

LITERATURE UPDATE

SAVE TIME WITH ANCHORING AND CONNECTOR SPECIFICATION GUIDE

The new and improved specification guide Anchoring Solutions for Simpson Strong-Tie® Connectors is designed to provide specifiers and engineers with a quick and convenient way to identify the appropriate anchor solutions for Simpson connectors. The 60-page guide is intended to be used in conjunction with Simpson's Wood Construction Connectors and Anchor and Fastening Systems catalogs to provide a cross-reference between the two product lines. The guide offers solutions for minimum and maximum loads, positioning, and lumber and concrete requirements.

The 2007 guide also incorporates solutions for cold-formed steel construction. Specifiers and engineers can find direct replacement suggestions for cast-in-place anchors as well as allowable loads for specific edges and embedment. The guide has also been updated with the latest product information and the most current load information for Anchor Systems adhesives.

For a quick and easy-to-use reference guide, look for Anchoring Solutions for Simpson Strong-Tie Connectors (T-ANCHORSPEC07). To request a copy or download this technical bulletin go to www.strongtie.com/literature. ■



CODE CORNER

IRC WALL BRACING UPDATE

The wall bracing requirements of the 2009 International Residential Code are currently in development, and will include significant changes and improvements from the 2006 provisions. The following is an overview of some of the proposed changes and additions, along with a look ahead to possible 2012 revisions.

At the end of September, the ICC IRC-Building/Energy Code Development Committee considered 62 code change proposals affecting the wall bracing section of the IRC. Prior to the code change hearings, the ICC Ad-Hoc Committee on Wall Bracing (AHC-WB) met for three days and developed recommended positions on 61 of the 62 proposals. Of those, the Code Development Committee took a different position from the Ad-Hoc Committee on only six code changes. The recommendations of the Ad-Hoc Committee were very effective in minimizing debate on this often contentious subject.

Two New Code Changes

There were two very significant code changes that were approved. The first major change included RB 179-06/07, which provides a complete revision of the wall bracing sections of the IRC. It was developed by a committee chaired by Dr. Dan Dolan of Washington

State University that has been studying ways to improve wall bracing requirements. The second major change approved with modifications was RB 209-06/07. This code change allows the continuous wood structural panel sheathing method to be used on only one braced wall line of a structure, and allows other approved bracing methods to be used on other braced wall lines on the same story level or on different story levels of the building. Currently, all sheathable areas of all exterior walls must be sheathed with wood structural panels in order to use the continuous sheathing method of wall bracing.

On December 5 and 6, the AHC-WB met again to review code development actions and agree on a future direction for the committee. The committee was provided with a draft of the wall bracing section with all the approved changes. Several items were identified for improvement and the committee will develop one or more Public Comments to address these areas.

Future Committee Agenda Items

Some of the items that were identified by the committee for future work include:

- Separate the required amount of wall bracing into two categories: wind and seismic resistance. The current table is solely based on seismic resistance, and has been shown

to be deficient for some wind loading conditions and building configurations.

- Continue to work on simplifying code sections. Options being considered include basing seismic bracing on floor area, instead of wall length, and basing wind requirements on projected area. Adding braced wall line spacing to the braced wall amount table, so additional factors are not needed, is also proposed.
- Limit walls built prescriptively in the IRC to 10 feet. The 2000 IRC had a maximum wall heights of 10 feet, but since then it has been increased to 12 feet.
- Establish a maximum size of a building allowed. It was discussed whether a maximum size should be defined and whether dwellings larger than that must have a designed lateral-force resisting system.
- Develop simplified alternate wall bracing provisions. Set a maximum size and establish certain assumptions. Dwellings that fall within these provisions can then be braced using a simplified set of design requirements.
- Reformat section so it flows the same way a plan reviewer or designer would check or lay out braced walls.
- Develop software that would automate plan checking.

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CODE CORNER (continued from page 1)

IRC WALL BRACING UPDATE

- Revise the definition of a braced wall line. The current definition is unclear, especially as it applies to interior wall bracing.
- Clarify how offsets in braced wall lines are permitted.
- Define the floor and roof diaphragm aspect ratio and add a new figure to describe this ratio.

Narrow Wall Bracing Portal Under Review

The committee also took some time to discuss expansion of the use of the 6:1 narrow wall bracing portal, as proposed by APA—the Engineered Wood Association in RB 214. The committee had identified a list of concerns with this proposal, and APA representatives presented information to try and address those concerns.

