

# How can I prevent my tile grout from cracking?

Last Updated: Wednesday, January 16th, 2002, Created: Wednesday, January 16th, 2002

Barry from Calgary, Alberta writes: "I have a problem with cracking grout on an aboveground installation. I suspect the cause is excessive deflection of the floor joists. I'm wondering if there's any additive that can be added to the grout that will prevent this from happening again when I re-grout?"

Well Barry, if you need rubber grout, you will have to use a rubberised caulking like PL Polyurethane, but it makes for a hard-to-clean floor. You can get stronger grout by using epoxy grout and if you have a really marginal problem, that might solve it for you. But you are probably right that it is floor vibration that is causing the problem, not enough support under the joists or not enough bracing. Click on this link to check out the "Vibration Animation"; that will help to show you what is going on.

Solutions to a floor that has too small joists for the span, or we can say too little beam support for the size of the joists? Making sure that there is cross bracing between the joists and if it is there, that it is tight. You can also add 1x2 or 1x3 strapping across the bottom of the joists. Both bracing and strapping prevent the joists from twisting as you walk on them, making the floor more rigid with the same joists and spans. In fact a glued, screwed, braced and strapped floor has much less vibration than the identical joists that simply have flooring nailed to the top. All of that is a good starting point.

To see just how much your floor deflects, have the lightest person in the family sit in the middle of the floor and run a tape measurer to the ceiling and down to the edge of a wooden block. Mark some convenient inch mark on the block. Then have the rest of the family walk in to weight the floor down and see how far that mark moves alongside the tape measurer. Just having a reference point like that will help you to judge if solidifying efforts underneath are doing any good.

You cannot stop grout cracking on a floor that moves too much -- but good floor tiling will incorporate an uncoupling membrane that will allow for small movement of the floor without transmitting that movement to the tiles.

Several years ago on my TV show I demonstrated various tile applications using membranes and other materials from the company Schluter, a company that specializes in and continues to innovate in tiling systems, although they don't sell any tile themselves. They have an extensive industrial web site at Schluter.com but more recently they have asked me to help them develop a special web site that would really bring all the information about tiling together into one place that was easy to access for everyone -- dealing with everything from an understanding of tiling systems to the details of materials and how-to documents and videos. In addition they wanted to make a highly visual site with less text and more information -- hence a lot of video -- which is precisely what I do best. It is a pleasure working with people who insist on education over advertising. May I invite you to join me in a visit to SchluterHouse.com. Just click on any of the floors in the house to learn about their Ditra uncoupling membranes.

**Keywords:**

Cracks, Floors, Grout, Structure, Tiles, Vibrations