



Three-Stud Corner Framing

Decisions that are made while framing the house can affect the new homeowners in unexpected ways. For instance, how you frame an exterior corner will affect how well the house is insulated -- and that can affect moisture and mold.

Most carpenters use a four-stud corner where the two exterior walls come together. But that can create an air pocket between the studs and the plywood sheathing that's sealed off. So the corner winds up without any insulation, and that's a practice to avoid. You'd probably never dream of leaving the insulation out of a stud bay, but that's what can happen with a four-stud corner. Also, the corner is where exterior sheathing comes together, and it is best to have that corner insulated with something better than wood.



The uninsulated four-stud corner can create short-term and long-term problems. In the short term, you get a pocket of air right next to the drywall, creating a hot spot in the summer and a cold spot in the winter. Air leakage can increase the heating and cooling costs. But the long-term effects can be much more important. When humidity from the bathroom, dishwasher and laundry hits that cold spot, condensation forms. Over time, that can cause the 2" x 4"s and the drywall to rot. In extreme conditions, the condensation causes dangerous mold.

Is there a better way to frame an exterior corner?

With a few small changes, we can get some insulation back in the corner where the two walls meet, which should eliminate condensation and the problems that come with it. And as a bonus, we'll save some lumber.

The "best practice" for framing an exterior corner is a three-stud corner. It provides the necessary structural support and gives you a nailing surface for both interior and exterior finishes.

Here's how you do it.

- With the framed exterior wall built on the floor of the house, attach one stud as the end of the wall. The second stud is attached at a right angle to the former stud on the interior side of the wall. The two studs form an "I" shape.
- On the adjoining wall, which is 3-1/2" shorter than the foundation on that side, cap the wall with one stud.
- When the walls are stood up, the "I" shaped studs butt up against the other wall. When nailed together, there are 3 studs that make up this corner.

The three-stud corner is an improvement. It lets us get insulation back into that corner so we can eliminate the condensation problems. We don't sacrifice any stability, and we save on lumber costs in the process.