While some committee members noted that their concerns had been addressed, especially those concerns regarding how a portal frame acts under out-of-plane wind loads, Simpson Strong-Tie continues to have several concerns about the proposal as currently written.

Testing, Bracing and Load Concerns

The primary areas of concern regarding the performance of the narrow wall bracing portal include:

- **Standardized test methods.** Every lab that tests wall bracing methods gets a different answer because test methods have not been standardized. Simpson was instrumental in showing that the test boundary conditions have a significant impact on the test results. An ASTM committee is currently working

to develop a standardized test method, but its work will not be complete until late 2007 or beyond.

- **Availability of tests for review.** Test data was submitted in the reason statement for RB 214 that was claimed to be under boundary conditions that would not affect test results as much as previous tests performed by APA. However, it was found that one of the three graphs was from tests performed under the old boundary conditions that greatly influence test results. To date, APA has not made the other two tests available for review so that the boundary conditions can be determined.
- **Restraint from return framing.** The continuously sheathed method is based on testing that included corner returns to provide overturning restraint for the braced wall line. It is unclear at this time how effective the corner return will be when the structure is loaded by either seismic or wind forces that are not parallel to the braced wall line. Additionally, wind uplift on the corner return can negate its effectiveness in providing restraint to the braced wall line.
- **Proposed expansion to raised floor and second floor applications.** One graph was submitted by APA in the reason statement for RB 214 that described testing on a raised floor. However, this test was discovered to be performed under boundary conditions that overestimate the capacity of portal framed walls. In addition, no testing was submitted for second floor applications.
- **Out-of-plane loading on the wall to header connection.** Simpson disagrees with APA's method that assumes all out-

of-plane loading is equally spread over the entire portal. At garages, the majority of out-of-plane load will be applied from the garage door track fasteners, which are all fastened to the edge of the portal frame. APA is also relying on the frame-to-header strap to resist this load, even though the strap will already be loaded if the portal is stressed at all by shear in its plane. This is a concern because in a normal header layout the king stud adjacent to the opening spans completely from foundation to top plate. With a portal system, there is a hinge at the top of the wall between the studs and the header because the header has to continue over all the studs.

Simpson Strong-Tie continues to work with the ICC AHC-WB on improvements to wall bracing code requirements and bracing methods. We are currently performing tests on full-scale walls with different configurations of restraint, and full-scale buildings with loading in different directions to help clarify some of the issues regarding allowable resistances of different bracing methods under various conditions. Our test results will be featured in an upcoming issue of *Structural Report*. ■

Code Corner is written by Simpson Strong-Tie engineer, Randy Shackelford, PE. When he's not attending code hearings, he can be reached at rshackelford@strongtie.com.



SIMPSON STRONG-TIE SETS RECORD!

Continuing its efforts to spread the message of structural safety, Simpson Strong-Tie was recently awarded the Guinness Record for creating the world's largest joist hanger. The oversized HGUS28-2 joist hanger stands more than seven feet tall, is eight and a half feet wide, and weighs approximately 1,370 pounds. The maximum allowable load capacity of Simpson's standard hanger for roof truss applications is 4,800 pounds. This hanger, however, theoretically has a load capacity of 119,000 pounds, which is the equivalent of supporting 18 standard pickup trucks stacked on top of each other! Simpson hopes the larger-than-life hanger will help raise awareness about the importance of building stronger, safer structures.

The Guinness World Record hanger will be on display at the International Builders' Show (IBS) in Orlando from February 7–10, 2007. New and improved SDS Screws, several new joist hangers, and products from Quik Drive and Anchor Systems will also be featured at Simpson's booth. To see the record-setting hanger and all of Simpson's latest innovations, stop by our booth W683 at IBS or visit www.strongtie.com. ■

WORKSHOPS & TRAINING

NORTHEAST

Engineers, Architects, Building Officials, Builders & Contractors

Omaha, Nebraska	Tuesday, February 6
Scotrun (Poconos), Pennsylvania	Wednesday, March 7
Columbus, Ohio	Tuesday, March 15
Novi, Michigan	Wednesday, March 21
Monroeville, Pennsylvania	Wednesday, March 28
Joliet, Illinois	Wednesday, April 4
Taunton, Massachusetts	Wednesday, April 11
Bloomington, Minnesota	Wednesday, April 18
Columbia, Maryland	Wednesday, April 25

Builders & Contractors

Bolingbrook, Illinois	Thursday, February 1
Indianapolis, Indiana	Thursday, February 15
Mt. Laurel, New Jersey	Thursday, February 22
Battlefield, Virginia	Thursday, March 1
Salisbury, Maryland	Thursday, March 8

SOUTHEAST

Check our website for upcoming dates.

