



TECHNICAL BULLETIN

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RE: Installing Marble Tiles - How to avoid warpage, staining, shading, soft spots, blisters and bond failures.

Unsatisfactory marble tile installations can be avoided with some simple considerations when certain types of tiles are chosen. Selecting the right bonding material and application procedure by consulting with the tile manufacturer, tile distributor or adhesive manufacturer can be simple. The following guidelines will help eliminate many costly errors and installation problems.

NATURAL MARBLES

When marble tiles are produced, they are cut to the smallest thickness that can be handled, polished, packaged, shipped and installed without breakage. Cutting the marble in this manner produces the most tile from a block of marble which makes it more available and lowers the costs. These thin cut marble tiles rely on proper bonding materials and methods to produce a satisfactory installation.

Bonding Green, Red and Black Colored Natural Marble Tile- These marble tiles contain certain materials (example: all green marble contains serpentine) that soften, blister, swell or curl when they come in contact with water or moisture. All green marbles, some black and certain red marbles are water sensitive and experience problems if bonded with setting materials that contain water. It is always best to ask the marble tile manufacturer if the tile is water and moisture sensitive. These moisture sensitive tiles should be bonded with a 100% solids epoxy mortar like Tex-Rite's EpoxyPlus 2002, EpoxyPlus 2002 TS or EverWhite Epoxy 932. All other dry-set mortars, epoxy emulsion mortars and mastics contain water and should not be used.

Bonding Light Colored or Translucent Marble Tile- Exterior and interior lighting can pass through these

types of tile. Once the floor has been installed, these light colored or translucent marble tiles will show shadows or ghosting from dark or dissimilar colored bonding materials. This problem can be eliminated by using a "white" adhesive or dry-set mortar and making sure that all tiles installed achieve full (100%) contact with the setting materials. The easiest way to achieve full contact with the tile is to "Back Butter" the tile in addition to trowling bonding material on the substrate.

Bonding Fiber Reinforced Resin Backed Marble Tile- These tiles are cut exceptionally thin but are reinforced with fiber mesh and resin coating at 1/32"-1/16" in thickness. These resin back coated tiles have a very inert and nonporous bond surface that requires the extra bond strength of Tex-Rite's EpoxyPlus 2002, EpoxyPlus 2002 TS or EverWhite Epoxy 932.

Avoiding Discolored Marble Tile and Tile Edges- Cutting of the marble at the jobsite is required as an installation becomes more intricate or involves a decorative design pattern. The cutting saw used to make the custom cuts in the tiles requires a liquid to cool the cutting blade. Most of the time this liquid is common water. When a cutting saw is used, the cooling liquid or water will accumulate fine particles or grindings. As the marble tiles are being cut by the saw and sprayed with the contaminated water, staining of certain tile pieces or tile edges will occur. This can be avoided by cleaning debris from the saw and changing to clean water when different colored tiles are to be cut on the saw.

Moisture Staining- Marble tiles that are not water sensitive may show some darkening due to absorption of moisture/water from the setting materials or mainte-

TB207-111507

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nance. This moisture darkening is caused by the tiny capillaries or pores within the marble holding water. The moisture staining remains temporarily until evaporation of the water occurs.

Picture Framing - On some installations, especially those using larger unit marble tiles, there is a tendency to apply grouting materials only around the perimeter of the tiles during the application process. Some more porous marbles will allow small amounts of pigment, cement or, in the case of epoxy grout, epoxy resin to fill tiny pores in the surface of the marble. This can slightly change the appearance of the marble in the areas that came in contact with the grouting material. If the grouting material was only applied to the perimeter of the tile, a "picture framing" affect can be noticeable. It is advisable to apply grouting materials over the entire surface of the tiles to avoid this condition.

Care and Maintenance- Natural marble tiles are porous and will absorb liquids. To avoid surface stains, cleaning the marble with a neutral cleaning solution or a cleaner approved "for use on natural marble" by the manufacturer is required. The same criteria will hold true for any sealers, polishes or waxes used on the installation. Obtaining polishes, sealers and cleaners approved in writing as "safe" or "recommended" for natural marble will prevent problems.