

Factory-Built Frames: A Growing Trend?

One lumber retailer is betting on it

As the skilled labor shortage continues to plague the construction industry, an increasing number of builders are looking to factories for options. Few custom builders are interested in the familiar double-wide units commonly associated with the prefabricated housing market, but many are weighing the benefits of building houses from manufactured components. In addition to requiring less skilled labor on site, manufactured components have the advantage of being built indoors under controlled conditions (see "Factory-Built Custom Homes," 2/99, and "Panelized Houses," 6/96).

Currently, however, most factories are geared up to produce a limited number of designs, which are then sold through a network of dealers. This makes it difficult for custom builders and remodelers to find a manufacturer who is willing

and able to adapt factory production methods to custom designs. In addition, successful residential contractors who think of themselves as artisans may recoil at the notion of merely assembling prefabricated pieces. In the face of these obstacles, the popularity of component construction seems destined to grow slowly unless contractors and manufacturers find ways to adapt the relatively new technology to traditional building methods and mindsets.

One company that is attempting to bridge the gap is Wickes Lumber, which is betting heavily that component construction is a growing trend. Wickes currently offers 100% component-built house framing packages in four major metropolitan areas (Denver, Louisville, Charlotte, and Indianapolis). During the next few years, the company plans to

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Drywall Shortage Continues

Manufacturers and construction suppliers are scrambling to alleviate a drywall scarcity in various parts of the country. The *New York Times* reports that with all existing factories running at full capacity (producing 27 billion square feet annually), builders in many areas still find themselves facing rationing systems at supply yards.

Current problems stem in part from the inability of USG, the country's largest drywall manufacturer, to expand production capacity during the early 90s due to restrictions imposed while the company emerged from bankruptcy oversight. Increased demand during the current construction boom has driven drywall wholesale prices up to \$150 per 1,000 square feet. USG alone has raised prices about 20% during the first quarter of this year. Relief may not come until later this year when USG, Georgia-Pacific, and Lafarge Corp. all plan to bring new factories on line.



Building with preassembled components is becoming more common, not only among tract developers but increasingly among custom home builders.

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expand its manufacturing arm into its 20 other markets.

More than just a truckload of components, Wickes considers its framing package to be a custom-engineered system, which includes all framing, sheathing, doors, and windows, from the mud sill to the roof. The company claims that a typical package goes up in just one day with a crew of five and a small crane.

To find out more about how component-built houses compare with the stick-built variety, and to determine how Wickes's program differs from those of other manufacturers, we interviewed Dave Krawczyk, COO of Wickes Lumber.

JLC: *How long has Wickes been manufacturing components?*

Dave Krawczyk: We've operated truss plants for over 20 years. In early 1997, we included floor decks and wall panels.

JLC: *How does your approach differ from that of other premanufactured housing factories?*

DK: We produce components or subassemblies and coordinate their assembly on the job site. Many manufactured housing companies build a structure in a couple of modules and deliver an essentially completed product.

JLC: *What quality control standards do you use at the factory?*

DK: To us, the most significant part of the process is the design, because what gets designed is what gets built. The CAD system actually feeds the component saw, which cuts the stock that is then fed to the framing table. The last worker on the production line uses the CAD drawing to make certain that each panel is built to spec.

JLC: *What are the design limitations for custom homes?*

DK: There really are no limitations. Essentially, component manufacturers take what's typically being field-framed and instead build it more consistently in a more controlled environment. I like to think of it this way: If you deliver the same materials to two different framing crews to build the exact same house and say, "Have at it, guys," one crew will probably be long on material, and the other will probably be short. Component building optimizes the use of materials and controls costs very precisely.

JLC: *Does Wickes engineer the whole package?*

DK: Yes. And by the way, when Wickes manufactures both the wall panels and trusses, the trusses stack right over the studs. It's a small detail, but something that doesn't always happen on site.