NORTHWEST

Anchor Systems (Commercial Construction) – for All Audiences

Denver, Colorado	Thursday, February 22
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General Connector Technology – for All Audiences

Spokane, Washington	Thursday, February 8
Reno, Nevada	Thursday, March 15
Santa Clara, California	Thursday, March 22
Bozeman, Montana	Tuesday, April 3
Boise, Idaho	Thursday, April 19

Building Officials & Inspectors

Stockton, California	Thursday, February 15
Kent, Washington	Thursday, March 1

Engineers, Architects & Specifiers

Kent, Washington	Wednesday, February 28
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Contractors, Builders & Developers

Stockton, California	Thursday, March 8
Kent, Washington	Thursday, March 29

Authorized Stocking Dealers

Stockton, California	Tuesday, March 20
Kent, Washington	Wednesday, March 28

Seismic and High Wind Class for Engineers

Stockton, California	Wed. & Thur., April 11-12
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Seismic Class for Homeowners

Kent, Washington	Saturday, April 14
Stockton, California	Saturday, April 21

SOUTHWEST

Building Officials & Inspectors

Brea, California	Thursday, February 8
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Design Professionals

Brea, California	Thursday, April 5
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Introduction to Simpson Anchor Systems

Brea, California	Thursday, March 22
Brea, California	Thursday, April 19

2007 Connectors Workshop

Phoenix, Arizona	April 11, April 12
San Diego, California	April 25, April 26

2007 Anchor Systems Workshop

Phoenix, Arizona	March 14, March 15
Las Vegas, Nevada	March 27, March 28

For more information regarding workshop content and for a complete schedule, visit the Workshops and Training section of our website at www.strongtie.com/workshops.



SERVICE UPDATE

SIGN-UP FOR THE EDUCODE CONFERENCE

Approximately 2,000 building industry officials, inspectors and plan checkers from across the U.S. will meet in Las Vegas for the EduCode Conference, February 26 – March 2, 2007. EduCode is held to educate attendees about building codes and other changes in the construction industry. Simpson Strong-Tie, a long-time EduCode participant, recently received accreditation to offer continuing education units to eligible 2007 attendees. To learn more about the EduCode Conference and find other continuing education courses in your area, visit Simpson's website or go to www.educode.us. ■



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50TH ANNIVERSARY UPDATE

ENGINEERED ART CONTEST WINNER

Simpson Strong-Tie's 50th anniversary was a memorable one, thanks to customers nationwide who helped celebrate with us all year long. With the continued support of loyal customers, we look forward to providing the product innovation and service you've come to expect for another 50 years.

If you had a chance to visit our 50th anniversary section on our website, you may have noticed that we hosted an Engineered Art Contest. The purpose of the contest was to entice customers to find creative and artistic uses of Simpson Strong-Tie products. We received many incredible entries and after careful review, we are proud to announce the winner of the contest – Mike Argyle of Riverdale, Utah!

Argyle, a Simpson customer since 1980, sculpted an eagle clutching an American flag using only Simpson products. Measuring more than five feet tall and five feet wide, the sculpture features feathers made of Simpson's Titen concrete screws, eyes using wedge anchors and a beak constructed from joist hangers.

"I was on the Simpson website looking for a specific anchor when I stumbled upon the contest announcement," said Argyle. "I envisioned what could be done with these products and thought it was an exciting idea to create something new out of leftover products."

Mike Argyle is the warehouse and fleet manager for Jacobsen Construction Company, Inc. in Salt Lake City, where he has been

employed for nearly 27 years. He paints, draws and sculpts with wood and recycled steel in his spare time. Argyle's eagle and flag sculpture took more than a month to complete – an accomplishment recognized by Simpson Strong-Tie founder Barclay Simpson when he phoned Argyle to offer his congratulations.

Argyle's creativity and efforts were rewarded with the grand prize of a two-night trip for two to New York City and tickets to the Museum of Modern Art. Congratulations Mike and a big thank you to all our customers who participated in the contest! (*To see more entries, visit www.strongtie.com.*) ■



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