

Installing an All-Shingle Exterior With Fiber Cement Panels

BY CARL AND DARRYL DUDLEY

I own and operate a siding installation company in northern Vermont along with my son, Darryl. Recently, a high-end custom home builder we like working with asked us to clad a three-story house entirely with fiber-cement shingle panels. Although we knew we'd be in for a head-scratching challenge—the large home had a lot of complex geometry and numerous window and door openings to work around—we agreed to do the project.

I've been in the trades for 40 years, first framing homes, then specializing in siding starting in 1994. My son joined me in 2001. Over the years, we've installed fiber-cement shingle panels on a whole house only a handful of times. When we've applied the faux shingles, it's usually as accenting high up on gable-end walls or

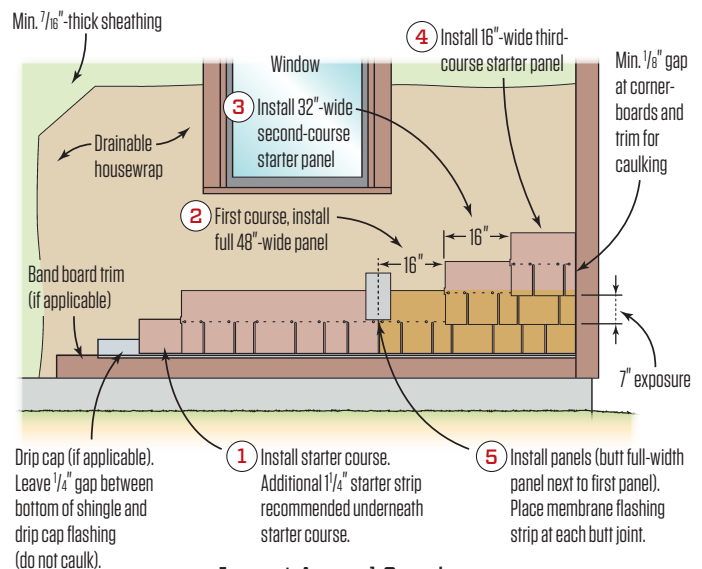


Photos and illustration by Tim Healey

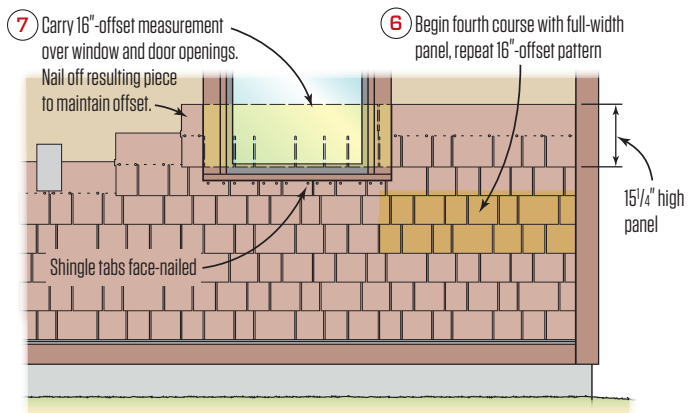
HardieShingle straight edge HZ5 panels formulated for extreme weather were installed (1). The shingles come bundled in mirror-image pairs, with the painted sides facing each other and separated by a plastic protection sheet (2). Maintaining the manufacturer's recommended 16-inch offset pattern is critical (illustration, above).

Shingle Panel Layout

16-Inch Offset



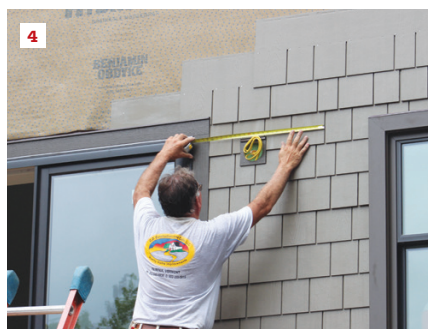
Layout Around Openings



Drawing based on technical guidelines from HardieShingle-HZ5-Installation Manual



After the general contractor installed the Boral trim, the shingle panels were applied starting on garage wall façade (shown above on the far right). The installers clad the house clockwise, lining up the coursing around corners and eventually finishing up back at the garage façade (3).



Co-author Carl Dudley measures from the butt end of the shingle (4) and carries the 48-inch-based panel pattern over the slider door (5); the remaining piece maintains the 16-inch offset (6). Thinner pieces need to be predrilled and nailed off by hand. The next panel is installed around a build-out block needed for a light fixture (7).

on dormers, with fiber-cement lap siding installed on the rest of the home.

Most builders we work with have an allotted price range for siding, and installing an all-shingle exterior with fiber-cement panels is too expensive. They are time consuming to install on a whole house, but they are long lasting and, aesthetically, they look a lot like wood shingles, more so than other faux-shingle products we've seen.