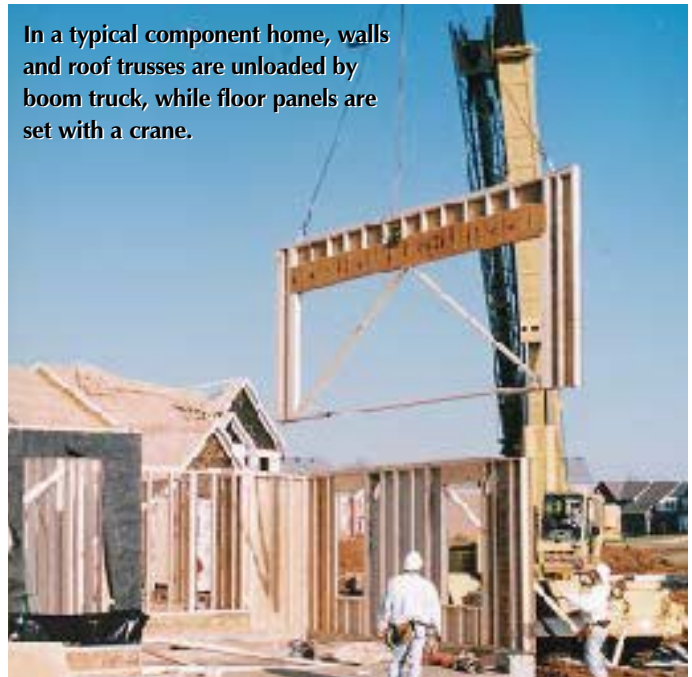
JLC: *What kind of warranty do the packages carry?*

DK: The warranty we offer is identical to that offered by a traditional framer, specific to each market.

JLC: *What kind of adjustments do stick builders have to make when they switch to components?*

DK: The biggest obstacle is psychological. The first time a

In a typical component home, walls and roof trusses are unloaded by boom truck, while floor panels are set with a crane.



builder uses panels, there's probably going to be some bumps in the road, but no more than when a framing crew stick-builds a new house plan.

JLC: *What about crew requirements?*

DK: My recommendation is to have a journeyman carpenter heading the crew. Not that it's needed, but it's reassuring to have that level of expertise on site. Besides that, a crew of four people is enough to pick up panels and move them into place.

JLC: *How about scheduling?*

DK: The strongest selling point of panels is their predictable cycle time. Framing a typical house takes a day. If the crew totally screws up, it might take two days.

JLC: *What if a panel needs to be reordered from the factory because it was done wrong the first time?*

DK: There's actually a couple of different alternatives. Depending on proximity to the plant and so on, we can turn around that panel in an hour in the plant. Or it could be field-framed and credited on a time-and-materials basis.

JLC: *What kind of equipment do contractors need if they decide to use components?*

DK: If they go with floor decks, the only additional piece of equipment they may need is a sky truck with an extended boom lift or a small crane. But we can also use one of our knuckle-boom tractor trailers that has the crane attached to lift panels to the second story for them.

JLC: *Where are the biggest cost savings?*

DK: The framed-in cost of panels is probably more expensive than for stick-built. But a builder makes up the additional costs associated with using panels because ... houses get closed in and protected much more quickly.



Jet Engine Blasts EIFS Walls in Weather Test

BOCA, the predominant model code in the northeastern U.S., recently began to require testing for all barrier-type EIFS (systems without a secondary drainage plane). Although BOCA's test procedures have not yet been defined, Sto Corp., the manufacturer of Dryvit EIFS, decided to put its older barrier product to an extreme water penetration test using a DC-3 plane engine to



Sto Corp., manufacturer of Dryvit EIFS products, tested a barrier-type EIFS system using a DC-3 airplane engine (at right in photo) to generate 90-mph water-laden winds. The newly constructed test wall included many penetrations that are commonly found on buildings. Although no water leaked into the wall cavity, it's unclear how the caulking joints would hold up over time.

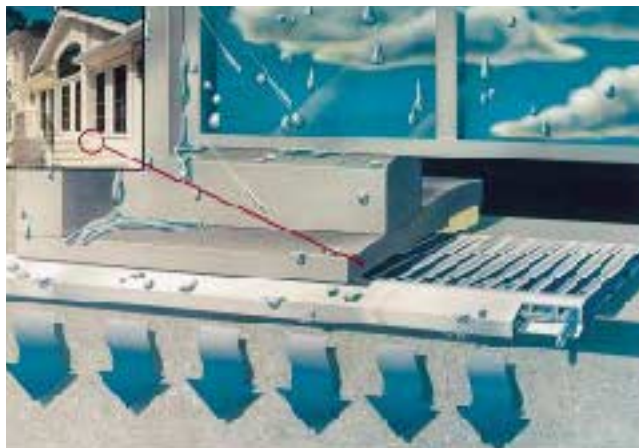
generate water-laden winds from 75 to 90 mph.

