Letters

A Vote for Double Top Plates

I loved David Joyce's article "Building a High-Performance Shell" (5/10). I am a big fan of advanced framing techniques and learned a thing or two from his article. But when it comes to using single top plates, it seems that the extra studs needed to carry small point loads from upstairs would cause you to wind up with as much lumber in the wall structure as if you had just doubled the top plate. The doubled plate also provides significant strength to the wall, while the extra studs only increase thermal bridging. And using a double top plate saves the labor of site-cutting all those studs.

Bruce Donelson
A Better Builder
Selma, Ore.

Flush Framing With Steel

I have flush-framed with steel many times, so the article "Replacing a Wood Beam With Steel" (*On the Job,* 4/10) held particular interest for me. On a job we just completed, we had a similar situation — 2x8 floor joists, but the ceiling was continuous through the entire first floor. We used two pieces of MC7x19.1 C-channel drilled with matching holes, packed with 2x8s, and bolted back to back. This assembly is more costly but allowed us to forgo packing down the ceiling.

Pete Haggerty
Canton, Conn.

Careful With Long Beams

After reading "Replacing a Wood Beam with Steel" (*On the Job,* 4/10), I wish to offer some cautions.

First, long beams can have problems with sagging. Beyond a certain length the designer must give a beam's stiffness more consideration than its strength. In general, beams with a length of more than about 20 times their depth begin to sag or bounce more than most people prefer. The beam described in the article has a length of about 32 times its depth.

Second, running members continuously over center supports reduces deflection for a given span. For instance, assuming the same materials and loading, 20-foot floor joists running over a dropped beam at center-span will sag only about 40 percent as much as 10-foot joists framing into a flush beam.

Finally, be careful when using any "prescriptive" design table: It limits you to the precise conditions the table was developed for. Often, these design conditions do not match the reality in the field.

Thor Matteson, S.E.
Mariposa, Calif.

Undersized Beam?

According to my calculations, the steel beam used in "Replacing a Wood Beam With Steel" (*On the Job,* 4/10) is inadequate. For a 22-foot span supporting a live load of 40 pounds per square foot with an allowable deflection of L/360, the tributary width could be only 7.6 feet. The photographs show a wider load area. Also, even if the tributary width were only 7.6 feet, the moment for a total load of 50 pounds per square foot would be 23 kips, which exceeds the allowable moment for the W8x21. The fact that two LVLs were added to the steel doesn't help — loadings for 7¼-inch LVLs are not even listed in the manufacturer's tables for 22-foot lengths.

Larry Shaper
Domus Inc.
Etna, N.H.

Pocket Screws in MDF

I enjoyed Jesse Wright's article on using pocket screws for wainscoting (*Toolbox,* 4/10). I haven't had the same problem that Jesse seems to have had with pocket screws not holding well in MDF. I've installed thousands of feet of MDF wainscoting and full-height wall paneling, much of it with a stain-grade veneer. Not only do pocket screws work well in MDF, but they work better than anything else I've tried, especially corrugated fasteners. Corrugated fasteners don't secure the materials perfectly flush; you always have to sand the joints,

KEEP 'EM COMING!

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especially if you're shooting the pieces together on the floor and not on a perfectly flat workbench with hold-down clamps. I know this from experience. I've had to fill and sand stile-to-rail joints that weren't flush, which takes time. Sometimes those joints flash after the painters are finished, which is a bigger bummer.

With stain-grade veneers, of course, you can't fill, and if you sand too much, you may sand through the veneer. The joints have to be dead-on flush. With pocket screws, there's no sanding — or at most, very little. The screws go into the MDF at an angle, not straight into the end grain. That's probably why we've never had a problem.

Gary Katz
Tarzana, Calif.

The Real World

I enjoyed Joe Cracco's article "Built-Out Trim for Exterior Foam" (4/10). I learned a couple of things and saw some different ways of doing things I'd been doing for years. I plan to try some of his techniques. I really liked the detailed illustration and the sequence photos. But I particularly liked the realism with which he ended the article. My experience has taught me that it is a rare project that doesn't have some unhappy and unplanned consequences. I was glad to see someone else mention those realities.

Bill Spievak
Saginaw, Mich.

Shades of Green

Where is it written that a green-built house must be small? Monthly energy bills determine a home's carbon footprint, not its size. In fact, a 10,000-square-foot house with zero energy bills is far greener than a 1,500-square-foot energy hog.

I would argue that a large home built with no wood, using concrete, steel, and polystyrene (a petrochemical product) is far greener than a smaller home built with wood. This is because the concrete house can last for 300 years with no maintenance, while the "earth-friendly" wood house is subject to mold, mildew, rot, and termite and fire damage (despite being recycled, reclaimed, salvaged, or sustainably grown FSC-certified).

The periodic replacement of an inferior building material, such as wood, is far more wasteful to our natural resources than a concrete house built to last. Durability trumps embodied energy.

Putting aside dueling theories and opposing agendas, there is one thing on which all building-science experts agree: To save money every time, place resources into the exterior building shell envelope, not into mechanicals or renewables.

Lee Hitchcox
San Rafael, Calif.

Avoid Old-Growth Lumber

I was dismayed at the article "Masterful Columns" (*Backfill,* 5/10). While it's nice to know that the ability to turn trees into masts and spars for historic ships still exists in this country, using these red cedar trees for a high-end private home is unnecessary. There is no sustainable harvest of old-growth red cedar. Plus, shipping the trees across the country involves a considerable amount of embodied energy.

When a new home is designed, there is no reason not to use alternatives to environmentally limited resources. I am currently having my home re-sided and chose to use fiber cement rather than the original red cedar shingles, even though I consider my home historic. The earth is not going to recover from its environmental tailspin unless we all start using natural resources more wisely.

Dan Chase
Cape Elizabeth, Maine