Letters

Battling Experts?

To the Editor:

The article "Building Airtight Homes" by Steve Lentz (2/02) recommended putting vapor barriers on both sides of a wall assembly. In the same issue (*On the House*), Joe Lstiburek responded to an interesting question about vapor barriers by saying that installing a vapor barrier on both sides is never a good idea in any climate. What is a reader to think? Is this a case of battling experts?

From my own experience I tend to agree with Lstiburek. However, I live on the Oregon coast, where 100 inches of yearly rainfall and high winds mean that water sometimes gets into wall assemblies in any number of ways despite our best efforts.

Jay Raskin, AIA
Cannon Beach, Ore.

Steve Lentz responds: I install foam (a vapor barrier) on the exterior of my homes and an air-vapor barrier on the inside of my walls. Most vapor barriers are not good air barriers against wind pressure, but certain air barriers are very good vapor barriers. A vapor barrier on one side and an air barrier on the other will not cause a problem as long as the exterior of the wall is flashed and constructed properly with a good drainage plane (per Joe Lstiburek). In that case, you should not get water into the wall cavity from the outside. If water is indeed entering the wall cavity from the outside, you've got a leak that has to be fixed.

If you install a sealed, continuous high-quality air barrier, tested with a blower door to confirm its airtightness, then water vapor (a gas) cannot enter the cold wall cavity and condense (turn to liquid or ice) in great enough quantities to create a problem. A good air barrier will stop even wind-driven water vapor from getting into the wall cavity as long as it is capable of stopping air infiltration and exfiltration.

I began using these details in 1984. Since then, I have opened numerous wall assemblies in my customers' homes while adding on or remodeling and have not seen any evidence of moisture or mold. I even opened the dense-packed, air-sealed cathedral ceiling in my own home to prove the point.

One word of caution: If you install a vapor barrier on both sides of the wall with no regard to stopping air infiltration or exfiltration, you can create a monster. However, it takes only care and attention to detail to install a good air barrier. My air leakage rates are around .18 cfm per square foot of floor area, 0.08 cfm per 50 square feet of surface area, and .4 to .6 air changes per hour at 50 pascals.

This is not rocket science. Builders who care about their customers and the quality of their homes can build homes that are safe, comfortable, durable, affordable, and energy efficient — if they want to!

Joe Lstiburek responds: Mr. Lentz does not have a problem because he seals the air barrier well and limits the interior moisture levels with an HRV. His workmanship is impeccable.

However, just because something is possible doesn't mean it makes sense. Installing a double-sided vapor barrier is not a prudent thing to do in any climate — despite being able to get away with it if the building assembly is built dry and water never gets into the assembly because the workmanship is perfect.

In my experience, things often start out wet, and workmanship is rarely perfect. There are not enough Steve Lentzes around building quality buildings. Buildings are more likely to be built by Red Green.

Blower Door Confusion

To the Editor:

In the article "Building Airtight Homes" (2/02), Steve Lentz states that his homes have a natural air change rate of .48 to 1. Here in Iowa, they require a natural air change rate

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Letters

of .35 or below. Mechanical ventilation is recommended below .31. I blew a .19 a year ago on a brick veneer ranch with 1-inch polyethylene sheathing and no interior vapor barrier. This year I blew .19 on another brick ranch with the same construction, but with an interior vapor barrier. I was told I would need to add some mechanical ventilation.

Mr. Lentz describes a fairly elaborate procedure to make the home airtight. I just wrap the interior (in the first case this wasn't even done) and don't mess with any taped joints, band-joist wrap, or taping of electrical boxes and plumbing penetrations. Given this, I'm blowing a .19 and he's blowing a .48. What gives?

Mike McConkey
Dexter, Iowa

Don Jackson responds: Part of your confusion stems from a mistake in the article's opening paragraph. Steve Lentz's homes have an infiltration rate of .48 ach when measured with a blower door at 50 pascals (ach50), not a natural rate of .48 as the article stated. An old rule of thumb used to relate infiltration at ach50 to natural leakage rates says to divide by 20. Steve's natural rate would be suffocatingly low, which is why he always uses mechanical ventilation. Chances are that the .19 rate on your brick ranches had been converted by your blower door technician from ach50 to a natural leakage rate, to better relate to the code-required ventilation rate of .35 ach. Your blower door rating at 50 pascals pressure difference would probably have been closer to 3.8.

