Dealing With Band Joists

Don't let them sabotage your thermal shell.

Most systems for maintaining a continuous air/vapor barrier in single-wall construction get fouled up around band joists and floor overhangs. There are several solutions to this problem. Some use blocking and caulking; others avoid this by simple modifications in the framing. More than once, I've talked to builders half way through a project, vapor barrier started, and still unsure what to do at this juncture—not a good way to proceed.

Caulking and blocking

A frequent problem is the transition from first to second floor in single-wall 2x6 construction. There are many ways to approach this. The one that changes normal procedures the least is the cut-and-paste method, in which blocks of rigid insulation (or Thermoply, or plywood) are inserted between the joists—much like solid bridging. The least painful way to do this, I think, is to nail scrap "one-by" stops up to the underside of the subfloor and push the blocks against these into a bed of caulk (Figure 1). The bottoms of the blocks rest against the upper top plate and each block is caulked all the way around. The vapor barrier can be caulked either directly to the rigid insulation or below it to the upper top plate.

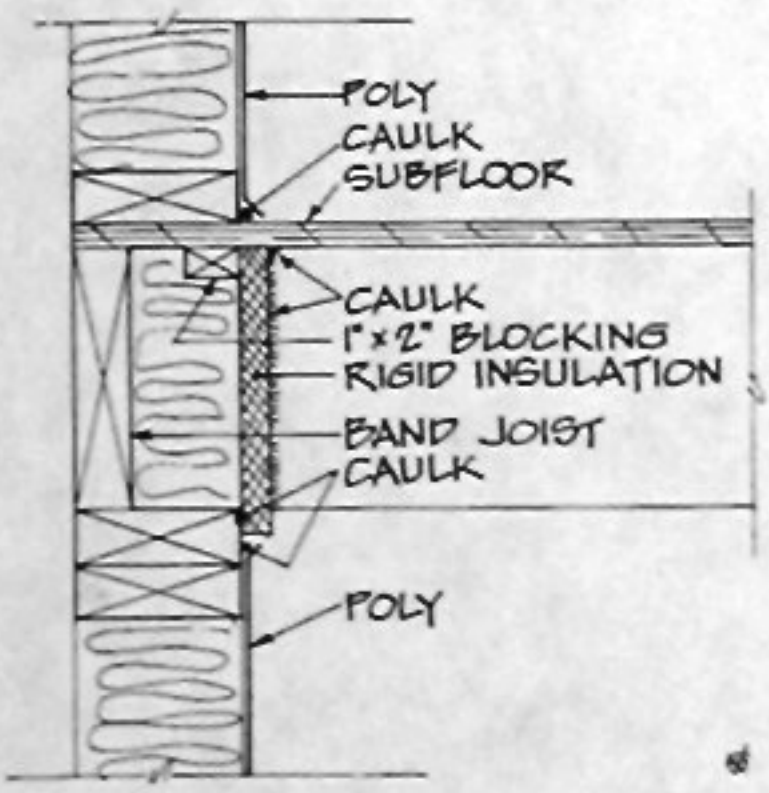

Figure 1. The caulk-and-block method is effective but time-consuming. Compressible, pre-cut foam blocks (Sentinel's Sill Band Sealers, *Solar Age*, 1/84) can speed this up.

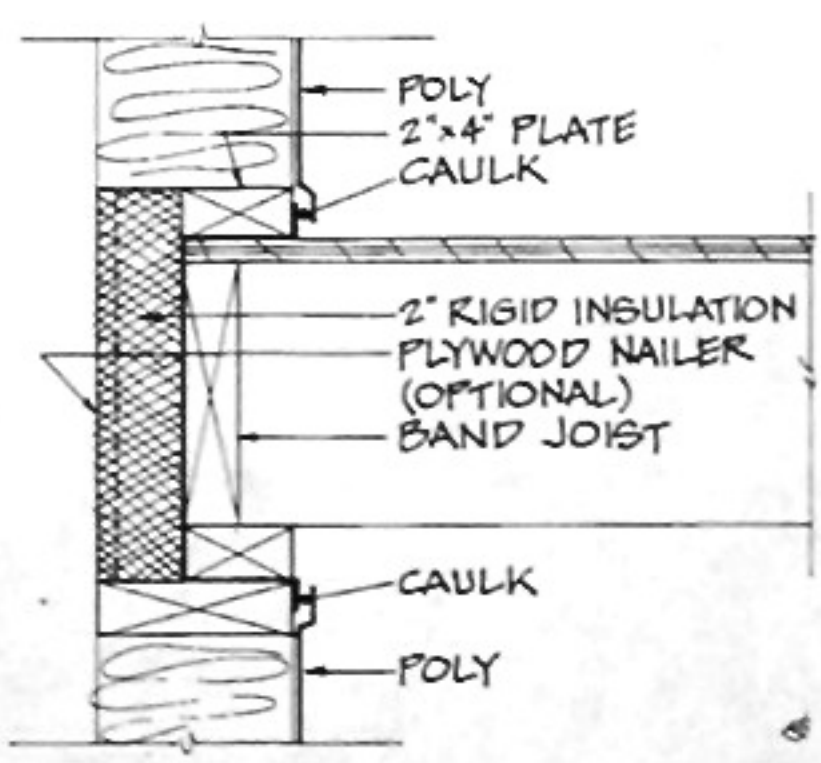

Figure 2. Offsetting the band joist permits the air/vapor barrier to be routed behind it while remaining on the warm side of the insulation.

If you can't stand to nail all these stops under the subfloor, try this: before laying the second-floor decking, cut an inch-deep line down the top edge of the joists, even with the blocking, and drop in the cheapest piece of angle stock (drywall corner bead?) you can find. Use this as a stop against which to caulk the friction-fit blocks.

On the floor above, caulk the air/vapor barrier to the subfloor. In this detail, the subfloor itself maintains continuity in the air/vapor barrier. The main objective with the air/vapor barrier is to block air leakage into wall cavities or to the outside. The plywood will take care of this with one minor exception, at the joints between the plywood sheets where they cross the top plate below. A dab of caulk here will do the trick.

A better way

If all this sounds terrible enough, you might be motivated to try something a little less conventional—but, in the long run,

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