Flashing Tape on Sheathing

BY STEVE BACZEK

Whenever I'm asked what material is the best to use for a particular job, my answer is always the same: "The one that's installed properly." With building assemblies becoming more and more complex, industry technologies—adhesives, sealants, tapes, and weather resistive barriers—seem to be improving every day. And the choices out there all have something good to offer—*if* they are installed properly.

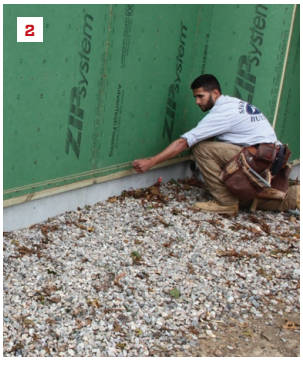
On a recent project, we chose to use Zip System R-Sheathing for the walls for a combination of the weather resistive barrier, air barrier, and exterior insulation. One of the keys to this material functioning successfully is the proper installation of the flashing tape that seals the joints between the sheets.

Trust the tape. Flashing tape comes in many different materials and configurations with many different properties, but installation for all of them is similar. There's a correct sequence of steps to follow, including preparing the surface, applying the pieces of tape in the right order, and applying proper pressure after the tape is positioned. These tasks are not difficult, but they are important, ensuring that the tape will function correctly.

Truth be told, tape scares me—it's not that I think the tape won't work, but rather I worry that it won't be installed properly. To ease my fears, I always reinforce my expectations with the builders I work with by specifying the details of the tape installation on all my drawings as an extra reminder.

Prep the surface. One of the most important steps, but maybe the one most overlooked, in installing flashing tape is wiping the surface clean and making sure that it is completely dry. Jobsites can be dirty places, with sawdust and soil dust on just about every exterior surface, even though it's not always visible. So the crew begins by wiping down every seam with a rag **(1)**.

Wiping the surface should also remove any dampness from the sheathing. The crews I work with are strictly instructed to never install flashing tape if the surface is at all damp. Most often, wiping the dust off the surface also takes away any dampness, but on a foggy morning or if rain is imminent, the smart move might be waiting for drier conditions before applying the tape.



The first step when installing tape on sheathing is wiping the surface clean of dirt and dust **(1)**. A snapped line guides the placement of the tape **(2)**. One crew member unrolls and stretches the tape while another presses it into place and removes air bubbles with a plastic spreader **(3)**. The spreader helps push the tape into an inside corner **(4)**. After going over the tape with a roller to apply final pressure, a crew member hammer-tacks the bottom edge to the pressure-treated ledger to help the tape stay adhered **(5)**.

Photos by Roe Osborn

Start at the bottom. With the 1 1/2-inch-thick Zip R-Sheathing, I don't like to leave the bottom of the panel exposed. The panel insulation is dry and warm, and creatures such as insects and rodents can burrow into it quite easily. The solution here was to install a treated 2x2 ledger that we bedded in acoustical caulk and attached to the bottom sill plate. We then set the panels on top of the 2x2 to close off the bottom edge.

The ledgers would go a long way toward keeping the critters out, but we needed to seal the bottom joint between the panels and the ledger to maintain the integrity of the WRB. To avoid a reverse lap, that bottom joint had to be done first. After wiping the surface, the crew snapped lines on the sheathing to guide the placement of the tape for the proper overlap **(2)**.

While one person can install flashing tape without help, this crew always works in pairs, with one crew member unrolling the tape and holding it out straight while another sets the tape in its proper position, applying initial pressure to adhere the tape **(3)** (more about the pressure later in the article). The person unrolling the tape can also add tension by stretching the tape, something that manufacturers recommend to enhance the tape's performance.

The crew installs the tape along their snapped lines. At inside corners, the crew uses a plastic spreader to push the tape into the corner **(4)**. To make the tape easier to work with, the crew cuts it with 4 to 6 inches extending onto the adjacent wall. When that length is adhered properly, a new length overlaps the previous length from the corner. Treated wood is a poor surface for tape to adhere to, so the crew hammer-tacked the bottom of the tape to the ledger to help it stay put **(5)**.

