

PRODUCT SPOTLIGHT

I-JOIST HANGER CUTS INSTALLATION COSTS

Technology continues to advance in building construction, and our R&D engineers work not only to introduce new products that speed construction but also to make improvements in existing connectors that simplify installation.

To meet the challenges imposed by new shallow-flange I-joists (1 $\frac{1}{16}$ " - 1 $\frac{1}{2}$ "), Simpson Strong-Tie's patented IUS I-Joist hanger combines the advantages of a face-mount hanger with the ease of installation of a top flange hanger. Many specifiers are now replacing the IUT with the IUS, once they see a side-by-side comparison. Contractors also report they find the IUS easy to install.

FACE MOUNT HANGER WITH NO JOIST NAILS

There are several important features of the IUS product line. First, while the IUT requires two joist nails through bent tabs, the IUS requires no joist nailing whatsoever. "Snap-In" teardrops near the top of the seat allow the joist to "snap" in. The "Strong Grip" feature keeps the bottom flange secure.



IUS I-Joist Hanger

These features greatly reduce installation errors caused by using wrong sized nails. The IUS hanger has a rated uplift of 75 pounds without joist nails. It is load-rated to meet typical residential I-Joist span reaction requirements. The IUS is face-mounted, which allows for attaching the subfloor flush to the header. This reduces gaps, bumps and potential squeaks.

SELF-JIGGING

Locator tabs at the top of the IUS hanger set it to the proper depth. (*For other depths, the tabs may be bent back out of the way.*)

Funnel flanges guide the joist to easy installation and the embossed seat adds strength and stiffness. Less movement means fewer squeaks. Speed prongs hold the hanger in place until it is nailed off.

COMPARABLE LOADS WITH LOWER INSTALLED COST

The IUS exceeds the IUT in allowable floor downloads, even without the two joist nails required with the IUT. In a side-by-side timed installation test of 250 I-Joist hangers, the IUS – requiring nearly 17% fewer fasteners – resulted in over a half-day advantage in installation time required and a total installed savings of \$230.00.

The IUS is available in a range of sizes for joists ranging from 1 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " up to 3 $\frac{1}{2}$ " x 16". Consult the current catalog for exact specifications. Specifiers may find it worthwhile to re-examine older specifications calling for IUT joist hangers and consider substituting Simpson Strong-Tie's IUS, a hybrid hanger that incorporates the advantages of both face mount and top flange designs. ■

INSTALLED COST COMPARISON

Product	Qty	Fasteners		IUS Total Fasteners	IUT Total Fasteners	Fastener Cost Diff.	Days To Install IUS	Days To Install IUT	Total \$ Saved
		IUS	IUT						
IUS	250	10	12	2,500	3,000	\$10.00	2.5	3	\$230.00*

Installing 250 IUS saves the installer \$230.00 versus the IUT.

*Total \$ Saved is calculated using a labor rate of \$55.00/hour at 1,000 nails per day.

TECHNICAL UPDATE

STEEL STRONG-WALL® DATA REVISED

Since introducing the new Steel Strong-Wall in January 2005, Simpson has continued to evaluate the product and has identified an alternate anchorage solution for some wall models that improves performance. As a result, new information is available and this information should be used when specifying the Steel Strong-Wall, rather than the information shown in the C-2005 catalog.

To access this new data, visit our website

at www.strongtie.com and click the Strong-Wall link on the front page. From here you can access the latest Steel Strong-Wall information. Additionally, new literature has been developed that addresses anchorage. This literature is included in this mailing of the Structural Report. You can also access this literature from the website.

The following is a summary of the new information outlined in the new literature and on the web:

- Simpson Strong-Tie recommends a revised anchorage solution which includes the use of an additional nut on each anchor bolt that is positioned flush with the top of concrete. The addition of this nut improves overall system performance.

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TRAINING & EVENTS

SIMPSON RELEASES SECOND PRODUCT INSTALLATION TRAINING KIT

Continuing to improve the structural integrity of buildings and the efficiency of the construction process, Simpson Strong-Tie has developed its second training kit for builders and trade contractors to improve product installation in the field. Simpson's training materials on joist and beam hangers recently received National Housing Quality (NHQ) certification from the NAHB Research Center.

The latest training materials on joist and beam hangers are part of Simpson's ongoing commitment to improve installation practices and reduce common callbacks on jobsites. "Joist and beam hangers are widely used throughout the industry," says Mike Moran, national manager, builder programs for Simpson Strong-Tie. "We are devoting training resources to the areas that we know will be of most value to those in the field."

