

WORKING WITH PREPRIMED WOOD SIDING

by Marie Tupot Stock

Although wood siding has lost market share to vinyl and fiber-cement in recent years, sales of wood siding remain strong in many parts of the country, especially in the northern half of the U.S. Increasingly, when wood siding is chosen, it's being installed preprimed or prefinished. "It's becoming rare to see a builder install raw wood on the exterior of a house," notes Tom Daniels at Cabot Stains.

Machine priming of siding was first developed in the 1940s, but the use of preprimed siding didn't take off until recently. Fred Churchill, owner of a machine finishing company called Churchill Coatings in Grafton, Mass., recalls, "When we started more than 30 years ago, the lumberyards laughed at us." Today, a wide selection of wood siding, as well as some fiber-cement and composite siding, is readily available preprimed or prefinished.

Bracing For the Elements

Although wood siding has been installed unpainted for hundreds of years, there are several disadvantages to doing it the old-fashioned way. The unpainted siding can pick up moisture while being transported or stored on site, meaning paint is less likely to adhere. Moreover, when unpainted siding is exposed to the sun, it loses its paint-holding ability and can begin to cup. "We used to buy hemlock, fir, or



Save time and improve quality
with factory-primed stock



Figure 1. As a piece of siding is pulled through a machine coater, it is flooded with paint (left). On the other side of the machine, rollers or brushes remove the excess paint (right).

spruce. Within two days in the sun, it warped,” says Jesse Head of Head Construction in Middletown, Calif. “It’s not worth bringing on the job.” Head, who builds two or three homes a year, hasn’t put up a bare piece of siding in over five years.

According to Mark Knaebe, wood surface chemist at the USDA Forest Products Laboratory in Madison, Wisconsin, sunlight destroys the lignin near the surface of unpainted wood. Lignin is the glue that holds the cellulose fibers together. “When the sun destroys the lignin, the fibers

are still sitting there, but they are not glued very well to the wood anymore,” says Knaebe. “If you paint the siding after a couple of weeks of exposure, you’re painting over those loose fibers.” In controlled tests, wood exposed to the sun for four weeks before painting failed five years earlier than wood painted immediately. Most experts recommend that wood siding be primed within two weeks of installation.

Factory Priming

Factory-primed siding is produced

by passing the siding through a machine coater, which floods the wood with paint. As the board leaves the machine, it passes through a roller or set of brushes designed to remove excess paint (see Figure 1). Some prefinishers use a vacuum coating machine, which sucks the excess primer off of a board that has been flooded with coating.

After emerging from the machine coater, the primed wood is dried. Latex primer can be dried under controlled conditions in 15 to 30 minutes — much faster than oil-based primer, which spends 12 to 24 hours in special drying rooms (Figure 2).

Prepriming Advantages

Clearly, one advantage of using preprimed siding is that there is no need to wait for good weather to get a protective coat of primer on the boards (Figure 3). Fans of preprimed siding tout other advantages as well: The siding’s moisture content can be controlled; all four sides of a board can be coated; and the coating can be applied at a consistent thickness.

Moisture content. At a job site, the moisture content of unprimed siding varies. Especially in areas with frequent spells of cool, damp weather, painters are often tempted to work in less than ideal conditions. “We have to be careful. We have days when in the morning it’s 45 degrees outside, and it can be 110 by the end of the day,” says Jesse Head, who appreciates factory-primed siding. “At least with prepriming, it’s been done under controlled conditions.”

When siding is factory primed by a reputable company, the siding is usually tested for moisture content. For example, Cape Cod Siding in Nova Scotia, kiln dries their siding to a moisture content of 12% to 14% before priming. However, smaller companies may not be so careful. In one instance, a factory finisher reported “occasionally” checking for moisture content in siding before machine priming.



Figure 2. After leaving the machine coater, the siding is placed on racks to dry.

Priming all four sides. If siding is nailed up unfinished, then only the front face of the siding can be coated with paint. "To do it right, the wood must be totally encapsulated — front, sides and back," says John Lahey, president of Fine Paints of Europe. Otherwise the back face of the siding will pick up moisture from the sheathing, which can be dampened by condensation from the building's interior, or from wind-driven rain.

Factory-primed siding is encapsulated on four sides — at least until the first cut is made. When installing preprimed siding, a can of paint and a brush should always be on hand. "That's the largest problem that plagues us — installers forget that when the product is cut, the ends need to be sealed," says Scott Babbitt, eastern market manager at Olympic Factory Finish Group. "Unfortunately, a majority of the time it isn't done. Unsealed cuts tend to absorb moisture. That can lead to tannin bleed and premature failure of the siding."

