

BY KYLE DIAMOND



First Time Using R-Sheathing

Though I've used Zip System sheathing on several past jobs, I recently began work on a project where we used the insulated panel, Zip System R-Sheathing, from Huber Engineered Woods (huberwood.com). It's basically the same $\frac{7}{16}$ -inch OSB wall sheathing bonded to either a $\frac{1}{2}$ -inch (R-3.6) or 1-inch (R-6.6) polyiso foam panel. The project—a new 1,600-square-foot one-story apartment built slab-on-grade—called for R-24 in the walls, which we achieved with R-18 open-cell foam in the walls and R-6 from the R-Sheathing. We planned to install the 4x8-foot panels vertically after the walls were framed and in place, which would reduce the number of seams and keep us from having to install a ton of manufacturer-required horizontal blocking. We also decided to cut out all window openings after the panels were in place.

Framing. The slab wavered up to $\frac{1}{2}$ inch in places along the longest wall, so we decided to set the foam sill seal and PT 2x6 mudsills back $1\frac{1}{2}$ inches off the edge of the concrete (1, next page). This setback would also help protect the exposed edge of the insulation from rodents and insects. Although the R-Sheathing specs allow for 24-inch on-center spacing, we switched to 16 inches for

the 2x6 exterior walls because we wanted the extra nailing. We framed "California" corners (2) instead of adding an extra stud nailer, and we accounted for the panel thickness in the wall layout so we could install full-width 4-foot panels at the corners.

To save the labor of cutting a couple hundred studs, we decided to use $92\frac{5}{8}$ -inch precuts. And so we wouldn't have to add blocking for nailing at the top of the wall, we planned to align the bottom edge of the R-Sheathing with the bottom plate of the wall, then fill in with PT strips at the mudsill and strips of sheathing at the second top plate. We realized after the building was mostly dried in that the sheathing did not connect the wall framing to the mudsills, which were bolted to the concrete. I'm currently working with the architect to come up with a solution, and I may have to go back and install additional anchor bolts through both the bottom plate and mudsill to pass inspection.

Cutting. We used a Festool track saw with a 48-tooth blade for precise cuts at angled rakes, and a circular saw with a Diablo 24-tooth framing blade for almost everything else. We didn't encounter any wear and tear on the blades, but we wore dust masks to protect against some fine dust



kicked up by the polyiso and its backing.

Installation. We used 1½-by 1½-inch PT spacers (3) as stand-offs to help put up the panels. A full sheet is fairly light, but it's a two-man job install (4), especially at the outside corners where the panels lap each other. We took time to square them up properly (5). It's important to orient panels the same way and to work in one direction because the foam overhangs the OSB slightly on one long and one short edge to ensure proper gapping. In a few places, we installed panels horizontally to save material; this meant adding horizontal blocking for edge fasteners (6).

Fastening. We used full-head 3-inch, 0.131-diameter, smooth-shank collated stick-framing nails (bostitch.com), which

met Huber's fastening specs, and followed nail-spacing requirements of 4 inches on-center at edges, 12 inches in the field. We nailed at a deliberate pace, trying to drive the nails slightly below flush, but being careful not to overdrive. (We taped any overdriven nails in the field.) We hammered flush any nails standing proud in the field, but avoided this at the edges where hammering can compress the foam (7).

Taping. The main difference in taping R-Sheathing stems from its added thickness. We used Huber's 6-inch-wide Zip System Tape at outside corners, which provided the required minimum 1-inch lap onto the OSB. For the rest of the seams, we used ¾-inch-wide tape. (See "On Site With Zip System

Sheathing," Feb/11, for more information about taping.)

For the windows, we set up a mobile cutting station to cut tape for the head, jamb flashing, and the four-piece pan (8). We started at the pan flashing, using Zip System's corner/valley tool (9) to set 9-inch lengths of 6-inch tape in the corners, with 3 inches on the sill and running up the trimmer, and the 9-inch dimension flush with the inner edge of the 7-inch-deep sill. This left 2 inches overhanging the sheathing, which we stretched (10) and pressed onto the panel face (11). This doesn't always work perfectly, but corner flashing gets covered with the next couple of pieces, plus sealant under the window's nailing fins.



Next, we ran 6-inch tape the full length of the rough opening, plus 2 inches up each trimmer. This piece is adhered half at a time. First, fold it to half its length, peel back the release paper on one side, and press it onto the sill with the fold on the centerline mark and the outer edge overhanging the sheathing by about 2 inches. Burnish the tape with the corner/valley tool, including the 2-inch vertical legs, then peel back the other half and adhere it to the sill and trimmer (12). Make a 1/4-inch cut down the 2-inch vertical legs and stretch the overhanging strip of tape down onto the panel surface.

Next, install an 8-inch length of counter-flashing tape in each corner, first adhering a 6-inch leg vertically, then the 2-inch leg hor-

izontally. This piece should also overhang the sheathing by 2 inches, so cut and stretch it as before, and press it onto the panel face. Finally, cover the remaining exposed sill with a second full-length strip running across the sill and 2 inches up the trimmer, then roll the entire pan using the Zip System J-roller (13).

When installing the windows, we put a healthy-sized bead of sealant about 3 inches back from the sill's edge to act as a dam. With the windows in place, we applied a strip of tape at each jamb, running it about 3 inches above and below the window frame (14). Lastly, we applied the head flashing and rolled everything with the J-roller (15).

Finishing up. We plan to use PVC trim stock to create a water table at the slab, in-

stall metal Z-flashing over it, then apply 8-inch beveled cedar siding over Benjamin Obdyke Home Slicker.

One small complaint: Though I wouldn't call the material "fragile," the corners were dinged on a few of the 50 sheets we used, and the edges on a few sheets were damaged by the metal banding.

In general, we liked working with R-Sheathing and had no problems with it. I'd welcome longer-length panels, but the main issue is convincing people to invest in wrapping the house in foam to create a good thermal envelope.

Kyle Diamond is a partner with New Dimension Construction, in Millbrook, N.Y.