



SETTING MATERIALS
PRODUCT KNOWLEDGE
GUIDE

THE BASICS



SETTING MATERIALS PRODUCT KNOWLEDGE GUIDE

Using the proper setting materials throughout the tile installation process is essential to maintaining the beauty and integrity of any tile project for many years. This guide will serve as a resource to identify specific product types, regardless of brand, for use with particular tile installation situations.

The information content will focus on 4 main steps in the tile installation process:
Prep, Set, Grout and Care.

PREP

SET

GROUT

CARE

PREP

Successful tile installations begin with the products used in floor preparation. Floor preparation can be divided into several categories: Backer board, Waterproofing, Crack Isolation, Floor Patch, and Floor Leveling products.

- **Backer board:**

From a bonding perspective, the best substrate to install tile is directly over concrete. In lieu of that, it is recommended to use a backer board over existing wood or vinyl substrates to provide sufficient tile bond. It is not necessary to use backer board products over concrete substrates. Backer board products are typically offered in two forms: cement board and fiber board. In either case, backer boards are all purpose substrates engineered to meet floor underlayment and wall tile-backing needs, as specified by ANSI (American National Standards Institute). Tile backer boards provide the resistance to water and mold that is required in bathrooms, kitchens, and entryways. Backer boards are commonly offered in either ¼" or ½" thickness. Typically, the ¼" is used on floors, while the ½" is recommended for walls.

- **Waterproofing:**

For tile installations where water or moisture will be prevalent, it is necessary to apply a waterproofing product as a precaution. There are typically three types of waterproofing products: single step liquids, dual step liquid & mesh, and roll out sheet membranes. With any of these options; waterproofing products will maintain the integrity of the substrate, either wall or floor, and the strength of the tile bond without interference from consistent water or moisture presence.

PREP

- **Crack Isolation:**

Crack Isolation products are used with tile installations over concrete slabs or wood substrates where movement is a concern. These products protect the tile surface from cracks due to movement underneath the tile and substrate. There are typically 2 types of crack isolation products: peel and stick membrane or liquid applied roll on.

- **Floor Patch:**

Patching products provide a smooth finish prior to the installation of any floor tile. They are used to patch and level concrete or plywood to create an even bonding surface filling voids up to ½" in depth.

- **Floor Leveling:**

Floor leveling products are specifically made to level floors prior to the installation of a variety of floor coverings in commercial and residential applications. There is a variety of leveling products for different leveling needs such as fast drying, light weight (where overall floor weight is a concern), and feather edge products that provide floor leveling support from 0" to 1" in a single application depending on product type.

For additional information relating to these products; please contact our supply partners directly.

USG (Backer board): Technical Support: 1-800-USG-4-YOU (1-800-874-4968)

James Hardie (Backer board): Technical Support: 1-888 542-7343

Merkrete (Prep Products): Technical Support: 1-800-226-2424

TEC (Prep Products): Technical Service: 1-800-TEC-9023 (1-800-832-9023)

Custom Building Products (Prep Products): Technical Services: 1-800-282-8786

SET

There are various types of thinset mortars formulated to fit specific application needs or installation requirements. They are categorized as modified and un-modified thinset. A modified thinset mortar contains polymers formulated into the dry powder mix that increase the performance and bond strength. This product is mixed with water. An un-modified mortar is simply a thinset mortar that does not contain polymer in the dry powder mix. Liquid polymer additives are available for un-modified thinset mortars to boost bond strengths, water resistance, or flexibility. These liquid additives are used in place of water and should never be diluted, unless otherwise noted on the product directions.

In addition, most manufacturers have created specialized mortars for specific applications:

- **Large Format Tile Mortars (Medium Bed Mortars):**

- Formulated for tile with a single edge of 15" or longer.
- Medium bed mortars do not dry as fast as a typical thinset mortar and they are formulated to significantly reduce the risk of shrinkage in the mortar bed during the curing process.

- **Glass Tile Mortars:**

- Formulated to work specifically with glass tiles and mosaics

- **Fast Drying Mortars:**

- Designed for a faster cure rate to increase installation productivity.
- Allows the grouting process to begin faster than typical mortars.

SET

- **Non-Sag or No Slump Mortars:**

- o Designed for a stronger hold with tiles installed on a vertical wall.
- o Can also be used with medium bed applications.

- **Epoxy Mortars:**

- o Designed for installations where a strong chemical resistance is needed, i.e. commercial kitchens.
- o Also recommended for tile with resin backing; which typical mortars will not bond.

Mastics are another example of a tile adhesive product. These products resemble a paste or glue verses mortars, which are powders. However, Mastics have limitations and can only be used on vertical wall surfaces with tile no larger than 12"x12", and can only be used in areas that are not subject to extended water exposure.

