

The process of obtaining building code approval for a new product is clarified.

by SBCA Staff

New proprietary construction materials become available to the marketplace every day. These products could include anything from a new connector, a new framing method, a new composite truss chord member or truss plate. Manufacturers whose products are not already approved within the building code process in some manner must provide evidence that the new product being marketed "is at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety."¹ Exactly how the process works, the building code requirements for compliance, and who can provide an approval package for building official review and acceptance is the subject of many questions within our industry.

Question

What is the process for getting approval of a new product that is not currently addressed by the building code?

Answer

Design guidance for new products cannot be found directly within the code. Therefore, products that have a span table or design values not listed inside the IRC and/or IBC (basically anything other than a nail or lumber) need to have specific design values for use with the intended application. Design information that provides foundation for the product to be considered equivalent to that required by the code has to come from testing. This testing is generally performed by an independent testing facility where the product is evaluated to ASTM or ANSI testing procedures or some combination thereof. The facility will produce design values based on this testing.

There is confusion in the marketplace with building officials, builders, architects and engineers at times about what criteria must be met to approve the use of a new product in the intended application as meeting the requirements of the code. The good news is that the process is actually less complicated than it seems.

First, the product must be evaluated or tested to meet application and building code requirements using the standards and specifications referenced in the building code. This work is generally performed by a third party (i.e., independent professional engineer, test lab, etc.) to develop design values that allow for design to be performed in the context of the code requirements. Many independent testing agencies are available to test new products. After a product is tested, the testing facility will issue an evaluation report of the test data and create design values and other information pertaining to the product's performance. The next step is getting building official acceptance to use the product in a particular building application.

The checklist on page 11 outlines the process a building official follows to determine if the product complies with the code. If all the criteria in the checklist are met, the product or material should be accepted as an alternative material per IBC Section 104.11 and/or IRC Section R104.11. In this instance our checklist references Testing and Engineering Reports (TER) that are authored by SBCRI. To get a good

Continued on page 12

¹ International Building Code (IBC) 104.11 and International Residential Code (IRC) R104.11

DO THE MATH!

SS+TS+IPH=

Superior Strength + Top Stiffness + Ideal Plate Holding

Southern Pine:
Your Choice for Components

SOUTHERN PINE
BY DESIGN

www.southernpine.com • info@southernpine.com

For reader service, go to www.sbcmag.info/spc.htm

Testing & Engineering Report

BUILDING OFFICIAL'S ALTERNATIVE PRODUCT CODE-COMPLIANCE CHECKLIST

Key Code Requirements Summarized

<input type="checkbox"/>	Submitted construction documents propose use of an alternative product. ¹
<input type="checkbox"/>	An attached SBCRI/Qualtim Product Submittal Package documents that the proposed design is satisfactory and complies with the intent of, and is at least equivalent to the purpose intended by, the provisions of the code. ²
<input type="checkbox"/>	<p>The SBCRI/Qualtim Product Submittal Package includes a Testing & Engineering Report (TER). TER No. _____ provides a code-compliance evaluation for this product and application.</p> <p>This TER has been authored by SBCRI/Qualtim, Inc. (an approved independent agency³) and shall be reviewed and approved by the building official. "If it is determined that the evidence submitted is satisfactory proof of performance for the use intended ... the building official shall approve the use of the material or assembly subject to the requirements of this code," per IBC Section 1703.4.1.</p> <p>The Product Submittal Package also includes the following code-compliance documentation:</p> <ul style="list-style-type: none"> TER No.1009-04: Building Official Approval of the Use of Alternative Materials, Design & Methods of Construction TER No.1011-02: TER Code Compliance Evaluations TER No.1011-03: SBCRI is an Approved Agency TER No. 1011-05: Acceptance Criteria (e.g. AC-308, etc.) Are Not Consensus Standards and Therefore Are Not Required for Code Compliance
<input type="checkbox"/>	The Building Official reviews the construction documents, and the alternative product application conforms to the provisions of the building code, relevant laws, ordinances, rules, and regulations. ⁴
<input type="checkbox"/>	<p>The alternative product is approved and the permit is issued.⁵</p> <p>If disapproved, please provide the specific section(s) of the building code or local ordinance(s) that are violated, so that changes can be expeditiously made to provide a product application that conforms:</p>

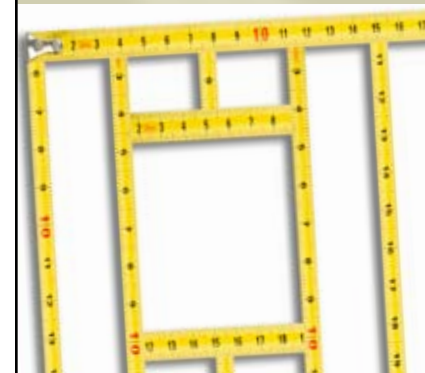
A Brief Summary of the Typical Alternative Product (or Design) Approval Process:

- The registered design professional (RDP) for the building designs a project that uses an alternative product that has been evaluated for code compliance via a specific Testing and Engineering Report (TER) issued by SBCRI (an approved agency).
- The RDP for the building justifies the use of the alternative product to resist the code-prescribed loading conditions.
- The building department then reviews and approves the construction documents, which include the alternative product, and issues a building permit.

