

Concrete Cold Joint

Q. *Occasionally my foundation contractor is not able to pour all of the concrete for a foundation at once, leaving vertical and horizontal cold joints. How do you prep the surface of the concrete after the first pour to make sure such joints are structurally sound?*

A. JLC assistant editor Dave Crosby, a builder in Santa Fe, N.M., responds: You can use a concrete additive called Anti-Hydro (Anti-Hydro International, 45 River Road, Flemington, NJ 08822; 800/777-1773; www.anti-hydro.com). It's available in one-gallon jugs and five-gallon cans at most builder supply stores for about \$13 per gallon. Mix one part Anti-Hydro to three parts clean water, and add enough fresh (not old, lumpy, or partially hydrated) Type I Portland cement to make a thick, rich slurry, or "slush coat." Apply this mixture liberally with a stiff brush to the clean cold joint immediately before you pour. You want this coating to be unreacted when the redi-mix hits it. If you're on a big pour and the slurry has started to set up by the time you get to it, just brush on more. This will result in a strong, continuous bond.

Anti-Hydro increases the percentage of hydration in your concrete without affecting its chemical composition, resulting in a denser, harder, stronger, and more waterproof material. It also accelerates the rate of hydration, so it has many uses with all Portland cement-based products.

If you have rebar that extends out of the cold joint 30 to 40 bar diameters (at least 15 inches for #4 bar, 19 inches for #5 bar), you can tie in the rest of your rebar and continue the pour. If not, you can pin the joint. If your foundation was designed for unusual circumstances, such as high backfill

pressures, high wind loads, tall walls, or long spans, then I would suggest getting the opinion of a structural engineer for the location, size, strength, depth, and placement of the pins before you continue. There are also many different epoxy bonding agents available from a variety of manufacturers (including Anti-Hydro). The better quality epoxies are expensive, but are supposed to provide a joint at least as strong as the concrete.

Nobody likes a cold joint, but they happen. If you know you've got another one coming, here are several things you can do.

1. Try to avoid cold joints in the middle of the wall, where the loads are high.
2. Let the rebar run 2 to 3 feet out of the concrete at the joint so you can tie into it when you continue the pour.
3. If there isn't already rebar in place where you stop the pour, put some in before the concrete begins to set. Don't wait until the concrete has "gone off" to do this, since you won't get a secure attachment for the pin.
4. If possible, form a keyway in the concrete for the subsequent pour to lock into. This would be especially useful at the vertical joint you described. If this isn't practical, like on diagonal or horizontal joints in places where you can't reach, leave a rough, uneven surface on the initial pour.
5. With cold joint preparation, the watchword is "clean." If the surfaces are dirty, you will not get the results you're looking for. Cover your forms to prevent dirt from falling in. This will save you a lot of effort, since it's very difficult to get fill dirt off of rough concrete down inside the forms.

Whatever you decide to do, check with your concrete contractor first.

Solid Floor Blocking

Q. *In the search for a bounce-free floor, does either solid blocking or cross-bridging do anything to reduce the vibration caused by foot traffic? I haven't been able to sense a difference between blocked or bridged floors and those without blocking or bridging. Consequently, I haven't used either technique on my floor systems for several years.*

A. Frank Woeste, P.E., and Dan Dolan, P.E., of Virginia Tech in Blacksburg, respond: We actually evaluated the effect of bridging or blocking on the vibrational performance of solid-sawn joists and I-joists in the laboratory. Full-scale floors were tested with and without bridging or blocking installed. Based on key indicators of floor performance, bridging and blocking had only a minimal effect on reducing annoying vibration. A much better way to control floor vibration is to increase the depth of the joist and limit the joist span, as described in our article, "Beyond Code: Preventing Floor Vibration" (*Practical Engineering*, 11/98).

Duplicating Old Moldings

Q. *I often get into projects in old houses where I need short runs of molding that are impossible to match. It's very costly to have the molding manufactured in local wood-working shops in my area of Maine because they have to grind special knives. Is there a source for old or unusual moldings?*

A. Tom O'Brien, a restoration contractor from Richmond, Va., responds: The short answer to your question is yes, there are plenty of sources for old moldings.

