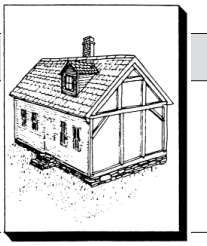

Patching A Gable End Return

by John Leeke

It was evident that the exterior woodwork of a Greek Revival house my company was hired to paint needed some repairs. But it was not until the scaffolding was up, and we got a close look at the gable end, that we realized the damage was extensive.

Squirrels had chewed a hole in the joint where the rake molding meets the gable end return and the front crown molding (see Figure 1). Repairs made about 15 years ago included cement mortar packed into the squirrel hole and sheet metal tacked to the outer surface of the soffit. The best I can say about these repair methods is they are expedient and low cost.

In only a few years, the repairs had caused more damage than if the hole had not been closed. The cement hadn't stuck to the sides of the hole, which permitted water to creep inside the return. That trapped moisture and promoted rot in the soffit. Also, the cement attracted and held water, making the situation even worse. And the sheet metal trapped water against the wood in the soffit and the lookouts.

Project Requirements

The house was a private residence part of the way through a 10-year restoration program. Because of the expense and duration of the project, the owner wanted to be sure the house would not need much maintenance for a long period after the job was done.

This meant repairs had to be good enough to last longer than usual with no maintenance. We were shooting for a 30-year life on all repairs. Of course some work, like painting, would be done more frequently. But repairs to the wood in this gable end return had to last a long time.

The owner understood that the most effective repairs initially seem expensive, but are economical when the cost is spread over a number of trouble-free years. Funding, however, was limited so we took a middle-of-the-road approach. It was clear the slap-dash style of the previous repairs wouldn't meet current requirements.

Maintaining the original appearance of the house was also very important to the owner. While she liked the idea of preserving as much of her old house as possible, she couldn't afford to save every piece of wood just because it was old. We could replace parts of the building as long as they looked exactly like the originals.

Traditional Approach

The customary method of doing this sort of repair is to rebuild the return, replacing the decayed wood with new wood. Smaller elements like the short soffit and fascia are replaced completely. Larger elements like the rake molding are repaired in place with dutchmen glued into close-fitting mortises with resorcinol glue. A decayed end might need a whole new section scarfed on. This requires hand-cutting lap joints and shaping molding curves, which demands the skill level of a craftsman.

I estimated the cost for this job at $262, which included 10 hours of labor at $25 per hour, and $12 worth of clear pine and adhesive.

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This approach would certainly have met the requirements of the project. But I gave the owner an alternative.

Modern Approach

Another effective repair method is to stabilize decayed wood with epoxy consolidant and replace missing wood with epoxy paste filler.

Epoxy consolidant is a syrupy liquid that soaks deep into decayed wood and then hardens. This gives new strength to the wood and prevents further decay.

Missing wood is replaced with epoxy paste filler. The paste is comprised of liquid epoxy resin and powder fillers that are added to thicken its consistency. On this job, we screwed a polyethylene-covered board to the soffit to act as a form. The poly kept the epoxy from sticking to the form. Then we pushed in the epoxy paste with a putty knife. The paste hardened, adhering to the consolidant-treated wood. Final strength and working properties are similar to the surrounding wood (see Figures 2 and 3).

Although using epoxies requires some special knowledge, working with them is not difficult. The final repair is highly weather resistant and is flexible enough to allow for movement in the surrounding wood. This was the method we used to repair the gable end return.

The actual costs for the work totaled $204, which included 6½ hours of labor at $30 per hour and $9 for 18 fluid ounces of epoxy.

Figure 1. *Squirrels chewed a hole into the joint where the rake molding meets the gable end return and the front crown molding.*

Figure 2. *Wearing gloves, the carpenter works epoxy paste filler into the patch area with a putty knife.*

Figure 3. *After the epoxy paste hardens, surfaces and edges are chiseled or rasped to match the adjacent wood.*

Using these methods and materials cost less than taking the traditional approach and the repair will outlast the 30-year requirement. We were able to save most of the original return, except for the fascia. While the rotted short fascia along the return could have been saved with epoxy, it cost much less just to make a replacement.

The final repair locked the ends of several boards and moldings into a solid mass of epoxy. If future repairs require removing just one of those boards, the carpenter will have a hard time prying them apart. For future maintenance considerations, it would have been better to repair the end of each board and molding separately. But that would have exceeded the project requirements and cost more.

Benefits

Is it worth thinking about how long certain methods and materials will last? Who cares if a repair like this lasts 10 years or 80 years? Does it make any difference if a spot like this is easier to repair when it needs work again in 80 years?

You can answer these questions for yourself by counting the times you or your customers have complained about shoddy work done to a building in the past. Usually it ends up costing more in the long run to recover from shortsighted work. ■

John Leeke, of Sanford, Maine, consults with contractors, architects, and owners working on older buildings. He publishes Practical Restoration Reports, *a technical series on preservation and rehabilitation topics. If you have questions on restoration topics, you can contact him c/o JLC, RR#2, Box 146, Richmond, VT 05477.*