

Railings for Grade-Level Decks

by Mike Guertin

A building inspector who read my article “Upgrading a Deck” (Jan/Feb 2016) noted that the railing of the grade-level deck that I brought up to code in that project probably would not be required to be code compliant in his jurisdiction—or required at all, for that matter (see *Letters*, page 14). He raises an important point, one that I didn’t have room to cover in the article. And while that deck presented a good opportunity to address a lot of the issues that come up when upgrading old decks, I should have been clearer about the necessity of guards along the front of the deck. Here I’ll expand on not only the deck illustrated in the article but also the issue of railings on grade-level decks where the code doesn’t apply.

The inspector is right: Guards are not required by code along the front of the deck I wrote about (see photo). But code-compliant guards are required on the sides. On the right side of the deck, where the three riser stairs are located, the grade drops off by more than 30 inches within 3 feet horizontally from the edge of the deck. On the deck’s left side, there is a bit of a swale between the deck and the back wall of the garage. Here, too, the ground drops away more than 30 inches within 3 feet of the edge of the deck. Because the original guardrails and baluster spacing along those sides were deficient, new guards that complied with current code needed to be installed.

While I discussed the option of leaving the guardrails off the front of the deck with the owners, they decided to have new ones installed. Most importantly, they were concerned about visitors accidentally stepping off the open edge and falling a couple of feet to the ground. This



is a case where owner preference rather than code triggered the guardrail installation, but I’m also occasionally asked to install guardrails on decks and stairways because a homeowner’s insurance company requires them.

When guards are not required by code, can the contractor then install anything or nothing? Maybe in some jurisdictions, but that’s not how I approach the situation. For example, when I install a composite railing system, I install it as robustly as needed to comply with code, whether or not guardrails are required. This means securely anchored structural posts, 36-inch-minimum top-rail heights, and less-than-4-inch baluster spacing. One reason I go to this trouble is that I interpret the code—which states in R507.3.5 (2015 IRC), “Plastic composite ... guards, and handrails shall be installed in accordance with this code and the manufacturer’s instructions”—to mean that the installer has to follow both the code (if it applies) *and* the manufacturer’s instructions (even if code doesn’t apply). And essentially, the instructions are the same as the code—I’ve never seen installation guidelines that provide for installing

railing at a height lower than 36 inches or with 4-inch or greater baluster spacing.

My other concern regarding installing a rail system on a grade-level deck where it isn’t required by code is my liability if someone is ever injured. For example, if I install a 30-inch-high guardrail with balusters more than 4 inches apart and fail to anchor the structural posts well, I have a feeling a good litigation attorney will win a judgment against me if a visitor falls over the top of a rail or leans on the rail and it collapses.

One final point: I often hear inspectors and deck builders refer to “a 4-inch-maximum opening.” But what the IRC actually says is that the openings in a guard system shall not “allow the passage of a sphere 4 inches in diameter.” So while many people think the maximum spacing between balusters is 4 inches, it’s actually less than 4 inches. To be on the safe side, I usually lay out balusters for a maximum open space of $3\frac{7}{8}$ inches or even $3\frac{3}{4}$ inches. ♦

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