



## Technical Bulletin # 108

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

**DATE REVISED: January 07, 2005**

Unsatisfactory marble tile installations can be avoided with some simple considerations when certain types of tiles are chosen. Selecting the right bonding material 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 narrowest thickness that can be handled, polished, packaged, shipped and installed without breakage. Cutting the marble in this manner produces the most tiles from a block of marble, which makes it more available and lowers the costs. These thin cut marble tiles rely on proper bonding materials to produce a satisfactory installation.

### **Bonding Green, Red, Brown and Black Colored Natural Marble Tile**

These marble tiles contain certain minerals (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. 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 C-Cure's ColorSet Epoxy 931 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 troweling 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 bond strength of C-Cure's ColorSet Epoxy 931 or EverWhite Epoxy 932. Latex-Portland thinset will not properly bond to resin backed marble and is not warranted by C-Cure.

### **Avoiding Discolored Marble Tile and Tile Edges**

Many times a marble installation may appear perfect but is not. 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 maintenance. 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.

### **Care and Maintenance**

Nature marble tiles are porous and will absorb liquids. To avoid surface stains cleaning the marble with neutral cleaning solution or 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. Use the same care and cleaning with the grout as used in the marble installation. Obtaining polishes, sealers and cleaners approved in writing as "safe" or "recommended" for natural marble will prevent problems.

Technical Bulletin #108-TB-0105

Notice: The information in this bulletin is presented in good faith, but no warranty, express or implied, is given nor is freedom from any patent in as much as any assistance furnished by C-Cure with reference to the safe use and disposal of its products is provided without charge, C-Cure assumes no obligation or liability therefore, except to the extent that any such assistance shall be given in good faith.