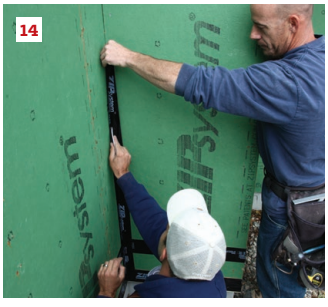
Applying pressure. Next, the crew turns its attention to the vertical joints. As before, the crew first wipes all the joints clean to ensure they are clean and dry **(6)**. Zip Sheathing has guidelines printed along the edges to position the tape. Starting from the top, one crew member unrolls the tape, keeping it on the lines while the other crew member applies initial pressure **(7)**.

Like most tape, flashing tape uses pressure-sensitive adhesive to make it stick to surfaces. Adhering the tape is usually a two-step process. First, pressure is applied to position the tape; this is usually done with a hand. The OSB surface of the Zip panels is textured, and this initial pressure is enough to make the tape stick to the high points of the texture. Hand pressure keeps the tape on the lines, but it's light enough that the tape can be unstuck and repositioned if absolutely necessary.

The second pressure pushes the tape into the irregularities of the sheathing surface. The engineers I've spoken with call this step "wetting"; the tape's adhesive actually flows to make contact with the entire

Vertical joints are first wiped down **(6)**. Then one of the crew unrolls, aligns, and stretches the tape while another adheres it and works out any air bubbles with a plastic spreader **(7)**. Roller pressure completes the adhesion process **(8)**, forcing the tape into the texture of the sheathing surface **(9)**.

At outside corners, a snapped line keeps the tape at 1-inch minimum coverage **(10)**. After applying tape to the first side, a crew member rolls it **(11)**. Starting in the middle and working up and down, the crew then wraps the tape to the other side **(12)**, stretching the tape while adhering it.



Ends of horizontal seams should be covered by a vertical seam **(13)**. For inside corners, the crew cuts manageable lengths of tape and folds them in half lengthwise. Starting at the bottom, one of the crew holds the folded tape in place while the other presses the fold into the corner **(14)**. The second piece goes in similarly, overlapping the piece below **(15)**. When the tape is stuck on both sides, a roller applies the final pressure to adhere the tape to the sheathing.

topography of the sheathing surface. This pressure marries the tape and the surface of the panel into a strong, irreversible, and long-term bond.

How much pressure is enough? The recommended method for applying this pressure is with a roller. But most rollers are tough to carry easily in your tool belt, and applying proper pressure at the top of a two-story ladder can be tough to do safely. Instead, our crews often use plastic spreaders, which also work fine providing you apply enough pressure.

These spreaders are also great for working out any air trapped under the tape, and the edge is handy for tucking the tape into inside corners. While it's possible to develop enough pressure with one of these spreaders to properly adhere the tape, I always recommend finishing the installation with a roller whenever possible **(8)**. One indication that enough pressure has been used is that the texture of the sheathing telegraphs through the tape **(9)**. Recently, Huber came out with a new roller, with a raised "Z." When proper pressure has been applied, the roller leaves an embossed Z on the tape, taking the guesswork out of rolling the tape.

Corners—both inside and outside—can be the most challenging part of any tape installation and are where a tandem crew is most valuable. On outside corners, the crew begins by snapping a line 1 inch from the corner, which is the minimum coverage allowed by the manufacturer **(10)**. The crew aligns the tape with the snapped line and adheres that side first **(11)**. Then starting in the middle of the joint, they carefully wrap the tape around the corner and adhere it to the adjacent side. One of the crew stretches the tape out tight while a second person uses the spreader to adhere the tape, working out any air bubbles at the same time **(12)**.

Before taping the inside corner, the crew had to tape a horizontal joint where the sheathing had been pieced in. The tape for horizontal joints like this one should end inside the tape line of a vertical joint, where it will be completely captured **(13)**.

Shorter lengths of tape work best for inside corners. After cutting a length of tape, the crew folds it in half lengthwise. Then, working from bottom to top to lap the tape correctly, one of the crew keeps the tape folded and pulled tight, while the other adheres the tape, pushing it into the corner with the plastic spreader **(14)**. When the tape is adhered to one wall, the crew uses the spreader to stick the adjacent side in place **(15)**. Then they cut and install successive strips the same way, overlapping the strip below by a few inches.

