LETTERS

Ventilation Details Sought

To the Editor:

In Mr. Rosenbaum's excellent article, "Simple Ventilation for Tight Houses" (5/91), he did not touch upon two items of some importance:

- details for connections to drain condensation in ductwork where the air is flowing down towards the fan;
- accessibility for cleaning duct and practicality of cleaning flexible duct.

I would be interested in Mr. Rosenbaum's experience with these matters.

Kenneth Kruger, P.E.
Cambridge, Mass.

Marc Rosenbaum Responds:

In my house, I have a length of clear, uninsulated flexduct on the exhaust side just ahead of the heat-recovery ventilator (HRV) because I was concerned about both issues raised by Mr. Kruger. I can check it easily for dust or condensation. There is a bit of wood dust inside the duct which appeared during construction from finish floor sanding — I should have taped off all ventilation grilles and not used the ventilation system during construction! The quantity of dust now appears stable, and isn't likely to be a problem.

The space in which the HRV is mounted can get down to 40°F. I have never seen condensation in the clear flexduct, even though the system directly exhausts both bathrooms. My judgment is that little condensation is likely to appear in ductwork installed in basements that don't get cold enough to freeze plumbing.

However, ducts run in colder spots, such as attics, garages, or vented crawlspaces, may see significant condensation. I never place ducts in unheated spaces in houses I design, but in some retrofit cases I have specified fans and ductwork in attic locations. In such cases, the ductwork must be insulated and pitched with no dips, so that any condensate will run either outdoors or back to the exhaust grille. A good backdraft damper should be installed at ceiling level (where the ductwork passes from heated to unheated space) to keep room air from entering the cold ductwork when the fan is off.

Two-Speed Switches Recommended

To the Editor:

In response to the article "Simple Ventilation for Tight Houses" (5/91), I thought I should mention using variable speed controllers on the range hood fans.

I find the two-speed switches are much more effective, set on either high or low. In many cases, with the variable-speed controller, the consumer attempts to operate the fan at such a low speed that the fan cannot develop sufficient air pressure to open the flapper discharge on the exterior of the building. The end result is no ventilation. I have seen this problem many times with bathroom fans.

Individual bath fans are more effective than one central fan. Using one central fan serving two or more baths results in exhausting air from the bathroom unnecessarily, which increases one's heating costs.

The simple 60-minute timer on each fan works quite well. In addition to the negative points mentioned about dehumidistats, if homeowners encounter several days of foggy damp weather, as is common in coastal areas, the fan will operate continuously.

Arthur A. Irwin
Residential Engineer Advisor
Department of Mines and Energy
Halifax, Nova Scotia

Foam Better on Exterior

To the Editor:

I would like to comment on some advice Hank Spies gives in his Q&A column ("On The House," 8/91).

In one answer he says that "the inside of the exterior wall is the best place to install foam insulation board." This detail also shows up in "The Best Energy-Efficient Wall Design" later in the same issue. I would like to point out a couple of drawbacks we have encountered to installing rigid foam on the inside of a wall. One is that if you install your drywall right over the foam, it's very hard to get crisp inside lines at corners and ceilings, especially if you're using a veneer plaster system. The foam gives a little bit, so when you screw through the drywall and foam into the stud, the drywall gets pulled up tighter where the screws are and yields an uneven surface to plaster over. Frequently, the waviness of the joint is unacceptable.

Another more serious problem with putting rigid foam on the inside is the greater potential for condensation problems in the wall cavity. With foam on the inside face of the studs, the wall cavity gets much colder in the winter. Since colder air can hold less water than warmer air, any moisture vapor that escapes into the wall will condense more quickly and more thoroughly. This makes for a fairly unforgiving detail: The air barrier has to be just about perfect to avoid condensation problems.

I recently opened up a wall we had built in 1985 and found all manner of life forms growing in there. The drywall screws were almost rusted through where they entered the studs. We had installed foam on the inside but had been unaware of the precautions needed to prevent air leakage into the wall cavity. The room itself was not extremely humid (it was a bedroom, not a bath or kitchen). We had stapled the foil-faced insulation flanges pretty carefully onto the studs, and we had installed the extruded polystyrene boards over the studs with a tight fit but without tape or gaskets. Most of the air that leaked into the wall came through electrical boxes and around a recessed radiator, neither of which had been well sealed.

