

Fast, Accurate

Working together, a four-person crew finishes a subfloor in an hour

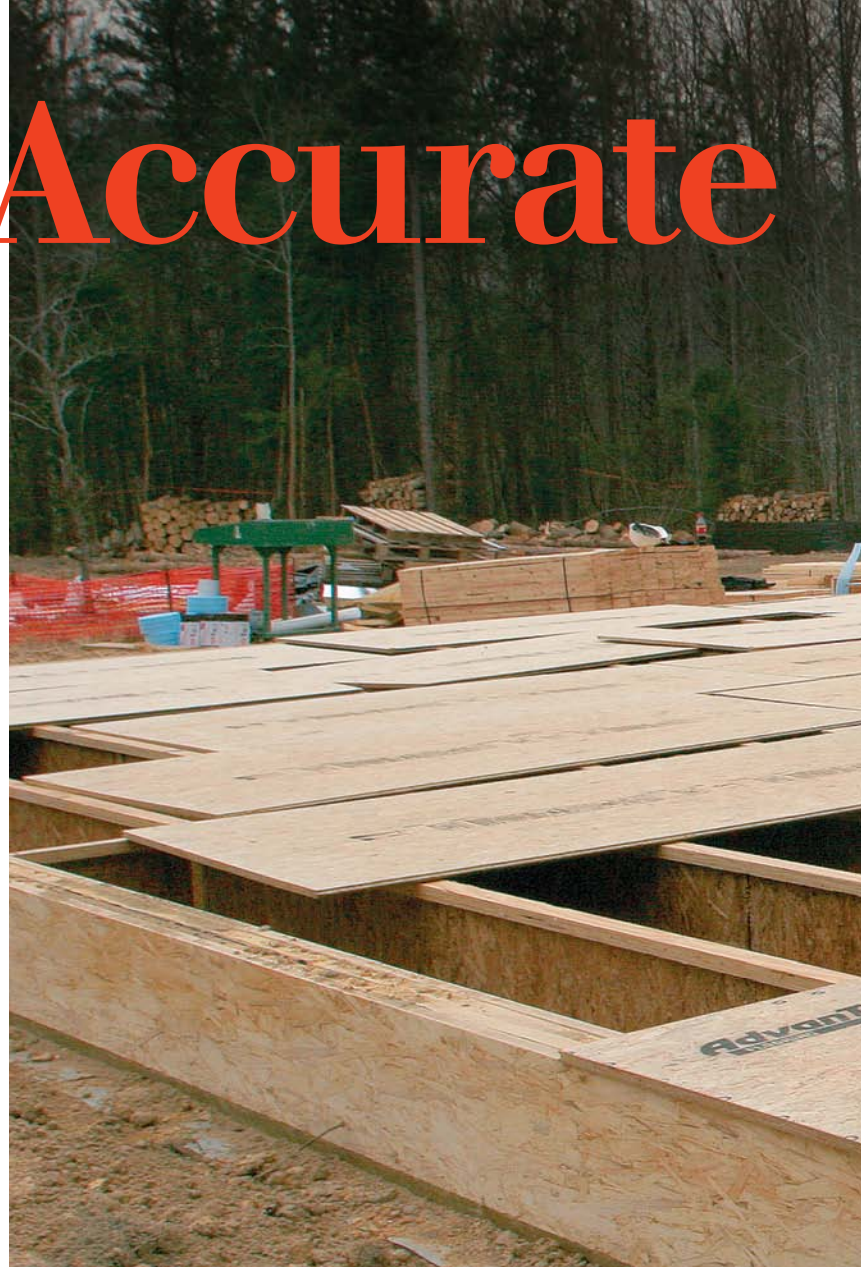
BY DANNY KELLY

As a carpenter turned general contractor, I'm always happy when we start installing the subfloor on the first level of a new house. Floor sheathing means that we can finally stop slogging around in the mud and will soon have a nice level surface for setting up tools and ladders. Sheathing a floor like the 1800-sq.-ft. one shown here can take all day with an inexperienced crew, but the guys I work with were able to bang out this floor in a little under an hour.

On most houses, the longest exterior wall perpendicular to the floor joists is the place to start sheathing a floor. With a four-person crew, two carpenters move and cut panels, and two place and nail the sheets to the joists.

We cut the sheets to length after they've been nailed in place; this is faster and eliminates layout and measuring mistakes. We're careful to cut floor sheathing flush with the band joist. Otherwise, overhanging pieces will prevent the wall sheathing from fitting tight to the band joist. To get the sheets to fall on the center of the floor joists, subtract $\frac{3}{4}$ in. from the first joist cavity. Then the first sheet can start flush with the band joist without any waste.

Danny Kelly of Kelly McArdle Construction is a homebuilder and remodeling contractor in Charlotte, N.C.



HOW TO PUT DOWN A SUBFLOOR FAST

Pick your teams



Two carpenters move panels and make cuts while two position, glue, and nail the sheets. While one sheet is being nailed, another is dragged into place.

Line it up



Line up the edge of one sheet with the previous sheet, making sure that all the tongues and all the grooves are facing the same direction. (The author's crew starts with a tongue toward the outside wall.) Don't drag the panels through the adhesive.

Let it go



Drop the panel onto the joists as close to its final position as possible; otherwise, you'll mess up the subfloor adhesive when you slide the panel into place. It doesn't matter whether you drop the tongue or the groove edge.

