durable, and dense making it suitable for both residential and commercial applications. As it is heat-resistant, it is an excellent choice near fireplaces, stoves, and outdoor areas that may be exposed to high temperatures. From dark gray to black color and fine grain makes a contemporary, minimalist, or rustic look, depending on the finish and design choices. Basalt comes in various finishes, including honed, polished, flamed, or textured. These finishes allow for different aesthetic and functional possibilities. Basalt is generally low-maintenance. Cleaning with a pH-balanced stone cleaner and periodic resealing are typically sufficient to keep basalt tiles looking their best. Our advice is to use black grout while installing basalt.

### **FLOORS**

We have a large variety of products in stock that are suitable for both interior and exterior floors. Please don't hesitate to contact us, we are willing to share all the information we have according to your project needs.

### **GLASS TILES**

We do not recommend installing glass tiles directly onto wood surfaces or as countertops. Like all glass products, glass tiles are susceptible to scratching, so we strongly advise taking extreme care during installation. Avoid exposing glass tiles to high-risk areas where scratches may occur, prevent sharp objects from making direct contact with the tiles, and refrain from using abrasive cleaning products. Typically, water alone is sufficient for cleaning, but if your tiles become dirty, consider using a specialized glass or window cleaner.

### **NATURAL IMPERFECTIONS**

Given the natural origins of these products, it is conceivable that a few of our tiles may exhibit slight chips or imperfections. It is important to regard these relatively minor flaws as standard and not indicative of poor craftsmanship. The degree of these imperfections can vary depending on the particular materials and finishes, so it is prudent to take this into account when selecting your tiles. In areas where a pristine appearance is required, polished tiles are more suitable than porous and unfilled ones. It is worth noting that occasional minor damage, such as chipping, can occur during the packing and shipping process, and this is considered a normal part of the operation. In such cases, we recommend utilizing any tiles with chips or unwanted blemishes for cutting purposes during the installation.

### **NATURAL STONE PRODUCTS**

Indeed, it is crucial to acknowledge that stone is a natural material, and each individual stone piece possesses its unique characteristics. Natural stone finds its utility in a diverse array of applications, encompassing everything from kitchens and bathrooms to wet rooms, commercial spaces, and various other installations. Prioritizing the alignment of your selected tiles with your specific needs is of paramount importance. To acquire a more

comprehensive understanding of the limitations and suitability of our natural stone products, particularly concerning durability, interior/exterior usage, flooring, showers, and hearths, we strongly advise seeking additional information and expert guidance from a professional tile installer or contractor. Their expertise will prove invaluable in making well-informed decisions regarding natural stone. The characteristics of natural stone, including slate, marble, and terracotta, can vary considerably, impacting their suitability for diverse types of installations.

## **SWIMMING POOLS**

Please be aware that we do not recommend the use of our natural stone products, specific mosaics (including metals), and certain glass tiles directly inside swimming pools that will have constant and direct water exposure. In areas where direct water exposure is a factor, these products may require special treatments. However, in general, when it comes to the pool surrounds and adjacent areas, there shouldn't be direct limitations on the usage of the mentioned items. We strongly advise consulting with a professional installer to obtain expert guidance for the installation of these products in such areas. Their expertise will help ensure the appropriate treatment and placement for these materials.

## **TRAVERTINE**

It's crucial to understand that since travertine is a natural product, there may be occurrences of gas voids or pinholes on the tile surface after installation. Unfortunately, there are no guarantees to prevent these types of issues. Any voids that do appear can be addressed by filling them with grout or epoxy resin. When selecting travertine, it's of utmost importance to consider and be aware of this characteristic.

## **WALLS**

We have a large variety of products in stock that are suitable for both interior and exterior walls. Please don't hesitate to contact us, we are willing to share all the information we have according to your project needs.

## **6. SHADE VARIATION**

Shade variation may be a natural characteristic of certain ceramic and porcelain tiles, and tiles and mosaics made from natural stone materials are particularly susceptible to shade variations. To achieve the most visually pleasing distribution of shades, we recommend loosely laying out your tiles/mosaics and blending them before installation. It's important to note that differences between batches can be more noticeable, so we advise purchasing all the tiles you need at the same time. After installation, we cannot be held responsible for shading issues.

Additionally, some tiles, such as our travertine tiles, may be delivered with some moisture. This is a result of the manufacturing process, and it's crucial to allow the tiles to fully dry before installation. The moisture content can affect their shading, as wet tiles may appear significantly darker than dry tiles.

## **7. AMOUNT OF TILES/MATERIALS TO ORDER**

Calculating the number of tiles you need to install for a project involves some straightforward mathematical steps. According to the substrate you are planning to install, calculate the area by measuring the height and width or length and width, and find the square footage by multiplying two values (i.e.  $h \times w$  or  $l \times w$ ). Afterward, calculate the area of the tile you will use in your project as you calculate the substrate area. Then divide the substrate area into tile area. This will give you the number of tiles to use, assuming the area you want to install is a square or Rectangle.