Simpson's *Introduction to Joist and Beam Hangers* identifies the differences between typical face mount and top flange hanger installations, and teaches participants how to correctly install joist and beam hangers. The training kit includes an instructional video, an instructor guide and a student guide. All of these materials are provided in both English and Spanish, and accessible via a CD-Rom, which is provided in the kit.



Simpson's latest training materials on joist and beam hangers.

"The Research Center's NHQ Program is bringing together builders and contractors nationwide, and focusing the industry on doing things right the first time to increase customer satisfaction," says Frank Alexander, NHQ program director at the NAHB Research Center. "Simpson's latest certification is a great example of the integral role manufacturers play in raising the bar and improving the construction process."

Small and large contracting companies around the country are using Simpson's

training materials. Preferred Framing Inc., a framing company in Southern California and the first framer in that area to become NHQ certified, teamed with Simpson to train their employees. "The support and guidance we received from Simpson Strong-Tie was instrumental in helping us train our field personnel," says Todd Tyrrell, general manager of Preferred Framing, Inc. "Throughout our 29-year history, quality, safety and training have been stressed. We're now taking our efforts to the next level by partnering with the NAHB Research Center and NHQ partners like Simpson," adds Dale Decarlo, president and partner of Preferred.

Simpson was the first building products manufacturer to sponsor the NHQ program and earn NHQ certification for its training materials. It released its first training kit on connector and fastener installation last year. Simpson continues to develop their series of training kits to help contractors and framers improve the quality of home construction and building safety.

For more information about the NHQ Certified Training Materials program and to order a copy of Simpson's certified training kit on joist and beam hangers, visit www.strongtie.com and click "Training." ■

SERVICE UPDATE

SPANISH INSTALLATION WORKSHOP REDUCES CALLBACKS

According to the U.S. Census Bureau, the Hispanic-origin population is the fastest growing minority group. In 2002, there were 37.4 million Hispanic Americans. By 2030, that figure is expected to double.

The building industry has experienced a significant increase of Spanish-speaking workers. The National Safety Council says that the Hispanic workforce in U.S. construction has tripled during the past two decades. Since many Hispanic workers do not read English, builders and subcontractors are looking to product manufacturers to communicate installation information.

Simpson Strong-Tie recently developed an installation workshop for Spanish-speaking concrete installers. Launched last year in Southern California, the training program targeted employees from all the major concrete contractors in the area. "We started off with two workshops," says Ken Bell, sales representative for Simpson Strong-Tie. "Each attracted more than 55 participants."

The full-day complimentary workshop provides a basic overview of Simpson connectors, epoxy and mechanical anchors for concrete construction. Geared to both less experienced and skilled installers, attendees spend the first half of the day in class and the last half in a hands-on session practicing installation techniques. "The workshop was very educational for my guys. They gained a lot of knowledge," says Bubba Moody, area customer service manager for Campbell Concrete. "It was especially helpful for new Spanish-speaking workers who don't know how to layout hardware or understand proper depth."

Campbell Concrete, a large contractor based in Colton, California, sent 14 employees to Simpson's training last year and is already seeing the results. "We're experiencing fewer callbacks," says Moody, "which contributes to our bottom line."

In addition to minimizing callbacks and red tags, the training may also help reduce



litigation for builders. "New laws in California are requiring contractors to quantify callbacks and misinstallations," says Bell. "Our workshop can help contractors demonstrate their commitment to training and proper product installation as well as support their efforts to differentiate themselves among builders."

In addition to its concrete installation workshop, Simpson is looking to launch a wood framers workshop in Spanish later this year. Visit the training section of our website to learn more. ■

CONTINUING EDUCATION & EVENTS

NORTHEAST

Architects, Engineers, Building Officials & Contractors

Crystal Lake, Illinois	Wednesday, August 3
Grand Rapids, Michigan	Wednesday, August 24
Louisville, Kentucky	Wednesday, September 14
Fishkill, New York	Wednesday, September 21

SOUTHEAST

Builders, Contractors & Developers

Jacksonville, Florida Thursday, July 14

Lateral/Seismic Design & Construction (2 days)

McKinney, Texas Thursday & Friday, July 21 & 22

Introduction to High Wind Design & Construction

McKinney, Texas Thursday, September 29

Designing for High Wind Construction

McKinney, Texas Friday, September 30

Introduction to Simpson Anchor Systems

McKinney, Texas Thursday, September 15
Jacksonville, Florida Wednesday, September 21

Effective Selling with Simpson Anchor Systems

McKinney, Texas Friday, September 16
Jacksonville, Florida Thursday, September 22