The newly constructed 20x24-foot EIFS test wall (photo, left) featured many common details found in wood-framed construction, including three windows, an entry door with gable roof, a roof parapet with scupper, a cantilevered deck, wall penetrations for utilities, light fixtures, and electrical outlets. Besides being carefully installed and sealed, the test wall incorporated a new PVC drainage sill under the window (illustration, below), and kick-out flashing where the gable roof empties into gutters along the EIFS wall.

The 90-mph test winds exerted approximately 5 tons of pressure. "At that point, the test pressures greatly exceeded the design limits of the win-

dows," says Sto Corp.'s John Edgar. "Water was spewing through them. But the flashing details did not permit water leakage into the wall cavity."

While that may have been true, questions still remain on how well the installation details hold up over time, especially details that rely on sealants alone. All caulked joints in the test were new and did not have time to shrink or crack as most caulking joints will over time. If water gets through EIFS cladding into a wall cavity, the trapped moisture will lead to rot. But how high the risk is for any particular building will depend on local weather conditions, the EIFS system and related products being used, the care taken during installation, and the attention paid to maintenance during the life of the building.



Since the high-profile EIFS failures of the last decade, new products and installation procedures have been developed. One such measure, a Sill Sentry window drainage subsill, is intended for both new construction and EIFS damage remediation projects.

Porter-Cable Reconsiders Tool Phase-Out

Agroundswell of complaints from the field is forcing Porter-Cable to rethink its decision to phase out a power tool it's been making for more than 40 years. Faced with expensive retooling costs for a tool with limited sales, production was quietly halted a year ago on the 9118 Porta-Plane, long a favorite of door hangers and finish carpenters. The complaints started rolling in as soon as inventory began to run out at supply houses. Company spokesman Rick Showers told *JLC*, "I think we've gotten calls from everyone who ever owned one or wanted to own one." According to Showers, a final decision on whether the tool will be reintroduced is not expected for some time.

TAX TALK

New Home Office Deduction Rules

by Milt Zall

Under the new IRS definition of “principal place of business,” your home office may qualify for a deduction on your 1999 tax return if the following two conditions are met:

1. You use your home office exclusively and regularly for administrative or management activities; and
2. You have no other fixed location where you do this type of work.

Among other things, “administrative or managerial activities” include billing customers, keeping books and records, ordering supplies, setting up appointments, and forwarding orders or writing reports.

More important, you will still qualify if you have suitable space outside your home to conduct administrative or management activities, but choose to use your home office instead. In addition, you qualify even if others conduct your administrative or management activities at locations

other than your home — for example, if another company does your billing from its place of business. And you will still qualify if you also conduct administrative or management activities in places that are not fixed locations, such as in your truck or a hotel room.

The new rules make it possible for some contractors to qualify for a deduction in 1999 even if they never qualified before. However, this new definition of “principal place of business” does not affect the other tests you must meet to claim expenses for the business use of your home. You still must use the business part of your home both exclusively and regularly for your trade or business, and if you are an employee, the business use of your home must be for the convenience of your employer. For more information, see IRS publication 587.

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CALLBACKS

A fire hazard caused by molten metal from disintegrating heating elements has led Rheem Manufacturing to recall 135,000 electric furnaces and air handlers. Only certain down-flow and horizontal installations using RBEA, UBEA, WBEA, and WBEMA models with date codes between 3592 and 4595 are affected. The date code follows the letter M in the serial number. For more information, call Rheem's toll free number (877/749-6035).

Faulty vent systems have led to a recall of 22,000 decorative gas fireplaces made by Marco Manufacturing. The interior vent pipe can separate from its connection, releasing hot exhaust into the wall cavity. Model numbers starting with 794 or 797 are affected. Model numbers are located inside the lower grill door. Most of these units were installed into new homes between 1993 and 1997. For more information, call Marco at 877/413-9850 or 888/420-6272.



Free Safety Seminars

The National Association of Home Builders is offering more than 30 free construction safety seminars around the country this year. Funded by a federal OSHA training grant, the seminars cover OSHA standards for common job-site hazards and sets out both employer and employee responsibilities on the job as well as training requirements. Attendees of the 8-hour seminars, which are open to all, earn an OSHA/NAHB certification card and receive an informative 100-page manual. To find out if any seminars are scheduled for your area, call 800/368-5242, ext. 226, or point your browser to www.nahbrc.com. Seminars can also be arranged through a local home builder association if at least 75 people sign up.

