Working With Fiber-Cement Siding

Impervious to bugs and water, fiber-cement lap siding requires some special tools and techniques to be installed properly

BY JOHN LA TORRE JR.

Stealth nailing. Fiber-cement siding is flexible across its width, so nailing along the top edge draws it in tight along the bottom. Each course hides the nails on the course below.

The words *fiber-cement siding* may conjure up cold industrial visions, but this siding is nothing like cement. Ever since I started using fiber-cement siding, I've recommended it to anyone who would listen. When painted, it looks every bit as warm and inviting as wood siding. And in my area, at about $1.80 per sq. ft. installed, fiber-cement siding is similar in price to stucco and is actually cheaper than cedar siding.

Preparation: The old rules still apply

As with other types of plank siding, I sheathe the house with ½-in. CDX plywood and then install housewrap over the plywood. Next, wood trim is installed around windows and doors and at building corners.

I have seen fiber-cement siding installed with ¾-in. thick trim, but I prefer the sturdier look of 1½-in. thick trim. I chose rough-sawn hemlock as the trim stock for this project because its texture closely matches the fiber-cement siding I used. Fiber-cement siding can have a variety of textures (sidebar, facing page).

Fiber-cement siding has to be nailed through to the studs (not just to the sheathing), so I draw vertical lines at each stud location on the housewrap with a felt-tip pen. As with other types of plank siding, I install galvanized drip edge as flashing over each window and door.

The final preparatory step is installing a spacer along the bottom edge of each wall to kick out the bottom plank to the proper angle. Lath or a narrow strip of wood can be used as a spacer, and occasionally, I use long, narrow strips of fiber-cement siding left over from ripping down planks (photo top left, p. 106). My spacer of choice, though, is ⅜-in. galvanized Z-metal (photo top center, p. 106), which is just the right thickness and won't rot or swell from rain splashing underneath.

I also use spacers over windows and doors if there is a full-height plank above.

Careful layout makes the job go more quickly

Layout for fiber-cement siding is the same as for any other type of horizontal siding once you've chosen a plank width and approximate exposure. For this job, I chose 8¼-in. planks with a 7-in. exposure.

I start each wall by putting on the bottom plank. This plank can be cheated down a little if need be to make the rest of the layout come out even. When the bottom plank is installed, I mark the top of each course every 7 in. up the wall. It's rare when my layout leaves me a full plank at the top of the wall as well as at the tops of the windows and doors, but by adjusting the courses just ¼ in., I can gain or lose up to 3½ in. on an 8-ft. wall.

When the layout goes around the corner and onto a wall that drops in grade, I project the lowest course line from the adjacent wall and snap a level chalkline. I then mark courses both up and down from that line, adjusting the layout as needed.

You must leave space for caulk

With course marks on the wall, I'm ready to begin installation. A word of caution about handling 12-ft. fiber-cement planks: Don't pick them up in the middle when they're lying flat. They may snap in two, and if they don't break, they can bend so much that they distort and won't lie flat on the wall. Instead, turn the plank on edge before picking it up.

I know companies that throw a small army at a siding job. One or two guys do the cutting while several crew members nail siding to the house. Fiber-cement siding is easy enough to work with that a crew used to installing wood siding should have no problem switching over, given the right tools.

I usually have only one other guy on my crew. Rather than having him cut for me and then hang around waiting for my next measurement, I prefer to cut and install the siding by myself, which frees him to prep the other walls while I work behind him.

The only difficulty in working alone is aligning the planks. Here's how I do it. I drive nails partially at each layout mark as guides at the ends of the wall (photo top right, p. 106). I then push the plank up to the nails and hold it with one hand while I drive a nail in at the stud line with the other (bottom photo, p. 106). These planks are so rigid and uniform that even when held by a single nail in the middle, they stay nice and straight.

