Letters

Hot-Mop Variations

I regularly read your magazine but was disappointed with "Built-Up Hot-Mop Roofing" (2/05). The proper process for installing metal flashings on a built-up roof is to nail a fiberglass base sheet over a red rosin slip sheet with square-cap nails; mop the layers of field roofing with hot asphalt; coat the metal flashings with an asphalt-based roofing primer; trowel a layer of roofing cement to the underside of the metal flashings; mechanically fasten the flashings to the roof; install additional layers of ply sheet over the metal flashing details with hot asphalt; and seal the flashing with roof cement.

The photograph on the magazine cover illustrates improperly installed metal flashings. Under no conditions should flashings be installed directly over the base sheet. Additionally, the base sheet is not secured with the proper number of fasteners.

The flashing and nailing applications fail to meet the standards of any of the roofing-material manufacturers. The roofing product warranty would be void with GAF, Johns Manville, Siplast, CertainTeed, Tamko, and Suprema.

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Author David Lopez responds: The letter writer correctly points out that the installation methods we use would void the warranty on a built-up roof — but only on a commercial building. The building shown in the article is a residence, and none of the material manufacturers offer warranties on single-family homes.

The manufacturers have developed some very good products and systems for installing built-up roofs, but they often need to be adapted to conditions that exist in the field. For example, we're familiar with the method of installing flashings after the membrane is laid up, but we would never use it when reroofing a home for one simple reason: Without flashings in place, hot asphalt could leak into the building. The nailing pattern shown in the cover photo is similar though not identical to the Johns Manville specs.

Our company offers a five-year warranty on the workmanship of all reroofing projects. We've been operating in the same community for 20 years, and the nailing patterns we use have not led to any callbacks on built-up roofs.

More Testing Would Be Nice

I was excited to see your article "Strong Rail-Post Connections for Wooden Decks" (2/05), as I am currently designing a second-story balcony. However, I wasn't impressed by the small number of alternatives tested.

At the very least, it would have been nice to see performance of a lag bolt connection perpendicular into a joist (parallel with the band joist). This would give builders an alternative that doesn't require Simpson hardware.

Also, the blocking attempts were not executed well: Who would not expect splitting with four 1/2-inch lags in the end grain of a 2x8? Still, the concept intrigues me and I will probably use it on my project.

Michael Desmarteau
Fox Island, Wash.

Other Strong Connections

"Strong Rail-Post Connections for Wooden Decks" is an excellent article. The use of the HD2A anchor as a solution is pretty elegant. I might point out two other solutions. First, when designing decks, we like the rail guard post to extend to the ground so it does double-duty: as a support post for the deck and as the guard post for the rails. This is always our first choice. It is bolted to the band joist with two 5/16-inch hot-dipped-galvanized (HDG) bolts.

In cases where the support posts and guard posts cannot be one and the same, we through-bolt the 4x4 guard post to the band joist with a pair of HDG bolts. Your test conditions are different from our field conditions in that our PT southern pine band joists are required by code to be secured to the joists with joist hangers. So a rail post supporting 6 to 8 feet of rail is getting the benefit of five or six joists (16 inches on-center) secured to the band joist with joist hangers. In addition, since the new-style joist hanger, such as the Simpson LUS210, requires 10d HDG common toenails into the band joist, we usually double the band joist so the nails will not stick out the exterior side. I believe a band secured by five or six joists with joist hangers provides resistance approaching the single HD2A.

I would think your testing should include these more common applications before advocating the use of the HD2A. In any event, thanks for your continued efforts to provide real-life engineering applications.

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Editor Don Jackson responds: Thanks for the letter. Though it's not always feasible, carrying the support post through from the footing to the railing is a great way to solve the problem. But relying on joist hangers to secure the band joist would be difficult to quantify without more testing. First, as the loaded post wrenches the doubled band joist away from the joist ends, you're loading the 10d nails attaching the hanger to the band in withdrawal, which becomes a very weak design mode when you apply the

code's wet-service factor required for lumber that cycles between dry and wet condition in use (2001 NDS) — the way deck framing does. Admittedly, the crisscrossing nailing pattern for the hangers you're using would help, but it might be hard to convince a code official who wanted "proof." The problem, according to a company technical representative I spoke to, is that Simpson has neither tested nor rated the hangers for that use.

On the other hand, who knows what actual testing of the detail might show? When Frank Woeste and Joe Loferski, authors of the post article, tested deck ledger connections last year, they found the lag screws and bolts far stronger than the design values would lead you to expect (see "Attaching Deck Ledgers," 8/03, and "Load-Tested Deck Ledger Connections," 3/04). For the results of one carpenter's field test of a slightly different detail, read on.

Snap Goes the Post

I've always wondered when building deck railings whether my connections for posts, balusters, and railings would meet the 200-pound code requirement. I figured that if there was a problem with my connections, the building inspector would let me know. Of course, that's one of the problems when a prescriptive code has a performance standard with no test procedure for determining compliance: Neither the installer nor the code official has a resource to refer to. I appreciate the effort by the authors and *JLC* for taking the lead in addressing the issue. I hope the test results spur metal-connector manufacturers to engineer devices specifically designed for the task.

I've recognized for years that the weak link wasn't the post-to-rim-joist bolts but the rim connection to the joist tails; just shake any post and it's obvious. For that reason, I began installing structural double rims rather than using joist-over carrying beams. I install all joists with hangers to the rim beam and run 4x4 posts from footings up to guardrail height on the inside edge of the rim beam. I run second sister posts from footings to support the rim beam. My informal tests (a hand winch connected to a nearby tree) resulted in the post snapping off just above the rim beam with no noticeable detachment of the hanger-connected rim beam. I know this isn't a true engineered test protocol, but it gave me peace of mind.

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KEEP 'EM COMING!

Signed letters only. We edit for clarity. *JLC*, 186 Allen Brook Lane, Williston, VT 05495; jlc-editorial@hanleywood.com.