Otherwise, a straightforward approach is to create a scaled representation of your floor or walls on graph paper. Draw the outlines of each tile, encompassing liners, trims, and borders where applicable, and tally them up. We suggest factoring in the potential for cuts and waste by adding at least 5% to the total for mosaics and 10% for larger field tiles. Solely ordering the exact quantity might prove to be an error, as tiles may break during cutting or unexpected shapes could necessitate more tiles than initially foreseen. Encountering a shortage of one or two tiles near the end of your project can be particularly frustrating, especially given the potential for color and shade variations between different batches.

## 8. PREPARING FOR INSTALLATION

The key to a perfectly installed wall or floor lies in the ability to lay the tiles as flat and even as possible. This requires a surface that is solid, level, and dry. Different surfaces have varying degrees of suitability for tiling, with some ready for direct installation, others requiring specific preparations, and some being unsuitable without substantial modifications.

### STORAGE

Storing MM Tile & Stone products and materials in dry and cool storage is important as it is a must for tiles to be dry at installation time. MM Tile & Stone cannot guarantee that the products will be delivered in a completely dry condition.

### CRITICAL REMINDERS

- It is crucial that all surfaces are thoroughly dried before the tiling process begins. Neglecting this step can lead to the entrapment of moisture behind the tiles, which may cause some tiles to deteriorate gradually over time. It's worth noting that nearly all of our tiles are entirely rigid. Therefore, it's essential to verify that the installation surface or substrate is stable and devoid of any movement, as any shifting can result in tile cracks. If there is any movement in the installation surface or substrate, we highly recommend seeking a professional advice before proceeding further with the installation.
- Before tiling, it's essential that sand and cement floors are completely dry. This typically involves a curing period of seven days, followed by an additional 14 days for the floors to dry. Keep in mind that certain installations might require a more extended drying time, influenced by factors such as the thickness of the cement or concrete, the humidity level in the room, and prevailing weather conditions. To accurately gauge the moisture levels, using a hygrometer is a recommended practice.
- It's essential to remove vinyl tiles before proceeding with the tiling process. Tiling over them can lead to moisture buildup, potentially causing the adhesive to weaken or fail, a condition known as "debonding."
- If possible remove the old stone, or quarry tiles before installation, if not they should be completely cleaned from dirt, oil, waxes, etc.
- Avoid placing tiles directly on a wet sand and cement base. Doing so can result in the occurrence of a chemical reaction called "efflorescence" on the surface of certain tiles. It causes a whitish, powdery residue to appear if there is moisture within the tile.

### WALLS

Ensure that the wall where you intend to install tiles can support the weight of both the adhesive and the tiles. Painted surfaces are not suitable for tiling. To prepare a painted surface, you must remove any loose paint and thoroughly sand the entire surface with coarse sandpaper until all the paint is removed.

Plaster is a suitable surface for tiling as long as it is dry and in good condition. If there is any loose or crumbling plaster, it should be removed, and the damaged areas should be repaired with new plaster or filler. After the repairs, the surface should be sanded down to achieve a smooth finish. It's important to prime the walls and allow them to dry before commencing the tiling process. Additionally, it's crucial to check any weight restrictions before attaching the tiles.

Rendered walls can also be tiled, but similar to floors, newly rendered surfaces must be allowed to dry completely before tiling. Typically, a drying period of around 21 days is recommended to ensure the render is thoroughly dry and stable for tiling.



## OLD CERAMIC WALL TILES

When dealing with old tiles, it's advisable to remove them, and the exposed surface should be prepared as needed. Tiling over old tiles is not recommended due to considerations related to weight restrictions and overall stability. It's essential to provide a solid and secure foundation for the new tile installation by addressing the underlying surface appropriately.

In wet rooms and showers, it is possible to use certain types of tiles, including mosaics, natural stone, ceramic, and porcelain tiles, as long as you take specific precautions in surface preparation and use the appropriate adhesive and grout. Properly preparing all surfaces in areas prone to frequent water exposure, such as around a bath, basin, or shower, is of utmost importance to shield them from water absorption. Ideally, water-resistant boards are the best surfaces for this purpose. Additionally, it is essential to waterproof the underlying surface first by employing a waterproofing kit to ensure a watertight and secure installation.

## SUB-FLOOR HEATING

Sub-floor heating is an efficient and effective method for heating a room, whether as the primary heat source or as a complement to an existing heating system. There are generally two types: electric and water-piped systems.

**Electric Sub-Floor Heating:** This method is relatively straightforward to install. It involves laying a wire and a rolled-out mat on the substrate before the tiles are fixed. A wall-mounted thermostat provides temperature control. Most of our natural stone, ceramic, and porcelain tiles can be used effectively with electric sub-floor heating systems, provided that expansion joints are incorporated to accommodate thermal expansion and contraction between the tiles and adjacent surfaces. It's important to note that electric sub-floor heating will slightly increase the floor's height, usually by about 1/4 inch, so this should be factored into your installation plan. Always follow the guidelines provided by sub-floor heating manufacturers.

