Q&A

Q. Tiled Showers

While we've never had problems with our tile-shower installations, new surface-applied waterproofing membranes and waterproof backerboards have me wondering if it's time to change our approach. We typically install cement backerboard over a poly membrane for the walls, and a mortar-bed floor over a flexible plastic shower-pan liner for the base. Is there a better way?

A. *Contributing editor Michael Byrne, moderator of the* JLC *Online tile forum and an industry consultant in Los Olivos, Calif., responds:* I prefer traditional mortar-bed construction for both floors and walls because it allows me to build showers with features like benches and curved corners. However, that doesn't mean it's the best method for everybody: Shower surrounds built with backerboard substrates are perfectly serviceable, whereas in my consulting work I've seen thousands of mortar-bed shower stalls that have failed.

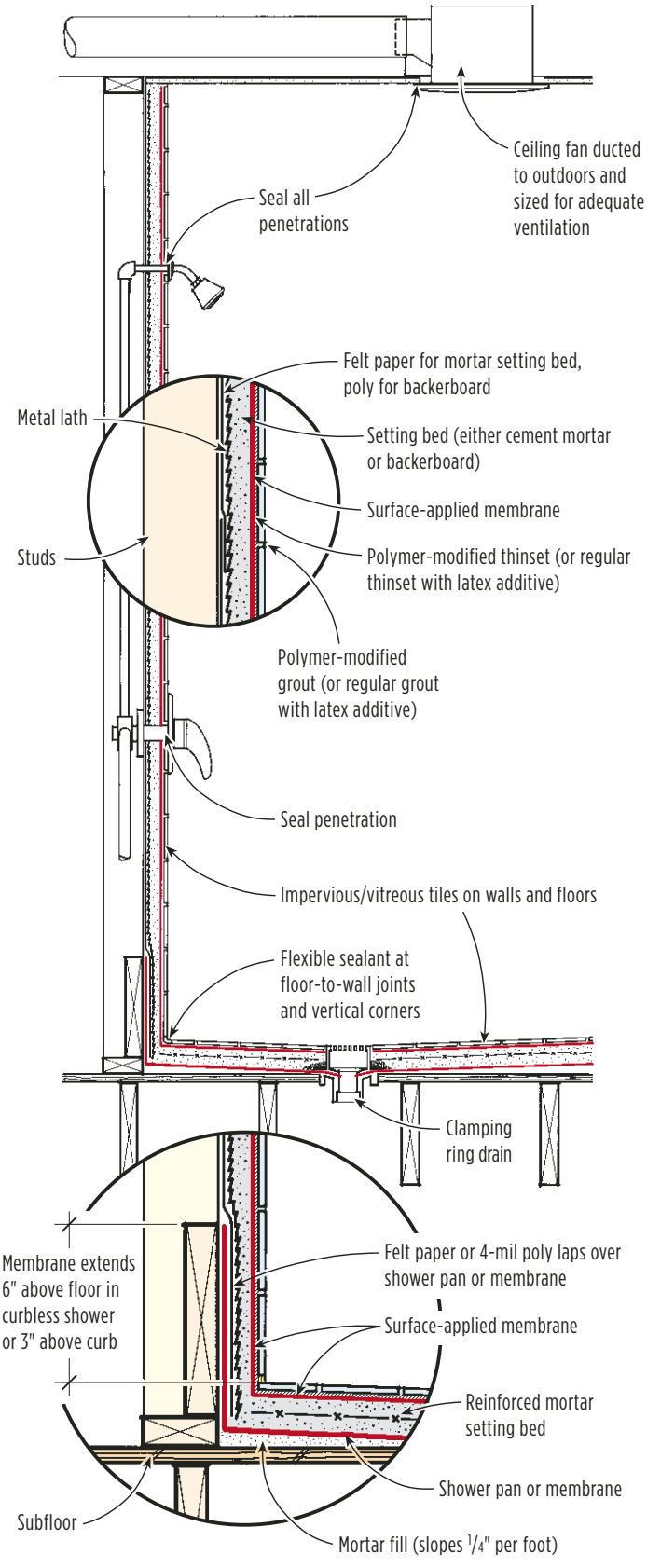
The most important elements of a good installation — regardless of method — are the placement of the waterproofing, the selection of materials, and the quality of workmanship.

To eliminate most of the absorption problems associated with both mortar-bed and backerboard installations, install a sheet or trowel-applied waterproofing membrane on the surface of the setting bed (**see illustration, right**). This helps isolate the porous setting-bed materials, preventing them from absorbing moisture and germs.

Continuous surface-applied waterproofing also simplifies the process of joining tile to bathtubs and preformed shower receptors.

Most backerboard manufacturers recognize surface-applied materials and methods and accept them in lieu of traditional behind-the-board plastic film or felt-paper membranes — which, after all, get punctured by the fasteners

Tile Shower Details



used to attach the backerboard to the framing. Surface-applied waterproofing seals all these fastener penetrations.