Cash Accounting Advantage

To the Editor:

Accounting was never my strong point, so it's no surprise that the "Tax Talk column" ("IRS Surrenders to Contractors," *Notebook*, 3/02) confounded me. Still, I hope someone can explain why accrual accounting leads to higher taxable income. If all that's happening is that I'm including some income in the tax year before I actually receive it, isn't the same thing happening the following year? Aren't you basically shifting your

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Don Jackson
JLC Editor

accounting forward by whatever the normal lag time is between billing and receiving payment? The only time I can see where your tax bite would be significantly increased would be the first year you file taxes for that business. Please let me know what I am missing here.

Dan Kolbert
Kolbert Building & Renovations
Portland, Maine

Chris Morse responds: You're right. All you achieve with cash accounting is a deferral of taxable income. But you hinted at the true benefit in the next-to-last sentence — with accrual accounting, "your tax bite would be significantly increased [for] the first year you file taxes." If your business grows (or even if it stays stagnant), your receivables and payables will always be growing (or at least staying the same). Thus, with cash accounting, you postpone at least that amount of income every year for the entire duration of your business. If that happens to be more than 10 or 12 years, the present value of the taxes you pay at the end of that period is next to nothing. So what you've really achieved is almost permanent postponement of those taxes!

Controlling Woodshop Noise

To the Editor:

The article "Successful Sound Control" (4/02) offers a good economical approach, but to only part of the problem. The people in the office are in peace, but the carpenters are all deaf. They need to reduce the sound at the source. The shop looks like an echo chamber — lots of hard surfaces facing each other, ideal for amplifying those machine noises. Opposing surfaces create standing waves, which will amplify and sustain well above the other frequencies. These standing waves are capable of penetrating the economical sound wall featured in the article.

Thick rubber mats fastened to the walls and floor (similar to the type used in weight rooms at a gym) will reduce the reflective noise. The sawdust can be easily cleaned off of these type of surfaces. Sound baffles, or sound-absorbing panels, can be hung strategically from the ceiling — a common practice at large manufacturing facilities.

We carpenters need a little peace, too.

Matt Macarewich, GC
Capistrano Beach, Calif.

Not So Crazy After All

To the Editor:

In response to "Cross-Threaded Between the Ears" (*Notebook*, 4/02), putting a reducer and drain valve into a cleanout wye has a perfectly sound basis. When the building drain is blocked downstream and a few feet — or perhaps a few stories — of head pressure has built up on the other side of that cap, you want a safe and controlled way to release it before unscrewing the cap. A gate or full-port valve works best.

Vincent Kuntz, Owner
Alliance Builders
Buffalo, N.Y.

The Hole Story

To the Editor:

The response to the question about drilling holes in the web of I-joists (*On the House*, 4/02) states that a hole can be drilled anywhere in the web of a BCI joist as long as it is at least two hole diameters from any other hole. The answer concludes that "a 1-inch hole needs to be at least 2 inches away from any other hole." True, but possibly misleading.

Wouldn't the diameter of the larger hole be the controlling factor? If you have an existing 4-inch hole, it's not likely to move over to make room for a hole you propose to drill. Therefore, a new 1-inch hole would have to be at least 8 inches away from an existing 4-inch hole. Presumably, that dimension is edge to edge, rather than center to center.

Anyone planning on drilling an I-joist would be well advised to consult with the manufacturer of the particular joist in question.

Mike Freedman
General Contractor
via e-mail

Thanks for the clarification. You're exactly right — the distance is measured edge to edge.

— The Editor

Markup Money on the Table

To the Editor:

In the article "A Simple Time & Materials Contract" (11/01), the author mentions that he does not mark up his materials, that he allows his customers to supply their own materials, and that he charges $40 per hour for his time, $21 for a carpenter, and $10 for a helper. These labor rates supposedly include administrative costs and any pickup and delivery time the company incurs dealing with the materials.

I think the author is leaving money on the table. Surely any remodeling business needs some kind of a markup on materials and subcontractors. Many in the industry suggest 50% as the minimum markup.

Paul Winans
Winans Construction
Oakland, Calif.

KEEP 'EM COMING!

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