



BUILDING Distinctive Decks

The key to building decks profitably is quality — a good design built well with premium materials and enhanced with attention to detail. My goal at the start of every deck is to exceed my customer's expectations; that way, I always end up with satisfied customers. With so many low-end decks being built out there, durable and attractive decks act as advertising for future jobs — 80% of my jobs come through referrals and repeat business. Over the 11 years I've had my deck business, I've come up with some solid guidelines for each stage of construction.

by Ron Hamilton

Design and Materials

First, I always avoid low-end jobs. The market is flooded with ugly square decks. If I sense that a potential client is shopping for the absolute lowest price, I steer clear. Instead, I emphasize to potential clients that I build to national codes (even though there is no code in effect where I live) and that I take the time not only to do things right, but also to do them with taste. In general,

Little details make these decks stand apart — and bring referrals



Figure 1. Galvanized post anchors make for a secure attachment to concrete pier footings and help prevent decay at the bottom of the post.

when I design a deck, I avoid simple square and rectangular designs. Instead, I try to incorporate angles and I usually lay the decking at 45 degrees or with a combination of straight and angled sections.

I use only premium materials. One of the reasons so few contractors last in the deck construction market is that expensive callbacks eat into their profits, their reputations, and their time. I have very few callbacks, and some of my oldest decks still look great and continue to bring me referrals. Overall, premium materials are more than worth the added



cost. They age with fewer problems and last longer.

Ninety percent of my work is with treated southern pine. Other naturally rot-resistant woods, like cedar, tend to be too soft and susceptible to surface wear. I use a lifetime-warranty treated lumber product with a paraffin wax base treatment, made by Melco Inc. (P.O. Drawer C, Perry, GA 31069; 800/866-1414). Although many contractors may have to special-order this lumber, the high quality is worth it. For fasteners, I use only screws and bolts. I avoid simple galvanized products and instead use other coated products such as Dec-King Screws and RSS Lag Screws. Dec-King Screws have an electro-zinc base coat covered with a tough epoxy paint. RSS Lag Screws (GRK Canada, RR1, 1499 Rosslyn, Thunder Bay, Ontario; 800/263-0463) are a thin-shank, high shear strength fastener with a protective coating. I use these screws instead of traditional thick-shank lag screws because they have built in washers and don't require predrilling.

Although using only bolts and screws takes more time, this makes a big difference in quality. Screws will not pull out over time as the lumber expands and



Figure 2. The author notches carrier beams into the 6x6 support posts (left). The ends of the beams are clipped for a nicer appearance (above).

contracts with temperature changes. Their stronger holding power also minimizes warping of the lumber.

Deck Support

I usually use pier foundations built with foundation-grade 6x6 posts. Typically, one of my decks might project 16 feet out from the house wall. In that scenario, I place carrier beams at 7 and 14 feet. The 2-foot cantilever allows for easy pier layout because the carrier beams do not have to be positioned exactly.

I set the posts on concrete pier footings placed 4 to 6 feet apart. These footings are 3 to 4 feet deep to protect against frost heaves. Recently I've begun using Simpson galvanized bases that anchor the posts to the concrete footings (see Figure 1).

Next, I look to my framing layout to determine the overall height of the posts. The height of the finished decking is 3 inches below the door entry sill. On multilevel decks, I plan finished decking heights to match my standard 7¹/₂-inch stair-riser height. I use a water level to mark, then cut the posts to height. I notch the post tops to accept the carrier beams (Figure 2), which I attach with through-bolts. I also clip the visible corners of the carrier beams for aesthetic reasons.

Flashing the Ledger

I through-bolt the ledger to solid framing, and use a flashing detail that prevents water from reaching the house framing (Figure 3). Although the ledger is pressure-treated, the sheathing and band joist are not. Any water trapped between the ledger and the sheathing can lead to rot, which threatens the structural integrity of the ledger.

Deck Framing

I usually use 2x8 joists 16 inches on-center. I have found that the best way to hang joists is to first screw them to the ledger to set them and then go back and install the joist hangers. Because I often install the decking at a 45-degree angle, I need to plan where the seams will fall while laying out the joists. Joists positioned at seams are raised to the level of

the finish decking (Figure 4). I then install two 2x6 ledgers on either side of the raised joists. This detail visually breaks up the overall decking surface.

With the floor joists installed, I check the rim joists with a string line to avoid reproducing the bow of a house wall along the outer edge of the deck. Also, if the deck is not exactly square, the angled miter cuts of the decking will run off-line at the seams.

After making sure the deck joists are straight and square and trimming any long floor joists, I attach the outer rim joists with screws. I miter the rim joist cuts and pull the joints tight with five screws (visible in Figure 2). I slightly overcut these miters to ensure a snug, clean joint line.

Then, before the decking goes down, I install blocking for securing the railing posts (Figure 5, next page). I make sure each post rests in a corner so it can be lag-screwed or bolted in two directions.

