

# Building a Cherry



Easy-to-follow steps for making a strong, elegant door and a weatherproof threshold

BY REX ALEXANDER

**F**inding a company to make a special-order entry door in northern Michigan can be a daunting task. So when a valued client requested a new door, I knew the challenge would be to avoid complicating the process, yet to make a substantial, well-crafted door. The design was to be clean and modern, clear-finished cherry that framed two big lites of frosted safety glass. To add to the design challenge, the client loves the look of concrete and decided to have a cast-concrete door sill, a task ably handled by fellow carpenter Jeff Louwsma (sidebar below).

## For laminated stiles and rails, two kinds of glue work better than one

To create a 1¾-in.-thick door, I planned to laminate the rails and stiles from 5/4 stock and assemble the frame with loose tenons. Working with rough stock cut locally, I planed the cherry to a thickness of 7/8 in. The

door rails were wide enough so that it was easier for me to join and glue narrower stock to get the right size.

Because it has a faster working time, I used waterproof Titebond III ([www.titebond.com](http://www.titebond.com)) to edge-glue the stock. For the face-to-face laminations, I wanted something bullet-proof and went with West System two-part epoxy ([www.westsystem.com](http://www.westsystem.com)), which also has a longer working time.

To make the jamb, I milled 8/4 stock, then ripped its shape on the tablesaw and cleaned up the cuts with a hand scraper and sandpaper. Weatherstripping slid easily into a single sawkerf cut along the stop. I finished the door and jamb with exterior-grade urethane from Minwax ([www.minwax.com](http://www.minwax.com)). □

Rex Alexander is a cabinetmaker and carpenter in the bustling metropolis of Brethren, Mich. Photos this page by Dietrich Floeter.

## A door sill made of concrete?

By Jeff Louwsma

Our client for this project didn't like the look of conventional door sills. She did like the look of the concrete counters in her kitchen, though, so she asked Rex and me if we could make a concrete sill. Although I'd never made a concrete sill before, I wasn't too worried about this job when Rex confirmed that this sill was essentially a stock size. I based the form dimensions

on a standard oak exterior sill. I screwed 1x4 pine together to build the form, which was then screwed down to a level workbench; the screws made it easier to take apart the form when the concrete was cured. I also applied a liberal coating of form release to prevent the concrete from sticking.

After mixing a fairly stiff batch of high-strength concrete (fortified with polypropylene fibers), I filled the form half full and vibrated it with the foot of my reciprocating saw running at slow speed. I then placed the angle-iron reinforcement, filled the rest of the form, and vibrated everything again. Finally, I added the curb form and filled that area. Following an initial screed, I let the concrete sit for about four hours.

After the concrete had set, I removed the curb formboard and used an edging tool to round the nose and curb areas. The sill remained in the form, undisturbed, until the concrete cured fully (from 10 to 14 days).

—Jeff Louwsma is a builder in Beulah, Mich. Photos facing page by Simon Joseph.

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Look for the Magazine Extras section on our home page to see Jeff Louwsma's audio slide show about this door sill.

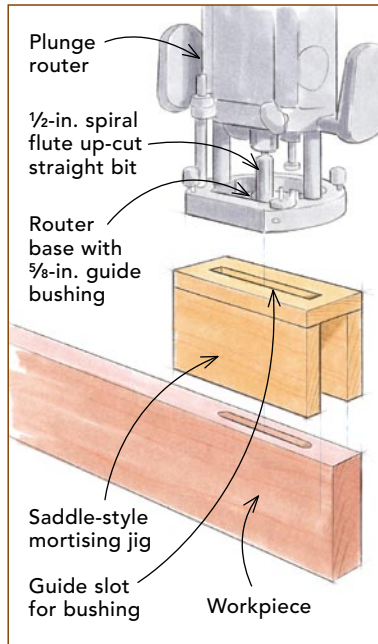
# Entry Door

## LAMINATED PARTS ASSEMBLE CLEANLY WITH LOOSE TENONS

Exterior doors are subject to all manner of stresses. To minimize warping, I decided to build the stiles and rails from stock made up of two  $\frac{7}{8}$ -in.-thick laminations. I began with rough  $\frac{5}{4}$  stock, planed it down to  $\frac{7}{8}$  in., then edge-glued pieces to create the wider rail stock. Next, I rolled epoxy onto the laminations for each door part and clamped them on a perfectly flat table. After 24 hours, I removed the clamps, cleaned up the glue, and cut the parts to finished size.

I used a plunge router and jig to cut mortises in the rails and stiles. Loose tenons were cut from the same cherry stock. I glued the entire assembly together with epoxy and clamped it for another day.

After a cleanup with a random-orbit sander, I made enough stop stock for both sides of the glass. I glued the exterior stops in first, bedded the glass in a bead of silicone, then carefully nailed the interior stops in place.



Stiles:  $1\frac{3}{4}$  in. thick by  $5\frac{5}{16}$  in. wide by 80 in. tall

Weatherstrip let into sawkerf

Center rail:  $1\frac{3}{4}$  in. thick by  $25\frac{5}{8}$  in. wide by 8 in. tall

1/2-in.-thick by  $5\frac{1}{2}$ -in.-wide by  $5\frac{1}{2}$ -in.-tall solid-cherry loose tenons

1/2-in.-wide by 1/2-in.-tall solid-cherry stops

One-in. brads driven into pilot holes secure the interior stop.

Silicone caulk

Cherry jamb

Top and bottom rails:  $1\frac{3}{4}$  in. thick by  $25\frac{5}{8}$  in. wide by 10 in. tall

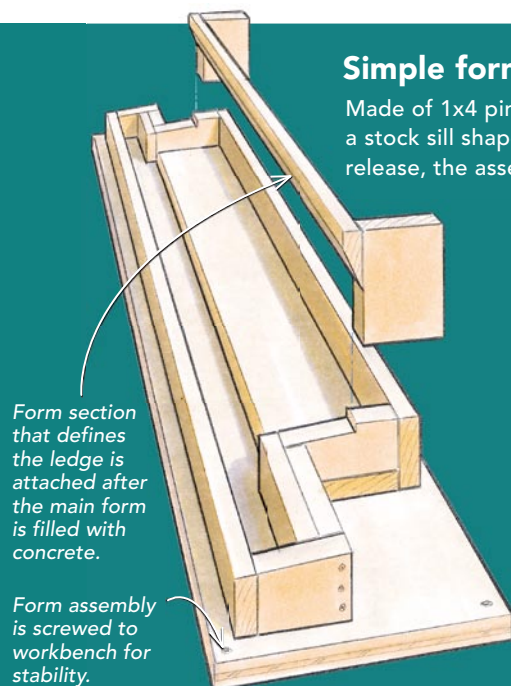
Concrete sill

1/2-in.-thick by  $2\frac{5}{8}$ -in.-wide mortises

5/8-in.-thick tempered insulating glass

## Simple form yields a substantial sill

Made of 1x4 pine, the concrete form was designed to replicate a stock sill shape. Fastened with drywall screws and coated with form release, the assembly came apart easily after the concrete cured.



**Creative reinforcement.** When the form was half full, I placed the sill's reinforcement. I used a length of galvanized angle iron, augmenting it by attaching galvanized framing connectors with sheet-metal screws.



**Give the texture some tooth.** A slippery sill isn't safe, so I added a little texture with an old paintbrush while the mix was still curing. The brush also helped to smooth any surface imperfections.