NORTHWEST

General Connector Technology - for All Audiences

Portland, Oregon Tuesday, September 20
Eugene, Oregon Thursday, September 22

Building Officials & Inspectors

Stockton, California Thursday, September 14

SOUTHWEST

General Connector Technology

Santa Barbara, California Thursday, July 21
Oahu, Hawaii Tuesday, August 9
Oahu, Hawaii Wednesday, August 10
Kauai, Hawaii Friday, August 12

Design Professionals

Brea, California Thursday, July 14

Building Officials & Inspectors

Brea, California Thursday, August 4

Contractors, Builders & Developers

Brea, California Thursday, September 15

Introduction to Simpson Anchor Systems

Brea, California Tuesday, July 12
Santa Maria, California Thursday, August 25
Brea, California September 22

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

CODE CORNER

THE 2006 INTERNATIONAL BUILDING CODE STRUCTURAL REQUIREMENTS

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.

With the ICC Code Development Committees' completion in early March of this code change cycle's second set of hearings, the 2006 International Building Code is just about finalized. All that remains are the Final Action Hearings at the end of September in Detroit.

The following are some of the more significant changes that will appear in the 2006 IBC structural provisions, barring a challenge to this year's committee action.

- In Chapter 16, the snow, wind, and earthquake loads have been removed, and replaced by a requirement that they be determined in

accordance with ASCE 7-05. Only basic charging language, maps, and information not contained in ASCE 7 will remain in the IBC.

- A significant change to wind design is that, in windborne debris regions, glazing will be required to be either impact resistant or protected with an impact resistant covering, which will limit the use of partially enclosed design procedures (*certain exceptions still remain*).
- For earthquake design, the Maximum Considered Earthquake Ground Motion Maps have been revised to reflect the 2002 USGS maps. Also, the Basic Load Combinations for both Load and Resistance Factor Design and Allowable Stress Design have been revised to exactly match those in ASCE 7-05.

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Structural Report is published by Simpson Strong-Tie Co., Inc. All information is meant to be relevant and useful. Information provided is for general understanding only. All designs or other information should be evaluated by a qualified design professional.

MAILING LIST

To revise your mailing information or to add to the mailing list, sign up on our Web site at www.strongtie.com/newsletter/. If you have any article ideas, send them to chudak@strongtie.com.

CODE CORNER (continued from page 3)

- For concrete construction, most of the design requirements of Chapter 19 have been removed and the designer is referred to ACI 318-05. However, over eight pages of modifications to ACI 318 were also approved for inclusion in the IBC.
- In Chapter 21, requirements for autoclaved aerated concrete masonry units were added. Also, the required length of reinforcement lap splices was simplified.
- Revisions to Chapter 22 continued the trend of removing code language and referencing consensus standards. Existing requirements for design of shearwalls with cold-formed steel framing were removed, and a new AISI/ANSI standard for lateral design is required to be used. Similarly, references to new AISI standards for cold-formed wall stud design and prescriptive framing were also added.
- The significant changes to wood design using Chapter 23 also involved referenced standards. For allowable stress design, the NDS was updated from the 2001 edition to

the 2005 edition. Also, the reference for LRF design of wood was changed from ASCE 16 to the 2005 NDS, since the NDS now contains provisions for both design methods. Another reference standard, the AF&PA *Supplement Special Design Provisions for Wind and Seismic* was approved as an alternate method for designing buildings containing wood shearwalls and diaphragms with one modification dealing with summing shear capacities of dissimilar materials on the opposite faces of the wall.

Other changes to Chapter 23 include the modification of the four part shearwall deflection formula where the h/b factor was added to the anchorage component, the addition of e_n and G_t values for calculating diaphragm and shearwall deflection, a change of the sill plate anchor bolt washer to 1/4" x 3" x 3" with a slot permitted, the addition of specific sizes (*length and diameter*) of nails to the prescriptive fastening section, and the addition of specific standards for galvanizing of fasteners in contact with pressure treated wood. ■

TECHNICAL UPDATE

(continued from page 1)

- Anchorage solutions have been updated to incorporate some revisions in the new ACI318-05 standard. Additional information is provided for anchorage solutions for wind design (*previously only seismic values were given which were conservative for wind*) and for various concrete strengths. Changes affect the 1997 UBC values, the 2000/2003IBC values, and the wall bracing values currently published in our C2005 catalog.
- 2003 IBC loads have been updated to account for an error found in our calculations. Some of the shear and uplift values have been reduced which will result in lower overturning tension demands on those walls .
- The allowable out-of-plane loads have been revised to account for the potential slip which could occur at the base of the wall due to the slotted hole used.

Please continue to visit our website for the very latest information on this topic, or call 1-800-999-5099 for technical support. ■



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STRUCTURALREPORT

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