On this project, the homeowner chose HardieShingle straight edge panels (james hardie.com) with a 7-inch exposure. The 48-inch-wide by 15¹/₄-inch-high panel comes with a factory-painted "ColorPlus" finish on one side, which has a 15-year warranty. The shingles arrive on site bundled together in pairs (two mirror-image patterns are placed with the painted sides facing each other; a plastic protection sheet is inserted between the two to protect the factory paint). The individual shingle tab widths of the mirrored patterns vary slightly, which helps create a look of randomness of the shingles.

Layout. There are two basic rules of thumb for installing panelized shingles: Maintain your installation level line around the home and don't depart from the manufacturer's required 16-inch shingle offset pattern. Layout-wise, you install the panels on a façade as if the window and door openings are not there (see illustration, page 15).

Starting on the garage wall's façade, we worked clockwise around the house, using chalk lines, a 4-foot level, tape measures, and Gecko Siding Gauges (pactool.us) to install the fiber-cement panels. The general contractor had installed all the home's exterior Boral trim over a drainable WRB (benjamin obdyke.com), which in turn was installed over 7/16-inch Zip System wall sheathing (Hardie's minimum allowable nailing surface for shingle panel fastening).

A critical part of a good-looking installation is lining up the shingle coursing from one façade to the next, even when corner boards are installed. We snapped installation level lines, which we transferred over the Boral trimmed-out inside and outside corners, to maintain the alignment. You can tweak the shingle exposure somewhat—1/8 inch here, 1/8 inch there—or make up a 1/2-inch difference in height over three

or four courses between windows, but it's important to maintain your installation level line around the home in order to line up with the starting façade's coursing at the end (in this case, on the garage wall).

SHINGLE PANEL INSTALLATION

Starting out on a façade, we installed site-bent aluminum drip-cap flashing over the band-board trim at the base of the wall. We then nailed off the starter course, gapping it 1/4 inch off the drip cap for drainage. James Hardie notes in its installation manual to install a starter strip first, then install lap siding as a starter course over the starter strip. But on this job, we used cut-off stock for the starter course, which color-matched the overlying first course. Flashing and siding at window and door heads were installed similarly.

Cutting and fastening. Next, we began installing the shingles per the 16-inch offset pattern, fastening the shingles with approved stainless steel 1 1/2-inch-long ring-shank nails driven from Makita siding nailers; we installed eight nails into a full-width panel. While wearing OSHA-approved half-mask respirators, we cut the fiber-cement siding with sliding compound miter and circular saws fitted with fiber-cement saw blades. We painted all the field-cut edges using touch-up paint supplied by the manufacturer.

Joints and edges. We gapped the shingle panels off the corner boards and trim by a minimum of 1/8 inch to provide a sealing joint. Later, the joints will be sealed with a color-matched silicone applied by a painter sub hired by the GC. At butt joints between panels, we installed joint flashing strips to help prevent any bulk, wind-driven rain from getting behind the panels.

Tricky spots. Laying out the panels to the 16-inch offset around windows and doors would occasionally produce shingle widths too narrow to fasten off properly—pieces narrower than 2 inches also tend to break easily. In these instances, we used wider offset pieces to remedy these issues, but quickly resorted back to a 16-inch offset. Also, in a few areas of the home, the fiber-cement panels planed into a porch-roof-to-wall juncture (sometimes at a shallow pitch), which resulted in our having to cut the shingle tabs to the roof slope while maintaining a 2-inch recommended clearance between the bottom of the shingles and the metal roofing.

Gable-end walls. On sloped sections of the gable-end walls, we started with a full-width panel installed toward the middle of the façade in line with the 16-inch offset, then worked our way back each way toward the sloped sides. Here, we used scrap leftovers for the small angled individual pieces, predrilling and hand-nailing them off as necessary. This was a good area to use up scrap; there was a 10% to 15% waste factor installing the siding.

Pros and cons. The finished siding looked nice and should last the homeowners a long time, provided they regularly maintain the sealant joints every four to five years. But it was expensive. We installed 50 squares at roughly \$550 to \$600 per square (pricing may have increased since job completion). And, it's a time-consuming product to apply; it took two installers two months to side the home.

Carl and Darryl Dudley own and operate C.D. Construction's Home Calls, in Fletcher, Vt.



A small sliver of a first course maintains the installation level line around the home (8). Shingles are gapped 1/8 inch at a Boral build-out block; gaps are later sealed by another contractor with a color-matched sealant (9). Shingles run up to the underside of the trim (10). Later, individual shingle tabs will be cut from scrap, then predrilled and face-nailed.



The large home, with its complex geometry, took two experienced installers two months to complete (11).