**Adhesive and Grout Considerations:** When installing sub-floor heating, it's crucial to adhere to the instructions of adhesive and grout manufacturers. Following their recommendations is essential to ensure the proper function of the heating system and the longevity of your tile installation.

**Delay Times:** It's essential to gather all necessary information regarding the installation process, including any required delay times before and after installation, before beginning the actual work. Incorrect installation can lead to tile cracking due to thermal expansion, contraction, and drying. Sub-floor heating should not be activated until approximately 28 days after the tiles have been installed, allowing the adhesive to fully cure. Following this period, gradually increase the heating temperature, starting at 40°F on the first day, and then raise it by 40°F per day for the subsequent five days.

Proper installation and adherence to manufacturer guidelines are key to a successful and durable tile installation when using sub-floor heating.

## TANKING SYSTEM

For power showers, shower cubicles, steam rooms, and wet rooms in settings like hotels, guest houses, fitness centers, and residential homes, we strongly recommend the use of a tanking system. These systems typically include a primer, a liquid waterproofing membrane that is applied to the walls and floors, and tape to reinforce internal corners. It's essential to consult the manufacturer's specific instructions for proper installation, or ideally, seek the services of a professional to perform this task. Tanking a surface that has been previously painted is not advisable. In most cases, you can apply the tile adhesive approximately 24 hours after the walls and floors have been waterproofed. We highly recommend that all waterproofing processes be carried out by a professional to ensure a watertight and secure installation.

## **DAMP TILES**

It may be necessary to account for drying time, especially for certain products like our natural stone tiles, which might be damp due to storage and transportation. The drying time can vary depending on factors such as ambient temperature, humidity, tile size, thickness, and material composition. To facilitate drying, you can stand damp tiles on end in a well-ventilated room or place them in bright sunlight for at least 24 hours, ensuring there is proper air circulation around the tiles. A useful technique is to lean them against an exterior wall at a 45° angle, taking care to protect the edges in contact with the wall and floor from potential damage. It is imperative that all tiles are completely dry before starting the installation process. Additionally, any moisture content can impact the shading of the tiles, as wet tiles may appear considerably darker than their dry counterparts.

## **9. PLANNING**

It's crucial to carefully plan the installation of your floor or wall before starting the project. During the planning stage, here are some key areas to consider:

### **WHICH ADHESIVE AND GROUT TO USE?**

When selecting adhesives and grouts for your tile installation, it's important to be aware that there is a variety of options available, and some are better suited for specific types of surfaces than others. Before beginning your installation, we recommend thoroughly reading the section on adhesives and grouts to make an informed choice that aligns with your project's requirements.

### **COLORED GROUTS WITH CERAMIC TILES**

Our dark-colored ceramic wall tiles possess an inherent characteristic where a faint lighter line can be observed along the outer edge of the tile glaze. This occurrence is typical for all glazed ceramics that have not undergone the rectification process. Importantly, it is not considered a defect; rather, it is a result of the firing process and is commonly referred to as a surface tension effect. This lighter edge may become more noticeable, especially when dark-colored grouts are utilized. It's essential to keep this in mind when assessing the overall appearance of your installation before commencing your project.

### **SEALING TILES**

Certain tiles may require sealing before installation, and you may need to allocate time for the application and drying of sealants. We recommend reading the section on sealing before initiating your installation to ensure that the appropriate sealing process is followed.

### **PROTECTING YOUR TILES**

Prior to installation, it's essential to store all installation materials and tiles in their original packaging in a clean and dry area. This is especially crucial for paper-faced mosaics to prevent them from separating from the paper sheets before installation. Keeping the materials dry and well-packaged ensures a smooth and successful installation process.

### **PROTECTING YOUR INSTALLATION**

We recommend that you refrain from installing any tiles until the heavy construction work has been finished. During the interim period between installation and putting the floor into service, it is vital to take measures to protect the tile and grout to prevent cleaning issues related to construction activities. It's important not to use plastic covers, as they can lead to sweating and discoloration by impeding the proper drying of the grout and bedding material.

## 10. MARKING OUT THE WORK AREA

Start by conducting a thorough examination of the room. To identify the room's center, measure the midpoints of two opposing walls and create a line connecting these points. As you approach the room's edges, you may need to make adjustments to the midpoint tile or mosaic sheet to minimize material waste. You can use the midlines as reference points for the edges or centers of the initial row of tiles. Following this, loosely arrange the tiles or mosaic sheets, taking into account the required spacing for the joints. The specific joint width will be determined by your project goals and the type of tiles or mosaic you have chosen.

### WIDTH OF JOINTS

The choice of grout line thickness should be based on the characteristics of your selected tile:

- When covering the entire area with mosaics, ensure that the grout gaps between the sheets match the width between the individual tiles on the sheet.
- In the case of rustic-style tiles, where the tile edges may be uneven, thicker grout lines are necessary to accommodate these variations.
- If you've opted for tiles with a straight edge finish that is relatively even, you can use thinner grout lines.
- If you are using mosaics as a border, you might need to make adjustments to the grout gap size around the central tiles and along the edges to accommodate the mosaics.

