NOTEBOOK

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Drywall Supply Back to Normal

The drywall shortage of 1999 is history. Four new drywall plants have been producing material since last fall, and six more are expected to come on line within the coming year. "Last year, domestic manufacturers turned out 28 or 29 billion square feet of drywall, when builders actually needed 31 billion feet," says Craig Weisbrouch, vice president of sales and marketing with National Gypsum. "Demand should be about the same this year, but production should be up to 33 or 34 billion feet," he says. Jerry Walker is the executive director of the Gypsum Association, an industry trade group. "If someone still isn't getting enough drywall now," Walker says, "there's something wrong with their distribution."

Supply and demand. According to NAHB analyst Stanley Duobinis, last year's shortfall was partly a result of recent housing trends. New houses have been growing steadily larger, he notes, and a move toward 9- and 10-foot ceilings in more expensive homes means that drywall usage has increased even more than the increase in square footage would suggest. Housing start figures also conceal an increase in demand for drywall. "The median size of a single-family home was 2,025 square feet last year, and 1,060 square feet for a multifamily unit," Duobinis says. "In the late '80s, two out of three housing starts were for single-family versus multi-family housing. Today it's five out of six, which means that the material per start has gone way up."

With estimates for this year's drywall production at nearly 34 billion feet, there should be enough wallboard to go around.

The biggest factor in the shortage, however, is simply that few believed the current building boom would last as long as it has. "Every year since 1996, economic forecasters have been saying that housing starts were going to level off or decrease," Jerry Walker says. "But it didn't happen."

Crystal balls and boat board. The supply of some materials, such as lumber, responds to increased demand almost automatically. When high demand drives lumber

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Leaving Out Headers Often Okay, Say Researchers

When remodelers tear open old walls, they are often surprised to see that window and door openings were framed without headers. It turns out that the old framers may have been right.

"Our research shows that there are situations where you don't need a header," says Jay Crandell, director of the structures and materials division at NAHB Research Center, which recently conducted research on header strength. "For a typical floor plan, if the door or window opening is 4 feet wide or less, and if there's a double top plate and a band joist above the opening, we're convinced you don't need a header." However, a header would be required if there were no band joist above, and rafters or trusses bearing directly on the top plates.

The research, which was partly funded by HUD, studied how the components of a "header system" — including plates and the band joist — affect header strength. Researchers concluded that when a double top plate is placed over a header, the bending capacity of the header is effectively increased by at

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least 5 percent. When a double top plate, a 2x10 band joist, and an above-story wall plate are located above a header, the header's effective bending capacity is at least doubled.

Of course, most builders will continue to install headers, if only because they are required by code. But Crandell says that NAHB's research could support a move for some changes in existing header tables. The research findings have been published as "System Performance of Wood Header Assemblies," available from NAHB Research Center at 800/638-8556.

At NAHB Research Center, header assemblies were placed under load in a universal tester machine. The research discovered that in many cases headers can be safely omitted.

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prices upward, timberland owners make the decision to cut, and idle lumber mills — many of which are too inefficient to operate at a profit when prices are low — begin churning out 2x4s. As a result, lumber prices are subject to price spikes and occasional spot shortages, but not long-term shortfalls in production.

But the drywall industry's failure to anticipate the long-running boom made a shortage inevitable, since it takes an average of two years to build a new plant and bring it into production. The same is true of other capital-intensive industries such as brick and insulation manufacturing, which have also been the subject of recent shortages.

"You also have to remember that USG, National Gypsum, and Celotex — the three largest drywall manufacturers in the country — were in Chapter 11 bankruptcy until the mid-90s," Jerry Walker says. "You don't just jump out of Chapter 11 and start building new plants at $90 million apiece until you know you're really going to need them." As the new plants moved toward completion, the billion-square-foot shortfall was filled out with imported "boat board" from a dozen foreign countries, including Korea, Norway, Argentina, Poland, and the United Kingdom.

Throughout the year, domestic manufacturers allocated shipments to distributors based on their previous sales figures. The distributors, in turn, gave priority to their own best customers. "An allocation market is hard on people who are new in the business," Craig Weisbrouch says. "If you're not already an established customer, you're not going to get wallboard." The lesson for builders, he suggests, is to "dance with the one who brought you." Those with a history of sticking with a regular supplier fared better than those who regularly shopped around for the best price.