¹ Proposed for use in accordance with IBC Section 104.2 / IRC Section R104.2 submitted & prepared in accordance with IBC Section 107.1 / IRC Section R106.1
² IBC 104.11, IBC 1701.2 & IRC R104.11
³ IBC 104.11.2, 1702.1, 1703.1 and IRC R104.11.1
⁴ IBC 104.2 & IRC 107.2.1
⁵ IBC 104.2, IBC 104.11 & IRC R104.11

SBC RESEARCH INSTITUTE 6300 Enterprise Lane • Madison, WI 53719 • 608.274.4849 • www.sbcrl.info

Wall Framing Made Simple...



PANELS PLUS

Success is measured only one way – by the components you build

With our reputation for building machinery "that works" and our master design capabilities you can be assured Panels Plus equipment will increase your production.

- Low budget multi function single table (requires little shop floor space)
- Custom length tables for long walls. Interior/exterior fastening options (nails, staples, screws)
- Custom built bridge over your existing table
- Tilt table with both side access (near vertical positioning)
- Floor section tables (adjusts from 6' to 16', up to any length)
- Steel stud tables (inquire)
- Sub component nailer (builds 8 different wall sub components)
- Mount any brand of nailer, stapler, screw gun (on most any machine)
- Material Handling carts (extra heavy duty)

For Information call Tim Kaasa
866.726.7587 or www.panplus.com

For reader service, go to www.sbcmag.info/panelsplus.htm

Technical Q&A
Continued from page 11

feel for the process and how compliance with the building code or adopted law works, it is best to review the TERs in this order:

1. TER No.1009-04: *Building Official Approval of the Use of Alternative Materials, Designs & Methods of Construction*
2. TER No.1011-02: *TER Code Compliance Evaluations*
3. TER No.1011-03: *SBCRI is an Approved Agency*

These TERs can be found at www.sbcrl.info/codecompliance.php.

The summary of product approval process using a TER compliance approach follows:

1. The registered design professional (RDP) for the building designs a project that uses an alternate product that has been evaluated for code compliance via a specific Testing and Engineering Report (TER) that contains test data, engineering evaluations of that test data and resulting design values and an evaluation of how the product complies with the building code requirements.
2. The RDP for the building has evaluated and performed calculations to define the applied loads and required resistance to those loads and has justified the use of the alternate product to resist these code prescribed loading conditions.

3. The product design is sealed by a product engineer and incorporated into the building design through the construction documents which are then sealed by the RDP.

The building department then reviews the product use for compliance with the intent of the building code and approves the construction documents that include the alternate product and issues a building permit. **SBC**

To pose a question for this column, call the SBCA technical department at 608/274-4849 or email technicalqa@sbcmag.info.

New SBCA Members

REGULAR MEMBERS

Meek's Truss
10547 E Stockton Blvd
Elk Grove, CA 95624-9743
916-714-5230
Mr. Richard Avery

Quality Truss
139 UPS Rd
Ruston, LA 71270-3026
318-255-5959
Mr. Charles Terry

Triple D Truss, LLC
78 W Dunkle Rd
Mill Hall, PA 17751-9226
570-726-3328
Ms. Miriam Allgyer

ASSOCIATE MEMBERS

Dow Building Solutions
1605 Joseph Dr
Midland, MI 48674-0001
989-636-6300
Ms. Jessica Dub

Listing as of 12/14/10. For more information about SBCA membership, contact Anna (608/310-6719 or astamm@qualtim.com) or visit www.sbcindustry.com.



**It's easy
to show some
restraint.**

Announcing BCMC Build 2011 in Indianapolis, September 2011



With your generous support, BCMC Build gave shelter to a deserving Charlotte family. Together we can build a dream in Indianapolis. Join us in Building Community and Making Connections.

See what's new at bcmcbuild.com.

For reader service, go to www.sbcmag.info/bcmc.htm



Simpson Strong-Tie continues to look for ways to simplify the installation of wood and cold-formed steel trusses. Our new line of spacer restraint, diagonal bracing and hip-end purlin connectors are designed to eliminate steps that add time and expense to the job. The adjustable AHEP connector is a structural purlin that also serves as lateral restraint. It attaches at the leading edge of step-down hip trusses and eliminates the need for drop top chords and fillers. The TBD22 diagonal truss brace offers a time-saving alternative to traditional diagonal bracing. The TSBR and S/TSR truss spacer restraints capture the on-center spacing of wood and cold-formed steel truss chords and webs, and laterally restrain truss members, allowing quicker, easier and safer installations.

For more information about these connectors and all of our truss solutions, call (800) 999-5099 or visit www.strongtie.com/truss.

For reader service, go to www.sbcmag.info/simpson.htm



©2011 Simpson Strong-Tie Company Inc. TRUSS10

STRUCTURAL BUILDING **COMPONENTS**TM

THE FUTURE OF FRAMING

www.sbcmag.info

Dear Reader:

Copyright © 2011 by Truss Publications, Inc. All rights reserved. For permission to reprint materials from **SBC Magazine**, call 608/310-6706 or email editor@sbcmag.info.

The mission of **Structural Building Components Magazine (SBC)** is to increase the knowledge of and to promote the common interests of those engaged in manufacturing and distributing of structural building components to ensure growth and continuity, and to be the information conduit by staying abreast of leading-edge issues. SBC will take a leadership role on behalf of the component industry in disseminating technical and marketplace information, and will maintain advisory committees consisting of the most knowledgeable professionals in the industry. The opinions expressed in SBC are those of the authors and those quoted solely, and are not necessarily the opinions of any affiliated association (SBCA) .



6300 Enterprise Lane • Suite 200 • Madison, WI 53719
608/310-6706 phone • 608/271-7006 fax
www.sbcmag.info • admgr@sbcmag.info