The manufacturer, in this case James Hardie, recommends leaving a ⅛-in. gap be-

MANY FACES OF FIBER CEMENT

The basic composition of fiber-cement siding is portland cement, sand and cellulose fiber. This siding contains no asbestos, glass fibers or formaldehyde. The only construction hazard is the potential inhalation of silica dust. Because the composition is mainly cement and sand, manufacturers guarantee the siding for 50 years against rotting, splitting, warping, buckling or swelling, and fiber-cement siding is resistant to rain, hail, snow, salt air, and termite and insect damage. Fiber-cement siding is also noncombustible.

All fiber-cement planks are 12 ft. long and 5/16 in. thick. On this job, I used 8¼-in. siding manufactured by the James Hardie Company, but many other widths are available, including 5¼-in., 6¼-in., 7¼-in., 9¼-in. and 12-in. planks. Each width is supposed to be installed with a 1¼-in. overlap.

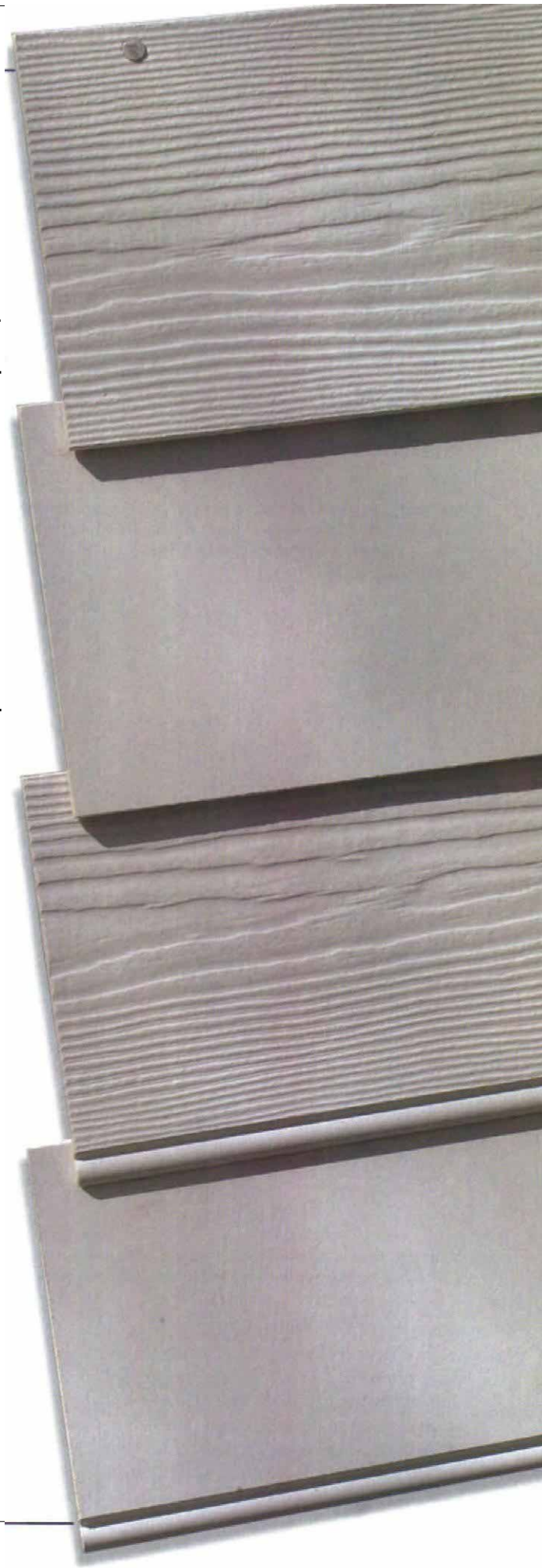
Fiber-cement siding also comes in a variety of finishes (photo right), including cedar (wood grain), smooth, beaded cedar and beaded smooth. Here are some companies that make fiber-cement siding.

Cemplank
(877) 236-7526
cemplank.com

CertainTeed Corp.
(800) 358-7164
certainteed.com

James Hardie Company
(888) 542-7343
jameshardie.com

Maxi Tile
(800) 308-8453
maxibuildingproducts.com
—J. L.



Siding samples: Courtesy of Cemplank


Bumping out the bottom. To get the siding started at the proper angle, a spacer should be installed behind the bottom edge of the bottom plank. A strip ripped from a plank (photo left) or galvanized Z-metal (photo center) can be used as a spacer.