Finding an exact match for a particular profile, however, can be a challenge.

Molding patterns vary significantly from region to region, and even locally, from mill to mill. If you must match an old profile precisely, a good bet is a local salvage yard or demolition contractor, or a nearby mill which might have the correct molding knives already in stock. Then you'd only have to pay a setup fee or minimum charge.

If you've already exhausted your local connections, the best sources I've found for locating restoration suppliers are *Traditional Building Magazine* (69A Seventh Avenue, Brooklyn, NY 11217; 718/636-0788; www.traditional-building.com) and the annual Restoration Directory published by *Old House Journal* (2 Main Street, Gloucester, MA 01930; 800/931-2931; www.oldhousejournal.com).

Both publications also post a lot of this information on their Web sites. Each listing includes a brief description of the company's specialties, whether it has any catalogs or literature, and whether it sells through mail order, retail stores, or distributors. When you find a promising source, you'll probably want to trace the molding's profile and fax it to them to be sure of an exact match. Keep in mind that not every replacement must blend perfectly. While prominent interior moldings must be very close, you've got a lot more latitude with exterior trim, especially high cornice work. I can almost always find a stock molding that, with minor table saw modifications, will look perfect from two stories below.

Since you're in Maine, you might try Windham Millworks (P.O. Box 1358, Windham, ME 04062; 207/892-3238). They claim to have 1,000 molder knives in stock and charge an \$80 setup fee for short runs, with no setup fee for 250 feet or more.

Further afield, Forester Moulding & Lumber, Inc. (152 Hamilton Street, Leominster, MA 01453; 800/823-7826; www.forestermoulding.com), has knives for 2,000 custom profiles, which they'll run for a \$95 setup charge for orders

The cup hinge on this Accuride "flipper" hinge is mounted on ball-bearing rails so the open door can be slid straight back into the cabinet. Some flipper hinges are rated for doors up to 75 pounds and 6 feet tall.



under 300 linear feet. If you fax the profile and quantity, they promise you a quote within four working hours. They also promise a four- to eight-day turnaround time once an order is placed. All of these profiles can be seen in their Custom Profiles Binder (\$29) or CAD database (\$69).


In the West, Arvid's Woods (2500 Hewitt Ave., Everett, WA 98201; 800/627-8437) claims to keep 400 moldings in stock as well as the knives to make more than 1,500 custom profiles. There is generally no setup charge for custom moldings, but minimum orders range from \$50 to \$150, depending on complexity. They have free brochures available or a 120-page catalog for \$6.

Before going the mail-order route, there are a few other strategies you might consider:

- Repair old moldings — even badly damaged ones — with epoxy.
- Restore small, missing sections of trim with epoxy molds and castings. Besides making epoxies, Abatron (5501 95th Ave., Kenosha, WI 53144; 800/445-1754) has mold-making kits for this purpose.
- Scavenge extra pieces of trim from inconspicuous places like closets.
- Build up trim profiles from combinations of stock moldings.
- Replicate old profiles, or modify stock moldings, with router and table saw.

Disappearing-Door Slides

Q. *I'm looking for a source for hide-away doors like the ones shown in the recent article by Annette DePaepe on laundry rooms (By Design, 12/98, page 18). Is this hardware available for full-size doors? What are its limitations?*

A. *Annette DePaepe responds:* There are a number of manufacturers of the hinges you mention. I work closely with a local cabinet shop, which supplies them for me. They are sometimes referred to as flipper door hinges. The door pivots open on standard concealed hinges, then disappears into the cabinet, hinges and all, along slides mounted on the side of the cabinet. The hardware is available in various load ratings and for doors of different heights. For example, Accuride, a maker of high-quality drawer slides (562/903-0200), has models rated for doors up to 75 pounds and 6 feet tall. The slides rated for tall doors typically have tension cables that help keep the door from racking. Be warned: These slides can be a little time-consuming to mount for first-time installers. 

GOT A QUESTION? Send it to On the House, JLC, 932 West Main St., Richmond, VT 05477; or e-mail to jlc@bginet.com. 