

One of my clients, a local restaurant, has a tiled floor in its commercial kitchen that has rotted out and needs to be replaced. How should the new floor be detailed so that it lasts longer, and what type of grout should I use?

Tom Meehan, co-author of *Working With Tile* (Taunton Press, 2011) and a second-generation tile installer from Harwich, Mass., responds: While most of the tile work I do is in homes, every year I'm asked to do projects in commercial spaces. This work tends to fall into two general categories.

The first category includes commercial floors for areas like motel lobbies, where the floors are subject to high foot traffic and occasional mopping. Aside from using commercial-grade tile and grout, these installations follow the same basic guidelines that I use for most tile floors.

In the second category are the tile floors that I install in

commercial kitchens in my area's many restaurants. In addition to holding up to a high volume of foot traffic, this type of commercial tile floor must be able to withstand spills of hot cooking oils and scalding water, as well as daily cleanings with harsh chemicals, degreasers, and pressurized water. Exposure to cleaning chemicals and the rigors of pressure washing can break down and erode the grout, allowing water to reach the substrate and ultimately result in the failure of the tile floor.

COMMERCIAL TILE INSTALLATION

Before you even start thinking about the grout, you need to know how to properly install the tile for a commercial kitchen, and that installation begins with the substrate. The subfloor in commercial tile jobs should be layered plywood at least 1 1/4 inches thick installed over solid, strong framing to minimize deflection. Because of the frequent cleanings that these floors receive, commercial-grade drains should be installed around the kitchen in strategic areas—such as near the dishwashing area, near the food-prep sink, near a slop sink, and in the vicinity of the cooking appliances—that are likely to handle the most water.

The shower in your home depends entirely on gravity for drainage, so the shower pan below the tile must be detailed and

Tile Floor in a Typical Commercial Kitchen

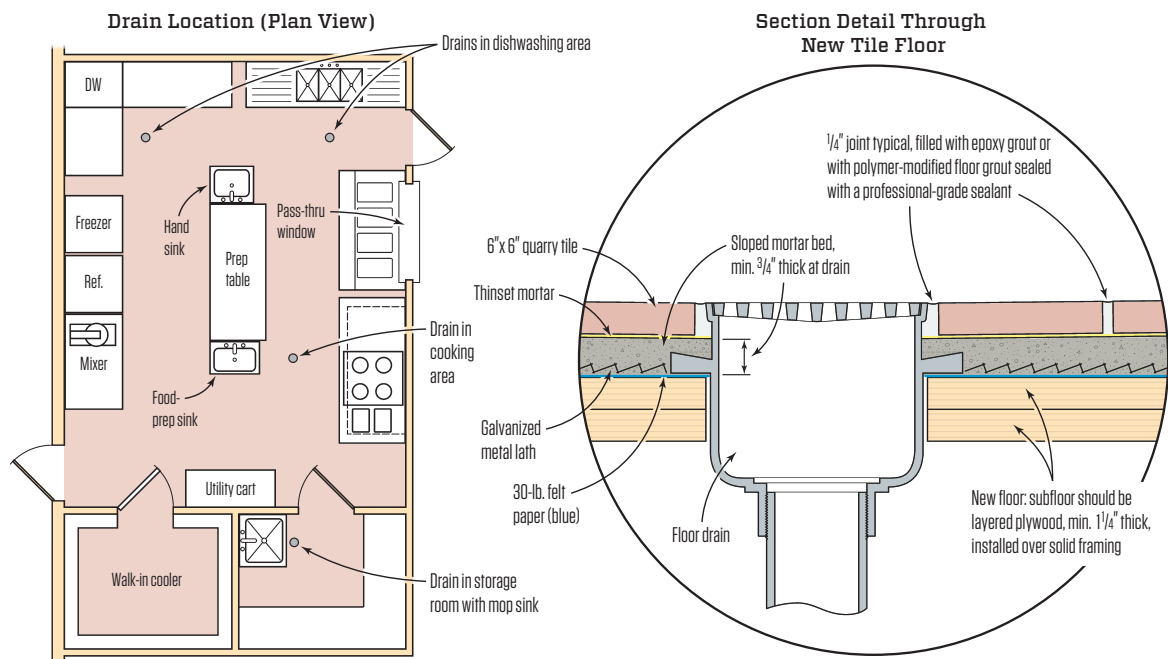


Illustration by Tim Healey

sloped properly (“Preventing Leaks in Tiled Showers,” Oct/16). However, the floor in a commercial kitchen is different. The water on these floors is typically pushed to the drain with a mop or squeegee, so only a minimal slope is needed. The easiest and most effective way to create this type of sloped floor is with an old-fashioned mud job.

I begin by putting down a layer of 30-lb. felt paper on top of the subfloor. I nail a layer of 2.5-lb. expanded galvanized metal lath on top of the felt paper. To create the sloped surface under the tile, I put down a layer of mortar that embeds in the lath. The mix for the mortar is identical to the mix I use for a sloped shower pan: approximately 4 to 1, coarse mason’s sand to Portland cement. I keep the mortar mix stiff and make the bed a minimum of $\frac{3}{4}$ inch thick at each of the drains, with the slope screeded up from there.

The most common tile for commercial kitchen applications is commercial-grade, low-absorption 6x6-inch quarry tile. I install the tile with regular thinset mortar, leaving $\frac{1}{4}$ -inch-wide mortar joints.

GROUT

Now that I’ve gone over substrate and tile installation for commercial kitchens, I can finally address your question about grout. The folks at Laticrete recommend epoxy grout for commercial-kitchen tile. While I agree that epoxy might be the best grout option for these applications, I would consider it only for new installations that are clean and completely dry. Also, epoxy grout is expensive and labor-intensive to use. If you do use it, the restaurant owner or manager should carefully monitor the grout to make sure that it doesn’t erode or degrade from exposure to spills or to harsh chemical cleaning agents.

I have had good results using high-quality polymer-modified floor grout in commercial kitchen floors, some of which are still going strong after more than a decade. If you opt for a polymer-modified floor grout, seal it with a professional-grade sealant, such as Miracle Sealants 511 Impregnator, to give the tile an extra level of protection. With the daily cleanings that these floors receive, the sealant should be reapplied regularly.