Guide nails speed installation. Course widths are measured up and marked from the top edge of the bottom plank. A temporary nail is driven at each mark as a guide.

Nails are driven at the studs. Vertical lines are drawn on the housewrap at every stud location. After guide nails are driven, each plank is pushed up to the guide nails, and a nail is driven through the top edge of the plank at each stud.

tween the end of the plank and any trim, as well as between butt ends of the planks on walls more than 12 ft. long. The gaps are then filled with caulk, which allows for a small amount of expansion and contraction in the planks. Leaving gaps also means that it's not absolutely necessary to make perfect cuts. I try not to be sloppy, but any slight inaccuracies in my cut are hidden by caulk.

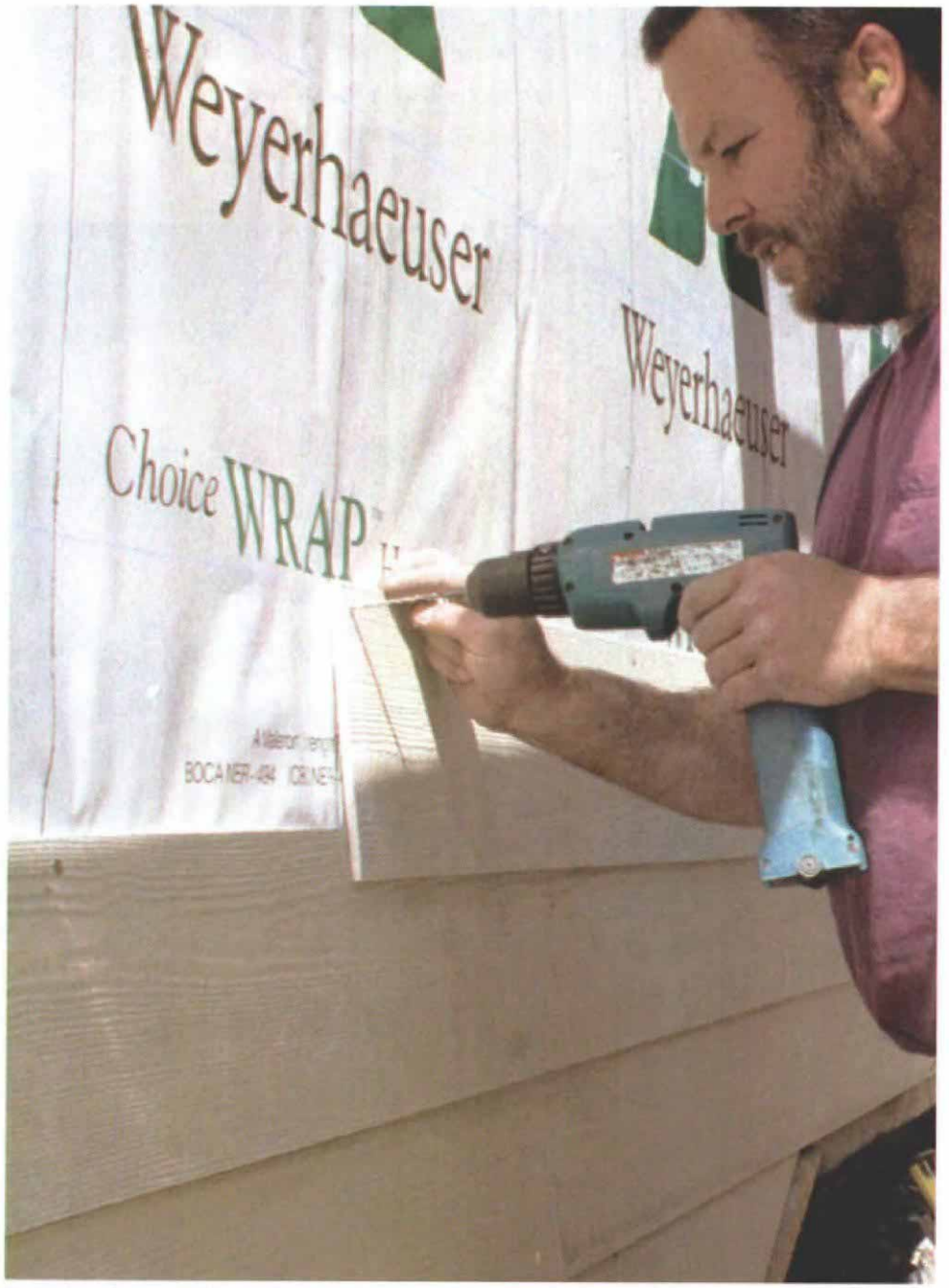
Once the plank is tacked in place, I simply go ahead and drive a nail at each stud. The manufacturer also recommends driving a nail within ½ in. of the ends of the planks, which requires predrilling. The nails on each side of a joint can then both catch a stud. But I've found that as long as the studs are straight and not bowed, joints in the siding can fall midway between studs and still be held tight with nails in the studs adjacent to the seam. On a long wall, this feature lets me use full 12-ft. planks that don't need cutting to land on studs and don't need predrilling for nails on the butt seams.

