Letters

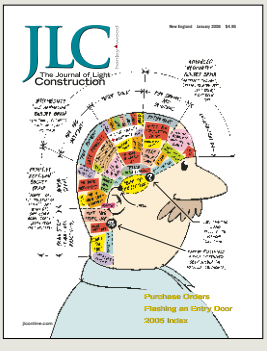
The Case of the Missing Beam

Regarding the letter "Who Pays?" (11/05), Mr. Matteson may be a fine engineer, but he's a rotten attorney. If he designs a "simple carport and [his] plans don't show a beam that is needed," he should not pay for that beam; the homeowner should.

If the beam was always needed, if the carport couldn't be built without it, then the beam itself was always necessary, whether drawn or not. Thus the owner was always going to have to buy a beam in that location. We call this sort of thing "betterment" and the owner does not get a "better" building than that which was bargained for. (The owner wanted a carport that would stand up, I presume.)

However, Mr. Matteson is very likely on the hook for the added costs to install the beam and redraw and resubmit the plans, and for any changes or delays caused by his mistake.

Jeffrey Price
Attorney at Law
Gainesville, Fla.



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Dealing With Complexity

I realize we live in an age when stepping forward and taking responsibility is increasingly rare, but Thor Matteson's letter really pushes the envelope.

After stating that the meaning of "standard of care" can be the source of a huge argument, he casually asserts that it is "easy to overlook a beam" in "complicated designs." If there's an argument in order, I'd say it's over exactly what Matteson means by "complicated." I thought engineers went to school precisely to be able to deal with complexity. That's their job.

Arne Waldstein
Housatonic, Mass.

Thinner Sheathing Could Cause Nail Pops

There is another possible answer to the question about nail pops in shingles in the South (*Q&A*, 10/05). As a former Midwesterner, I know that the thickness of roof sheathing there is dictated by snow loads. Here in the South, however, the effects of weather are neglected, I believe, and the thinnest possible sheathing is used, which reduces the holding power of roofing nails.

For example, I have 3/8-inch sheathing on my own house. I am leery of being on the roof; the plywood begins to "crackle" at the smallest amount of weight, and if I step between the trusses I feel like I am going through.

The situation is made worse because the Southern heat can dry out the plywood and cause premature delamination.

Raymond Bruntmyer, RLA (Retired)
Arlington, Texas

Strength of OSB vs. Plywood

In the response regarding OSB vs. plywood I-joists (*Q&A*, 10/05), Paul Fisette states that "OSB has interlocking fibers that transfer shear loads better than plywood does." This is not quite true, because OSB is not made by actually weaving the fibers of the wood flakes together such that they interlock. Rather, the "mat" of flakes is made by laying the flakes out, both laterally and on top of one another, and pressing the entire mass into place in the presence of the resin that holds everything together. The fibers throughout the OSB sheet are in different orientations, but they are not interlocking, which can easily be seen by looking at any piece of OSB.

While it may be true that the shear strength of OSB is greater than plywood's, this isn't due to fibers interlocking, because neither OSB nor plywood have interlocking wood fibers.

Tom Kadesch
Damascus, Md.

Paul Fisette responds: It's correct that the strands in OSB are aligned. However, as the mat is pressed, the strands do not form nicely arranged separate layers. OSB is made of many — often about 50 — layers of strands. Even with the

best attempts at strand alignment, there are many discontinuities of wood grain throughout.

Plywood typically has three, four, or five veneer layers and has definite planes of failure along the glue lines. Shear failure occurs along these "continuous" planes of weakness. OSB does not have such continuous planes, because the strands are not perfectly aligned; thus they exhibit greater "crack arrest" behavior. One weak strand may have small localized failure, or "micro-failure," but the group of strands around the weak one tends to stop the progress of cracks.

Need Adequate Air for Spraying Finishes

Having spent a number of years in the automobile body repair and refinishing industry before entering the rental property rehab/remodeling field, I was especially interested in Randal Weber's article "Spraying Clear Waterborne Lacquer" (10/05). The article makes some good points, but I disagree with the caption that says "any compressor capable of delivering 80 psi is adequate for painting."

The actual volume of air supplied, or flow rate, must also be considered. The compressor must be capable of delivering the required pressure, measured at the gun inlet, while air is flowing, with the gun in use. Although the compressor shown in the illustration appears to be of adequate size, many smaller portable compressors are not. They might deliver 100 psi, but can't maintain that pressure if there is any significant amount of air actually flowing.

The inside diameter and length of the air hose also affect available air pressure and volume at the gun inlet. Generally, a 3/8-inch ID hose is adequate, while a 5/16-inch hose may be marginal for higher flow rates or longer runs. Air-hose length should be kept as short as practical to reduce pressure losses. The pressure and air-flow requirements of the particular spray equipment in use must be considered when choosing both the compressor and the air hose.

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