Additionally, if you are using multiple tile products, be sure to check the thickness of the tiles. You may need to adjust the levels by adding extra adhesive to achieve a consistently even and flat surface once the tiling is completed.

The objective is to create an aesthetically pleasing pattern while minimizing the need for excessive tile cutting or using very thin tile pieces at the room's edges. It is advisable to have whole tiles at the doorway whenever possible. If you are tiling through a doorway, effectively transitioning between two different rooms, it's essential to install a movement joint at the threshold. This joint accommodates variations in surface levels and ambient temperatures between the rooms.

When you have marked out the placement of the tiles or mosaics, begin laying them from the center end of the room, which is typically farthest from the door. The first row is of utmost importance; ensure it is straight and even. Once you achieve this, the rest of the tiling process will proceed smoothly. However, if you make mistakes in the initial row, it becomes increasingly challenging to attain a satisfactory end result.

### BATHROOMS

In preparation for tiling around baths and shower trays, it's imperative that they are perfectly leveled. To achieve an aesthetically pleasing outcome, consider using the window as your reference point for the center, and when making cuts, prioritize larger ones over smaller ones in the corners, on the floors, and on the ceilings. This approach will help ensure a balanced and visually pleasing tiling result.

### WALLS

Start by marking out the designated work area for tiling. It's essential to first check if the ceiling is level. When positioning the tiles or mosaic sheets, aim to have them fit either at the top or bottom, allowing you to cut only one edge. This alignment can be achieved effectively when the floor or ceiling is level and even. Keep in mind that the initial row you install holds the utmost significance. If it is sloping or uneven, it will have a cascading effect, leading to unevenness in all subsequent rows. Therefore, ensuring a level and straight first row is critical to the overall quality of the tiling job. **WARNING : Before securing anything to the walls with nails, it's crucial to inspect for any concealed plumbing or electrical wiring. This precautionary step helps avoid potential damage or hazards during the installation process.**

## 11. SEALING

### APPLICATION OF PENETRATING SEALERS

Start by ensuring that the surface you plan to seal is clean and free from dust, dirt, and any other contaminants. Before applying the sealer to the entire surface, it's a good practice to test a small, inconspicuous area to ensure that the sealer works as expected and provides the desired results. Using a brush, roller, or sprayer, apply the penetrating sealer evenly to the surface. Be sure to follow the manufacturer's instructions regarding the recommended application method and coverage. Penetrating sealers are designed to be absorbed into the material. Allow the sealer to sit for a specified amount of time, typically as recommended by the manufacturer. After the absorption period, wipe off any excess sealer from the surface to prevent it from forming a sticky residue. Use a clean cloth or mop for this purpose. Allow the sealed surface to cure for the time specified by the manufacturer. During this curing period, the sealer will bond with the material and provide protection.

It's important to recognize that not all adhesives, cleaners, grouts, and sealers are universally suitable for all types of tiles. **Specific tiles may have unique characteristics and requirements that should be considered. For instance, certain natural stone tiles may contain high levels of iron oxides, making them more compatible with solvent-based sealers.**

To ensure the most appropriate product selection and compatibility with your tiles, it is advisable to seek recommendations and advice from your sealant supplier or the manufacturer. They can provide guidance on the right adhesive, cleaner, grout, and sealer for your specific tile type, ensuring the best results and long-term durability for your project.

### SEALING NATURAL STONE TILES AND MOSAICS

Select a high-quality stone sealer that is suitable for the type of natural stone you have. Different stones, such as marble, granite, limestone, or slate, may require specific sealers. Before applying the sealer to the entire surface, perform a test in a small, inconspicuous area to ensure compatibility and the desired effect. Apply the sealer evenly to the natural stone surface. Natural stone sealers are typically absorbed into the stone. Allow the sealer to sit for the recommended time specified by the manufacturer. After the absorption period, wipe off any excess sealer from the surface to prevent the formation of a sticky residue. Allow the sealed surface to cure for the duration specified by the manufacturer. This curing process allows the sealer to bond with the natural stone and provide protection.

**Certain natural stone tiles with rough finishes, like tumbled travertine tiles, can benefit from being sealed with a water-based, color-enhancing sealer. This type of sealer helps bring out the genuine and vibrant colors of the raw material, enhancing the visual appeal of the stone.**

For specific guidance on the use of color-enhancing sealers and their application, it is advisable to consult with a professional installer who has expertise in working with natural stone. They can provide valuable insights and recommendations to ensure the best results for your particular project.

### PEBBLE MOSAICS

Applying a preliminary seal to pebbles can simplify the later removal of grout and can be performed either before laying the pebbles or just prior to the grouting process. After confirming the suitability of the sealer, follow the provided instructions for its application. Remove any surplus sealer and allow it to dry. It's important to ensure that the sealer used is either the same as or compatible with the final sealer you intend to apply.

Before applying sealers to the entire pebble surface, it's advisable to perform a test on a single pebble to confirm that it achieves the desired outcome and is compatible with the pebbles. Be cautious not to over-saturate the pebbles with the sealer, as excessive saturation can potentially dissolve the adhesive backing.

