

NOTEBOOK

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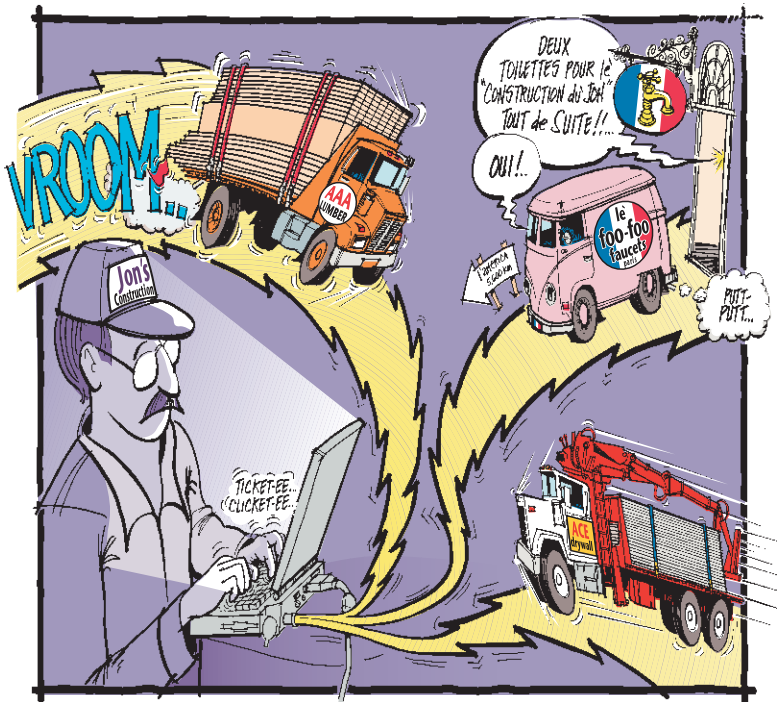
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Builders Go Online

According to most estimates, at least 75% of all professional builders now use the Internet in the course of their work. In addition to sending and receiving e-mail — probably its single most popular application — builders also use the Internet as a library for researching products and materials, looking up specs and rough-in dimensions, and keeping an eye on competitors' web sites. Online merchants such as Amazon's Tool Crib of the North are proving popular with builders shopping for price, as well as those in rural areas with few local sources of specialized tools.

A growing number of builders are also taking advantage of online procurement, which allows them to check the availability and current pricing of lumber and materials, place orders, and schedule deliveries at any hour of the day or night. And while the number of actual users is still tiny, it's a sector of the market

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Fewer Studs Means Fewer Drywall Cracks

All builders know that drywall callbacks are a nuisance, but many of them may not realize how large a bite they take from profits. One large Chicago-area builder, Town and Country Homes, analyzed its callback data in 1996 and realized that drywall problems were costing them between \$1,200 and \$1,500 per home.

The company, which was recently profiled in *HomeBuilder* magazine, decided to implement two changes. First, they began using drywall clips in all their corners. "More fasteners are not always better," says Frank Beasley, vice president for quality assurance at Town and Country Homes, which builds about 750 new homes a year. "The drywall clips allow contact points at the corners of walls and ceilings to float, releasing the stress."

Even more important than using floating corners, according to Beasley, was their second change: switching from 2x4 framing at 16 inches on center to 2x6 framing at 24 inches on-center. Beasley notes that 2x6s tend to be straighter, on average, than 2x4s.



Using drywall clips at all corners has reduced cracking — and callbacks — at Chicago-based Town and Country Homes.

"When you go to 24 inches on-center, you reduce the number of framing pieces by 30 percent," says Beasley. "Less wood in the home gives you fewer contact points between the framing and the drywall, so there's less stress on the drywall."

Beasley said that it took about 3 to 6 months for their drywall subs to get used to using corner clips. "Drywall contractors make their money on production, not on service," says Beasley. "They aren't anxious to get service calls. So after the first year of the new system, when they experienced fewer callbacks, it became more attractive to them." For Town and Country, success at reducing drywall callbacks means money in the bank. Their average cost for drywall problems is now down to only \$150 per home.

