Q&A

Q. Tiling a Flangeless Tub

What's the best way to detail the joint between a deck-mounted tub that lacks an integral tiling flange and the tiled tub surround so that it won't leak?

A. *Contributing editor Michael Byrne, a tile-setter and consultant in Los Olivos, Calif., and moderator of* JLC *Online's tile forum, responds:* I use the same approach on plumbing fixtures without a tile lip as I use for plumbing fixtures with a lip.

Liquid waterproofing membranes that meet ANSI 118.10 specifications can be applied to the surface of many tile substrates, including cement-based backerboard, plywood, and concrete. Waterproofing membrane should be applied to setting-bed edges, too, and around any plumbing that penetrates the substrate.

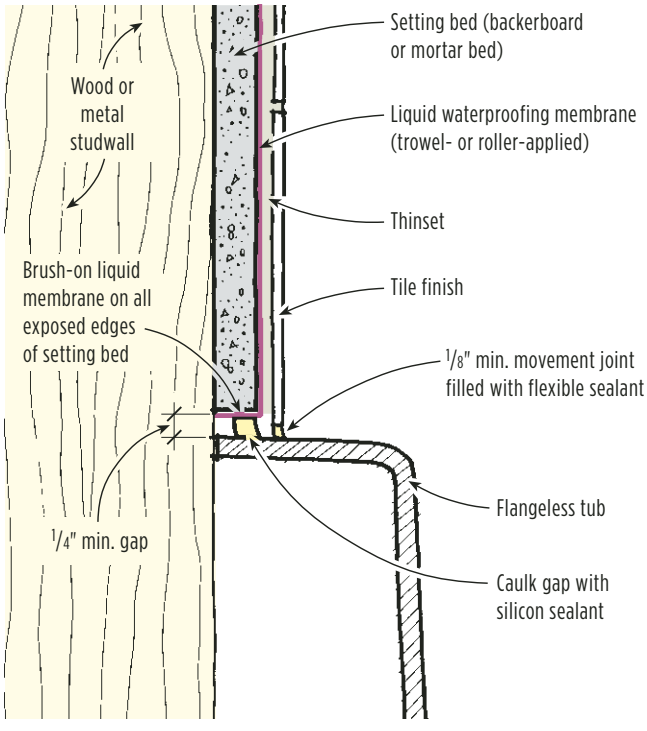
First, I install the setting bed (either a backerboard or mud-bed substrate) so that there is a gap of at least 1/4 inch between the lower edge of the setting bed and the top of the tub.

Next, I apply a liquid waterproofing membrane — such as Bonsal's B-6000 (800/738-1621, www.bonsal.com) — to the setting bed with either a trowel or a roller.

Around plumbing that penetrates the setting bed and along the bed's exposed bottom edge (where it faces the top of the tub), I use a brush; the membrane helps prevent wicking in these areas (see photos, left).

Once the membrane on the completely waterproofed setting bed has cured, I carefully caulk the gap between the bed and the tub with a thick bead of 50-year silicone sealant (or a compatible sealant specified by the manufacturer of the membrane).

And finally, when I set the tile, I always leave a 1/8-inch (minimum) movement joint where



the field of tiles meets the tub; I fill the joint with a sealant color-matched to the grout.

By the way, this is now the same approach I use when tiling a shower built with a mortar-bed floor and backerboard walls.

I install the backerboards so that their bottom edges are 1/4 inch to 1/2 inch above the top of the finished mortar-bed floor (before tiling), apply the membrane system to both walls and floor (with a break in the membrane at the gap), and fill the joint between the walls and floor with a bead of compatible sealant after the membrane has cured.

Q. Substituting Synthetic Roof Underlayments for Housewrap

After stripping the original siding from a 30-year-old house, I'm being asked to reside with 4x8 and 4x9 fiber-cement panels designed to look like stucco. The installation instructions permit caulking at the vertical joints, but call for Z-flashing at the horizontal joints. I'd rather not use the flashing because it will make it obvious the siding isn't really stucco. Instead of using housewrap, I'm thinking of covering the wall sheathing with a waterproof synthetic roofing underlayment so that any water that does get behind the siding won't go any further. Is there anything wrong with this approach?

A. *Paul Fisette, director of Building Materials and Wood Technology at the University of Massachusetts Amherst and a* JLC *contributing editor, responds:* Unless you are located in a cooling-dominated climate, I would steer clear of installing a synthetic roofing underlayment in the manner you describe.

With a couple of exceptions, polyethylene- and polypropylene-based roofing underlayments are vapor-impermeable and would function as an exterior vapor retarder. (See "Synthetic Roofing Underlayments," 5/06.)

If the existing wall already has an interior poly or kraft-paper vapor retarder beneath the drywall, any moisture trapped inside would be unable to diffuse out in either direction, resulting in a wall cavity that would be very slow to dry.

Any attempt to create a "barrier" system by caulking panel seams is a strategy that will almost certainly fail over the long term. Proper flashing — rather than caulk — is the only surefire way to keep water out of horizontal seams.

