STRUCTURAL BUILDING COMPONENTS MAGAZINE (FORMERLY WOODWORDS)
April 2000

NAHB Research Center

Design Guide Aims to Improve Structural Performance

The residential building and design industries in the United States have encountered a number of challenges in recent years. Some of these challenges have been driven by increasingly complex home systems, an infusion of innovative materials and technologies, and rising population in high-hazard areas of the country.

In response to these design challenges, the NAHB Research Center, with funding from the U.S. Department of Housing and Urban Development (HUD), has just completed the *Residential Structural Design Guide: A State-of-the-Art Review and Application of Engineering Information for Light-Frame Homes, Apartments, and Townhouses*. This newly-released guide is a unique and comprehensive tool for anyone involved in whole house or component design who is seeking to provide value-added services to the producers and consumers of U.S. housing. It gives a comprehensive review of design methods and research information applicable to residential construction.

Given that most homes in the U.S. are built with wood structural materials, the Guide focuses on appropriate methods of design associated with wood in above-grade applications. The design recommendations included are based on the best information available for the safe and efficient design of homes. Much of the technical information and guidance is supplemental to existing building codes, standards and design specifications that define current engineering practice. In fact, current codes may not explicitly recognize some of the technical information or design methods described or recommended in the Guide.

The use of alternative means and methods of design should not be taken lightly and this guide does not try to suggest otherwise. The recommendations should not be undertaken without first carefully considering the wide range of implications related to the minimum requirements of applicable building codes, the local process of accepting alternative designs, the acceptability of the proposed alternative design method or data, and exposure to liability when attempting something new or innovative, even when carried out correctly. Through the Residential Structural Design Guide the Research Center hopes to provide technical insights into home design that have not been compiled elsewhere but deserve industry recognition and consideration.

The Guide’s primary objectives are:

To present a sound perspective on American housing relative to its history, construction characteristics, regulation, and performance experience.

- To provide the latest technical knowledge and engineering approaches for the design of homes to complement current code-prescribed design methods.
- To assemble relevant design data and methods in a single comprehensive format that is instructional and simple to apply for the complete design of a home.
- To reveal areas where gaps in existing research, design specifications, and analytic tools necessitate alternative methods of design and sound engineering judgement to produce efficient designs.

The Residential Structural Design Guide was created to foster a better understanding of homes as structural systems among engineers, architects, code officials, home builders and component manufacturers. It is available through the NAHB Research Center by calling 800/638-8556 or by visiting our new On-line Bookstore at www.nahbrc.org (click on “Publications”).

The NAHB Research Center is the not-for-profit research arm of the National Association of Home Builders, and is located in Upper Marlboro, MD. In its nearly 40 years of service to the home building industry, the Research Center has provided product research and building process improvements that have been widely adopted by home builders in the United States.

SBC HOME PAGE

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).