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that could see dramatic growth in the next few years.

"It hasn't happened as quickly as a lot of people thought it would, but we're getting there," says Tom Leete, an executive with the materials supplier Builders FirstSource. Leete is an active member of a group of large suppliers who have been working together to develop industry standards for an online building-materials marketplace. "You hear a lot about big production builders going to online procurement," he says, "but I've

order materials in the field with a Palm Pilot, he tends to do most of his ordering from his computer at home.

Few builders would be likely to dispute the value of reliable 24-hour access to information on pricing and dealer inventory. Still, online procurement may have a psychological hurdle to overcome, as overworked builders compare the potential long-term benefits to the time and effort needed to make the transition.


"I was one of the first guys to get a computer," says Durango, Colo., builder Emil Wanatka. "I was one of the first to get a cell phone. I've put a lot of work into developing and main-

their services to lumberyards, rather than directly to builders. Instead of ordering material from BuildScape, in other words, builders order from their local Wickes or Payless yard, billed as "powered by BuildScape."

It's far from clear how many of the services in business today, if any, will survive in their current form. In theory, an efficient online purchasing service can make a profit by recovering some of the administrative costs of ordinary commerce, which are thought to make up 5% to 10% of the cost of most transactions. In practice, though, very few online ventures of any kind have yet managed to do so.

But there's no doubt that online materials purchasing can work well. At least one lumberyard — the Truitt and White Lumber Company of Berkeley, Calif. — has been providing customers with electronic access to its system for more than a decade. When Truitt and White Lumber launched its M2L ordering system in 1988, the Internet as we know it today didn't yet exist. "M2L stands for 'modem to loadem,'" says company president Mark Pearsall. "In the beginning, our customers connected directly to our computer with their modems." Even so, the system incorporated many of the features of modern e-commerce, including around-the-clock access to pricing and inventory information. Truitt and White is now marketing an updated, web-based version of the system to other lumberyards.

Unlike free-to-the-user systems such as BuildScape, M2L charges users a basic \$200 a year subscription fee, but that's a price that the system's 1,200 users are happy to pay. "Some guys like new trucks, and some guys like new computers," says Oakland builder Seth Melchert. "I like customer service."

Can online procurement services provide such service on a large scale? The success or failure of the industry may depend on the answer. 

Some builders fear that online purchasing could jeopardize the person-to-person contact between builder and supplier that keeps the wheels turning smoothly

found that the smaller builders and commercial subs have been most interested. It can save a lot of time for someone who has to do it all himself."

Online services. A number of companies, including MH2, BuildNet Express, and ChanneLinx, have recently rolled out services that allow builders to make online purchases from suppliers from a personal computer or hand-held wireless device. But the apparent leader at this point is BuildScape, a Jacksonville, Fla., company that launched its wireless procurement system in February 2000. A year and a half later, BuildScape claims to have more than 1,500 users nationwide, and has affiliated itself with about 100 individual Wickes Lumber stores.

"I use it every day," says Paul Weeks, a custom homebuilder in Fort Walton, Fla. "I enter my material list in the system as I make it up. I organize it into drops, so I can punch up the foundation drop or the floor-framing drop for delivery to each job as I need it." Weeks notes that while he can

taining our web site, but I'm getting tired of taking classes and struggling with this continual learning curve. Now it's Palm Pilots. I find that I'm getting a little bit resentful."

Social contact missed. Because a successful relationship between builder and supplier has always depended on service, some builders fear that online purchasing could jeopardize the sort of person-to-person contact that keeps the wheels turning smoothly. "I like the social interaction," says Wanatka. "People who are younger may see it differently, but they have a very different perspective."