Blind-nailing with your eyes open

As each plank overlaps the one below, a small triangle of empty space is created behind it.

PLACES TO PREDRILL

Nails can usually be driven through fiber-cement siding without predrilling. But in certain places, a predrilled hole can prevent the nail from breaking the plank. Made by a small masonry bit, the hole does not have to go all the way through the plank.



Catching the stud. When the end of the plank lands over a stud, the author predrills a hole to get the nail as close to the corner as possible.

Fragile corners; nail with care. Two other places where predrilling is necessary are plank corners near trim boards (photo above) and long angled points where planks are cut to follow the angle of the grade or the roof (photo below).

Fiber-cement planks are rigid along the length but slightly flexible across their width. When a nail is driven 1 in. down from the top edge, this flexibility allows the plank to be sucked in tight to the one below, deflecting the plank into a slightly inward curve (photo p. 104).

With the planks held in place this way, few if any fasteners are needed along the bottom edge, where they would be visible. This technique, called blind-nailing, means that there are no nails to set and caulk, resulting in a cleaner finished look after the siding is painted. Blind-nailing is recommended only on planks less than 12 in. wide and only when stud spacing is 16 in. or less.

The manufacturer recommends a corrosion-resistant siding nail. I use 2-in. galvanized roofing nails because their heads have such a flat profile. A pneumatic nailer can be used to attach the siding, but I don't use one because it can be difficult to regulate nail depth. In fiber-cement siding, nails are supposed to be driven flush. Overdriving nails causes siding to shatter under the nail head, which weakens the siding.

One thing that surprised me about installing fiber-cement siding is that predrilling

nail holes is rarely necessary. Roofing nails sail right through the stuff, even easier than through hardwood. The only places you must predrill are at the ends of the plank where a nail close to a corner could cause the corner to break off (photo top right, p. 107) or where there is little siding to nail through, such as a piece tapered to an angle (photo bottom right, p. 107).

I use a carbide-tipped masonry bit for predrilling, but it is not necessary to drill all the way through the plank. Drilling just halfway through is enough to prevent breakage.

Cutting sand and cement

As you'd expect, some specialized tools are required for cutting fiber-cement siding. A circular saw equipped with a carbide-tipped blade will cut the planks. But cutting in this manner is not recommended because the fine silica dust produced is a potential carcinogen. In fact, each plank carries a warning label describing the risk of silicosis, a disabling lung disease. Makita (800-462-5482; makitausa.com) has recently come out with a hand-held 7¼-in. circular saw specifically designed for cutting fiber-cement siding; it's equipped with a dust-collector housing. This saw can cut up to five pieces of stacked siding in one pass. But proper use of this saw requires that it be connected to a shop vac with a good dust-inhibiting filter.

Fiber-cement planks can also be cut with a knife using the score-and-snap method similar to drywall, but it is almost impossible to get a clean cut this way. The best, least-dusty way to cut fiber-cement siding is with a hand-held electric shear (photo top left). And the electric shear works so quickly that I use it even for ripping 12-ft. planks.

