

Decorative Shingling With Fiber Cement

Pattern shingles can be efficiently produced on site from fiber-cement lap siding

I started installing fiber-cement siding in 1998 when it wasn't widely used and fiber-cement trim boards weren't available. The first time I sided a house with fiber cement, I used 1x4 pressure-treated trim boards covered with pieces of the siding. The completed home looked better than its vinyl-clad neighbors — and it survived a direct hit from 2004's Hurricane Charley with no damage.

Since then, I've built, re-sided, and repaired dozens of homes with various brands of fiber-cement; it's an ideal material for southern Florida, where I live and work: It doesn't rot, burn, or attract

insects and woodpeckers, and it holds paint better than wood. But the attribute I appreciate most is its wind resistance.

Dust Control

Lately, I've been getting a little more creative with fiber-cement siding and trim by adding details like decorative shingles and gable ornaments (see **Figure 1, page 2**). Although these designs look great, they require a lot of cutting, which produces a great deal of dust. Fiber-cement particles can lead to respiratory problems like silicosis, so adequate dust control is critical.

I have several ways of dealing with

dust. Most often, I cut outdoors on the breezy side of the house, keeping a length of vacuum hose on the chop-saw exhaust to direct the dust to the ground (**Figure 2, page 3**). If there's no breeze, I may set up a large fan next to the cutting station to blow the particles away from my face. The biggest dust clouds are caused by ripping on the table saw, which I avoid doing whenever possible. If I have to use the table saw, I wear a respirator containing HEPA cartridges.

I suspect that the dust is hard on power tools as well, so I make sure to blow the dust out of my saw motors once in a while, paying particular attention to the

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switch and brushes. I can tell the brushes need cleaning when the blade brake stops working. When I began using an old 12-inch chop saw to cut siding about five years ago, I thought the dust would quickly destroy the bearings or the motor, but the tool is still going strong.



Figure 1. Taking a cue from the decorative shingling on Victorian homes, the author integrates fancy-cut shingles made from fiber cement into many of his projects (top left and top right). After designs are sketched on graph paper, shingles are made on site from lengths of lap siding (above and right).

Cutting Methods

I've tried cutting fiber cement with just about every new tool that's come on the market, including score-and-snap cutters, electric shears, carbide saw blades, diamond masonry blades, hand nibblers, and even an asphalt-shingle shear. All of them work, but none produces as clean a cut as the new polycrystalline diamond (PCD) blades. I buy Tenryu's PCD blades (800/951-7297, www.tenryu.com) for chop, circular, and table saws, and am

always surprised at how long they last. One great advantage of the PCD blades is that you can make stacked cuts limited only by the saw's depth of cut. This is important when making shingles.

For scrollwork I use a jigsaw fitted with a carbide-grit blade (**Figure 3, page 3**), the type commonly used for cutting ceramic tile. Each blade will cut about 20 feet of 1-inch-thick material before I have to replace it. I make large-radius cuts freehand on the table saw with the



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blade set so that it just barely cuts through the siding, which reduces airborne dust and prevents binding.

Fasteners

Because fiber cement has such a long life expectancy, I use only stainless-steel ring-shank nails; they offer superior corrosion protection and withdrawal resistance. Collated stainless-steel siding nails — which are typically .090 or .099 inch in diameter — tend to crumple as they're driven into cement board, so I use Hitachi's 2-inch-long-by-.113-inch-diameter nails for siding, and 2³/₈-inch-by-.131-inch nails for trim. My suppliers special-order these thicker nails; lead times run a week at most.

When a ring-shank nail crumples, I don't even try to pull it out. The holding power of the ring shank combined with the friability of fiber cement almost always results in damaged siding or trim. Instead, with a chisel I nick the shaft of the nail where it enters the siding and bend the nail back and forth until it

snaps (Figure 4, page 4). Then I hammer in any part of it that's left. If I need to remove a piece of siding that's been nailed, I drive the nails thru the siding with a punch.

Trim boards are less dense than siding boards. This keeps their weight down and makes nailing easier. It also means that removing a damaged piece of trim without destroying it is impossible — so I just plan on replacing trim boards when they have to be removed, for whatever reason.

Installation Tools

A coil nailer with good depth adjustment is the tool of choice for nailing fiber-cement siding. After trying guns from several manufacturers, I settled on Hitachi's NV83A2, which has a precise and reliable depth-of-drive adjustment.

Even using depth adjustment, I have to turn the air pressure down to avoid overdriven nails. I usually start at around 80 to 85 psi, then vary the pressure



Figure 2. A short length of vacuum hose attached to the dust port helps direct fiber-cement dust downward, away from the operator.



Figure 3. Fiber cement can also be used to make decorative gable treatments. Scroll cuts are made with an orbital jigsaw fitted with a carbide-grit blade.



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Figure 4. Pulling ring-shank siding nails with a claw hammer or flat bar can crush fiber cement. Instead, the author nicks bent nails with a “beater” chisel, then bends them back and forth until they break. Remnants are hammered below the surface, and the hole is filled with latex caulk.



depending on the type and thickness of the sheathing and how many layers of siding I'm nailing through.

Overdriving is a big issue with fiber cement: Drive a nail too deep and you cut through the facing, weakening the siding and leaving a deep hole that's difficult to fill. Setting nails by hand is quicker than trying to fix ones that are overdriven. In visible areas where I want the job to look perfect — such as around the front door — I set the depth so the heads are a little proud; then I set them by hand.