Manufacturers of fiber-cement siding point out that unlike wood siding, fiber-cement doesn't need to be encapsulated. "The nature of the substrate doesn't require back priming," says John Dybsky of James Hardie Co.

Coating consistency and coating thickness. Fans of factory priming appreciate the evenness of machine application. "We are able to get more consistent rates of application using a machine than you can with a brush," says Dan Landry of Cape Cod Siding. On the other hand, just because a coating is consistent, doesn't mean it is thick enough. The major manufacturers of preprimed siding claim they achieve adequate thickness through a stringent quality control program. This includes machine measurements of paint thickness. However, not all factory finishers are scrupulous, and less reputable finishers have been known to thin the primer. "There is a tendency on the part of the preprimer to choose a paint that goes through the

machine easiest and dries the quickest," says John Lahey.

Mark Knaebe at the Forest Product Laboratory agrees. "I've seen some lousy stuff coming out," he says. "Some of it has only half a mil of primer. It should be a minimum of one and a half mils." For adequate priming, according to Knaebe, none of the wood grain should be visible through the primer, which should form a hard film with no noticeable chalkiness. Most experts recommend that 6 mils of wet primer be applied to achieve a dry film thickness of 1.5 to 2 mils.

Who's Doing the Prepriming?

When you buy preprimed siding at the lumberyard, it isn't always clear whether it was primed by the siding manufacturer or by a so-called "prestaining" company. Some brand-name siding is factory primed by the siding manufacturer (for example, lodgepole pine siding from Cape Cod Siding in Nova Scotia, or StepSaver cedar siding from Skookum Lumber Co. in Olympia, Wash.). These larger

companies are likely to have well established quality control programs.

Increasingly, lumberyards purchase unprimed siding and contract with a local priming company. Sometimes this is done in large lots, for inventory. Some lumberyards can even arrange for custom priming to meet a builder's needs.

The turnaround time for a custom order varies. In parts of the country where construction is booming, the typical three-week turnaround time for custom priming has recently stretched to up to eight weeks.

Cost

If you are convinced of the advantages of factory priming, you're probably ready to ask how much it costs. In most cases, a factory can prime siding cheaper than you can, making the purchasing decision a no-brainer. "Factory priming costs one-third the cost of doing it on site," says Tucker Smith from Skookum Lumber. Mark Knaebe agrees. "It can be painted cheaper in the factory, and you don't get the problem with sunlight," he says.



Figure 3. Preprimed or prefinished siding can be installed at any time of year, since proper painting conditions are of no concern.

Prepriming on Site

Instead of buying factory-primed siding, many builders prefer to buy unfinished siding, and to prime the siding on site before installation. That way, they have more control over the process, and can be sure the primer is applied thick enough. The work is best done under a roof.

Bob Lipovsky, president of Kingston Construction in Fairfax Station, Va., likes to back-prime the siding on site. "First, we prime everything that's not going to be visible — the back, the ends. Then, when we get it installed, we prime the front," said Lipovsky. He has found from experience that if the front of the siding is preprimed, then handling it gets messy. "You don't want to prime the part that's facing you and make a complete mess. When you're handling this stuff, you want to put it right up."

According to Mark Knaebe, from the USDA Forest Products Laboratory in Madison, Wis., "Ideally, you should back-prime with a water repellent, such as Dap Woodlife." He says that research has shown that a water repellent is better at resisting water entry than an acrylic primer, and less likely to trap moisture in the siding than oil-based primer.

Dominick Lubrano of DPL Custom Builders in Williamsburg, Va., likes to prime both sides of the siding before installation. On a recent job, he took the time to put on two coats back and front, because "that way, you know what you get. Ultimately, it's up to the homeowners to decide. I tell them the benefits."

But it's certainly not an easy way to go. Lubrano watches the weather for ideal painting temperature — 45 to 50 degrees — and pays attention to the cleanliness of the workplace. Storing the primed siding becomes a major issue. "We had to build drying racks for 8,000 linear feet of siding to store the lumber between coats."

Lipovsky agrees that drying set-ups take up a lot of space (see photo, left). He recommends spacing the boards just enough so they're not touching, but air can still get to them. At a new home site,

says Lipovsky, it's sometimes possible to rig drying racks on tarps in a basement, but it's rare to find enough indoor drying room on a remodeling job.

Wayne Whitelock of Calais, Vt., prefinished the red cedar clapboard for his own house by dipping each board in a site-built trough filled with oil-based stain, and drying the siding on indoor racks. He says the system worked well. The only problem was that he ran short of prefinished siding before the job was over. A small portion of the siding was installed undipped, and received a coat of brush-applied stain after installation. Eight years later, Wayne can spot the difference. "The siding we dipped is absolutely flawless, but the hand-painted siding is starting to lose its color. Dipping it really does make a difference."