Developers of online procurement services are well aware of such concerns. "We've held focus groups where a lot of people say they're not interested in buying lumber over the Internet," says BuildScape spokesman Don Milburn. "But if we ask them if they'd buy lumber from their own lumberyard over the Internet, they'll say they would." To sidestep that sort of sales resistance, the online services have begun to focus on marketing

OFFCUTS

Endangered rattlesnakes in an Evesham, N.J., subdivision have caused problems for the developer, according to a story in the *Philadelphia Inquirer*. The endangered timber rattlesnakes were discovered only after 100 homes had already been built. The state allowed the project to proceed, but required the developer, Main Line Realty of West Berlin, to fence and protect the snake's denning and hibernation grounds from the surrounding development. Environmentalists have protested that the plan means certain extinction for the snakes.

Drywall stored on edge at an unsecured job site can be deadly, as illustrated by a recent tragedy in Atlanta. A 14-year-old boy who ventured onto a partially built Sunday-school building spent a night pinned beneath 12 to 15 sheets of drywall, which he had apparently dislodged. The boy was alive and conscious when discovered in the morning by workers, but died the following day.

Do you field-treat end cuts in pressure-treated lumber? A recent item in *Treated Wood News* — published by the Western Wood Preservers Institute — points out that the Uniform Building Code requires field treatment of all cuts and holes in treated wood used in structural applications. The preferred treatment material is a copper naphthenate preservative containing at least 2.0% copper.

Pollution-Eating Plants

With building lots in urban areas in increasingly short supply, builders and developers are increasingly looking to former industrial sites — often known as “brownfields” — as possible sites for new homes. As they do, some of them may soon begin looking to a new method of cleaning up toxic materials in soil and groundwater. The process, called phytoremediation, uses trees, ferns, and other types of green plants to draw pollutants from the soil or groundwater.

Some classes of contaminants, such as hydrocarbons and cleaning solvents, are actually broken down at a molecular level as they pass through the plants. That's been shown to work at the Aberdeen Proving Ground near Baltimore, where a stand of fast-growing poplar trees planted in an old munitions-burning pit sucks up and detoxifies about 2,000 gallons of water daily.



Environmental cleanup agencies have begun using green plants, like the sunflowers shown here, to remove toxic materials from soil and groundwater.

Other toxic materials, such as arsenic, are drawn from the soil into the tissues of the growing plants, where they accumulate. According to Steven A. Rock, a researcher with the Cincinnati office of the EPA, phytoremediation shows great promise for cleaning up old orchards, which are often contaminated with residue from arsenic-containing pesticides.

It may even be possible to use plants to purge soils of accumulated lead. A Virginia company was recently awarded an EPA grant to use phytoremediation in an experimental effort to clean up lead-contaminated soils in a residential neighborhood in Cambridge, Mass. Results are expected sometime next year.

Where toxic metals such as arsenic are involved, completing the cleanup involves harvesting the plants — with their accumulations of toxic material — and trucking them to a landfill.

“That’s still dramatically cheaper than the traditional dig-and-haul approach, where you may have to scrape off a foot or more of contaminated soil and replace it with clean material,” says Steven Rock. “It’s a lot simpler to haul a few drums of dried plant material to a landfill than it is to move tons of contaminated soil.”

Simple Changes Yield Big Energy Savings — But Will Customers Buy It?

Can a typical new home be modified at low cost to save hundreds of dollars a year in energy costs? According to a group of researchers at CARB (the Consortium for Advanced Residential Buildings), the answer is yes — although production home builders may not be ready to promote such energy features, at least until home buyers insist on them.



For an extra \$600 in construction costs, this Houston home received energy-efficient upgrades that saved \$358 a year in electrical costs.