## SEALING CERAMIC AND PORCELAIN TILES

To safeguard tiles against staining, it is recommended that all ceramic and porcelain tiles be treated with a liquid penetrating sealer before installation. These penetrating sealers serve to fill any open pores on the tiles, significantly enhancing their resistance to surface stains and simplifying routine maintenance. Importantly, when applied to polished porcelain products, penetrating sealers typically do not alter their appearance, as they are designed to target only the microscopic pores. Furthermore, the slip resistance of the tile remains unaffected.

## RECOMMENDATIONS

As mentioned in the previous notes concerning suitability, both walls and floors require a minimum of one layer of sealer after the grouting process to effectively seal the grout lines. When applying the sealer, it's essential to use new brushes and fresh, clean, lint-free white cloths. Additionally, take precautions to keep the work area free from dirt and dust to ensure a clean finish.

After the final sealer application, it's advisable to refrain from walking on the floor until the sealer has fully set, adhering to the manufacturer's recommended drying times. If there is sub-floor heating, be sure to switch it off and allow the floor to cool before applying any sealants.

## 12. INSTALLING TILES

### ADHESIVES

In cases involving surfaces that may experience expansion and contraction, such as wood or floors with sub-floor heating, it is crucial to use a flexible adhesive. This type of adhesive accommodates minor movements and helps prevent the occurrence of tile and grout cracks. However, certain changes in surface plane may necessitate the inclusion of expansion joints, and it is advisable to seek guidance from a professional in such situations.

Adhesive is available in both standard set and rapid set options. Standard set adhesive typically requires up to 24 hours to fully cure, while rapid set adhesive can cure in as little as two hours, depending on factors such as thickness, temperature, and humidity conditions. As a standard practice, it is recommended to apply an approximately 1/16" layer of adhesive to the backs of all tiles prior to installation, in addition to spreading adhesive on the floor or wall surface. This method is known as a solid bed application.

**IMPORTANT:** Working with epoxy adhesive can pose challenges, and once it cures, it can be exceedingly challenging to remove. To address this, it is advised to have hot water and clean sponges on hand during installation to promptly and safely eliminate excess epoxy. It's important to note that emulsifying pads should be avoided when working with glass or metal tiles, as they may potentially harm or scratch the surface. As a general practice, it is wise to conduct a test using epoxy before applying it to our products to ensure compatibility and desired results.

### CONTROL JOINTS

Building movement and expansion joints are necessary for a variety of reasons. It is advisable to divide a larger tiled area into a series of smaller sections using sealant and bond breaker between them. Designers may indicate specific locations where these joints are required, but they are mandatory in situations where tiles meet walls or other building materials and in the presence of surface expansion joints, among other circumstances. These joints help accommodate potential movement and prevent issues that can arise from expansion and contraction.

### APPLYING THE ADHESIVE

Spread adhesive over as much of the wall or floor as you can effectively work on within a 15-minute timeframe, typically covering an area of 5-10 square feet at a time. Instead of using adhesive in spots, ensure a solid and even layer of adhesive is applied. Use a notched trowel to create parallel lines in the adhesive.

If you are installing thick tiles, apply a 1/16-inch layer of adhesive on both the back of the tiles and the substrate surface. It's crucial to coat the entire back surface of the tile uniformly rather than applying adhesive in spots, as this helps prevent tile breakage after installation. Firmly press the first whole tile into the adhesive, and for natural stone tiles, gentle tapping with a rubber mallet may be necessary. Check that the first tile is straight and level.

Proceed to lay adjacent tiles in the same manner, using tile spacers to maintain even joints between them. When you reach the room's edge, cut the tile to fit the gap. For a more aesthetically pleasing finish where floor and wall tiles meet, it's advisable to have the wall tiles overlap the floor tiles, leaving a gap between the edge of the floor tile and the wall to account for expansion.

Be cautious to prevent adhesive from coming into contact with the face of the tiles. If any excess adhesive does appear on the tile surface, promptly wipe it away with a clean, damp sponge. When installing mosaics, it's essential to ensure that adhesive isn't applied too thickly, as it might penetrate into the grout lines. If this happens and the adhesive dries, it can be challenging to remove.

Work according to the center points and level lines marked on the walls and commence tile application. In cases where there's a possibility of surface movement, it's crucial to use a flexible adhesive, which accommodates slight movements and prevents tile and grout cracking. However, some changes in plane may necessitate expansion joints, so it's advisable to seek professional advice.

Adhesive is available in standard set and rapid set varieties. Standard set adhesive can take up to 24 hours to cure, while rapid set adhesive may cure within about two hours, depending on factors such as thickness, temperature, and humidity conditions.

As you reach the room's edge, you can either cut the tiles to fit any gaps (if required) or leave this until the end of the job. In either case, make sure to clean away any excess adhesive before it dries, as this will facilitate the installation process.