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A Finish Carpenter's Set of Box Beams

BY MARK LUZIO

For all of the trim jobs and cabinet installations I do on site, I need a good on-site "shop"—a place, usually in a living room or garage, where I can set up my tools, a cutting station, and an assembly area. The heart of that setup is a set of box beams that I use as my workbench, as a stand for most of my power tools, and for creating a dead-flat assembly platform **(1)**.

I learned how to make these box beams (sometimes called "strongbacks") 35 years ago when I shared a co-op workspace with a young Swiss cabinetmaker, who proved to me how versatile a pair of well-made box beams can be for any shop. The important features of these are that they don't flex and that they're dead-straight so I always have an accurate straightedge. This straight reference is a key to quality trim carpentry and assembly in any house, but especially in the old 19th- and even 18th-century homes in and around New York City and Boston where I typically work. Because the box beams are easy to transport and move around, they are great for on-site work, and I use them all the time in my full-size shop, as well.

MAKING A SET OF BOX BEAMS

Each box beam measures 5 inches wide by 8 inches tall and 8 feet long. All the rips for two beams (one set) come from one sheet of 3/4-inch, shop-grade plywood (see "Making Box Beams," page 20). Making the top 6 inches wide makes a slightly better work surface, but requires one extra rip from another sheet of plywood. I cap the top with 1/2-inch Homasote to make a finish height of 8 1/2 inches. It is important to make any additional beam sets the exact same height for large build platforms, like the one I used for routing a 60-inch radius with a trammel router jig (see "Curved Paneling for a Circular Room," Aug/16). The 6 1/2-inch rips for the sides of the beams must be straight, parallel, and perfectly matched.

Each beam has five interior squaring blocks that are cut from scrap material. Thickness is not so important for these, but they must be cut precisely to ensure the beams run straight and square. A few biscuit joints help with assembly of the beams and add strength. Glue and screw the beams together, clamping them tight.

To support the beams, I make pairs of trestle-type sawhorses **(2)** out of vertical grain fir (I select clear, 36-inch lengths out of 2x10 rafter stock from my local


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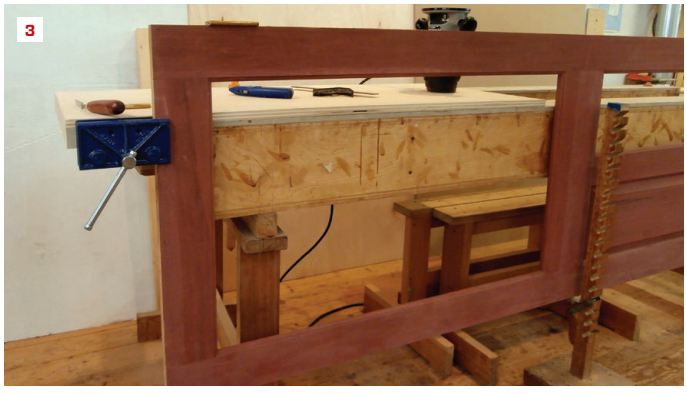
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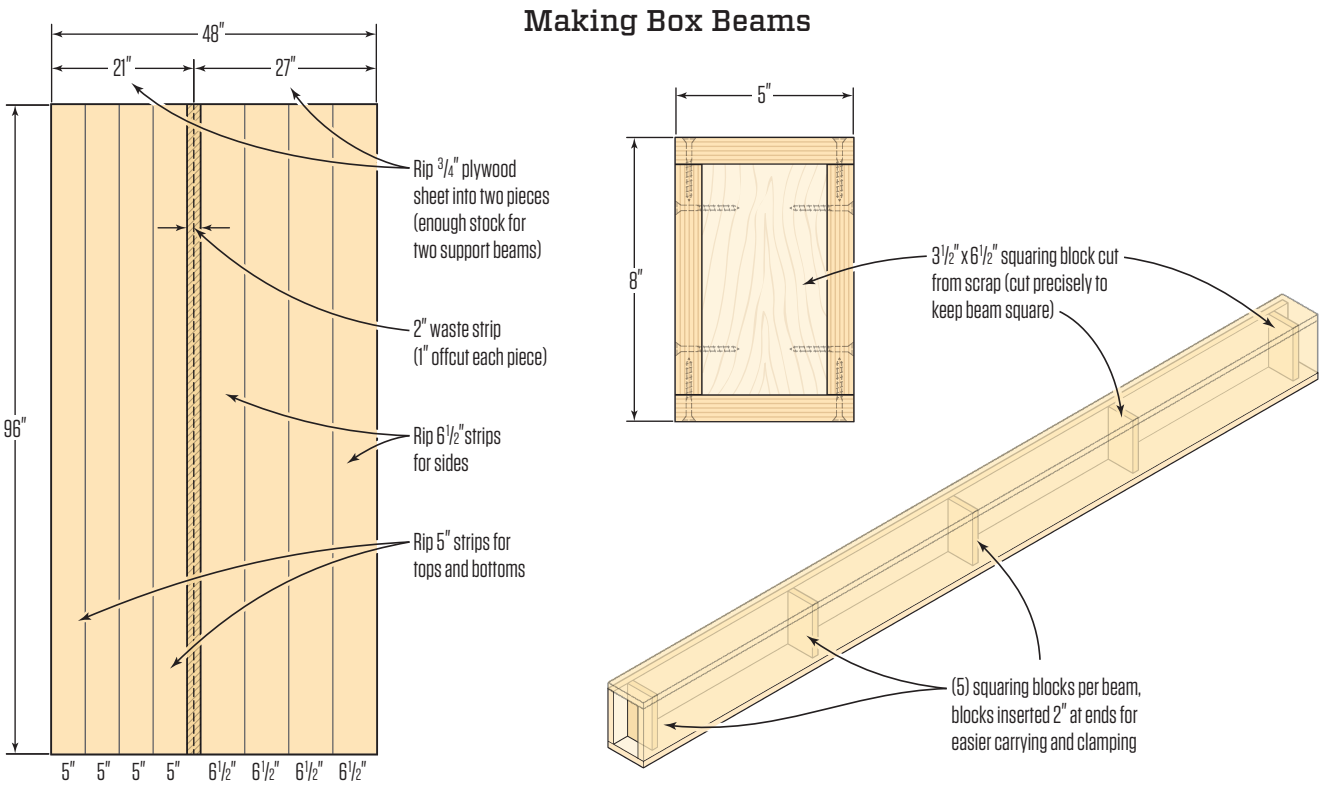
Photos: Mark Luzio



