

Vertical Sheathing Joints in Braced Wall Panels

by Larry Wainright

The IRC's requirements for connecting sheathing to common studs

Question

I am a wall panel manufacturer. I need to design panels that will be used in braced wall lines. I prefer to build all panels with the wall sheathing flush with the edges of the studs because sheathing that extends beyond the end studs are susceptible to damage during transit and installation. However, the 2009 International Residential Code (IRC) has the following statement in regard to this situation:

R602.10.8 Panel joints. All vertical joints of panel sheathing shall occur over, and be fastened to common studs....

Does this mean that I must run sheathing 3/4" long on one panel and hold it back 3/4" on the next panel so that the sheathing can be attached to a common stud in the field?

Answer

The requirement for vertical joints in braced wall panel sheathing to be connected to a common stud has been in the IRC for at least the past three versions. The requirement is meant to ensure that the shear loads developed in braced wall panels are transferred from sheathing panel to sheathing panel and ultimately into the diaphragms above and below or into the foundation. By requiring panel sheathing joints to be connected to a common stud, this transfer of loads from panel to panel is achieved through the connection of the sheathing to the stud. This connection allows the building designer to consider braced wall lengths greater than a single 4' panel width, giving more flexibility in the placement of window and door openings.

Currently, this is the prescriptive method of adjoining sheathing panels in a braced wall line. However, pending the outcome of the International Code Council Final Action Hearings in May 2010, an additional option will be recognized in the 2012 IRC. Code Change Proposal RB110-09/10 was approved during the October 2009 Code Development Hearings. This proposal, submitted by SBCA, adds a prescriptive option to the IRC allowing two sheathing panels to be connected to individual studs and then the two studs can be nailed together to provide the means of load transfer. Here is the revised wording as approved by the ICC Code Committee:

R602.10.8 Panel joints. All vertical joints of panel sheathing shall occur over, and be fastened to common studs. Horizontal joints in braced wall panels shall occur over, and be fastened to common blocking of a minimum 1-1/2 inch (38 mm) thickness.

Exceptions:

1. Vertical joints of panel sheathing shall be permitted to occur over double studs, where adjoining panel edges are attached to separate studs with the required panel edge fastening schedule, and the adjacent studs are attached together with 2 rows of 10d box nails (3"x0.128") at 10" o.c....

This change explicitly allows a panel manufacturer to build any wall panels designed to the IRC with the sheathing flush at the edges unless otherwise directed by the building designer.

Further, the IRC Section R301.1.3 allows engineered design to be used for portions of building not otherwise conforming to the code.

R301.1.3 Engineered design. When a building of otherwise conventional construction contains structural elements exceeding the limits of Section R301 or otherwise not conforming to this code, these elements shall be designed in accordance with accepted engineering practice....

This provision would allow an engineer to design the connection to allow the joining of two studs in lieu of fastening the sheathing panels to a common stud.

Visit www.sbcindustry.com for updates on the outcome of the Final Action Hearings in May. **SBC**

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at a glance

- The IRC requires vertical joints in braced wall panel sheathing to be connected to a common stud.
- SBCA has submitted a code change proposal that would allow a wall panels designed to the IRC to be built with the sheathing flush at the edges.
- The proposal will be heard at the May 2010 ICC Final Action Hearings.

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