Once again, take care to avoid adhesive contact with the face of the tiles, and use a clean, damp sponge to wipe away any surplus adhesive as you work. If there are any untilted areas around the wall's edges, you'll need to cut the tiles to fit, as explained in the section on cutting tiles.

## **ADHESIVES AND GROUTS FOR WET AREAS**

Building movement and expansion joints are necessary for a variety of reasons. It is advisable to divide a larger tiled area into a series of smaller sections using sealant and bond breaker between them. Designers may indicate specific locations where these joints are required, but they are mandatory in situations where tiles meet walls or other building materials and in the presence of surface expansion joints, among other circumstances. These joints help accommodate potential movement and prevent issues that can arise from expansion and contraction.

## **ADHESIVES FOR NATURAL STONE PRODUCTS**

Building movement and expansion joints are necessary for a variety of reasons. It is advisable to divide a larger tiled area into a series of smaller sections using sealant and bond breaker between them. Designers may indicate specific locations where these joints are required, but they are mandatory in situations where tiles meet walls or other building materials and in the presence of surface expansion joints, among other circumstances. These joints help accommodate potential movement and prevent issues that can arise from expansion and contraction.

## **LIMESTONE**

When installing stone tiles, especially limestone, on a wood or timber surface, it's crucial to exercise caution. The wood surface must be robust, rigid, and devoid of any potential for movement. Otherwise, there is a risk of damaging or cracking the limestone tiles during or after installation.

## TRAVERTINE

For travertine tiles, it's important to fill all voids on the back of the tiles with white adhesive. After that, the entire back of the tile should be coated with adhesive before installation. This process is often referred to as "buttering" the tile with adhesive to ensure proper adhesion.

## TRANSLUCENT STONE

To install translucent stone, it is recommended to use a white flexible cement-based adhesive, specifically an SI (Single-Part Instantaneous) adhesive for the best results.

## PEBBLE MOSAICS

We recommend a dry layout of the tiles before fixing to ensure even distribution of color and size variations across the installation. Some pebbles may need slight adjustments to interlock with adjacent pebble sheets. Try to match the gaps between pebble sheets as closely as possible with the gaps between individual pebbles to avoid visible joints after grouting.

On masonry substrates where no movement is expected, a cement-based water-mix adhesive is generally suitable. However, if slight movement might occur due to factors like thermal changes or pedestrian loads, it's advisable to use a modified cement adhesive, preferably a two-part adhesive, as a minimum requirement. Make sure to embed each pebble in the adhesive, select the right product for the job, use a solid bed trowel, and work on small sections (about 10 sq. ft.) at a time while wiping off any adhesive residue.

## ADHESIVES FOR GLASS TILES

When working with plain glass tiles, it's advisable to use a white, cement-based latex-modified adhesive. For decorative glass tiles, consider using either an epoxy class R1 or class R2 adhesive, or a silicone-based mirror adhesive. When opting for a mirror adhesive, apply it directly to the back of the tile, not the wall surface, and then fix the tile to the wall.

**WARNING:** Epoxy adhesive can be challenging to work with, and once it has cured, it can be extremely difficult to remove. Always remove excess epoxy adhesive immediately.

It's crucial to ensure that the adhesive is completely dry before grouting glass tiles. Any residual moisture left behind glass tiles can lead to the deterioration of the paint backing. Semi-opaque glass tiles should be installed with an adhesive that doesn't shrink or crack, as these imperfections can be visible once the adhesive dries from the front.

Additionally, when installing glass tiles, be aware that light refraction from other substrates may be visible through the edges of the tiles. To prevent this shadowing effect, it's highly recommended to fully fill any voids, especially in corners, before tiling.

## SCRATCHING

Glass tiles, like all glass products, can be susceptible to unintentional scratching. To minimize the risk of scratches during installation, follow these precautions:

Apply masking tape to the edges of the glass tiles before installation to protect them from accidental scratches.

It's advisable to use new sponges and grouting tools for your glass tile installation. Older tools may have grout residue on them, which could potentially scratch the tiles.

By taking these measures, you can help ensure that your glass tiles remain free from scratches during the installation process.

## ADHESIVES FOR GLASS MOSAICS

When working with glass mosaics, it's recommended to use a latex cement-based adhesive with a high polymer content. Glass mosaics are fully vitrified, which means they are non-porous and impervious to water. Using an adhesive with high polymer content helps ensure a strong and reliable bond between the glass mosaics and the substrate, making your installation more secure and long-lasting.

## ADHESIVE APPLICATION TO MOSAICS

To ensure a proper tile installation, follow these steps:

- **Prime the surface:** Before tiling, make sure the surface is primed and allowed to dry completely.
- **Adhesive application:** Spread adhesive over the area you can work on within 15 minutes, typically about 5 to 10 square feet. Use a notched trowel to create even horizontal lines with a thickness of 3/4" thin-set.
- **Apply the mosaic sheet:** Press the entire mosaic sheet firmly onto the adhesive. Remove any excess adhesive that may seep up between the tiles using a damp sponge.
- **Check for straightness and level:** Verify that the mosaic sheet is straight and level. You can use a 12" batten piece to gently tamp down the mosaics for a level finish.
- **Handling mosaic sheets:** Most of MM Tile & Stone's mosaics come in sheets on a mesh backing, making installation easier. Simply press the mesh side into the adhesive. However, some mosaics may have paper or film facings.