A basic guideline of when to use a Mortar or Mastic:

1. Shower floors: Thinset
2. Shower walls: Thinset
3. Bathroom floors: Thinset
4. Bathroom walls: Thinset
5. Kitchen floors: Thinset
6. Kitchen countertops: Thinset
7. Kitchen backsplashes: Mastic
8. Other walls: Mastic (where moisture is not present)

For additional information relating to these products; please contact our supply partners directly.

Custom Building Products (Set Products): Technical Services: 1-800-282-8786

Merkrete (Set Products): Technical Support: 1-800-226-2424

TEC (Set Products): Technical Service: 1-800-TEC-9023 (1-800-832-9023)

GROUT

Grout is used to fill the spacing between tiles and is offered in a variety of colors to either match or to contrast the tile color. Grout also adds strength to the overall installation by providing a limited, but additional, bonding of the tiles. It also aids in the prevention of chipping and cracking of the tile edge. Grouts are used in almost every tile installation and there are a few product options depending on the type of installation.

- **Polymer-Modified or Standard Grouts:**

Standard grouts are a polymer-enhanced Portland cement grout. Offered in two variations, unsanded or sanded. Unsanded grout is designed for small joints no larger than 1/8" and is primarily used for walls, tub enclosures, and countertops. In cases where sanded grout could scratch delicate tile surfaces, such as marble or other natural stones, unsanded grout is also recommended. Sanded grout in grout joints ranging from 1/8" to 1/2", and is intended primarily for floor tile applications.

- **Epoxy Grouts:**

Epoxy grouts are typically a two part product system; one part epoxy and one part colorant. Epoxy grouts offer maximum resistance to staining and chemical attack from food, beverages, chemicals and cleaning agents, and never require sealing. There is a higher product cost and installation is typically a bit more labor intensive; but the end product result is extremely durable and stain resistant.

GROUT

- **Pre-Mix and Stain Resistant Powder Grouts:**

There are now premixed ready to use and stain resistant grouts offered by most major grout manufacturers. Premixed grouts offer stain resistance, ease of use, no mixing, fast drying times, and no need for sealing. In addition, there are also stain resistant grouts that still require powder & liquid mixing, but offer stain resistance without the epoxy chemical component.

For additional information relating to these products; please contact our supply partners directly.

Custom Building Products (Grout Products): Technical Services: 1-800-282-8786

Merkrete (Grout Products): Technical Support: 1-800-226-2424

TEC (Grout Products): Technical Service: 1-800-TEC-9023 (1-800-832-9023)

CARE

Sealants and Cleaners are an important part of maintaining the overall beauty and durability of tile and natural stone installations. More importantly, they protect the investment of time and money spent on any tile or stone project. There are a variety of Sealers and Cleaners and several factors to consider when choosing which product to use. It is recommended that all natural stone and most tile installations receive some sort of sealing after installation and periodic reapplication moving forward. The frequency of reapplication depends on the product and tile or stone in which it is applied. Depending on the desired look of the job would determine a penetrating sealer or enhancing sealer which are offered in both water based and solvent based. As an overall rule, natural stone products require sealant on both the tile and grout. While ceramic and porcelain products generally only require sealants on the grout only.

Sealants

Water based sealers:

- o Typically less toxic than solvent based sealers and are best used in environments where low chemical exposure is preferred.

Solvent Based sealers:

- o These are chemically based products used in areas that need a stronger and longer lasting sealing such as food prep areas, restrooms, or high traffic areas.

Penetrating sealers

- o Not a topical sealer, but rather a sealant that penetrates underneath the tile or grout surface, but typically does not alter the natural look of the product. The number of sealant coats to be applied during the initial process will depend on the porosity of the tile product used.

Enhancing sealers

- o Designed to enhance or alter the look of the natural stone tile to bring out the vibrant colors of the different minerals found in the stone. Again, the number of sealant coats to be applied during the initial process will depend on the porosity of the tile product used.

CARE

Sealants

After the completion of any tile project, using PH-balanced cleaners that have been designed for the specific product used in the tile installation are highly recommended. PH-balanced products simply do not have a heavy concentration of acidic ingredients that may harm the tile installation. Most household general purpose cleaners (acidic and alkaline solutions, abrasives, ammonia or bleach) can break down the sealers and damage the tile surface, specifically in natural stone. Cleaners are offered in a variety of daily use, heavy duty, and specific purpose options. Using the recommended cleaning products will eliminate any long term issues and protect your flooring investment.

For additional information relating to these products; please contact our supply partners directly.

Aqua Mix Products (Cleaner & Sealant Products): Technical Services: 1-800-282-8786

Miracle Sealants (Cleaner & Sealant Products): Technical Support: 1-800-350-1901 ext. 3013