The top and sides for one set of box beams (two box beams) can be cut from a single sheet of 3/4-inch plywood. To ensure you can make a dead-flat surface with two beams, the 6 1/2-inch rips must be exactly the same. Also, cut the five squaring blocks for each beam precisely square and identical; these control how straight and square the beams go together.

lumberyard). The horses measure 28 inches high with a 2x2 straightedge on the top bar that can be removed and re-milled as it wears out.

USING BOX BEAMS

Large fixed tables are wasted space in any shop. If I need a large table for layout, I clear space and drop a sheet of plywood on the beams. A workbench is made by screwing a half sheet of plywood to the beams. All Domino work and all sanding happens on the beams. I cut 1-inch-wide strips of Homasote and screw them to the beams as stop cleats for holding pieces for sanding. This can be done hundreds of times with no damage to the beams.

I also lay out and biscuit all my kitchen and built-in storage boxes on the beams. Basic cabinets can be glued up and clamped together on the beams. A set of two perfectly matched beams is essential for clamping up a door that is flat and has no twist. If I need a tail vise (which I use for holding doors when planing the edges and mortising hinges), I double the plywood thickness on one end and overhang it 8 inches to accept the vise **(3)**. Two beams and a few bar clamps make an excellent press for gluing up thick stock from thinner boards (for example, sometimes my door stock is 1 1/2-inch-thick stock made from 3/4-inch boards).

The beams work great as power-tool stands, as well. I set up my miter saw on them and form up a couple of (or more) T-supports from scrap to pick up long stock. I also set up my portable 13-inch planer on box beams, which make a rock-solid platform on which to thickness long boards **(4)**. I have a 24-by-36-inch piece of MDF drilled for one of my routers that I screw to a pair of beams to create a router table.

I always set up a pair of beams and horses on any big jobsite, and most of the time, other carpenters on the project ask if they can use them to help with some task or to make some cut. I tell them it's fine, and when they're done, I make them a quick drawing on a piece of scrap lumber so they can make a set of their own.

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