By following these steps, you can achieve a successful and visually pleasing mosaic tile installation.

## PAPER FACED MOSAICS

The translucent nature of these tiles requires special handling:

- **Paper-faced tiles:** These tiles have a paper backing to prevent the appearance of mesh showing through the glass mosaics when installed. Install paper-faced tiles in the same way as glass mosaics, but ensure the paper faces outward.
- **Recommended adhesive:** Use a white latex, cement-based, rapid-setting flexible adhesive for these tiles.
- **Application:** Adhere a small section at a time. About 15 to 20 minutes after applying the mosaic sheet, use a damp sponge and warm water to lightly wet the paper until it darkens.
- **Paper removal:** Test a corner of the paper by pulling it lightly at a downward angle. If the paper doesn't peel away cleanly, sponge it again until it peels off easily.
- **Inspection and adjustment:** Once the paper is removed, inspect the installation and straighten any joints that aren't aligned. If you find any unacceptable tiles, remove and replace them before the adhesive dries.
- **Removal process:** Remove the paper as you go, rather than waiting until all sheets are installed.

By following these steps, you can successfully install these translucent paper-faced tiles while maintaining a clean and appealing appearance.



## GLASS MOSAICS

To install certain translucent mosaics effectively, follow these steps:

- **Choose the right adhesive:** Use a thin-set polymer modified latex cement-based adhesive. This adhesive is suitable for transparent mosaics.
- **Apply adhesive evenly:** Due to the transparent nature of these mosaics, it's crucial to apply the adhesive evenly. Failing to do so may result in the adhesive becoming visible through the mosaics under specific lighting conditions.

By selecting the appropriate adhesive and applying it uniformly, you can ensure that the installation of these mosaics is visually appealing and free from adhesive visibility issues.

## PLASTIC FILM FACED MOSAICS

When installing mosaics faced with a plastic film, follow these steps:

- **Choose the right adhesive:** Use a white latex, cement-based, rapid-setting flexible adhesive for the installation.
- **Apply adhesive with the film facing outwards:** Install the mosaics with the plastic film facing outwards. Adhere the mosaics using the recommended adhesive.
- **Allow adhesive to set and dry:** After installing the mosaics, let the adhesive set for at least 24 hours to ensure it is completely dry.
- **Peel off the film:** Once the adhesive is dry, carefully peel off the plastic film. If you need to make slight adjustments to straighten the mosaics before the adhesive fully sets, you can carefully cut the film with a sharp knife.

By following these steps, you can successfully install mosaics with a plastic film facing outwards, ensuring they are securely attached and have the desired appearance.



## 13. CUTTING TILES

It is crucial to prioritize safety when using cutting tools or machinery. Always wear appropriate personal protective equipment, including safety goggles, a dust mask, and gloves. We strongly advise having all cutting and installation work carried out by a skilled and experienced professional installer to ensure safety and quality.

Different types of tiles require specific cutting methods to ensure a precise and safe installation. Here are the recommended procedures for cutting various types of tiles:

### CERAMIC TILES:

Standard tile cutting equipment is suitable for cutting ceramic tiles. Take regular safety precautions. When cutting tiles to fit in small areas, avoid making cuts less than 1½".

### GLASS TILES:

Glass tiles can be cut with glass cutters, but it requires careful handling.

For glass tiles with a thickness of ¼", mark the outline of your cut, score it with the glass cutter, place a thin wire under the score, and apply even, firm pressure on either side.

To avoid light refraction from cut glass tiles, use an electric tile saw with a glass cutting blade, then file away any uneven edges with a suitable glass file.

### PORCELAIN TILES:

Porcelain tiles should be cut using diamond blades mounted on manual electric grinders or water-cooled tile saws (thin glass cutting blades work best). For precision cuts, techniques like water jet cutting are suitable.

Use an electric water-fed diamond blade saw for complex shapes.

These procedures help ensure that each type of tile is cut accurately and effectively for your installation. Always prioritize safety when cutting tiles.



## 14. DRILLING TILES

To drill holes in hard tiles, especially our products, you should follow these steps for optimal results:

- **Use a Cordless Drill:** Always use a cordless drill for drilling into tiles.
- **Mark the Hole:** Start by marking the center of the hole you need to drill into the tile. You can use a china-graph pencil for this purpose.
- **Attach a Sticky Adhesive Drive Pad:** Attach a sticky adhesive drive pad to the marked point. This pad serves as a guide for the hollow diamond-tipped drill bit.
- **Use a Diamond Tipped Drill Bit:** Ensure you're using a hollow diamond-tipped drill bit. Some drive pads may also have a water attachment. The water is essential to keep the diamond core cool and to remove any debris generated while drilling.
- **Maintain a Constant Water Supply:** If your drive pad has a water attachment, it will provide a continuous supply of cold water directly at the drill bit. This keeps the diamond core cool and helps clear debris. Do not attempt to cool the drill bit with a hand-held aspirator or by drilling through a wet sponge, as these methods do not provide sufficient cooling and can shorten the drill bit's lifespan.
- **Drill the Tile:** Start drilling in a vertical position. The sticky pad will help keep the drill in place and prevent slipping.
- **Peel Off the Self-Adhesive Drive Pad:** After you've finished drilling the tile, simply peel off the self-adhesive drive pad.

