



Insulation Squeeze

by Henry Spies

Q. *I'm building a cathedral ceiling with 2x12 rafters. I plan to use air channels under the sheathing, reducing the rafter cavities to about 10 inches. Should I use a 10-inch fiberglass batt or compress a 12-inch batt into the space to get the maximum R-value?*

A. Although the fiberglass batt is de-rated slightly for the compression, the compressed 12-inch batt probably will give a little more R-value than the standard 10-inch batt. The amount of compression is small in this instance, and the slight compression probably will provide a tighter fit to reduce air movement. However, the cost per square foot per R-value will be slightly higher because of the increased cost of the 12-inch batt. More extreme compression, such as a 12-inch batt in a six-inch wall, might actually have a lower R-value than a six-inch batt.

Metal-Roof Corrosion

Q. *I would like to use metal roofing (galvanized metal, aluminum or copper) over rafters made of pressure-treated wood. Are there likely to be any corrosion problems?*

A. You do not state what type of pressure treatment is involved. If the lumber was treated with chromated copper arsenic (CCA), there should be no problem. If it was treated with ammoniacal copper arsenate (ACA), which is unlikely on the East Coast, I am not as certain.

The new fire-retardant treatments for exterior exposure are no more corrosive than untreated lumber at 95 percent relative humidity. This would include Koppers "Non-Corn X" and Hoover "Fire-X" treatments. The new interior-treatment chemicals—which include Koppers "Dri-con," Hoover "Pro-Tex," and Osmose "Flameproof LHC"—are similarly safe, but older interior treatments may be corrosive. The only one that I know is still being manufactured is Osmose Flameproof. There may be others, and some companies may have some old stock on hand.

Again, corrosion tests for these products were performed at 95 percent relative humidity. I know of no published test results regarding corrosion in the presence of water.

Weird Nailing Method

Q. *Could you comment on the weird (to me) instructions for installing clapboards that are now appearing on the bundle wrappers? These say to never nail through the butt of the clapboard into the top of the board beneath, but to nail higher so the nail does not hit the board below. How do you avoid splitting when nailing through the face board into the*

hollow behind, and why do it at all? Is this some West Coast (where the clapboards are made) detail? Have I—and 200 to 300 years of carpenters in New England—been installing clapboards incorrectly?

A. Yup. However, the quality of the clapboards that those carpenters used saved them. The reason for putting only one nail into each clapboard at each stud is to permit the wood to move, particularly shrink, without splitting. The clapboards that we used to install had a moisture content in the range of 12 percent and there was not much expansion and contraction with weather changes. Now, much of the cedar siding is dried barely to the 19 percent standard, and a lot coming from Canada is not dried at all.

If two nails are used in each board, the board will split when it shrinks—either down the middle or at the top edge. If carpenters do not have a good-enough touch with their hammers to set a nail without splitting the board, they should have been plumbers. ■

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