

# Better Building Techniques

by Henri de Marne



A letter I received from a contractor attempts to make a case against drywall clips in two-stud corners, against 2x6 framing 24 inches on center, and against the use of joist hangers. Some builders find it difficult to accept or even consider newer building technology.

## Floating Corners

A conventional three-stud corner, with the third stud nailed flat to provide nailing for drywall, does not provide adequate insulation. A 3½- or 5½-inch-thick fiberglass batt squeezed into a two- or four-inch space, respectively, reduces its R-value considerably.

An alternative corner detail, which I wrote about last April, uses backup clips to hold the drywall instead of a third corner stud or grounds on top of partitions. The skeptics claim that this detail creates "floating corners." This is another old tale that has not passed the test of time.

But, before going further, let's define "floating corner." The term, as used by some builders, is intended to be negative and mean that there is vertical or lateral movement at the corner, causing it to separate.

A better definition, however, would be that the drywall is not fastened to any backup within 12 inches (or more, for thicker drywall) of any corner. This allows for the cyclical, seasonal movement of the structure—the rising and falling of trusses—without the corner tape breaking or being pulled from one or both surfaces. Floating corners are recommended by U.S. Gypsum and the National Association of Home Builders Research Foundation, and neither shoots from the hip.

I have used Teco steel backup clips on all my jobs for years and have never had a callback due to them. My own house was built this way seven years ago, and has had no problems in any area where backup clips were used.

The contention that steel and wood must be used together carefully, since wood shrinks and steel doesn't, is true enough. But generalizations are often wrong. If backup clips are properly fastened to studs or plates to catch drywall, they will follow the wood as it shrinks, and thus compensate for the movement.

Floating corners, in the negative sense, are not caused by correctly installed backup clips, but by other structural problems. As properly defined, floating corners are desirable because they prevent potential problems. That's why manufacturers and authorities recommend them.

## Hanging Joists

I also take exception to the belief, based on similar reasons, that ledger boards are better than steel joist hangers. I have seen poorly nailed floor joists settle because the ledger boards shrank. On the other hand, I have seen properly toenailed floor

joists stay put even though the ledger board shrank away from them so that the ledger board was useless.

Recently, I was brought in as a consultant to determine why there was a pronounced hump in the floor of a large bedroom. As it turned out, the floor joists were cantilevered out over the lower wall. The weight of the roof and outside wall had caused them to pivot—dropping outside and rising inside. A ledger board had been used at the center beam to help support the floor joists. The joists had been end-nailed to the beam before its second member was spiked to the first.

The pivoting action had caused several reactions: the joists had kicked up inside because of improper nailing, and the beam had humped up in the middle of the room because it was undersized. The joists had risen up above the ledger board, which was, of course, useless under the circumstances.

Steel joist hangers, however, would have worked, if properly nailed.

The solution was to strengthen the beam, chop its top off to level it, realign the joists, and install inverted joist hangers. Steel fasteners, in this case, reinforce weak joints and enable a lousy detail to work.

## Fat Walls vs. Thin

The contractor's letter argues against the use of 2x6s, 24 inches on center, versus the old standard of 2x4s, 16 inches o.c. Time-material studies have demonstrated that 2x6s, 24 inches o.c., cost less. In addition, the 2x6 system permits thicker insu-



**The problems this contractor is seeing in homes built since the mid-'60s are due not to new technology, but to poor workmanship.**



lation and more insulation surface area (i.e., fewer studs per wall). This gives a distinct advantage in colder climates.

There also is a contradiction in the letter. The builder says that both framing systems use about the same amount of material, yet mentions the difficulty of raising the 6x6 walls because of their weight. Why do they weigh more if there is the same amount of wood in them? It sounds as if it's a poor excuse for a rest period.

Regarding the materials, building researchers have shown that double top plates and two-inch-thick sole plates (or shoes) are unnecessary when framing is planned to be in-line

from bottom to top. This means further savings in material and labor.

It is unfair to blame the problems in homes built in the mid-1960s on modern building technology. The systems I am discussing here were not used in residential construction until the mid- to late '70s. The problems this contractor is seeing in homes built since the mid-'60s are due not to new technology, but to poor workmanship.

I have been in construction for 30 years and remember well the difficulty we had finding qualified carpenters in the mid-'60s. During that time of explosive growth, any warm body with a hammer and saw was hired at or near top wages. There was no choice.

Poorly trained carpenters, masons, drywallers, tile setters, roofers, and painters can screw up the best of materials and create problems down the line. I see this daily and it can't, in all fairness, be blamed on modern building technology or materials.

Let's all try to keep an open mind, and not use the security of old methods and materials as an excuse for not giving new technology a fair shake. ■