

QUICKER Coffered Ceilings

As a production finish carpenter, I'm always looking for faster, better ways to get the work done. Over the last two

by Gary Katz

years, my crew and I have developed a method

for building coffered ceilings in a fraction of the time it used to take — and with a fraction of the frustration.

In the past, we would try to get onto a new-construction job before the insulation contractor so we could install blocking between the ceiling joists for coffered ceiling beams. On remodels, we used to have to open up the drywall to install blocking for the runs that were parallel to the ceiling joists. What a mess that was! I also remember bolting full-length dimension lumber beams to more than a few ceilings, because we had been taught that you had to have solid backing. The trouble was, it was nearly impossible to get it perfectly straight and a nightmare when it came to wrapping it with finish lumber.

Phooey on all that nonsense. These days we use lightweight hollow backing that goes up in hours instead of days, without having to install any in-the-ceiling blocking — and every beam is perfectly straight. The approach depends on adhesive instead of bolts, and a continuous diaphragm that's secured directly to the ceiling joists through the crown molding.

In this article, I'll walk through the process as it applies to a paint-grade ceiling we did recently. You'll be able to apply the method to any style of coffered ceiling that you're building.



**Careful layout and preassembly
on the floor take the fuss out
of this overhead trim job**

HOLLOW BACKING

1. It's faster to build all the hollow backing boxes in the shop, where it's more comfortable to work and all my tools are only an arm's reach away. Figuring out how many supports you need doesn't require an exact drawing, just a sketch. Finger-jointed pine makes the best backing (rather than MDF) because pine doesn't split, no matter which direction you nail into it.

2. The center cross-shaped supports take the most time, but with all the pieces precut and stacked close by — and a full glue bottle — the job goes quickly. Form the cross by butting two short pieces of backing into a longer piece, then overlap the three-piece joint with another piece. Use plenty of glue and brads.

3. After the base of the cross is made, nail the side backing in place. If all the pieces are cut square on a miter saw, then the inside corners will fasten together tightly and form perfectly square corners, which makes it easy to fit all the moldings.

4. For this job, we used three types of hollow backing: the cross-shaped pieces for intersections, U-shaped pieces for ends and mid-span supports, and L-shaped pieces for corner backing.





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5. Lay out the ceiling carefully, twice, with pencil lines before snapping any chalk lines. I first make small pencil marks. Once I'm sure those marks are correct, I lengthen the marks into continuous pencil lines, using a straightedge, so I can see the beams before snapping chalk lines. Only when I'm positive that all the beams are centered properly do I reach for a chalk line. I snap lines on both sides of every beam, and on the ceiling and the walls around the perimeter. In this room, we'll be covering up the entire ceiling, so making a mess of the drywall to change lighting layout was not a problem.



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6. Panel adhesive (Liquid Nails, PL 400, for example) is an inexpensive product that has quietly revolutionized the building trades. We use it frequently for securing material to concrete, stone, wood, and drywall. In this case, we depend on the adhesive for partially supporting the ceiling. Once the crown is installed, the diaphragm can never move.



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7. Even though the adhesive caulking only partially supports the ceiling, we take the stuff seriously and apply a liberal amount, especially where there's no joist passing above the hollow backing.



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8. If there's a joist, for heaven's sake, nail it good. But if there's just drywall, angle the nails in all directions to hold the backing to the ceiling while the adhesive dries.



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9. With premade components and careful layout lines, installing the backing goes quickly.

BEAM BOTTOMS

10. Allow the adhesive to dry overnight before installing the beam bottoms — adding too much weight too soon might spoil the job. We always start on the perimeter walls, though in some cases, it's best to run the beams first. The design of the ceiling will determine the right procedure.

11. Few rooms are square. Use a protractor to gauge the proper miter angles, or just overlap the boards and mark the cuts.

12. Use a square to tie the marks together while the board is still in place, just to be sure the miters are aligned in the right directions.

13. We use a 1/4-inch slot cutter mounted in a router to make the kerf. A biscuit joiner will work, too, but a biscuit is always a little sloppy and won't register the two pieces perfectly flush, like a spline will.





14. We cut splines from 1/4-inch MDF because it's exactly the right thickness. Glue the kerf on the installed piece and insert the spline, then apply a liberal amount of glue to all surfaces of the spline and to the shoulders of the miter before installing the second board.



15. Install the center beam bottoms next, splining those butt joints to the perimeter soffit. Cut all the pieces a hair long and spring them into place. Run the kerfs long so splines can be slid into place after the pieces are in position. Remember, the long kerfs will be covered by the beam sides.



16. Fasten the soffit to each piece of backing, but just tack it with brads so it will be easier to string the beam bottoms straight.

17. On this job, we didn't have to make the beams perfectly straight. This built-up cornice has large reveals between each piece of molding, which hides a lot of sin in the ceiling. Using a string and some long shims, we just got them close to the eye — within 3/8 inch. But with some designs, the beams must be installed almost perfectly straight.