And although it's common practice to caulk vertical joints, I've found that panel sidings routinely leak through these joints as well.

So you should plan on dealing with the water that will inevitably penetrate the fiber-cement panels in a more effective way.

The best approach would be to create a vented drain screen between the back of the panels and the face of the sheathing.

First, cover the sheathing with asphalt felt or a nonperforated housewrap like Tyvek or Typar, which will protect the sheathing from moisture but also allow the wall assembly to breathe.

Then install vertical nailers over the wrapped sheathing and attach the panels to the nailers, which will create an air space between the panels and the wall sheathing. Be sure to provide clear drainage along the bottom of the vented space, and install screening along the top and bottom of the wall to block out insects.

Another option would be to install Home Slicker (Benjamin Obdyke, 800/346-7655, www.benjaminobdyke.com), a 1/4-inch-thick 3-D nylon matrix, between the back of the siding and the face of the sheathing in place of the site-built rain screen.

Q. Reinforcing Old Framing

We're remodeling a 1930s vintage San Diego home and have to seismically reinforce its cripple walls with plywood, shear transfer plates, and hold-downs. Because all the framing is very dry and most of the cripples measure only 1 foot to 2 feet in length, I'm worried that the 2x4s will split when I nail up the plywood. Is predrilling the nail holes necessary? Also, there are three full-length beams in the crawlspace supporting the floor joists, with short columns mounted on concrete bases supporting the beams on 6-foot centers. How should I address the connections between these joists, beams, columns, and bases?

A. *Howard Cook, of Bay Area Retrofit in Berkeley, Calif., responds:* Since the home was built in 1930, it's probably framed with old-growth, full-dimension, close-grain Douglas fir lumber, a framing material we've found practically impossible to split.

You can experiment on a cripple stud by nailing slightly staggered nails 2 to 3 inches on-center to see if it splits, but I doubt it will.

If it does, predrilling (typically with a drill bit sized slightly smaller than the 0.131-inch diameter of an 8d common nail) is an option, but it's slow, which is why we prefer to use 15-gauge electrogalvanized staples when fastening plywood shear panels onto short, new-growth 2x4 studs or blocking.

To meet or exceed APA guidelines for wood structural panel shear walls (see APA Research Report 154, Form Q260,

available at www.apawood.org), we use 1 3/4-inch-long staples with 15/32-inch structural I-rated plywood sheathing, slightly staggering (by about 1 inch) the staples from the stud's centerline.

Because staples can rust through more quickly than thicker-diameter nails, we use stainless steel staples whenever we suspect moisture might be a problem.

While a lot of money has been wasted on fancy straps and connectors, it's interesting to note that none of the existing seismic retrofit guidelines (such as Chapter A3 of the International Existing Building Code) address the connections between floor framing support members.

Since even modern building codes address these connections with only a few toenails, check and make sure the tops and bottoms of the posts are nailed so that they cannot be knocked loose. They're sometimes hard to see because the rusted nail heads look like the surrounding wood.

Q. Storms and Screens for Metal Casement Windows

My clients love the look of the original diamond-grid metal casement windows in their historic stone house, but they are not happy with the windows' performance in cold winter weather. The outswinging casements have been fitted with fixed interior storm windows, but they can't be opened for ventilation during the spring or fall and they are difficult to install and remove. Are there any companies that manufacture storms and screens or an insulated sash for outswinging single-glazed metal casement windows?

A. *John Seekircher, owner of Seekircher Steel Window Repair in Peekskill, N.Y., responds:* The best solution I've found to this tricky problem is a magnetic storm window offered by New York Window (347/538-2075), a fabricator/supplier that specializes in the repair and restoration of commercial and residential metal windows.

In some cases, the company's magnetic storm windows can be mounted directly on the interior side of a casement window sash, so they won't interfere with the window's operation.

Where a handle or window operator interferes with this kind of installation, the company will fabricate an auxiliary track that can be mounted to the existing window; the magnetic storm then mounts to the track.

The window is easy to remove and satisfies code and egress issues.

It has a narrow 7/8-inch-wide profile and an integral bellows (similar to the gasket found on a refrigerator door) to account for atmospheric pressure differentials, and it can be fitted with acrylic, laminated, or tempered glass in various thicknesses.

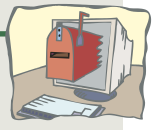
Costs start at about $10 to $12 per square foot. As you might guess, accurate dimensioning of the existing window is important for these custom-fabricated storm units.

The windows accommodate a couple of different types of screens. There is a magnetic screen that can be snapped into place on the same track. On larger windows, a wicketlike opening built into the screen can be used to access the window's operator, while on smaller windows the screens can simply be removed and replaced to open or close the window.

Prices for screens start at about $100 for a typical 3x5 window.

For high-end applications, the company also offers a rollaway screen; prices for a 3x5 window start at about $225 or so.

GOT A QUESTION?



Send it to Q&A, *JLC,* 186 Allen Brook Lane, Williston, VT 05495; or e-mail to jlc-editorial@hanleywood.com.