A shear works on the same principle as a sheet-metal nibbler, but the jaws are larger. The shear cuts a segment or kerf about ¼ in. wide and makes virtually no dust. My local supply store rents these shears, and they'll lend a shear free of charge if I buy siding there. After I'd rented a shear a couple of times, I decided that I wanted my own and bought a Snapper (www.snappershear.com; 800-297-7487) for about $200.

When cutting with the hand shear, I try to make cuts with the plank face down. The shear makes a small amount of tearout on the top side and a cleaner cut on the bottom. After making a cut, tiny fibers remain on the cut edge and are easily rubbed off with a bare hand. My Uncle Wynn, a sometime carpenter, calls this "40-grit handpaper."

I have also used a pneumatic hand shear. But it seemed to need an awful lot of air, and my smaller compressor couldn't keep up with

SPECIAL TOOLS FOR CUTTING CEMENT

Cutting siding made from sand and cement requires a few special tools. Most cutting can be done dust-free with an electric hand shear (photo top left). A shear can't cut into corners, so a jigsaw with a carbide blade finishes the cut (photo top right). A carbide hole saw can be used to cut in a round electrical box (photo bottom left), and a small circular saw with a carbide blade can be plunged in to cut for a square box (photo bottom right). A dust mask must be worn with the last three cutting choices.

Electric hand shear means no dust.

Jigsaw gets into corners.

Hole saw is used for round holes.

Plunge-cutting makes square holes.

the demand. Snapper also makes a shear designed specifically for cutting curves, but I haven't been able to justify buying one—yet.

There are some limitations with the electric shear. It can't cut tight curves, and when I'm cutting a notch, the shear can't cut all the way into the corner. But for special cuts such as these, I use a carbide-grit blade on my jigsaw (photo top right, facing page). This process generates a small amount of dust, but nowhere near as much as a circular saw. Round holes, as for light fixtures, can be cut with a carbide-tipped hole saw (photo bottom left, facing page).

Exterior electrical boxes are a little tricky to cut in if you're adding them after the fact because you must cut through both the cement siding and the plywood sheathing underneath. I cut the cement siding first using a small cordless circular saw with a carbide blade (photo bottom right, facing page). Corners can be cleaned out with a carbide rotary rasp in a cordless drill. Once the siding is removed for the box, I drill a hole and cut the plywood with a jigsaw.

Finishing up

Once all the siding is nailed up, all joints and ends have to be caulked with paintable latex caulk. When my painters do the caulking, they just run a finger over the butt joints to smooth the caulk. But if the siding has a grain pattern, I sometimes run a putty knife down the joint over the simulated grain so that the caulk follows the grain contours. When the siding is painted, the joint all but disappears (top photo). Dents, chips or cracks may be filled with any cementitious patching compound available at most hardware stores.

Fiber-cement siding is available unprimed and primed (bottom photo), and just recently, it became available painted. If siding is purchased unpainted, it should be primed and given at least one coat of 100% acrylic paint. Nails with colored heads are available for attaching prepainted siding. Fiber-cement siding does not require back-priming, and cut ends do not have to be sealed if they are caulked properly.

In a couple of places on this project, I had to use narrow strips of siding under windows. To avoid having large roofing-nail heads showing on these strips, I ran a bead of construction adhesive along the backs of the strips and then tacked them in place with a pneumatic brad gun. The brads held the strips until the glue cured, and their tiny heads disappeared beneath the surface. □

John La Torre Jr. is a carpenter in Tuolumne, CA. Photos by Roe A. Osborn, except where noted.

Caulk and paint make expansion gaps disappear. Gaps at plank ends and butt joints must be left for expansion in fiber-cement siding. These gaps are filled with latex caulk, and a coat of paint makes the seams disappear.

Primed and ready. Made of portland cement, sand and cellulose fiber, fiber-cement siding is resistant to all types of weather as well as insect damage, and it's fire-resistant to boot. The siding can be purchased primed, unprimed or with a finish coat of paint.

Bottom photo this page: John La Torre Jr.