



ICC-ES NEWS RELEASE

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ICC Evaluation Service Issues Report on Innovative Simpson Strong-Tie® Strong Frame® Steel Special Moment Frame Connection

[ICC-ES](#) has issued [ESR-2802](#) for the newly developed [Simpson Strong-Tie® Strong Frame®](#) steel special moment frame connection. The ICC-ES ESR gives specifiers, builders and code officials the confidence that this product's new approach to construction in seismic zones meets code requirements.

“This is an example of an innovative product becoming available in the building market,” said ICC-ES President Shahin Moinian. “We are pleased that Simpson Strong-Tie chose ICC-ES to evaluate its new product for code compliance.”

The [Strong Frame](#) steel special moment frame connection is designed to allow the patented Yield-Link™ Structural Fuse connection, rather than the steel beams and columns used in building construction, to absorb the damaging effects of an earthquake. With typical special moment frame connections, earthquakes can cause the steel beams and columns to be permanently deformed, having been stressed beyond the elastic region and into the plastic region. When steel is deformed into the plastic region, the deformations are permanent.

With the new, innovative Strong Frame special moment frame, the beams and columns are expected to remain nominally elastic, minimizing the need for difficult and costly repairs to beams and columns and allowing, instead, relatively easy and quick rehabilitation of the moment frame. The steel frames can be installed directly on concrete or masonry foundations or walls and are appropriate for retrofits as well as new construction.

“Simpson Strong-Tie is proud to introduce its latest innovative product, the Strong Frame special moment frame, to the industry,” said Jeff Ellis, S.E., Code Report and Branch Engineering Manager for Simpson Strong-Tie. “Code provisions for typical special moment frames require lateral bracing of the beam at plastic hinges and along the beam length, bracing that is difficult if not impossible to install in light-frame construction due to minimum strength and stiffness requirements for the bracing. The Strong Frame special moment frame represents an evolutionary step forward by providing a pre-engineered special moment frame solution for light-frame construction, as well as other construction, that permits large load resistance and greater openings without requiring beam bracing. Additionally, the field-bolted connections only require snug tight bolts, eliminating field welding and minimizing inspections. Wood nailers are also pre-installed to facilitate installation.

Being innovative has its challenges, but ICC-ES worked with Simpson Strong-Tie to obtain confidence in the performance of the Strong Frame special moment frame through their review,

including review of FEA and FEMA P795 analyses as well as observation of our full-scale testing,” Ellis added. “We are excited to bring this versatile product to market.”

ICC-ES ESR-2802, evaluated to the 2012, 2009 and 2006 [International Building Code](#)[®], explains in detail the structural design and prequalification limits, beam and column limitations, and requirements for the materials, bolting, beam-to-column connections, column-beam relationship, lateral bracing, continuity/stiffener plates and buckling restraint assemblies. The report also includes installation instructions and conditions of use. The information in the ESR clarifies the details that inspectors need when considering approval of the Simpson Strong-Tie Strong Frame special moment frame connection.

About ICC-ES

A nonprofit, limited liability company, ICC-ES is the United States’ leading evaluation service for innovative building materials, components and systems. ICC-ES [Evaluation Reports](#) (ESRs), [Building Product Listings](#) and [PMG Listings](#) provide evidence that products and systems meet requirements of codes and technical standards. The ICC-ES Environmental Programs issue VAR environmental reports that verify a product meets specific sustainability targets defined by today’s codes, standards, green rating systems and ICC-ES [environmental criteria](#). The Environmental Programs now offer Environmental Product Declarations ([EPDs](#)), to meet global market demand for science-based, transparent, quality-assured information about a product’s environmental performance. ICC-ES is a subsidiary of the [International Code Council](#)[®] (ICC[®]). For more information, please visit www.icc-es.org.

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