Q Should interior doors be installed before or after the finish flooring is installed?

A *Nathan Nebbia, owner of Built Better by Nate, based in Berwick, Maine, responds*: We have installed pre-hung interior door units both ways—before the finish flooring is installed and after. Doing it before is easier for the door installer, but that can lead to problems installing the floor.

When the doors are installed before the flooring, we usually undercut the jambs with a Japanese pull saw, laying the saw on a scrap piece of flooring. This results in an undercut of the jamb with the thickness of the saw blade taken out of it. If the flooring material running through the doorway is all the same height, you're in the clear to make that cut all the way across the jamb. It sounds simple enough to do, but I've seen some pretty sad attempts at it. It gets much harder if there are flooring transitions occurring in the doorway (hardwood transitioning to tile, for example). If the meeting floors are different in height, you have to cut the jamb at one height from one side and make a cut at the other height from the other side. And installing the floor gets tricky because you have to get it underneath the jambs. Using a threshold can help, but that's not always what the architect or owner wants.

When I'm the one who's doing everything, I install the floors first, when nothing is in my way. After that's done, I scribe the door jambs to the floor. This adds some extra steps to the door install, but they are minimal, and it's much easier to define the height of the gap you want under the door. I like to go with a 1/2-inch gap, but sometimes that's not large enough if there will be rugs on the floor. When I know the gap size, I mark it on the jamb below the door on the hinge side **(1)**. Then I pull the hinge pins and detach the door so I can work the jamb.

Often, you need to cut the jamb down in length so the jamb can be stood in the doorway for scribing. I make all jamb cuts using a miter saw on the floor **(2)**. Without the door, the jamb legs will flop around, so I attach a temporary stretcher 12 inches up from the bottom. Note in the photo below I am using a framing square as my stretcher—a fast solution that works for a 2'-0" door.

Before I do any cutting, I find the difference in level on the floor. (I use a laser, as it works with any size opening and helps to align multiple doors where trim runs together). With the hinge side as the high point, I cut the leg, leaving it as long as I can while still allowing the jamb to fit in the rough opening. With the jamb in the RO, and the head checked for level, I set scribes to the mark made on the hinge side **(3)** and scribe both legs before making the final cuts.

When installing the jamb, I always set the head of the jamb flush with the drywall on both sides. If the wall is out of plumb, the legs will be out of alignment with the wall, but that problem is easier to hide with the casings

Photos by Nathan Nebbia

than trying to fix it at the head. We use ball-bearing hinges, and ghost doors result when they are the slightest bit out of plumb.

Once the hinge side is screwed in plumb both ways **(4, 5)**, I add structural screws behind the hinges to take the weight of the door, then I hang the door again **(6)**.

Next, I shut the door to the latch side of the jamb and align the top with the drywall, keeping an even reveal (the gap between the door and the jamb), then shim and screw it **(7)**.

Make sure the door hits against the stops consistently from top to bottom. Once it does, shim and screw the bottom, leaving the proper reveal.

I then shim behind the strike plate until the gap is correct. You might need to shim in some more spots to keep a nice, even reveal all around the door. Just make sure to add a screw to keep all the shims in place. Finally, I shim and screw the head jamb to keep it from sagging **(8, 9)**.

Q Standard-width batts don't fit in I-joist floors or steel-stud walls. How should these be insulated?

A *Nathan Shirai, principal of Insulation Unlimited, based in Chattanooga, Tenn., responds:* I-joists? Steel studs? 19.2-inch framing layout? Fear not! There's a batt for that.

Judging by what's available off the shelf in the big box stores, and even most lumberyards, you can easily get the impression that batt insulation is available only in 15- and 23-inch widths. And before the proliferation of framing products like I-joists, metal studs, and open web trusses, that's all anyone would have needed. Nowadays, we might encounter cavity widths of 10 1/2, 12, 14 1/2, 16, 19, and 22 1/2 inches, sometimes all in the same house. But the insulation manufacturers have adapted to evolutions in framing over the years and now offer batts in many widths for various applications.

We're all familiar with standard 2-by framing on 16- and 24-inch layouts, and the associated 15 1/4- and 23-inch-wide batts that friction fit in cavities of those sizes. Every now and then, you might run into 12-inch layout, and there are 11-inch-wide batts available that prevent the need to rip a 23-inch batt in half.

Floor, ceiling, and roof assemblies using I-joists might pose concern for the conscientious builder who wants a "Grade 1" job (no voids, gaps, or compression) but may not have the budget for anything more than the humble fiberglass batt. There's no need for concern, though. Batts are available in full 16- and 24-inch widths that fill the additional space created by the narrower OSB web of an I-joist on standard layout—no need to rip down a 23-inch batt for a 16-inch-wide cavity and waste the offcut, or crosscut a regular piece into 16-inch lengths that you then painstakingly cobble into the run sideways to fill the width. Putting a 15 1/4-inch-wide batt between those I-joists is simply not an option because the gap that results will allow air movement beside the batt that can reduce its effectiveness by a staggering degree.

Sometimes, you might see I-joists on 19.2-inch layout (an even division of 96 inches—the length of OSB and plywood panels). There's a batt for that too. Most floor and ceiling batts (R19, R30, R38, etc.) are available in a 19-inch width that fills this cavity perfectly.

A loose-fill approach, such as dense-packed cellulose or fiberglass BIBS (blow-in blanket system), or spray polyurethane foam, will, of course, result in a more perfect fill around the irregular profile where the I-joist chord meets the web that translates into better performance. But when budget constraints eliminate those options, the full 16-, 19-, and 24-inch-wide batts can make for a correct and convenient installation with minimal compromise in performance.

The 16- and 24-inch-wide batts are technically manufactured for metal studs so that the extra inch of width can fill into the C-shaped profile without leaving a gap. It's critical to mention that if you are insulating for thermal control, cavity insulation by itself is almost pointless without an exterior thermal break for steel metal framing. Most metal stud applications are found in commercial projects where sound attenuation, not thermal protection, is the goal.

All in all, fiberglass insulation is available in sizes including 11-, 12-, 15 1/4-, 16-, 19-, 23-, and 24-inch-wide batts. The variety of offerings can vary slightly from manufacturer to manufacturer. For example, not all R-values are available in all widths, and vice-versa. The higher-density batts (R15 as opposed to R13, for example) tend not to have as many options compared with standard-density batts. As an insulation contractor, I am able to order the most commonly used R-values in just about any width required from my distributor, and often help supply small quantities for local builders and remodelers who may have a project too small to justify subcontracting the insulation work.

If you're having trouble finding the size batt you need for an unusual framing cavity in a small project, try reaching out to a local insulation contractor. If you're subcontracting the insulation work, ask your contractor how they plan to handle areas where unusual-size material may be needed, and always insist on a proper "Grade 1" cavity fill.

Use full-width batts for insulating between I joists.

Photo: Steve Easley & Associates