

Deck Codes for 2015

by Glenn Mathewson

Slap up the ledger, throw up some joists, lay down some decking, and bolt on the railing. Those days are over, and it's a good thing. Deck construction techniques have long needed the code to come to bear on them. That came to pass with the publishing of the 2009 IRC. Now we're in the 2015 IRC development cycle, and two old sayings come to mind: "Too much of a good thing" and "Good things are worth waiting for."

Too Much of a Good Thing

The Virginia Building and Code Officials Association recently proposed to add about 11 new pages specifically addressing deck construction to the 2015 IRC. The proposal was brought before the ICC Building Code Action Committee, whose charge is working on problematic code provisions, holes in the code, or any other topics that need special attention. When a code proposal comes out of an ICC action committee and before the main code-writing body, it is likely to be approved. In this case, the action commit-

tee reached out to industry professionals and asked for assistance in developing the document in an open process.

On November 30, 2012, a large group of people with a range of interests in decks sat down together — probably the largest and most diverse gathering in the decking industry ever — to discuss the proposed changes. Attending were representatives from the American Wood Council (which publishes the DCA6 alternative decking codes), the National Association of Home Builders, the Virginia Building and Code Officials Association, and the Colorado chapter of the ICC, as well as the chairman of the ICC Building Code Action Committee, an engineer from Simpson Strong-Tie, a researcher from Washington State University, and members of the North American Deck and Railing Association, among others.

The original 11-page proposal covered nearly every aspect of deck construction, from materials to footings to guards to stairs. Though covering basic deck construction comprehensively, it also con-

tained a number of constraints that would have affected custom decks. An outcry of dissatisfaction from the industry would have been likely had the proposal gone through.

Good Things Are Worth the Wait

It was quickly understood at the meeting that the work the decking industry needs to do in regard to codes won't happen overnight, or even in the 2015 IRC. There is still significant research to be completed and discussions to be had to create a comprehensive deck code that can balance the needs of the decking industry with a minimum standard of construction. It was agreed that an underprepared deck code should not be pushed forward.

The group was able to find some points that were ready to be addressed, and work is underway on approximately three pages of deck code to be proposed for the 2015 IRC. This includes prescriptive provisions such as joist and beam span tables appropriate for exterior floor conditions, limitations for sizing structural posts, slight modifications to the ledger-connection table, and a foundation-sizing table. Essentially, this proposal would cover the complete load path for construction of basic decks, but without hindering the architectural freedom desired for custom decks. The American Wood Council's alternative decking code, DCA6-09, was the obvious starting point.

Lateral Loads

Lateral loading, possibly the most controversial topic in deck construction codes, was also discussed quite heavily. A call-in from Dr. Don Bender of Washington State University regarding his research on lateral loading of decks was



Lateral-load testing done at Washington State University incorporated real-life scenarios. The results may affect future deck codes.

eye-opening. Dr. Bender briefly explained that he had assembled a mocked-up floor system of a home and attached a deck to it. Rollers supported the outside of the deck, and it was loaded with moving people (see photo, page 14). Sensors at the ledger connections recorded the magnitude of lateral force that resulted from the movements.

One discovery was that without bracing to keep the deck from deforming out of square, significantly more force acted on the ledger, making failure at the hangers likely. The width-to-length ratio of a deck had an impact on this as well. Similar to how a longer wrench can loosen a stuck nut, the farther a deck projects out from a house compared with its width against the house, the more lateral force was generated at the ledger. Dr. Bender said that while important dis-

coveries were made, they were not comprehensive enough to use as a basis for modifications to the current lateral-load details provided in the IRC. The results were limited by the few conditions tested. More tests are needed, but there is a lack of funding to perform them.

It is likely that the current lateral attachment requirement, along with the troublesome language of "shall be permitted," will remain in the IRC for one more code cycle before a well-prepared alternative can be provided. Assuming the decking industry can provide the financial support, Dr. Bender is prepared to deliver the research needed to develop safe, cost-effective solutions to the problems of handling lateral loads.

Get Involved With NADRA

NADRA is staying involved in the code

process, from working with other industry representatives to seeking funding for more research. If your livelihood comes from the decking industry, I urge you to stay involved too. Check out the ICC website (iccsafe.org) and learn more about the code modification process. Visit the NADRA blog (nadrablog.com) for updates. Becoming a NADRA member or supporting NADRA fund-raising can help us continue to be heard into the future. At a minimum, share your thoughts and opinions with your colleagues and your local building department, as well as with NADRA or me. You can reach me at glennmatthewson@nadra.org. ♦

Contributing editor Glenn Mathewson is a building inspector in Westminster, Colo., and the technical advisor to NADRA.

Go to <http://exteriorproducts.hotims.com> for more info