I use a 4½-inch angle grinder fitted with a sanding disk to smooth out butt joints, elevation mismatches, and rough edges of trim. A 36-grit disk works well for general material removal; 80 grit is good for final smoothing. The sanding disks don't last very long, but even after they're too dull for fiber cement they're suitable for softwood. I always wear a respirator with a HEPA filter when I'm sanding.

I have an all-terrain forklift with a workbasket that I consider invaluable for installation. It holds all my tools and about 100 shingles at a time (Figure 5). Luckily, the coastal areas where I build are relatively flat and there's usually enough space to reach all sides of the house.



Figure 5. An all-terrain forklift with a workbasket holds tools and siding and provides a safe elevated platform (top and above). When the forklift can't get access, the author uses pipe staging (right).



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Hiding Face Nails

I caulk every exposed nail with latex caulk. Most folks just dab the hole with a tube of caulk and then smooth the blob with their finger. Coil nails often leave a small piece of collation wire that can prick your fingers, so it's a good idea to hammer down any protruding wires as you go along. There's no need to worry about the wire rusting; it's stainless.

For smoothing the caulk, I have a plastic auto-body spreader — the kind used for applying Bondo. This tool vastly improved my caulking: It produces a smooth finish that makes the nails almost invisible when painted (Figure 6). It also saves a lot of wear and tear on the fingers.

Surprisingly, the spreaders work great on wood-grain siding, too — I just hold them at a right angle to the grain. Since they're so cheap, I always carry an extra in my toolbelt in case I drop one from the scaffold.

Making Shingles

Most fiber-cement siding manufacturers produce shingles, and I've used these on a few houses. They're expensive, though, and come in limited patterns and exposures. Plus the shingle material can be extremely brittle.

After a while I figured out that making make my own shingles with siding scraps cost me about the same as buying manufactured ones. At first I used them only for gable details, but my customers liked the look so much I now put decorative designs on other parts of the house.

I make the shingles out of either smooth or wood-grain lap siding, depending on the customer's preference. I use different widths of siding so that I can get different shingle widths without having to rip material on a table saw. In general, fiber-cement siding has a 1¼-inch overlap, so 4-inch-exposure

lap siding measures 5¼ inches wide, which is a good shingle size.

The length of the shingles depends on the exposure you want and the complexity of the decorative cuts. Because we get a great deal of wind-driven rain on the coast, I usually use “three-ply coverage,” which means there are three layers of shingles on the wall at any point. This guarantees proper overlap when I have different widths or fancy cuts mixed together in complex designs.

A rule of thumb for three-ply shingling is that shingle length should be three times the exposure. Since I like a 4-inch exposure, most of my shingles are 12 inches long. With plain (square-butt)

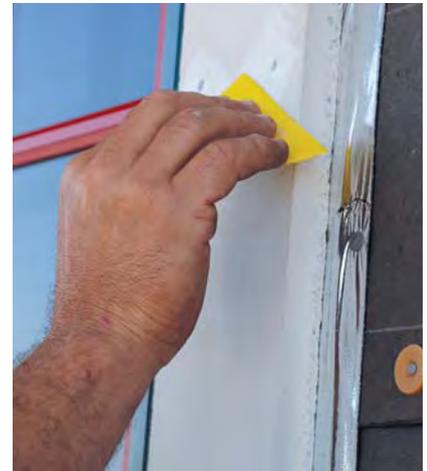


Figure 6. A Bondo spreader is ideal for pushing caulk into holes created by face-driven nails.



Figure 7. The author's saw stand is sturdy enough to support up to five 12-foot lengths of lap siding — a good 75 pounds of material (above). Stops made from wood scraps can be quickly screwed to the top for repetitive cuts (left).

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Figure 8. After the blanks are cut to length, shingles are given diamond points and diagonal cuts on the miter saw (left). A simple jig screwed to the saw stand holds a stack of shingles perpendicular to the fence when the angle exceeds the saw's capacity (above).

shingles in more moderate climates, two-layer coursing should be adequate. With two-layer coursing, shingle length should be twice the exposure plus 2 inches.

Cutting. I cut the shingles to length with a 12-inch chop saw mounted on a homemade stand. Since each piece of siding weighs about 15 pounds and I normally cut five 12-foot pieces at a time, the stand is very sturdy. An angled stop block prevents dust buildup, which would otherwise cause the shingles to get progressively shorter. The number of siding

pieces that can be cut at once is typically determined not by the saw's capacity but by the amount of weight that can be slid along the table (**Figure 7, page 5**).

Once the shingles are cut to length, the pattern can be cut. This is usually done with a stop block and with the saw set at an angle. If the points on diamond shingles exceed the maximum angle of the chop saw, I use a jig to hold the shingle perpendicular to the fence (**Figure 8**). I generally cut 10 shingles at a time because that's the maximum number I

can get my hands around; also, using stacks of 10 makes counting easy.

The final step is to ease the bottom edge of the shingles, which I do with an angle grinder and an 80-grit sanding disk (**Figure 9**).

One person can easily make 1,500 to 2,000 shingles in a day; I find that it's a good task for a helper or a less experienced crew member.

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Figure 9. Single edges are eased with a small angle grinder equipped with an 80-grit disc. The tool is enclosed in a plywood box; a large nail holds down the paddle switch.