BEAM SIDES

18. All of the interior moldings are preassembled. The inside corners are mitered, glued, and cross-nailed, forming tight, long-lasting joints. Start with the fascia boards that form the sides of the beams. On some ceilings, we use baseboard installed upside down for the beam sides.

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19. Measure the pieces tight, then subtract $\frac{1}{16}$ inch so they'll slip easily into place. Since each piece is usually of a slightly different length, we draw a diagram of the ceiling grid, mark the front or back of the room, then label each piece as we measure and cut. We then follow the drawing to assemble the pieces, so each side will be in the correct position.

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20. Every finish carpenter should carry a block of wood for tapping the sides in place. On WindsorOne's Classical Colonial frieze (707/838-7101, www.windsorone.com), which we're using here, the cove at the bottom always points back toward the beam bottom or soffit.

21. Brad nails will not pull the moldings together! We carry an assortment of quick-grip clamps to squeeze the pieces tightly together before fastening them.

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THE PANELING

22. I use a RotoZip (877/768-6047, www.rotozip.com) for all cutouts in 1/4-inch sheet goods. The circle-cutting attachment is easy to use and eliminates the need for a compass and jigsaw. There's a little light in the tool that's especially nice.

23. We stained and finished the 1/4-inch oak panels before installing them, simplifying the finisher's job considerably. Because the crown molding goes in next, the panels don't have to be cut tight. Just be sure all the grain runs in the same direction. Before sticking the panels in, we use a magnet or a nail to find the ceiling joists and mark their locations on the frieze boards.

24. Liquid nails and a few brads are all that's needed to secure the panels against the ceiling.

THE CROWN

25. Cut and preassemble all the crown molding, just like the frieze boards. Again, measure the pieces tight, then subtract $\frac{1}{16}$ inch so they'll slide into place. Glue the miters, squeeze them together with spring clamps, then lock the miters together with 1-inch 18-gauge brads in both directions.

26. The top of the crown will go in easily, but the bottom snugs up tight. If it's a little too tight, plane off one edge just slightly.

27. If the ceiling has a deep belly or bow in it, sometimes the crown won't sit flat against the paneling. That's no problem on a paint-grade job — you can just caulk it. But with stain-grade paneling, a bad ceiling can be a nightmare on joinery, especially if you're trying to assemble each piece of crown one piece at a time. Preassembling the crown offers another alternative — attaching the paneling directly to the crown.

28. Use a brad nailer to pin the crown to the panel, then flip the panel and bend the brads over. Or you can cut the panel to fit flush on the bottom of the crown, then glue and staple it to the crown from behind.



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29. Apply another liberal amount of panel adhesive (yes, we buy this stuff by the case), this time in small balls, so the adhesive will act as a shim, filling any void in the ceiling and forcing the paneling against the crown.



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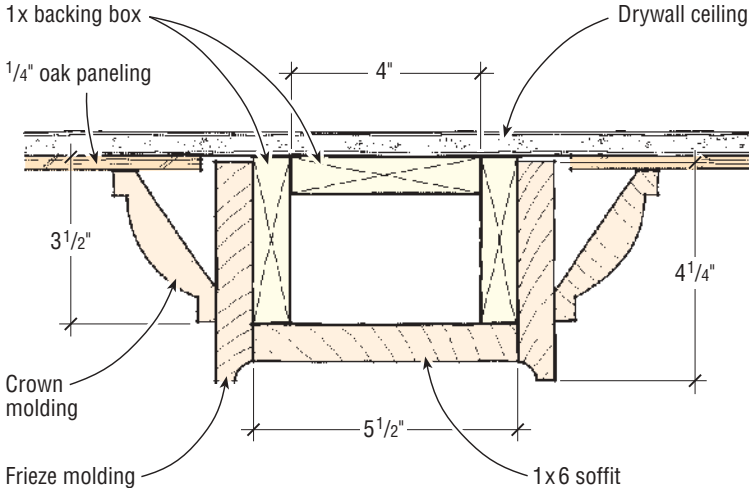
30. The crown and panel lift into place as a unit.



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31. Remember to nail off the crown to every joist you can, using 2 1/2-inch 15-gauge nails. Once the crown is nailed to the ceiling and to the fascia, and the fascia is nailed to the soffit, it would take a crowbar to remove this coffered ceiling — and most of the drywall would come with it.

Section Through Box Beam



THE BED MOLDING

32. Install the bed molding last. You can cope this molding if that's your style, but we miter the corners. The bed molding shown here, also from WindsorOne's Classical Colonial line, is 1 5/8 inches thick and has a complicated beaded profile, so it's a tough profile to cope.

33. Read the corner with a protractor to figure the right miter. If the miter opens a little, it's usually because there's a belly in the wall. Place a shim between the molding and the wall, then caulk behind the trim.



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