Ask Jon Eakes

Stopping a leak in a shower stall

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Letter: I have a ceramic shower, that is leaking, I do not know how it was built or what is underneath.In the last week +- have noticed about an ounce or 2 of water in the garage,I have a small openeing in the ceiling directly under due to the drain pipe, the drain pipe and feed lines are dry. But you can see the wood is wet (maybe 3"round) about 15" away this would be close to the corner.I really do not want to venture into a full shower pan change, is it effecitive to coat the floor and sides with a clear masonry sealer ? or can you suggest any alternative method of repair that will not be as expensive as a full shower pan and ripping apart the shower.Mark-----------------------Reply:Masonry sealers would not be of much use since they do not seal cracks but only create a coating on masonry that causes water to bead up rather than soak into masonry. A grout sealer could help, but only after all potential cracks or leaks are dealt with.Before we really came to understand that grout, sealed grout and most ceramic tiles are not totally vapour proof and sometimes not even waterproof, we did a lot of work to create and maintain a waterproof assembly at the surface of the tiles themselves. It can work but never lasts forever. I'll get to that for your fix, but first -- we always knew that there was enough moisture getting through, or potential for getting through that we had always required a catch basin under the shower -- that Shower Pan that you mention. Some were better than others in that some collected and held large quantities of water in the slopped mortar bed, and others actually had a waterproof membrane over most of the mortar and leading into the drain. Those tile floor water controls work well when built well.   However in many cases, even if the base has no faults, like poorly sealed corners or poor membrane joint to the drain, water would get in behind the tiles higher up and get into the house structure before it got to the drain. Here is a good read as to why it is often wet behind the tiles. For showers that are against an outside insulated wall in cold country, errors with the vapour barrier can trap enough vapour to cause water to flow where there is no actual "leak": see Vapour Barriers and Showers.Since you seem to have no problem in the drain plumbing itself you need to work on making the tile field, especially the upper portion, waterproof. The pan could be leaking, but more likely the problem is higher up and flowing behind the pan.First we should be sure that there is not a plumbing leak between the shower neck and the supply plumbing -- a stress point that people who constantly adjust the shower head can cause to come a bit loose.   This is an interesting leak that only has water flow when the shower is on because it is on the exit side of the shower valve. If you are able to remove the shower faucet face plates, you may be able to see that pipe that goes up to the shower head. If you can get some Kleenex into this spot, and maybe even wrap around the riser pipe, then close it all back up and take a shower, you can check that Kleenex for a drip coming from above - Kleenex is a great test instrument because it is obvious when it gets wet . The fix is generally simply to unscrew the shower neck and re-install it with more Teflon tape. If there is definitely a leak in this section coming out of the valve but the Teflon doesn't fix it, you will be forced to open the wall -- hopefully on the other side rather than cutting through the tiles.The next most common source for water to the back side is water flowing down the face of the tile and sneaking behind the escutcheon plates - the decorative plates behind the faucet handles or a tub spout or a toe temperature tester. Usually people leave that hole wide open and rarely have any provision for stopping water from flowing behind the plates.   Even many modern single handle escutcheon plates which have a foam gasket to seal this area experience leakage because of the uneven surface of tile-grout-tile. The traditional barrier for this problem is "plumber's putty". You could also seal the decorative plates to the tile but that is generally messy and more trouble if you need to change a washer. It is a good idea to seal the shower head neck passage through the wall as well although this is really only necessary if you have a steam shower that might be pumping vapour into the wall. Generally it is too high for any direct water flow.New shower system membranes have special water control products for these penetrations: such as the Schluter-KERDI-SEAL-PS and -MV but I only mention that in case you end up rebuilding the shower.Now we get to the corners of the shower. In a traditional shower construction the use of grout in the corners is a major cause for leaks because walls move and grout cracks. Water flowing down behind the tiles often comes to panel joints or even details of the waterproof shower pan that do not control the water but allow it to move into the wall and eventually under the whole shower assembly on the floor of the bathroom. With modern shower membranes, the waterproofing is all there in the wall to wall junctions, the wall to floor junctions and the corners before the tile is even applied. With the old showers, these corners are totally unprotected behind the tiles. Remove all the grout in the corners and replace it with a good flexible silicone shower caulking (with mildew inhibitors). Avoid "siliconized" caulking as they generally do not remain flexible after curing. Unfortunately this fix is an item for regular maintenance -- do a good job at the beginning -- very clean surface and forcing caulking deep into the joint. Here's a little video on that.While you are playing with the grout, inspect it all very carefully and wherever you see the slightest sign of cracks, remove all the grout (cheap tool - fancy tool) and put in new grout. You must remove the old to create a crack that is at least as deep as it is wide for the new grout to stick -- grout does not stick to grout -- grout sticks to the sides of the tiles. Then put a sealer on the grout to help waterproof it a bit more. One unfortunate reality is there will still be some vapour, if not a tiny bit of flowing water, that manage to get beyond the front face of the tiles. In a normal house situation this slight moisture migration will not collect someplace to eventually create some damage, but will dissipate through the building structure faster than it accumulates -- keeping everything dry enough to not cause any problems. That is why today's properly built showers are build with water and vapour proof membranes where there is a total and continuous barrier behind the tiles. Some moisture still gets through the grout, but it comes back out the way it went in or flows to the drain and not into the house structure.I hope this gives you some reasonable direction in your effort to avoid building a new shower.jon

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