



## **Hammer, Saw, Personal Computer**

### **Improving Home Construction with Framing Design and Fabrication Software**

By Tim Debelius

One of the most critical tools for building modern residential structural frames isn't found in any toolbox. In fact, it isn't a tool you hold and exists primarily in the form of digital information. While new homes have largely been hand built for centuries, computer software is becoming an increasingly critical tool for pre-planning, as well as prefabricating, framing components and systems. Advanced framing design and fabrication software helps builders speed up home construction, enhance quality and reduce construction waste.

In a survey of the top 100 U.S. builders conducted in early 2007, cycle time was reported as the number one factor for improving competitive position in the next 10 years. And increasingly, builders are looking for ways to reduce jobsite waste, both as a way to save money on materials and disposal fees, and to demonstrate their commitment to green building practices. A key way they can meet all of these goals is by using ready-to-install framing in the form of pre-cut and labeled kits of materials or pre-fabricated floor and wall panels.

While pre-built framing components are not entirely new, the advent of integrated framing design and fabrication software packages is making new waves in the industry. Such software works together to help optimize the use of materials in home construction.

On the design front, previous software programs did a good job of analyzing floors, walls and roofs individually, but software is now available that can evaluate a home's framing as an entire system. For example, iLevel's Javelin® design software allows designers to track vertical loads from ridge to sill plate and effectively specify structural support members only in the places they are necessary. Resulting product cut-lists that reflect a reduction in materials help reduce material waste.

In addition, designers can use modern software to examine a home's frame from all angles and identify where there are building conflicts or obstructions. Where there are conflicts, changes can readily be made before materials are ordered, cut or delivered.

The result is a reduced risk of costly on-site changes to plans, fewer framing errors and reduced risk of call-backs.

Taking the process a step further, fabrication software can convert data from design software packages into electronic instructions that guide computer-controlled saws. Building material dealers and framing component fabricators can use such software to better manage their material cutting operations. According to David Brown, general manager of building material distributor Reserve Supply, builders benefit from fabrication software such as iLevel® Stellar™ because it reduces or eliminates the hassles and waste of cutting materials on site. “The time savings for builders is substantial,” says Brown. “One of our customers works with a builder who estimated it would take about one and one-half days to frame a floor the traditional way, but by using a floor framing kit he was able to cut that time in half. In addition, because we can plan cuts for multiple orders and trim materials to size, there is less scrap generated during the homebuilding process.”

In today’s housing market, reducing costs wherever possible is critical to profitability. Design and fabrication software can help by enabling builders to construct framing more quickly and efficiently.

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### **About iLevel by Weyerhaeuser**

iLevel is Weyerhaeuser’s integrated residential framing business resulting in a seamless, unified solution for residential builders through dealers – offering a coordinated network of support for all structural framing materials. By combining Weyerhaeuser’s high-quality products and services from well-known brands like Trus Joist and Structurwood, with its distribution and technology capabilities, iLevel efficiently supplies customers with all the necessary components for building the residential structural frame, and solving builder and customer needs around that frame.

### **About Weyerhaeuser**

Weyerhaeuser Company, one of the world’s largest integrated forest products companies, was incorporated in 1900. In 2006, sales were \$21.9 billion. It has offices or operations in 18 countries, with customers worldwide. Weyerhaeuser is principally engaged in the growing and harvesting of timber; the manufacture, distribution and sale of forest products; and real estate construction, development and related activities. Additional information about Weyerhaeuser’s businesses, products and practices is available at <http://www.weyerhaeuser.com>.