Floor Sheathing



LAY DOWN A WORKSURFACE

It's too dangerous to walk on the tops of joists while sheathing a subfloor, so create a worksurface by covering the floor joists with as many sheets of tongue-and-groove sheathing as you need to move around safely. Arrange the panels so that all the tongues and all the grooves are oriented consistently. Start with a full sheet on the corner of the longest exterior wall perpendicular to the joists. The next row starts with a half-sheet. One pair of carpenters should keep laying and nailing down full sheets while another pair stocks the floor with full sheets, and cuts and places partial sheets. Alternate full sheets and half-sheets to start each row (photo right) (photo right). Some sheathing has marks indicating common on-center spacings (left).



Tack a corner

One carpenter moves the sheet so that its leading edge is lined up with the adjacent sheet. Then the nail-gun operator tacks the corner with a single nail. He pauses while his teammate moves the other end into position.



Nail it off

With the sheet in position, the nail-gun operator drives a nail or two to lock the sheet in its final position and then nails the rest of the sheet. With an experienced team, positioning and tacking take seconds. Panels overhanging the edge of the band joist will be cut in place later.

RUN WILD! Save time, and eliminate layout and measuring mistakes by cutting odd-shaped panels in place. The first piece in a row will be a full sheet or a half-sheet, but the last piece at the opposite end likely will be an odd-width offcut.



Measure from underneath; snap lines on top. Feed a tape measure under the panel until it hits the band joist. Transfer the measurement to the top of the panel, and snap chalklines to guide a circular saw. Set the blade so that it just cuts through the subfloor and doesn't damage the band joist.



Put off cutting when you can. When possible, save the job of cutting unusually sized panels like the ones around this crawlspace opening until you've finished laying all the sheets. Cutting odd-shaped panels is a good job for less experienced carpenters while the more senior carpenters move on to snapping lines and laying out plates for wall framing.



DOS AND DON'TS



Do use a sledge sparingly. The tongues and grooves on subflooring are designed to gap panels properly, so the panels shouldn't be beaten together except when the tongue has been damaged by rough handling. When that's the case, use a sledgehammer to get the sheets to meet up. A board prevents the hammer face from doing additional damage.



Don't mess up the glue. To prevent smearing the subfloor adhesive, stand the sheet on edge in the proper spot, and let it drop into the glue. A well-timed pull with the ball of your foot can help to keep the panel edge close to the previous row.



Do check the joist spacing. Warped joists don't necessarily line up with on-center spacing, so check the spacing before nailing, then use a hammer to coax joists into the proper position. Subflooring with spacing marks saves time.



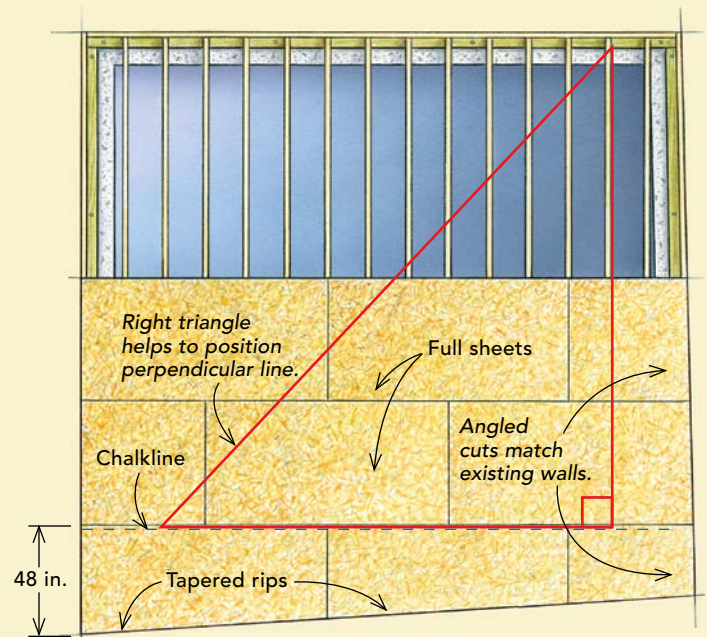
The floor isn't square. Now what?

By Brian McCarthy

My crew and I recently reframed the interior of a 100-year-old brownstone building on Beacon Hill in Boston. The building was so out of square that it was like building in a carnival funhouse. We found that as long as the joists were parallel with one another, installing the subfloor could proceed as normal.

We snapped a line perpendicular to the joists 48 in. from the band joist. The first and last rows were tapered rips, and the first and last pieces in a row were angled. All the field pieces were full, uncut sheets.

—Brian McCarthy is the owner of McCarthy General Contracting in Stow, Mass.



A right triangle is used to create a reference line perpendicular to the floor joists. The line should be 48 in. wide at its widest point to match the panel width.



Don't let the glue dry. Apply only as much glue as can be covered with sheathing quickly. Save time by cutting the plastic nozzles on the glue tubes all at once. (An inner seal keeps the opened tubes from drying.) Water-based adhesives, which are more environmentally friendly, work better than they used to, but solvent-based adhesives are still more forgiving in wet weather.



Do use enough nails. Nail subfloor panels every 12 in. in the field and every 6 in. along panel edges. Keep fasteners $\frac{3}{8}$ in. from panel edges for maximum hold. For $\frac{3}{4}$ -in.-thick sheets, use 8d (2½ in.) common nails or gun nails approved by local code. The author uses ring-shank nails and adds screws once the house is dried in.