Drywall and profits for all. As delivery times lengthened, prices increased. drywall producers defended the price increases as a legitimate response to increased costs. "Ideally, you want to run your plants with a high utilization rate," says Lafarge spokesman Rob Waite, "but they're not meant to run twenty-four hours a day and seven days a week, the way we did last year."

In fact, Waite says, producers found themselves resisting pressure to raise prices further. "I got calls from guys saying 'I've got to have drywall next week. Name your price.' But if you give them a shipment that was supposed to go to someone else, the guy who got bumped is going to be upset."

Some builders had even suggested that a sharp price hike might make more board available by pricing do-it-yourselfers out of the market, but Jerry Walker discounts that idea. "I don't have any statistics, he says, "but Harry Homeowner doesn't use enough drywall to make any difference in terms of demand."

In any case, as NAHB economist Gopal Ahluwalia observes, the cost of drywall is a tiny fraction of the cost of a house. "In a tight market, the real problem is delay, not price," he says. With enough drywall to go around once more, the pain has eased for all concerned. "When we're at the top of our cycle and making money," Craig Weisbrouch says, "so is everyone else."

Dallas Offers Rebates for Affordable Housing

Many municipalities take the stick approach to motivating builders to produce low-cost housing, often by requiring those seeking permits for higher-end projects to build affordable units at the same time. But the city of Dallas recently held out a motivational carrot instead, by launching a program that makes participating builders eligible for cash rebates of up to $1,000 for each affordable home they build.

It works like this: The builder preregisters with the city before beginning construction. Each builder can have up to ten homes on the registry at one time. If the completed home is sold to a buyer whose family income is at or below the median income for the Dallas area — now set at $46,450 dollars — the builder hands in a second form and receives a rebate check for building fees already paid to the city for plan reviews, building permits, and water and sewer taps. According to Dallas housing director Mary K. Vaughn, 60 properties have been registered so far, and 21 developers have advised the housing department that they plan to register soon.

Builders of low-cost homes in Dallas can collect fee rebates of up to $1000 for each home they sell to a qualified buyer.

The actual fee rebates average about $750. That's not likely to start a stampede into the affordable housing market, but builders who are already building entry-level homes find it a worthwhile addition to the traditionally tight bottom line.

"It's a good program," says Dallas contractor Jeff Bosse. "You can't count on the money ahead of time. You don't know the buyer's income until you actually close on the house, and you're not going to refuse to sell to someone because they make too much money. But when you do get the rebate, it's a nice bonus."

OFFCUTS

Heatway has lost its suit against Goodyear, which was found not liable by a Cleveland jury for the failure of its Entran II hose. The hose, used in radiant heating installations, was sold by Heatway, which filed for bankruptcy protection after the ruling.

Two brothers with similarly named construction companies have ended up in court. Gary Belman and his brother Don Belman built homes in Wisconsin together for ten years, until 1995. According to the Milwaukee *Journal Sentinel*, the relationship soured, and Gary left to start his own company. Don Belman then sued his brother, alleging that Gary Belman's Design Builders could be confused with Don Belman Homes. A judge agreed, directing Gary to include a disclaimer in his advertising to alert customers that the two companies are not related — even though their owners are.

Fayetteville, Ga., has passed a tree protection ordinance that forbids builders from cutting trees larger than 8 inches in diameter without a permit. Builders who forget to apply for a "land disturbance permit" before starting their chainsaws can end up with a fine of $1,000 or a 12-month jail sentence.

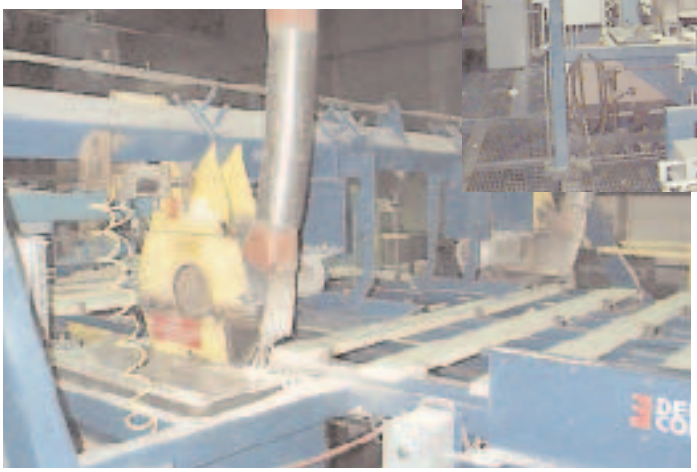
Disabled protesters in wheelchairs blocked entrances at a home builders' show in Denver. The demonstrators, who handcuffed themselves to doors, challenged builders at the Home Solutions Expo to build more wheelchair-accessible houses. Police equipped with bolt-cutters arrested 17 of the demonstrators.

