

STRUCTURAL BUILDING COMPONENTS MAGAZINE (FORMERLY WOODWORDS)

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"Code Conforming Wood Design" by John "Buddy" Showalter, P.E. & Kenneth E. Bland, P.E.

Code Conforming Wood Design is a modest name for a computer program that can make life dramatically easier for designers and building officials. The software demonstrates the degrees of freedom allowed in wood construction and provides height and area allowances under each of the three model building codes for 25 use groups and five types of construction. Also included is information on code requirements for structural and architectural wood features that can be used to facilitate and complement wood building construction. The American Forest & Paper Association's American Wood Council (AWC) has replaced its 1988 print publication entitled Code Conforming Wood Design with a newly revised electronic software version which can be downloaded free from the AWC web site. The new software is also available as part of the WoodWorks® Design Office 2000 CD-ROM. The software requires Windows 3.x, 95 or NT.

There are five types of construction covered in Code Conforming Wood Design for each model building code:

- Heavy Timber: Large, exposed wood members.
- One-Hour Ordinary: Non-combustible exterior walls; protected wood-frame interior walls, floors and roofs (1-hr rating).
- Unprotected Ordinary: Non-combustible exterior walls; unprotected wood-frame interior walls, floors and roofs.
- One-Hour Wood Frame: Protected wood-frame exterior and interior walls, floors and roofs (1-hr rating).
- Unprotected Wood Frame: Unprotected wood-frame exterior and interior walls, floors, and roofs.

WHAT'S NEW

The electronic version of Code Conforming Wood Design has new interactive options that allow a designer to consider the impact of specifying wood. When the user selects the model building code, use group and type of construction, the program outputs the maximum height and area permitted, based on assumptions of 100% open perimeter and the building being sprinklered per code requirements. Another option allows the user to enter the design parameters, including changes to sprinkler and open perimeter defaults. The program then outputs the types of construction that would be permitted under the selected building code.

Consider, for example, designing an office building in Clearwater, Florida. Using the Code Conforming Wood Design software, a user would select the program's Standard Building Code section, then the Business Use Group. If the user selects an Unprotected Wood Frame (Type VI-Unprotected) construction type, the screen reveals the maximum allowable number of stories

(2), building height (40 ft.) and floor areas (36,000 ft² for one story or 27,000 ft² total for two stories)—assuming the building is sprinklered, with 100% open perimeter. In addition, a diagram at the right of the screen illustrates how the Allowable Area Per Floor is calculated—with increases for open perimeter and Code Conforming Wood Design sprinklers. Links to Regional Code Experts, other Building Codes and Use Groups, and a definition of the designated construction type are also provided on the screen.

CALCULATOR OPTION

Alternatively, by clicking on the calculator icon at the bottom of the screen, a dialogue window will appear for the user to input the building parameters. The program will compute the appropriate construction types allowed based on the specified parameters.

“WOOD USES” FEATURE

Each category of information has a link to “Wood Uses.” Here the designer can immediately access a wealth of information on structural and architectural wood features that can be used to facilitate and complement construction of a wood building. The designer learns the fine points on code requirements for permanent wood foundations, walls and partitions, paneling, interior trim, doors and windows, sidings, veneer, exterior trim, cornices, balconies, and roof coverings.

AVAILABILITY

Code Conforming Wood Design can be downloaded for free directly from the American Wood Council’s web site: www.awc.org. Or, the program is included in the WoodWorks Design Office 2000 CD-ROM, available from the WoodWorks web site at www.WoodWorks-Software.com or by calling 800/844-1275.

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