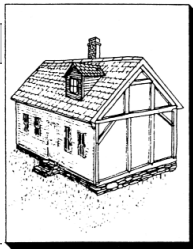


Backpriming Exterior Woodwork

by John Leeke



Joints in exterior woodwork always seem to open up a year or two after the work is done. In the short term it's a minor annoyance requiring a quick touch up. But over the long term it can be a major problem.

Open joints are usually caused by two things. Structural settling can shift the position of individual boards and trim, and ordinary seasonal changes in humidity can cause enough expansion and shrinkage across the grain of wider boards to break joints open. Once a joint opens, water penetrates the crack and soaks into the backs of boards which then swell in width.

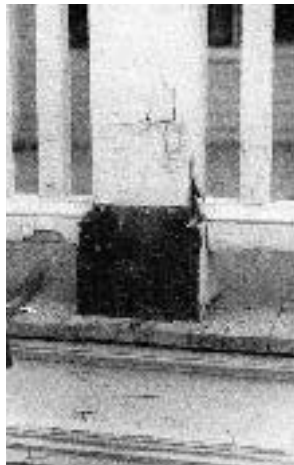


Figure 1. At the foot of this porch post, water penetration caused serious decay and paint failure after just ten years. Backpriming and effective caulking could have prevented it.

Backpriming

When installing exterior woodwork, carpenters usually build the work up in layers. First, back boards go on, then trim boards, and finally trim moldings. Then painters prime and paint the exposed outer surfaces. That's what happened to the porch post in Figure 1, which was only ten years old and already rotten.

To prevent this kind of damage, you can backprime your work. Backpriming is an old technique often left out in today's rush for completion. The purpose is to protect the back of the wood from water penetration. During the installation of exterior woodwork, you coat all sides, edges, and cut ends with primer. Be sure the primer you use is the same as (or at least compatible with) the primer and paint that will be used for the whole project.

In my own work I use the following routine:

- Cut each piece to fit.
- Tack the pieces in place with nails. Use the final nails, and drive them in just enough to hold the pieces in place (see Figure 2).
- Remove one piece at a time, leaving the nails in place.
- Backprime each piece. Hold the piece by the nails, and you can keep primer



Figure 2. Cut all pieces of trim to fit and nail them in just enough for placement. Then, remove them with nails still in place, and prime.



Figure 3. Pre-cut pieces of trim, with nails in place, await priming. The nails provide a handy way to hold the trim when priming.

off your hands.

- Nail the piece in place wet, and fit the nails into the tack holes. This keeps the pieces aligned correctly so they don't slip around in the wet primer.
- Prime the exposed face or at least the areas to be covered with the next pieces.
- Proceed with the next layer.

When I first started in restoration work I was a Woodworker (with a capital "W"). I didn't want to goof around with paint—leave it for the painters. Now I'm twenty years older and think of myself as an exterior detailer (lower case). I use whatever means and materials are necessary for the best work. Because I often work alone, this means I alternate between doing woodwork and painting as the job progresses.

But, if painters are on site and the contract calls for them to do priming, I'll fit and tack all the pieces in place, then remove them for the painters to prime (see Figure 3).

Sealing With Caulk

Sealing the joints of woodwork when it's first installed saves time. You don't have to come back to do it later. I take two approaches here, but they both have the same purpose: to provide a flexible seal that won't break when the pieces eventually move. For ordinary work I apply caulk at the edge of the mating faces of each piece. Usually a thin 1/8-inch bead of sealant is enough when the joint is flush and true. More might be needed when reinstalling old pieces that don't meet exactly or when existing surfaces are irregular (see Figure 4). In fact, these wider gaps, once filled with sealant, are more flexible and longer lasting than accurately cut joints

that only have a very thin layer of sealant between them.

When deciding which joints to treat, I imagine how rainwater will flow over the woodwork. I seal horizontal and vertical joints that would trap water. Usually I leave some joints open at the bottom of an assembly to let water drain out if it sneaks in from above.

For special work requiring even better performance I use designed joints (see Figure 5). I create an intentional gap where I place the sealant. This gap makes the sealant a permanent, yet flex-

use polyurethane sealants such as Sikaflex "Multi-caulk" after the primer or paint has dried. If latex paints are specified, compatible latex caulks can sometimes be applied before the paint is completely dried. Check with the manufacturer's technical advisers first though.

For exterior woodwork jobs I always include a return visit the next season. When I started using these methods the amount of touch-up work needed dropped off dramatically.

Costs

Taking time to seal and prime the work as you go means that jobs take longer. It's the price you (or more properly, your customers) pay for work that



Figure 4. The author applies caulk to the mating faces of trim before installation. Excess caulk that squeezes out is cut or sanded away. An additional 1/8-inch bead of caulk finishes the joint between clapboard and pilaster.

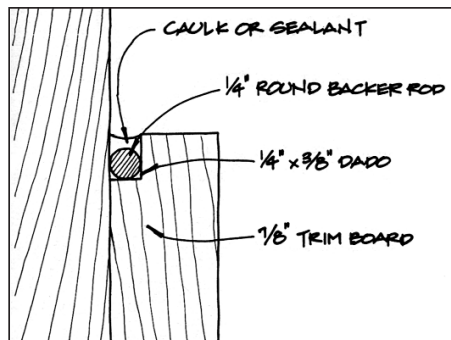


Figure 5. If an especially water-tight joint is called for, it should be designed to provide a bigger gap for sealant and a foam backer rod. The backer rod gives the sealant bead an hourglass shape for maximum adhesion and maximum flexibility.

ible, part of the assembly. A foam backer rod covered with a release agent shapes the back of the sealant without sticking to it, and the sealant's edges cling to the adjoining woodwork. The sealant is wide enough for maximum adhesion where it meets the back board and trim board, and the backer rod makes the sealant thin in the middle for maximum flexibility. Manufacturers of sealants and caulks provide information about the dimensions to use for a joint. This high level of detail for exterior woodwork is justified on parts of the building that are difficult to maintain such as towers and cupolas.

Materials

Sometimes I use a penetrating preservative like Cuprinol Clear on the backs of boards. Preservatives resist liquid water penetration and let the boards breathe more than primer. You have to apply carefully though—dribbles on the face of the board can keep the paint from sticking. When the work will be protected with oil-base paints, I often

lasts. How much it costs depends largely on your own work habits. Sure, you can make a mess with paint smears and drips all over your favorite tools, but I find I can work efficiently and stay clean by keeping a rag in my pocket and using a small can of paint with a cover.

Develop your own cost figures with a test the next time you have two similar pieces of work (such as the pilaster base in Figure 2). Do one section of work with, and one without, backpriming and caulking. Keep track of your time on both, and you'll know how much to charge in the future for the added work. Come back to your test in a few years to compare how each held up. You'll see why I think it's worthwhile to use backpriming and caulking. ■

John Leeke, of Sanford, Maine, restores and maintains historic buildings. He also consults with contractors, architects, and owners working on older buildings. If you have questions on restoration topics, write to John Leeke, c/o JLC, RR#2, Box 146, Richmond, VT 05477.