

# FastFacts

## About Repairing Rotted Wood

by Mariangela Pfister

**Wood rot is the bane of your building's existence! As promised in my last FastFacts, in this installment I'll discuss ways to combat wood rot once it does occur. But first, let's begin with a review of things that you can do to prevent rot from attacking your wood.**

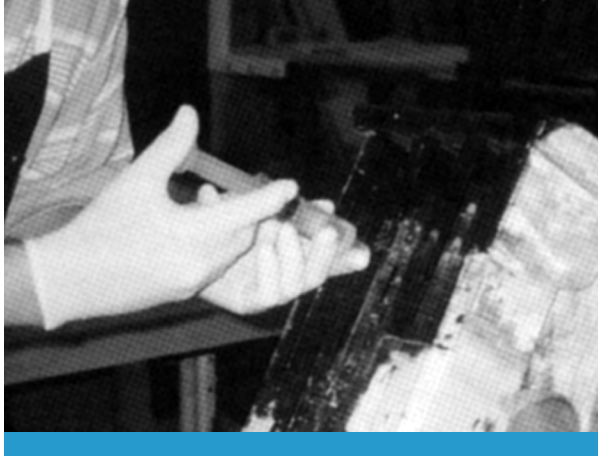
- Keep excess moisture away from your wood.
- Maintain your roof and flashing in good repair.
- Make sure gutters and downspouts are large enough for your roof and are working properly by observing them to see if they leak or overflow in a steady rain.
- Make certain all downspouts are directing water away from the building.
- Keep your basement dry and well ventilated by keeping landscape dirt below the wood level and sloping it away from your foundation. Run your dehumidifier(s)!
- Avoid using moisture-trapping wood chips or mulch close to your structure.
- Trim vegetation, trees and shrubs, including ivy, at least 24 inches back from the structure to allow for air filtration and sun penetration.
- Check lintels and sills to make certain they're in good shape and are not directing water back toward the structure.
- Keep your building well painted and caulked to protect the wood from airborne rot spores.
- Consider using breathable wood versus artificial sidings that can mask the signs of wood rot if it is occurring.
- Inspect your building carefully at least twice a year.

Now that we've covered the ABCs of prevention, let's move on to treating wood rot that's already begun. These basics will give you an idea of various approaches to treat wood rot yourself, as well as issues to discuss with a wood treatment professional if the severity of your problem warrants a consultation.

You'll need to determine the extent of the decay. This will help you decide if only a section of wood needs to be replaced or stabilized, or if the entire piece has to go. Be careful not to alter the load-bearing capacity of your building. It may be necessary to seek the advice of a structural engineer if the damage appears extensive or if the rot has attacked load-bearing pieces of wood. Once the damage is assessed, you can choose your approach.



*Before and after views of a deteriorated bracket. The bracket on the left was repaired through the use of consolidating epoxy as well as dutchmen.*



*One method of repairing damaged wood is to drill holes into the fiber, then infuse it with an epoxy consolidant.*

If your wood is badly damaged, especially if it is a load-bearing element, it may be prudent to replace it entirely. Be certain to support the rest of the structure while the replacement is occurring. Try to use the same species and quality of wood if possible. If only a section of wood is deteriorated and it's not a good candidate for epoxy consolidation (stabilizing the wood with an injection of chemical epoxy) alone, you can insert a "dutchman." To do this, remove all sections of infected wood and insert and attach a new section of wood, generally using wood adhesives or epoxies. Sections of damaged or repaired wood can be reinforced on the sides of the beam or through the beam itself with wood or glass-fiber reinforced plastic, or with metal rods. Take care not to secure the reinforcements so tightly that they don't allow your wood to expand and contract naturally with climate changes. Joints that you're not sure about can be reinforced with brackets. Have the area inspected if necessary to be certain that any repairs to structural members meet safety codes.

If you have a damaged decorative wood piece that's important to retain or difficult to replicate, consolidate the piece with epoxy. Begin by drilling holes into the damaged area, then fill them with a good, penetrating consolidating epoxy that bonds well to the wood (a syringe is handy for this). There are several epoxies on the market. Look for ones that don't shrink or destabilize as they harden, age or become exposed to the elements. (A cautionary note: Remember that epoxy resins cannot be removed, whereas some acrylic resins may be removable. Use the product you feel is right for your job.)

Once the wood has been permitted to dry and is consolidated, you can replicate missing areas to match with wood filler that can be sanded and finished. In some cases, it's desirable to use a combination of approaches—for example, inserting a 'dutchman' in the most damaged areas, reinforcing with a rod and consolidating other areas with epoxy.

Though your job may require you to hire a professional, the information presented here will allow you to ask more informed questions of the people you interview and help you understand the process more clearly. The ideal is to ensure that your wood isn't vulnerable to rot. However, when rot does occur, using these methods will help preserve the historic integrity of your structure, as well as correct your wood rot problem, making you and your building able to breathe easier.

**For more information about winning the battle against wood deterioration, contact the Ohio History Connection's State Historic Preservation Office.**

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