

Sealing a Foundation Cold Joint

Q. We are pouring a foundation for a full-basement addition in an area with a high seasonal water table. What is the best way to detail the joint between an existing foundation and the new foundation to prevent water from leaking in?

A. Carl Hagstrom responds: There are plenty of ways to detail such a joint. I recommend using a backer rod and urethane caulk. If possible, it's best to apply this after the concrete has had about six months to cure and shrink back. But this is just a band-aid, not a lasting solution to the problem. You have to deal with draining the water first. Then you can worry about sealing the joint to keep out radon gas, if necessary.

Here in northeastern Pennsylvania we have high seasonal water tables, so on all foundations we pour, we have to use an interior perimeter drain to deal with the water. Most builders think in terms of an exterior drain. But if you have a high water table, the water will rise inside the foundation. Unless you have an interior

drain, the footings essentially act like a dam, preventing the water from reaching the exterior drain and forcing it to rise through the slab.

We typically form and pour our footings and lay drain line around the inside and outside perimeters (see illustration, below). The drains must run to daylight or to a sump pump connected to a storm drain.

Apply a standard asphalt-based foundation coating to the exterior of the foundation, then backfill with plenty of gravel. Water is predictable stuff. It will take the path of least resistance and usually goes just one way — down. This means if you backfill the outside of the foundation with enough gravel and provide a daylight drain, the water shouldn't rise along the foundation wall and won't have enough pressure to leak in through the joint.

Carl Hagstrom, a mason and builder for 20 years, owns Hagstrom Contracting in Montrose, Pa.

Choosing Deck Woods

Q. Which lasts longer for deck planking — redwood, cedar, or treated pine?

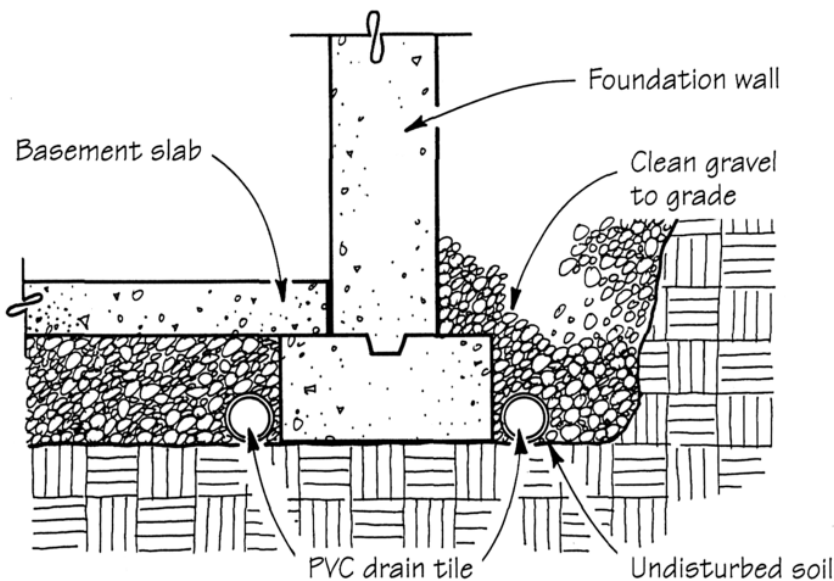
A. Paul Fisetto responds: "Lasts longer" can mean both durable to foot traffic and durable to the weather, and finding the best balance is not a clear-cut decision. When selecting a deck wood, you also have to consider some other issues, including cost, availability, and environmental concerns. Here's a look at the choices:

Treated wood. The most popular decking is 5/4x6 southern yellow pine treated with chromated copper arsenate (CCA). CCA-treated lumber is still the most affordable and readily available option. Treated to a .40-pound retention (typical for decking material), it won't rot for decades. Also, southern pine is a dense species, so it doesn't abrade under heavy foot traffic. A yearly maintenance coat of water repellent, such as Flood's CWF (The Flood Co., P.O. Box 399, Hudson, OH 44236; 216/650-4070), is required to reduce cupping and keep a bright surface.

In the past few years, the safety of CCA has come under fire. Most states give CCA-treated lumber a clean bill of health. If treated properly, the CCA bonds permanently to the wood fibers and does not present a hazard. However, this assumes that the quality control of the treatment process is adequately maintained. If not, excess chemicals can precipitate on the lumber surface, forming a white bloom. Stay clear of this if you find it in the lumberyard.

An alternate choice is ACQ (ammoniacal copper quaternary-ammonia), which is billed as "environmentally advanced" because it does not contain arsenic or chromium (available from CSI, 1 Woodlawn Green, Suite 250, Charlotte, NC 28217; 800/421-8661). But I think it's

Foundation Drainage for Wet Sites



In areas with a high seasonal water table, a foundation should have both interior and exterior perimeter drains. Run the drains to daylight or to a sump pump connected to a storm drain.

still too early to know if this is a purely safe product or not.

ACQ-treated wood and some other types of CCA-treated wood are pre-treated with a water repellent, which is good. But you'll still need to reapply a water repellent after a couple years.

Untreated woods. The most common untreated options include western red cedar, redwood, Port Orford cedar, and a South American wood called Ipe.

Cedar (both western red and Port Orford) and redwood are about a third more expensive than CCA-treated wood, and are naturally decay resistant. But don't confuse decay resistance with maintenance-free. These woods must be treated with a water repellent every year to assure a long-lasting, good-looking deck.

Redwood and cedar look beautiful and weather well, but they are soft and do not wear as well in high traffic as southern yellow pine.

When you select any untreated species, use only the heartwood. The tight-grained, slow-growth heartwood is rot resistant. But the faster-growing, light-colored sapwood *will rot!* These days, all-heart redwood is hard to get, if not impossible. In my search recently, lumber dealers have told me that "select heart" is unavailable. If the grade you purchase has some sapwood mixed in, buy enough so you can cull the pieces that contain sapwood and use only the dark-colored heartwood.

Ipe is a South American wood that has been used to build docks. It is heavy and hard, and also very resistant to rot. Unfortunately, it is also expensive — about twice as much as southern pine. As an environmental concern, it's also worth asking for certification that the wood you buy is harvested from sustainably managed forests. ■

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Got a question about a building or renovation project? Send it to On the House, JLC, RR#2, Box 146, Richmond, VT 05477.