OFFCUTS

The baby bust is coming to an end after nearly two decades. For builders, the growing number of twenty-somethings means an increased demand, first for apartments, then for starter homes. According to recent U.S. Census data, the number of young, under-25 households is up almost 10% since 1993 to around 5.5 million, and will continue to grow for the next 15 years.

Lead abaters are protesting relaxed regs proposed by the EPA which would allow disposal of lead-paint-coated materials in regular landfills, according to an AP report. Through the newly formed Alliance for Safe and Responsible Lead Abatement, the \$50 million industry is bankrolling a \$40,000 study to counter the EPA's conclusion that eased rules won't harm drinking water supplies.

A health insurance tax deduction for the self-employed is finally being phased in by the feds. The 45% premium deduction allowed in 1998 will increase to 60% in 1999, 70% in 2002, and 100% in 2003.

The online buying trend is growing. Nearly 40% of industrial consumers are making Internet purchases once a week, and more than 25% spend more than \$1,000 per month, according to a recent survey by VISA and Thomas Register. With companies like Grainger, Home Depot, and a number of tool retailers offering online sales, it may not be long before increasing numbers of builders start browsing for job supplies.

OSB will overtake plywood in 1999 for the first time ever, according to APA — The Engineered Wood Association. In 1998, OSB output grew by 12.2%, while plywood production dropped by 1.2%.

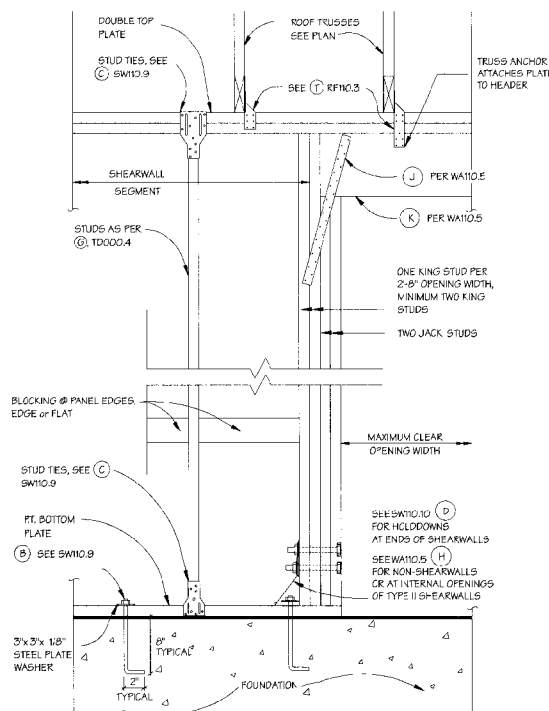
Florida's High Wind Project

Following Hurricane Andrew in 1992, the Florida Wood Council (FWC) and several other wood associations initiated the High Wind Project, aimed at finding wind-resistant single-family house designs. At the time, the only alternative to an engineer's stamp was to follow a costly set of regulations that was hastily added to Chapter 16 of the Florida Building Code in October 1993. The goal of the project was to simplify wind-resistant building design into one state-approved guidebook so that builders would not be forced to either struggle with the "10/93" procedure or obtain an engineer's approval.

The Guide to Wood Construction in High-Wind Areas came out of the study and recently gained state building code approval. It focuses specifically on one-story single-family houses positioned no more than 3 feet above grade with a maximum 40-foot truss span, 80-foot building

length, 20-foot roof height, and 10-foot wall height. Proscriptive practices include fully sheathed walls with metal connectors and shear walls at specified locations. Overall, says FWC's Bill Tucker, the guide "reduces the need to get engineers involved on most residential jobs" and "provides a code-approved document that both inspectors and framers can work off of." Tucker also called attention to FWC cost analyses that show the recommended framing practices cost 15% less than the previous "10/93" method and 20% less than concrete block construction.

The *Guide* also approves for the first time the use of perforated shear walls, which have shear connectors at each end but allow for wall openings with regular uplift connectors in between. The guide (\$15 from FWC, P.O. Box 1667, Mt. Dora, FL 32756; 352/385-0081) combines clear information on building practices, with span tables and detailed construction drawings.



This drawing, from the *Guide to Wood Construction in High-Wind Areas*, shows framing and hold-down details that meet 110-mph wind performance standards for one-story single-family residential construction under the Florida Building Code.