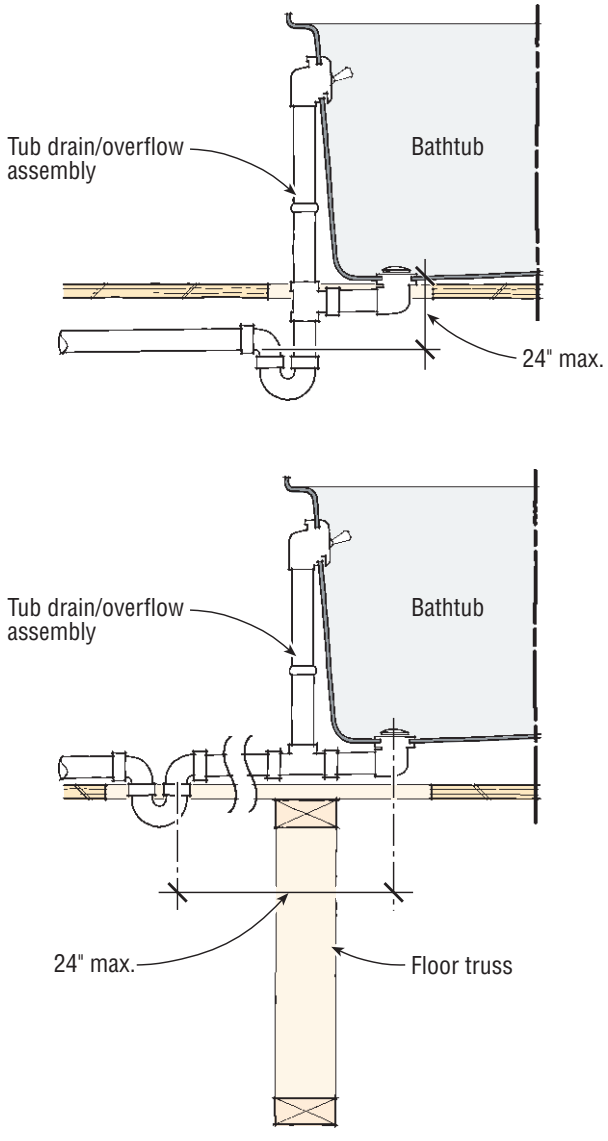
Q&A

Plumbing Around Floor Trusses

Q. *We're installing a fiberglass tub unit over a truss-framed floor. A small plan change moved the tub so that the overflow pipe lines up with a floor truss below. There's just enough room to run the drain above the truss, but is it okay to run the drain horizontally for a foot or so beyond where the overflow standpipe connects before putting in the trap? The code we use says there can be no more than 24 inches between the drain and the trap weir, and to place the trap "as close as possible" to the drain, but what does this mean in terms of horizontal distance?*

A. *Mike Casey, a licensed plumber in Connecticut and California and coauthor of* Code Check Plumbing, *responds:* Most code inspectors will allow 24 inches of horizontal distance before the trap where necessary, but be sure to check with your local official. There also are offset tub drain-overflow assemblies with side or rear outlets that may help overcome framing obstacles.

Tub Drain Distances



Insulating Above a Plank Cathedral Ceiling

Q. *What's the best way to insulate over an exposed 2x6 tongue-and-groove cathedral ceiling on a log house in Colorado? Some have suggested using SIPs, but others have advised that, because this particular roof is cut up with valleys and dormers, I would lose the labor savings associated with SIPs and end up with a very expensive roof. Another suggestion was to box out the roof with 2-bys, then spray foam insulation into the grid and cover it with plywood. A final suggestion was to put down foam panels right over the 2x6 plank ceiling, seal the joints, and lay plywood over that. Unfortunately, no one has given me details for these applications. Can you advise?*

A. *Contributing editor Henri de Marne responds:* Two of the above suggestions sound okay. You can build a grid over the 2x6 deck and spray foam (urethane or Icynene, for example). I would opt for using 2x6 sleepers and 4 inches of foam, and providing an air space of $1^1/_2$ inches between the insulation and the plywood. Although it may be difficult to provide venting from soffits to ridge, considering the valleys and dormers you mention, it can often be done by cutting slots in the sleepers at strategic points to allow some airflow.