—M.S.

The cost of preprimed wood siding varies, of course, depending on the species, profile, and grade of siding. Dan Landry of Cape Cod Siding says that their preprimed lodgepole pine siding "would cost the contractor, depending on the profile used, in the neighborhood \$2.00 to \$2.50 a square foot."

Topcoat Available, Too

Some siding manufacturers or distributors offer siding that is not only preprimed, but is also prefinished with a topcoat. "Seven years ago, we expanded our business to include two-coat work," says Fred Churchill of Churchill Coatings. "We can put on one primer and one finish. The extra coat only adds about \$400 for 3,000 square feet of siding, compared to an \$800 first coat."

Prefinishing saves contractors from braving the inclement weather in the Northwest, the Northeast, and the Midwest, the strongest markets for manufacturers of preprimed siding. "The demand is great in the winter," says Churchill. "When you buy a preprimed product and put it up, you have to get that finish coat up in 60 days. Sometimes you can't do it in 60 days in New England. When you buy preprimed *and* finished siding, you can wait until next spring."

Several manufacturers, including Maibec Industries in Quebec, offer factory-stained cedar shingles. Each kiln-dried shingle is dipped in an acrylic stain, dried, and boxed for shipment. "The use of stained shingles has doubled every year over the last three years," says Danny Rouleau, sales manager for Maibec. "Thirty percent of our production is stained or bleached."

Some manufacturers of prefinished siding offer impressive paint warranties. For example, Cape Cod Siding guarantees the coating to stay on the wood for 15 years. "If the coating fails within the first 5 years, we supply the labor and materials to fix it," Landry says. "Between 5 and 15 years, we



A site-built drying rack is a necessity for prefinishing on the job.

would supply the coating."

New Jersey builder Matt Porraro usually buys siding preprimed and prefinished. "I know when it's shipped, it's protected," he says. Through his local lumberyard, he requests two coats, and tops the boards with a third coat after installation. He has a simple solution when customers don't think their siding needs prefinishing: He won't guarantee the finish.

Not every builder who has tried prefinished siding is a fan. Bob Lipovsky sticks with preprimed siding rather than prefinished. "You end up putting nails into it and you end up painting it anyway," he explains.

Scott Babbitt of Olympic notes that some installers have unrealistic expectations for prefinished siding. "It's a problem — the perception that prefinished siding can be nailed up and you can walk away," he says. "We're not applying vinyl siding here, guys." In most cases, prefinished siding will need a third coat of paint after installation, if only to cover caulk and nail heads. "Some colors — particularly the whites and the yellows — don't lend themselves to two coats," says Babbitt. "They require a field-applied third coat, partly because of the handling and the dust on the job site."

Ordering Preprimed Siding

Factory priming seems to be the way to go, with one important qualification — it has to be done right. If you're ready to try preprimed siding, ask your supplier to identify who does the priming. If you get assurances that the finisher checks the moisture content of the siding before running it through the machine, uses a quality paint, and can verify a minimum dry film thickness of 1.5 mils, then it might be time to try some preprimed siding.



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Sources of Supply

Cabot Stains

100 Hale St.
Newburyport, MA 01950
508/465-1900
800/877-8246
Manufacturer of primer and stains for machine finishers

Canton Lumber Co.

9110 83rd Ave. North
Brooklyn Park, MN 55445-2197
800/367-9663
A distributor of preprimed siding

Cape Cod Siding

1948 Hammonds Plains Rd.
Bedford, NS B4A 1A0
Canada
800/565-7577
www.capcod.ca
Preprimed lodgepole pine siding

Churchill Coatings

P.O. Box 2222
Grafton, MA 01519
508/839-9700
Factory finisher

Goodfellow Inc.

225, Rue Goodfellow
Delson, QC B4A 1A0
Canada
450/635-6511
www.gdfellow.com
Preprimed and prefinished pine and cedar siding

Granville Manufacturing Co.

P.O. Box 15
Granville, VT 05747
802/767-4747
www.woodsiding.com
Preprimed and prefinished quartersawn clapboard siding

Maibec Industries

660 Rue Lenoir
Sainte-Foy, Quebec G1X 3W3
Canada
800/363-1930
Preprimed wood siding

Olympic Factory Finish Group

P.O. Box 6
Accord, MA 02018
800/266-5143
Manufacturer of primer, stains, and paints for machine finishers

Skookum Lumber Co.

P.O. Box 7309
Olympia, WA 98507-7309
360/426-3944
Preprimed cedar siding

Windsor Mill

P.O. Box 39
Windsor, CA 95492
707/838-7101
Preprimed pine and Douglas fir siding