

STRUCTURAL BUILDING COMPONENTS MAGAZINE (FORMERLY WOODWORDS)

August 1999

Engineering Review Update

by Jim Vogt, P.E.

The Engineering Review Committee (ERC) monitors, provides advice and offers direction concerning technical matters involving industry standards, technical policy, code enforcement procedures, etc., affecting the metal plate connected wood truss industry and the manufacture and use of trusses. The ERC closely cooperates with and participates in efforts by the Truss Plate Institute and its Technical Advisory Committee, as well as any other code-writing or standards-setting organizations. In addition, the committee serves as the Engineering Review Board for WTCA.

INTERNATIONAL BUILDING CODE

In addition to the code change work concerning truss design requirements ([see "International Building Code™ and International Residential Code™ Development Update," in the June/July 1999 issue of WOODWORDS](#)), the ERC is challenging an IBC code change proposal by the Gypsum Association that would require the ceiling membranes in one-hour fire endurance roof/ceiling assemblies with "pitched engineered roof trusses" to be one-hour rated. Current practice allows for the substitution of pitched roof trusses into any of the fire endurance assemblies that have been tested using trusses. These include L528, L529, L534 and L542 from Underwriter's Laboratory, Inc., and FC5512, FC5515, FC5516 and FC5517 from the Gypsum Association. The majority of these assemblies have been tested using parallel chord trusses of a minimum depth and with the lumber in the trusses oriented flatwise (i.e. wide face oriented horizontally). These tested assemblies represent the "worst case" conditions with respect to truss member size, connector plate orientation and assembly thickness. Pitched roof trusses are generally much deeper and use larger members than the trusses used in the tested assemblies. Since the larger member sizes will provide a fire endurance rating that is at least equal to if not greater than the smaller members, direct substitution of roof trusses for the parallel chord trusses is generally acceptable. The Gypsum Association's proposal seems to ignore this practice and would require a one-hour rated ceiling membrane with all roof/ceiling assemblies using "pitched engineered roof trusses" when a one-hour fire endurance rated roof/ceiling assembly is required. One solution is to use a ceiling consisting of two layers of 5/8" type X gypsum wallboard. However, this will change the economics of roof/ceiling assemblies significantly. WTCA and AF&PA have submitted challenges to this proposal and will argue for its disapproval at the Code hearings in St. Louis this September. If we are successful, this proposal will be removed from the IBC. (More information about how these new codes could impact the industry will be presented at BCMC. To find out more about this seminar check out the BCMC web site.)

TRUSS ALTERATION PROVISIONS FOR INTERNATIONAL MECHANICAL CODES

The ERC has also submitted a proposed code change to both the International Plumbing Code (IPC) and the International Mechanical Code (IMC) concerning the field alteration of trusses. The proposed code change is identical to the one used in both the IBC and the IRC and reads as follows: Alterations to trusses. Truss members shall not be cut, drilled, notched, spliced or otherwise altered in any way without the approval of a registered design professional. Alterations resulting in the addition of load (e.g., HVAC equipment, water heater), which exceeds the design load for the truss, shall not be permitted without verification that the truss is capable of supporting such additional loading.

The IPC and the IMC do not currently contain any provisions pertaining to the field modification of metal plate connected wood trusses. Since plumbers, electricians and HVAC installers represent a significant portion of tradespeople that frequently field modify and cause damage to installed trusses, it is hoped that placing this provision into these codes will help reduce the amount of alterations caused by this group.

FLORIDA BUILDING CODE

The State of Florida is in the process of developing a single, statewide code to replace the many local and state building codes in existence today. The intention is to reduce the confusion and complexity of the existing system. Adoption of the new code has been targeted for 2001. The ERC is working in tandem with the five Florida Chapters of WTCA to monitor the development of the Florida Code. A critical portion of this involvement will be to thoroughly review the new code for all provisions relating to trusses.

[SBC HOME PAGE](#)

Copyright © 1999 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 of the affiliated associations (SBCC, WTCA, SCDA & STCA).