For several years, CARB has been developing designs for energy-efficient homes with funding from the U.S. Department of Energy. Among the builders cooperating with CARB is Beazer Homes, which builds over 6,000 new homes a year in several states. Working with designers from Steven Winter Associates in Norwalk, Ct., Beazer Homes built an innovative home in Houston. The two-story, 2,500-square-foot model home, called the Carbury,

included a few simple energy-efficient features:

- double-glazed windows, instead of the single-glazed windows typical in Houston
- taped sheathing joints
- floors framed with 14-inch deep I-joists, to accommodate ductwork within the conditioned envelope of the house, rather than the attic
- duct runs kept as short as possible
- smaller, more efficient air-conditioning unit (3-ton rather than 5-ton, SEER 12 rather than SEER 10)

These features added only \$600 to the construction costs of the home. Some changes, including the improved windows, cost extra, while other changes resulted in savings (the I-joists were cheaper than 2x12s, and the smaller air-conditioning unit also cost less).

After building the model house, energy consumption was monitored and compared to a control house without the energy-saving modifications. The experimental house achieved annual energy savings of \$358, resulting in a simple payback of only two years for the investment in energy features.

Although the house is a technical success, Beazer Homes is not presently building any more Carbury houses, partly because of a lack of buyer interest. Many home buyers assume that when it comes to air conditioners, bigger is better. "There's a perception problem with buyers," says Scott Hill, the Beazer Homes operations manager who worked on the construction of the home. "Usually, a home this size has a 5-ton air conditioner. People say, 'You mean that a 3-ton unit will cool the whole house?'"

OFFCUTS

California is offering rebates to encourage the use of reflective roofing materials, according to the *Associated Press*. The 10-cents-per-square-foot rebates are seen as a way to reduce the state's peak power use by 120 megawatts this summer, easing the state's electricity crunch. For now, the program applies only to roof replacements on commercial buildings, but it may soon be expanded to cover residential roofs as well.

Termite-sniffing dogs have emerged as one of the most innovative weapons in the war against Formosan termites. Pest-control firms have been using the specially trained dogs for several years to detect characteristic gases produced by active termite colonies. One owner of a pest-control firm, quoted by the *South Florida Sun Sentinel*, described his dog, Tracker, as "man's best friend, termite's worst enemy."

Tax Talk

IRS Okays Cash Accounting for Small Contractors

by Milton Zall

Under an IRS ruling announced this March, some contractors will be able to use the cash accounting method for tax reporting purposes, rather than the accrual method that had been required previously. The accrual method had imposed a serious burden on small contractors, because it required recognition of income before payment was actually received. In effect, it required you to pay taxes with money you didn't yet have and might never manage to collect.

But if your company had average gross revenues of \$1 million or less over each of the past three years, you can now use the cash method

for tax purposes even if you use the accrual method of bookkeeping. Consult your accountant or tax adviser to determine whether you would have lower taxes using the cash method of accounting. If the cash accounting provides better results, you can switch to the cash method of accounting for the 2000 tax year. If you have already filed your 2000 return using the accrual accounting method, you can file an amended return using the cash accounting method.

Milton Zall is a freelance writer who specializes in taxes, investments, and HR/business issues. He can be reached at miltzall@starpower.net.

Looking Up ASTM Standards

Let's say you're reading a code book, and you come across this sentence: "Fasteners shall comply with ASTM F 1667." Until recently, you would have no way of knowing what the ASTM standard required, unless you spent \$795 for the comprehensive four-volume edition of ASTM standards. Now one of the model code organizations, ICBO, has for the first time come out with a less expensive alternative: a single volume containing all of the ASTM standards adopted by reference in the International Building Code (IBC).

The book, *2000 International Building Code: ASTM Referenced Standards*, is designed for those working under the IBC. However, many residential builders and designers working under the International Residential Code (IRC) will find the volume useful as well. "The IRC contains about 200 ASTM standards, and 120 of those can be found in this new book," says Mark Johnson, director of publications at ICBO. "Most of the missing standards relate to the sections on plumbing, mechanical, electrical, or fuel gas. About 95% of the standards related to building issues are in there."

The standards book is available for \$175 from ICBO, 5360 South Workman Mill Rd., Whittier, CA 90601; 800/284-4406; www.icbo.org.



ICBO's new book brings together all of the ASTM standards referenced in the International Building Code.