I am convinced there would have been much less condensation in the wall if we had simply eliminated the foam, thereby warming up the wall cavity and increasing its dewpoint. Or, better still, we should have used the rigid foam on the outside of the wall, to raise the dewpoint inside the wall even more. The foam on the outside is, in fact, a less labor-intensive detail, which we've used in recent years with good success.

Paul Eldrenkamp
President, Byggmeister
Brighton, Mass.

Deck Leveling Question

To the Editor:

In his letter about faster framing (Letters, 7/91), Michael Guertin of Exeter, R.I., says: "We build our first floor deck square, and level it after it is subfloored."

I presume his deck is rather solidly fastened to the foundation, so just how does he accomplish this little maneuver of leveling it after subflooring?

R. Carlson
Portland, Ore.

Michael Guertin Responds:

First, before we cut a stick, we snap our lines 5 5/8 inches in from the outside of the foundation (making adjustments for errors) for the sill plates. Then, using my $20, 100-foot water level, I choose a corner, measure down 2 inches, and with a partner mark each corner or halfway point on long walls. (We've found that the $20 water level beats our $500 builders transit and has even beat a $3,000 laser level for accuracy.) Using a red line (more waterproof than blue) we snap our way around.

We quickly measure to the line along the foundation to determine the high point and deem it "zero." Then we go along measuring down to the line marking the low spots in the foundation every 4 feet or so. If an area is consistently low, say 1/4 or 1/2 inch, then we'll rip plywood strips to put on top of our double 2x6 sill plates.

We put a 2x6 pressure-treated sill over the foundation bolts and tighten the nuts down. A second untreated 2x6 is nailed down, with the ply strips applied as needed. The center beam(s) is set on 6- to 8-foot adjustable screw jacks roughly at the proper height.

We then set rim joists and joists, nailing them right to the top 2x6 sill. The deck is plyed. Once the edges are straightened, trimmed, and nailed, we have one guy cut studs, one make headers, one lay out wall plates, and a couple measure from the top of the ply to our reference line and shim between the two 2x6 plates as necessary, using flatbars to lift and separate.

We put strings on furring blocks at several points running front to rear to level the center beam. If the beam is

steel, LVL, or built up from KD stock, we make it level. If it's built-up green material, we leave it 1/4 inch to 3/8 inch high. The whole process takes 30 minutes to an hour.

I've seen (and tried) shimming between the foundation and the pressure-treated 2x6. This seems silly — I want that plate to squash the sill seal for good insulation.

Computer Advice

To the Editor:

As a consultant and sales rep for construction software, I found the computer article, "Making Computers Earn Their Keep: Four Case Studies" (7/91), to be very interesting and informative, and I applaud your efforts to shed light on this often murky area of the business of building.

I would like to add several comments of my own:

First, of the four case studies featured, the one contractor using an integrated system will probably achieve the higher profits with the least effort. That kind of power makes for more effective management and efficient use of time.

Second, software should be chosen first (before hardware) because the program is what the user really interacts with and what determines the system's ease of use and level of sophistication.

Third, in all cases, the desk surfaces looked cluttered with computer equipment. Get the computer off the desk! The CPU will work just fine on the floor, mounted on its side. The keyboard can slide in and out of the way, mounted on a drawer under the desk, and the monitor can be mounted above the desk surface at eye level. This frees up the desktop for plans and paperwork, helps reduce neck and backache, and promotes accuracy in data entry.

Fourth, spend the resources (time and money) to get expert assistance. This kind of investment will ease the pain of this difficult transition and will reward the business many times over.

Henry B. Miner
Oakland, Calif.

Better Brick Ties

To the Editor:

There are better brick ties on the market than those mentioned in the article "Brick Veneer and Steel Studs: Performance Questions" (4/91). For more information you can contact Dietrich Industries Inc. (800/873-2443). They are the leading steel framing specialists.

Art Schmidt
Green Bay Builders Supply
Green Bay, Wis.

Framer/Floor Installer Tip

To the Editor:

Here's a framer/floor installer tip to save your knees. Pick up some high-grade carpet foam and hot glue it to the inside of your work pants at knee/shin level. This is much more comfortable and cheaper than knee pads. And you can't lose them.

William K. Reagan
Reagan Construction
Oak Bluffs, Mass.

Keep 'em coming... We welcome letters, but they must be signed and include the writer's address. *The Journal of Light Construction* reserves the right to edit for grammar, length, and clarity. Mail letters to *JLC*, RR#2, Box 146, Richmond, VT 05477.