On the Job

Weaving a Cedar Roof Valley

by Larry Perrault

Cedar roofs are common in Eastern Massachusetts, where I live and work. They're typical of the antique homes around here that date back to the 1700s. Cedar is a premium material, but if you're aiming for authenticity when building a new Cape Cod–style home, that's what you install on top. More-durable western red cedar is the species of choice for roofing; Atlantic white cedar is best reserved for sidewall installation. In this article, I'll explain how I weave the valleys.

I prefer woven over open or butted valleys, both for their aesthetic appeal and because I believe they better resist leaks. While you can approximate the look of a woven valley by cutting and butting the opposing sides together, this still leaves a running seam that can trap wet vegetation and lead to premature deterioration. I close the seam by overlapping the two sides in an alternating sequence. This requires a compound miter cut on every valley shingle. I use a Bosch digital miter gauge **(1)** to find the angle of intersection, or dihedral, of the two roof planes, then transfer the sheathing cut angle to the shingle **(2)** with a Swanson's Wizard angle gauge. With my saw set to the dihedral angle, I cut the shingle to the sheathing angle.

But I'm not about to make all those cuts squatting in the valley. Instead, I prep the job by erecting a comfortable work platform at eaves level **(3)**, atop pipe scaffolding, and then — to minimize ladder trips — set up the tools I need. I have a bench table saw for resizing shingles and cutting finishing courses, and a small worktable **(4)** where I cut the compound angles.

To protect against ice dams, I install self-adhering membrane along the eaves, over the drip edge, to a point 2 feet inside the exterior wall, followed by a 36-inch-wide strip up the center **(5)**. I then cover the roof with a synthetic roofing underlayment **(6)**. I use lead-coated copper, custom fabricated at a local shop, for all my flashings because


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it will perform as long as the wood roof — which, installed over a ventilating substrate like Cedar Breather (7), can last for more than 50 years.

To accommodate the angle cuts and minimize piecework, I cull the widest shingles for the valley. It's easiest to work the courses from the valley out, rather than closing in from the field. In the valley, every shingle course is backed by a piece of lead-coated step flashing. Shingling the valley is a layering process that sounds like a bad marching cadence: "right, left, left, right, right, left, left," and so on.

I install the first valley shingle of the starter course, nailing about 1 inch above the exposure line and 6 inches out of the valley. I use 1¾-inch stainless steel ring-shank nails exclusively, with the gun pressure adjusted to set the heads flush with the surface. The opposing shingle goes on next, followed by a 12-by-12-inch square step flashing, bent corner-to-corner, with its lower tip held to the butt line (8) and nailed at the two outside corners. The next course starts with a shingle on the same side as the shingle installed below it (9), followed by the opposing side (10). This repetitive sequence produces the back-and-forth "weave" that effectively closes the seam. Naturally, the starter course is a double layer. The built-up layers do change the angle of the succeeding cuts somewhat. I simply cut the shingles to the measured angle, then mark them in place and recut for a tight fit.

Subsequent courses follow the same order to the ridge, with no more than a 5-inch exposure per course. On the roof shown here, a lower ridge intersects the slope of an opposing roof. Rather than beating a piece of lead into a lumpy shape over the intersection, I had a piece of custom flashing made (11). One side of this particular intersection presented an irregular valley (12). Basically, because the courses can't be consistently aligned, an irregular valley forces an irregular weave. Each respective course must be fit to the opposing side as conditions demand, which means occasionally breaking the regular cadence. That's fine; it still looks good, and it won't leak.

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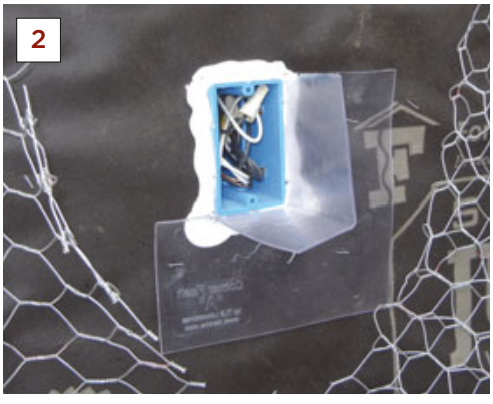
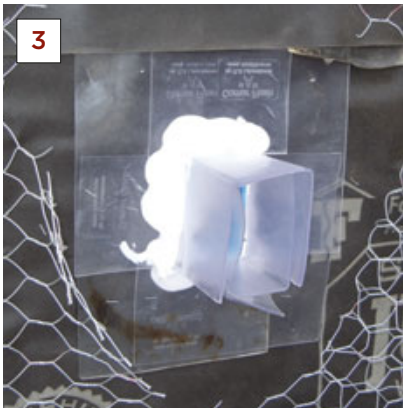
Flashing Electrical Boxes in Stucco

by Gene Summy

Exterior electrical boxes on stucco jobs often aren't flashed properly, partly because the plaster contractors don't know how. Sometimes they'll cover the top of the box with a piece of flashing paper or sheet metal, but more often they just run a bead of sealant around the box to seal it to the building paper before applying the stucco. On a recent project I was inspecting, the siding sub had already stapled up the lath and was ready to apply the scratch coat without flashing or sealing the electrical boxes at all (1). I pulled a few preformed plastic flashing corners out of my truck and showed him a better way to get the job done.





Molded flashing corners are normally used in conjunction with self-adhering flashing paper on window and door penetrations, with the horizontal legs of the corners extending into the opening. In this case, I oriented the horizontal legs in the opposite direction, so that they would extend out past the plane of the finished stucco. To match the dimensions of the box, I cut a notch out of the corner of the horizontal legs with a utility knife.

After checking the fit, I applied sealant around the box and stapled up the first corner (2). The next three corners were applied in sequence, starting low and working upward so that each leg overlapped the one applied before it (3). Once the corners were stapled in place, I slipped a piece of flashing paper across the top so that it lapped over the vertical legs of the plastic corners and tucked underneath the building paper above. I then wrapped the assembly with a piece of self-adhering flashing paper to hold the seams together and to protect the box while the stucco was being applied (4). Afterward, it was simple to trim the plastic and flashing paper flush with the stucco, leaving a neat and waterproof installation behind (5).

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