Some technicians I have worked with say that no air space is needed. They suggest filling the entire space and nailing the plywood over the filled space. We just did such a job on a large house here in northern Vermont where there was no way to provide ventilation on some of the roof's sections. The problem I see with filling the entire sleeper space

with insulation is that it causes thermal stress to the shingles and may, in some cases, void the warranty on the shingles. But, if you choose to use this system, you can use a 2x4 grid instead of a 2x6 grid or fill the 2x6 grid. The other drawback is that there will be a heat loss through the sleepers.

Another system I have used with success, also in northern Vermont, is to first lay 6-mil plastic over the deck as a vapor retarder and air barrier (very important with board decking). Because it is slippery and dangerous to work on, the poly can be unfurled as the rigid insulation is laid and fastened, starting at the top if that's easier. Fasten at least two layers of 2-inch-thick rigid extruded polystyrene foam panels directly over the deck, staggering the joints. Make the installation of the panels tight, because they will shrink as they age. Use canned foam to seal joints at valleys, hips, and anywhere else it is needed.

Next, screw 2x2s through the insulation and into the decking and roof framing where possible. Be sure to tie the tops of the 2x2s from opposite sides of the roof as they meet at the ridge with metal straps (Simpson LST or MST Strap Ties) to prevent their creeping down with the weight of the roof assembly. Then nail the plywood sheathing, felt, and shingles. This will give you complete insulation of the roof deck and provide an air space, giving relief to the shingles as required by most manufacturers. If at all possible, also provide ventilation from soffits to ridge.

Mold Insurance

Q. *Given the recent spate of mold-related lawsuits covered in the news media, is there an affordable insurance coverage that can protect general contractors from liability on this issue?*

A. *Steve Williams, senior vice president with Heffernan Insurance Brokers in San Francisco, Calif., responds:* Claims against contractors brought by those who suffer from mold ailments are severe and costly. Fortunately, there are affordable insurance coverages available to contractors to protect them against such claims.

Before seeking out a new policy or coverage plan, contractors should review their current insurance policy to determine if they are covered against mold claims. Commercial liability policies that have covered mold claims in the past, when they're renewed, may exclude mold, so GCs should be alert.

If your policy does not cover such claims, seek out one that does, such as a pollution policy. In the past, the premiums for such policies ranged from $10,000 to $25,000 per year, but they are now much lower. Our company, for example, offers an exclusive pollution policy for contractors, with premiums starting at $2,500 for a $1,000,000 limit.

Cracked Manufactured Stone

Q. *Last spring I completed a house with manufactured stone columns on the porches on both the north and south sides. The columns on the south porch have cracked at the corners (see photos below), while the columns on the north porch are fine. The cracks are only on the two outside corners of each column, not the house side. The cracking occurred right away and hasn't gotten worse.*

The deck is supported on sonotubes below frost and is all pressure treated. The columns are built like the chimney surround (which is also covered with stone and has no problems), out of 2x4 studs and plates, covered with OSB. The bottom third of each 2x4 "box" is covered with eaves membrane, and the top is covered with felt. I used wire lath, though I didn't wrap the lath around the corners. I have built many columns using the same methods, with no problem before.

The columns support LVL beams across the top. Above the LVL are monotrusses whose bottom chords also support the porch ceilings. On the north side, the ceiling is 6 feet wide; the south ceiling is 10 feet wide. The porch ceilings are tongue-and-groove boards, with no venting.

Any ideas about why I'm getting these cracks?

