STRUCTURAL BUILDING COMPONENTS MAGAZINE
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New TTBs: "Fire Endurance Rated Truss Assemblies" & "Sprinkler Systems & Trusses" by Richard Zimmermann

WTCA has created two new documents in its Truss Technology in Building (TTB) series that focus on issues related to the fire industry.

FIRE ENDURANCE RATED TRUSS ASSEMBLIES

This document is a summary list of truss assemblies that have been tested for fire endurance. Beginning as early as 1977 a variety of interested parties have contributed to the development of tested truss assemblies rated from 45 minutes to two hours to meet the requirements of the model building codes. This TTB is intended for distribution to construction professionals to assist them in specifying tested wood truss assemblies in multifamily and commercial construction.

“Fire Endurance Rated Truss Assemblies” is designed to serve as a reference to the individual reports that list the specific details of each assembly. The document organizes the assemblies by:

- Tested time rating
- General construction category (floor-ceiling and/or roof-ceiling, suspended ceiling or gypsum ceiling, and insulation)
- Construction information (spacing, minimum depth, number of layers and types of gypsum or suspended ceiling information, proprietary systems, resilient channel and sheathing specifications)
- The report source

Tests follow a specific protocol defined by the American Society of Testing and Materials' Standard Methods for Fire Tests of Building Construction and Materials (ASTM E119). Tests are done in a controlled environment by an independent testing agency, like Underwriters Laboratories (UL), PFS Corporation, Factory Mutual or Warnock Hersey. Parties that have submitted wood truss assemblies for testing include TPI and WTCA, various individual gypsum manufacturers and the Gypsum Association, and individual truss plate manufacturers like Alpine and Truswal.

The reports of the tested assemblies are available from a number of sources:

- Fire Resistance Directory, published by Underwriters Laboratories and available online
- Fire Resistance Design Manual, published by the Gypsum Association and available for free download
- Directory of Listed Products, published by ETL SEMKO/Warnock Hersey and available online
- ANSI/TPI 1-1995, published by TPI (Can be ordered from WTCA)

- Metal Plate Connected Wood Truss Handbook, published by WTCA
- Individual reports from the National Evaluation Services (NER) available online
- Or the individual parties submitting the assembly for testing

SPRINKLER SYSTEMS & TRUSSES

Please note that this TTB is in the final stages of development and will be available to order mid- to late- summer. This document will outline the design requirements of sprinklers as they relate to wood truss construction based upon:

- NFPA 13, Standard for the Installation of Sprinkler Systems
- NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height
- NFPA 13D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes

The goal of "Sprinkler Systems and Trusses" is to assist construction professionals in determining the most economical design for buildings that require sprinkler systems when using wood trusses.

NFPA 13R and NFPA 13D standards are intended by NFPA specifically to offer a national consensus on providing a reasonable level of fire protection with regard to safety of life. These standards also account for the statistical frequency of fire occurrence in the location of the sprinklers, thereby reducing some installation cost. The major emphasis of this publication is the category of buildings covered by NFPA 13R, where sprinkler application is common and savings can accrue:

- Apartment and condominium buildings
- Lodging and rooming houses
- Board and care facilities (slow evacuation type)
- Hotels, motels and dormitories

The consideration of cost as a factor in fire protection systems originated with the NFPA's efforts to make sprinkler protection use more wide-spread. This interest has been supported by the sprinkler head manufacturers who have developed a wide range of products specifically to address the needs of residential construction. In addition, sprinkler head manufacturers, like Tyco-Central, have developed products to address specific concerns of wood truss construction such as sprinklers required in concealed spaces or in attics with hip ends.

For more information on these documents, contact WTCA at 608/274-4849 or pubs@woodtruss.com. Or, visit WTCA's web site at www.woodtruss.com.

SBC HOME PAGE

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