

**JOHN R. SCHNEIDER**

INSTALLING MARBLE FLOOR TILE

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We just built a new custom home, and had marble tile installed in the entry, living room and dining room. Some marble pieces are cracked, and some are uneven by almost 1/8 of an inch. The builder told us we had to deal with the sub contractor, and the sub contractor says that it is normal for tiles to be a little even, and the work meets industry standards. What do we do now? We've had two other contractor look at the job, and they both say that there are problems with the installation. What are the standards of the industry? Do we have any recourse with the builder? Is there an easy way to fix this?

A properly installed marble tile floor is not only appealing to the eye, it projects an elegant feeling because of its flat, smooth, and polished surfaces. It takes experience and skill to install marble tiles because over large areas, any variation in the surface of the marble detracts from its beauty by making the floor look irregular.

The two most common complaints about marble installations involve cracking of the individual tiles, and lippage. Lippage is a condition where one edge of marble is higher than the piece next to it, making the tiles uneven. Cracks in marble tiles can occur during shipping, during installation, or after the tile has been installed.

Marble tile is a thin, flat piece of natural stone used as a finishing material, having a size ranging from 2"x2" to 24"x24", and a thickness ranging from 1/4" to 3/4". The edges of the tile are usually cut square and sharp, rather than beveled. One of the inherent characteristics of stone tile is that it tends to crack easily. Therefore, special precautions must be taken when setting any type of stone, especially a marble tile.

The two common mistakes people make when setting marble tiles are, not properly reinforcing and leveling the surface the tile is to be installed upon, and not checking the individual pieces of tile for flatness and cracks. Although marble tile is manufactured to exact specifications, marble tiles can react to the heat and pressure of the grinding heads during fabrication, causing slight variances in the flatness of the finished product.

It is critical that marble tile be installed over a substrate (the surface below the tile) that is perfectly smooth and level, with no humps or valleys in the surface. The industry standard for the surface of the substrate to vary is no more than 1/4" over a length of 10 feet. Any variance from this standard, should be filled, or planed down to ensure that the finished surface of the tile installation will be flat and smooth. Marble tiles that are not uniformly supported across its entire surface will have a tendency to crack under an applied weight.

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Once the surface of the floor is prepared, the marble tiles are then installed by using a thin-set cement, with a joint width of 1/16" to 3/32" between the tiles. Industry standards state the surface of the tiles should not vary more than 1/8", accumulative over 10 feet in length, and that the lippage between individual tiles should not vary more than 1/32" (which is less than the thickness of a dime). Installations exceeding these tolerances would not reflect the level of workmanship required by trade practices.

Cracking in marble tiles can be the result of shipping, the installation process, or a defect in the material itself. This is why visually inspecting the marble pieces before they are installed, is so important. Often, what appears to be cracking in a marble tile are just the veins in material, which often look like cracks just below the finished surface. A true crack in marble breaks through the finished surface, and can usually be felt by dragging a fingernail across the face of the tile. If the crack can be felt, or easily identified, the tile should be replaced.

As a new home owner, you do have recourse with the builder, because he has specific legal obligations to provide you with a house that is properly and safely constructed. He is the one ultimately responsible for concerns with the workmanship on the house, not the individual sub contractors. The fact that he told you to deal with the sub contractor is irrelevant.

Repairing a marble floor can be very expensive and labor intensive because of how fragile the marble can be. If only a few isolated tiles need to be replaced, repairs can be done by carefully chipping out the tile in question, totally cleaning the substrate, and reinstalling a new piece. However, if there are many uneven tiles, or excessive lippages, it may be necessary to tear out an area of tile, and start over. This can be costly and labor intensive.

Your best course of action is to obtain a written report describing the deficiencies of the installation, and at least two or three bids from reputable contractors, specializing in marble installations, to establish your financial exposure. You should then send this information to the builder, along with a request to make the floor installation reflect the standards set by the industry.

If you would like a copy of the Standards for installing marble tile, you can contact the Marble Institute of America, for a free brochure. The MIA can be reached at 30 Eden Alley, Suite 301, Columbus, Ohio 43215, or by calling 614-228-6194. Their web sit address is <http://www.margle-institute.com>.

John R. Schneider is a licensed general building contractor and a certified residential code specialist. He is president of All About Homes, a residential inspection company, and has been performing code and construction consultations since 1985. Readers may address their comments to John Schneider, 24326 Mission Blvd. Suite 7, Hayward, Ca 94544. Fax number: 510 537-8666. Please include your phone number. Schneider will answer questions of general interest in the paper. He reserves the right to edit the letter for brevity and clarity. Readers are encouraged to contact a competent contractor or code consultant for specific information regarding questions they may have about their homes.

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