When building a mortar-bed shower wall, I first install horizontally oriented layers of felt paper laminated to a drywall base with a uniform layer of cold-patch sealing asphalt. This should not be confused with the waterproofing layer on the surface: The asphalt and felt-paper combination is required as a cleavage membrane to prevent excess moisture from wicking out of the fresh mortar and being absorbed by the drywall. After I float the mortar bed and allow it to cure, I still cover the entire surface with either a sheet or trowel-applied system, or a combination of both.

Tile selection is also important. Absorbent, textured, and grainy ceramic and stone tiles can hold considerable amounts of water, as well as dirt, oil, germs, and bacteria — all of which are part of the shower environment and promote mold growth. So for hygienic reasons steer your clients toward impervious or vitreous tiles, or stone tiles with similar properties. The coarse surface texture on some porcelain tiles — though ideal for slip resistance — makes them, too, a poor choice for shower-wall use.

The installation materials also should be as impervious as possible, to minimize absorption and saturation. Add high-quality latex additives to regular thinset mortar or grout, or use high-performance polymer-modified thinsets and grouts that need only water for activation. These materials absorb and transmit less moisture than regular mixes.

Finally, remember that there's no quick fix for poor workmanship. An unusually high percentage of shower-stall failures occur because the installer did not follow specific manufacturer's instructions or ANSI A108 tile industry standards. Among the most common problems are improper slope in the mortar-bed floor; missing movement joints; poor thinset mixing techniques; inadequate adhesive; lack of sun shields, which protect mortar and grout from the sun's rays; poorly compacted grout; the use of too much water to clean grout; and inadequately cured materials. Another common error is allowing foot traffic on curing materials. Even when the best materials are used, any one of these installation errors can result in failure.

Q. Sealing a Garage Floor

A customer asked me about sealing a brand-new garage slab to keep oil drips from penetrating the concrete, in case she decides to have the slab finish-painted in the future. Is this necessary? What product should we use?

A. *Bill Palmer, former editor of* Concrete Construction *magazine and president of Complete Construction Consultants in Lyons, Colo., responds:* Motor oil doesn't really damage concrete. But if the surface is unprotected, oil can soak easily into the concrete's pores, where it's difficult to remove.

Paint won't protect concrete from oil, but other products will. According to Denise Breard, a technical representative for sealer manufacturer Vexcon Chemicals, water-based combination stain/sealers will resist motor oil but not gasoline. A better choice — one that's both gasoline- and oil-resistant — is a water-based epoxy coating. This easy-to-apply one-part epoxy doesn't require a separate primer and is designed for residential garages and basements. For the greatest chemical resistance and protection against abrasion, Breard recommends two-part water-based epoxies.

Paint doesn't adhere well to epoxy, so if you want color in your concrete floor, you'll need to stain it before applying the epoxy coating. Another option would be to use an epoxy coating with color in it. Some great colors are available, as well as decorative chips that can be mixed in with the material.

If the homeowner does get oil stains on the concrete, they should be removed as soon as possible. Here's how: First, soak up any excess on the surface with paper towels; don't rub, because that could drive the oil deeper into the concrete. Next, cover the spot with some absorbent material, like kitty litter. Keep fresh material on the stain until no more oil is being soaked up. Finally, put TSP (trisodium phosphate; available at most hardware stores) crystals over the stain, then add enough hot water to make a poultice and scrub that into the stain. Once the poultice has dried, sweep it up or rinse it off.

Depending on how deep the stain is, removing it may require repeating this process several times. If even that doesn't work, a solution of sodium hydroxide and ground limestone can be effective — but a little bit dangerous. You can also try degreasers; there are some pretty good citrus-based versions around.

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Q&A

Q. Dishwasher Drain Distance

A client wants to locate her dishwasher in a peninsula several cabinets away from the kitchen sink. Are there any limitations on the distance that the discharge hose can travel, or should it be plumbed separately?

A. *Mike Casey, a licensed plumbing contractor and co-author of* Code Check Plumbing, *responds:* Most dishwashers come from the factory with a 6-foot 6-inch drain hose, and nearly all manufacturers allow this hose to be extended to a maximum total length of between 10 and 12 feet. A heat- and detergent-resistant 7/8-inch inside-diameter extension hose can be connected to the existing hose with a section of 3/4-inch inside-diameter copper tube. During installation, try to keep the number of bends low and the run as short as possible, since a lot of bends and a long run will increase the load on the dishwasher waste pump.

Dishwasher hoses should have a high loop at least 20 inches above the finished floor to prevent wastewater from entering the appliance if the drain clogs. Code requires that the hose connect to the sink drain on the sink side of the trap, typically with a branch tailpiece.

Some jurisdictions require an air-gap device, in which case the hose should connect to this device first, then terminate at the branch tailpiece or garbage disposal.