By following these steps, you can successfully drill holes in hard tiles without damaging the tiles or your equipment.



## 15. CLEANING AND MAINTENANCE

Cleaning and maintaining your tiles is essential to keep them looking their best. Here are some general guidelines for cleaning different types of tiles:

- **pH Neutral Cleaners:** pH neutral cleaners are suitable for most tiles. Using a pH-neutral cleaner is recommended, as certain acid-based cleaning products can cause some tiles to react and change in character. Always test a new cleaning product on a small area before use.
- **Efflorescence Removal:** During the drying out process, soluble salts from the substrate may appear on the surface of natural stone tiles. Once all excess moisture has evaporated, you can remove this using water. Efflorescence in an existing building may indicate a structural problem, and it's advisable to identify and repair any defects before tiling. Excess impregnator can sometimes be mistaken for efflorescence, and it can be removed with an appropriate remover.
- **No Acid Cleaning for Natural Stone:** Acid cleaning agents should never be used on natural stone. Always use a pH neutral cleaner. Sweep or vacuum tiled floors to remove loose dirt and mop occasionally to remove spills and dirt.
- **Cleaning Basalt:** Basalt should be cleaned regularly to prevent the build-up of dirt, grease residue, soap detergents, etc. Use clear water and/or a soap-free, neutral liquid cleaner, rinse with clear water, and wipe dry to prevent film formation.
- **Cleaning Glass Tiles:** Wash glass tile surfaces with clean water or a pH-neutral glass or window cleaner. Use a soft, lint-free cloth to avoid scratching. Avoid using vinegar, as it may affect the grouting.

- **Cleaning Metal Tiles and Mosaics:** Wipe away fingerprints and watermarks on metal tiles and mosaics with a soft cloth or kitchen paper. You can also use warm soapy water, a damp cloth, and a stainless steel cleaner following the manufacturer's instructions. Avoid using harsh or abrasive cleaning products, scourers, bleach, or steel wool pads, as they can damage the metal tiles.
- **Tile Maintenance:** It's essential to have an effective cleaning regime for wall and floor surfaces to maintain their condition and attractiveness. Different materials have specific cleaning and maintenance requirements, so use the appropriate cleaning equipment and products for each type of tile.

By following these cleaning and maintenance guidelines, you can keep your tiles looking clean and beautiful for years to come.

## LIMITS OF LIABILITY

**MM TILE & STONE** has certain policies and limitations regarding its tiles and their installation:

**Faulty Installation Liability:** **MM TILE & STONE** does not accept liability for faulty tile installation. Any claim related to the tiles themselves is subject to specific limitations.

**Liability for Tile Claims:** In the case of tile claims, **MM TILE & STONE's** liability is limited to either replacing the product or providing a refund for the cost of the product. This liability does not extend to cover any consequential losses.

**Pre-Installation Inspection:** Tiles must be inspected before installation. Claims cannot be considered after the tiles have been installed.

**Reporting Claims:** Any claims related to tiles must be reported within seven working days from the receipt of the tiles.

**Variations in Tile Sizes:** Tile sizes may vary slightly from the stated nominal dimensions, but they fall within internationally accepted standards.

**Acceptance of Installed Tiles:** Installation of the tiles constitutes acceptance of their quality, color, size, texture, and shade. Once installed, claims regarding these factors cannot be considered.

**Effect of Acid-Based Cleaners:** The use of certain acid-based cleaning products may cause some tiles to react and change in character.

**Product Description and Fitness:** **MM TILE & STONE** guarantees that its tiles conform to their description and are fit for their intended purpose. However, no other express or implied warranties are provided regarding the fitness or suitability of the products for specific installations.

**Wear Resistance and Maintenance:** No guarantees are provided, express or implied, regarding wear resistance or maintenance procedures for the tiles. It is essential to follow all manufacturers' instructions regarding the suitability of grout, adhesive, and sealant products with **MM TILE & STONE's** tiles.

**Third-Party Products:** **MM TILE & STONE** makes no representations about the fitness for purpose of third-party products.

Please note that these policies and limitations are important considerations when working with **MM TILE & STONE's** tiles, and it is advisable to follow all provided instructions and seek guidance from your product retailer if you have any doubts or questions.



TILE & STONE

*Forever Together*

## CONTACT

📍 710 Debra Lane  
Anaheim CA 92805  
United States  
☎ +1 (657) 298-6730  
📠 +1 (714) 276-6537  
@ info@mmtilestone.com

MMTILESTONE.COM