Decking and Rails

I always order 15% more decking than I need for a job so I can pick only straight, unwarped pieces. I use 5/4x6 decking on most jobs. I install all decking heart-side up and avoid seams by running mitered decking cuts into the raised joists I mentioned earlier. Using a Makita (model #6832) autofeed screw gun, the decking

Flashing the Ledger

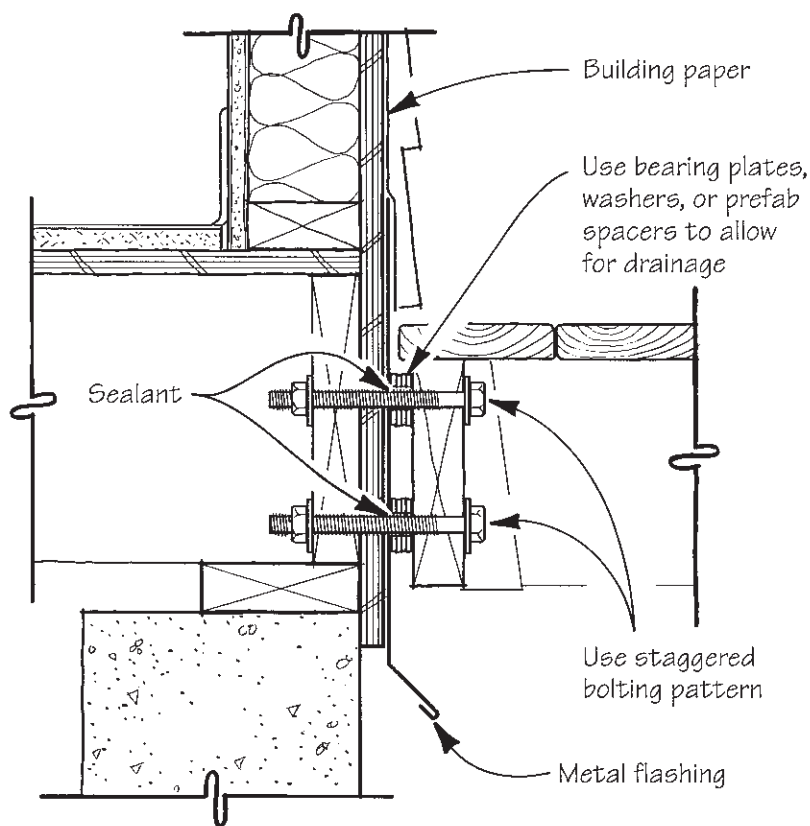


Figure 3. Properly flashing the ledger ensures that no water can get to the house framing and cause decay. The detail shown here allows water to drain behind the ledger.



Figure 4. The author uses a raised joist with 2x6 cleats on both sides to catch the ends of angled or straight-run decking boards. This detail breaks up the decking into smaller areas and avoids the use of splices in the deck boards.

Figure 5. Secure blocking below the deck provides a snug corner for bolting the bottom of rail posts.



Dressing Up a Deck

Decorative Railings. Liven up the railing by breaking up the monotony of the regular baluster pattern. I sometime use a sunrise pattern, for instance (see photo, below), with baluster “rays” sandwiched between arcs cut out of 2x12s. This pattern works well in a 5-foot length.

Benches and Planters. Deck furniture often clogs up the middle floor space of a deck, while built-in benches encourage people to use the perimeter space. I build benches with 2x4 frames and 5/4x6 decking for seat and back. I make the seats 18 inches wide and recline the backs at 70 degrees.

Gates. Build gates to match the railing style. I use heavy galvanized hinges and barrel bolt locking mechanisms. To prevent a large gate from sagging, I’ll sometime install a small wheel at the bottom of the free-swinging side.

Routing. As a finishing touch, round over all visible edges, including railing caps, stair treads, and any uncaptured edges of the decking.

Glue. Use a water-resistant treated-wood glue to ensure that miter joints remain tight over time.

Water Seal. Apply immediately upon completion of deck. I use Wolman Raincoat.



The sunrise pattern and built-in benches are two of the details the author uses to set his decks apart.

goes down solid and will not loosen with time and weathering. Since the decking shrinks as it dries, I lay successive courses tight. This results in a gap of $\frac{1}{8}$ to $\frac{1}{4}$ inch after a few weeks. Spacing the deck boards during installation would result in gaps that are too wide.


Railings need to be strong for obvious safety reasons. I use a finish railing height of 36 inches for residential jobs, with railing posts every 4 to 6 feet. The 4x4 railing posts extend down through the decking and are lag-bolted into solid blocking. To attach balusters, I run 2x4s on the outer sides of the posts at the top and at deck level. I run the bottom 2x4s either flush to the decking or 3 inches up. Running them flush covers any end checking that occurs as the decking dries out. Running the 2x4s 3 inches above allows a space for sweeping and snow removal. I cap the top with a 2x6, edge-routed for a more finished appearance.

Stairways

I build stairs with a $7\frac{1}{2}$ -inch rise and either 2x10 or double 2x6 treads. I use a 2x8 riser to close the back of my stairs, which adds both cosmetic value and strength. When laying stairs out, I bring my first step off level with the deck floor. This allows me to lag-screw the stringer from the back of the rim joist. At grade, I either dig in solid 4-inch concrete blocks or pour a concrete pad.

Pricing Jobs

The average price of my decks is \$12 to \$15 per square foot. Materials average about 50% of the total cost. I have set costs for standard extras: Benches, for example, run \$16 per linear foot.

A typical 600-square-foot deck takes me and my small crew around four days: a day to dig and pour pier foundation footings, a day to frame, a day to install decking, and a day for steps and rails. Extra time is needed for options such as benches and planters. I bid nonstandard extras on a time and materials basis. 

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