A. *Steve Thomas, who worked for 15 years in the stucco and masonry industries, responds:* First, in my opinion,

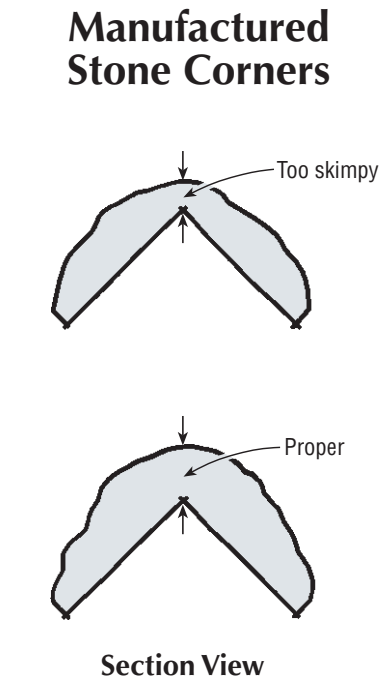
you've done nothing wrong in not turning the corner with your lath. I'm not familiar with your mix, but the work looks very proper, given the photos you provided. The north-facing porch (with a 6-foot bottom chord and no "seasonal" sun hammering) as well as the chimney escaped scot-free. So you have to look at conditions that exist only on the south (sunny) side.

Your notes indicate that the stonework was done in the spring, so I assume that the framing took place over the winter months, when it was cold and snowy.

It's conceivable that when the sun started beating down on the porch roof in the spring, moisture trapped in the unvented porch ceiling all winter started to "cook off" and shrunk the 10-foot-long bottom chord of the partial truss that makes up your porch roof. It's possible that the leverage exerted as it shrank flexed the south (outboard) faces of the columns that support the porch, and that that movement was adequate to cause a fracture at the area of maximum extension — on the outside face of the column but not the inside. Presumably, the north porch didn't react the same way because it's not in the direct hot sun, plus the bottom truss chord/porch ceiling is only 6 feet long.

It's possible, too, that the stone corners themselves are a minor player in this scenario. I've been involved in stone manufacturing, and corners are no fun to make. An outside 90-degree corner with inadequate "beef" — for lack of a better word — is much more likely to cause problems than a thicker product (see illustration, left). I'm not intending to criticize your stone vendor, but it might not hurt to eyeball a box of his corners and see which category they fall into.

Also, I assume you've had the stone manufacturer's rep out to look at the job. If your installation details and mortar mix are endorsed by the manufacturer for your climate, I wouldn't change your process.



Penetration of PT Chemicals

Q. *Our local lumberyard carries .40 CCA-pressure-treated wood. The label says the wood may be used for ground contact. The wood has needle marks from the treating process. When I cut the lumber, the treatment appears to be only about 1/4 inch deep, which doesn't seem adequate for sill plates in contact with concrete. I have also used .60 PT, and it shows green all the way through when cut. However, my supplier assures me that the .40 PT will not fail from either insects or moisture. Is he right?*

A. *Contributing editor Paul Fisette responds:* How deeply the chemicals penetrate the wood during treatment is indeed important. Penetration levels vary widely. Heartwood is more difficult than sapwood to treat. The heartwood of Douglas fir and southern pine (both commonly used for pressure treatment) resists penetration and may allow only 1/4 inch of chemical penetration. So if the lumber you purchased was heartwood, it is not surprising that you would see shallow penetration. The good news is that the heartwood is typically more rot resistant than the sapwood. The heartwood of both Douglas fir and southern pine is considered moderately decay resistant, but virtually all treated southern pine is second-growth, easy-to-treat sapwood.

The amount of chemical retained by the wood is important. The 0.40 designation of the wood you bought means that the amount of chemical retained by the wood after treatment (its retention level) is roughly equal to 0.40 pounds of chemical per cubic foot of wood. That is the correct amount for "ground contact." The "needle marks" that you see are a result of incising, a process in which lumber is passed through a series of rollers equipped with teeth that sink about 1/2 inch into the wood. The incisions expose the more absorbent end grain of the wood throughout its length, allowing better penetration and chemical retention. Typically, incising is used for more difficult-to-treat species like Douglas fir (which can have more heartwood) and not southern pine.

So is your wood okay? Probably. There's a good chance it's heartwood, and even the shallow penetration of heartwood afforded by incising has some value. Rot fungi usually begin to grow not in the middle of the wood but on the surface. Where there are cracks or checks in the wood, incising helps reduce the likelihood that fungi can get into those pathways and rot the wood from within.

Got a question?
Send it to *JLC*'s Q&A, 186 Allen Brook Ln., Williston, VT 05495; or e-mail to jlc-editorial@hanley-wood.com.