All of the construction materials for the new U.S. Embassy in Moscow were imported. The U.S. State Department was so worried that Russian materials might contain listening devices that they had all the building materials shipped from the United States to Moscow via Finland. The procurement of the materials was "top secret," according to the *New York Post*, and was arranged through a front company to disguise their purpose.

How Long Is a Precut Stud?

A precut stud, as any East Coast builder will tell you, measures 92 5/8 inches. But this may be news to framers in California, where precuts are only 92 1/4 inches long. Surprisingly, there is no national consensus on the length of the "standard" precut stud.

"There are an ungodly number of different precut stud lengths," says Steve Card of the Northeastern Lumber Manufacturers Association. Sal Amico, the manager in charge of reload sales for Weyerhaeuser, agrees. "We stock 2x4s and 2x6s in a variety of lengths — 86 1/2, 88, and 92 5/8 inches," he says. "The tract house builders buy the 86 1/2-inch studs. And we also sell 84-inch studs."



Stud manufacturers refer to precut studs as PET (precision end trim) studs. The length of a standard precut stud varies from region to region.

"In any given year, we sell maybe eight different lengths of precuts," says Mike Boynton, a salesman for stud producer Champion International. "By far the most popular size in our region — from Maine down to Florida — is the 92 5/8," says Boynton. "But 93-inch studs are popular in the Carolinas. We sell a lot of 94 1/4-inch studs in the Baltimore area. We also sell some 92-inch studs, used for manufactured housing. Then there's the 88-inch stud, which we sell in southeastern Massachusetts and Cape Cod."

There is no single reason to explain these regional variations. Assuming the use of 5/8 ceiling drywall, the 92 5/8 inch East Coast precut leaves a generous 1/2 inch of wiggle room when installing wallboard. The 92 1/4-inch West Coast precut, on the other hand, leaves only 1/8 inch of wiggle room.

"Why are things the way they are? It's arbitrary," says Mike Boynton of Champion International. "It's just the way it's always been."

There are a few stubborn holdouts against precut studs of any length. "Precuts aren't popular in New England," says Boynton. "About 90% of the studs sold in Maine, New Hampshire, and Vermont are still 8-footers. We've had focus groups with contractors to try to find out why. One guy said, 'I like the little cut-off ends. I burn them to keep my hands warm.' Sometimes I think it's just the New England mentality. One builder told us, 'By God, if I'm paying for 96 inches, then I want the full 96 inches, and I'll cut the ends off myself.'"

Duct-Cleaning Robots. Several manufacturers make robots for inspecting and cleaning ductwork. The robot above, manufactured by Wintclean Air of Sweden, includes a high-resolution color video camera and motorized brushes. For more information, contact Wintclean Air in Ontario (905/831-7017).

New Knee Therapy Gives Aching Workers Something to Crow About

Reliable statistics on the graying of the American work force are difficult to come by, but it's believed that the average worker in the building trades is now about 46 years old. In other words, the timing is right for the appearance of two new FDA-approved treatments for osteoarthritis of the knee, a disorder that affects many workers as they ease into middle age.

Osteoarthritis is the most common form of arthritis. It has a number of causes, but one of the most important is the simple wear and tear that results from years of kneeling, squatting, and lugging bundles of shingles up a ladder. Over time, this can lead to a progressive deterioration of the articular cartilage, which forms a protective sheath over the ends of the bones in the knee joint. The normally smooth, teflon-like cartilage becomes abraded and rough, causing loss of mobility and chronic pain.

Enter Synvisc and Hyalgan, a pair of closely-related drugs — both are derived from roosters' combs — that can improve the function of an arthritic knee joint, apparently by nourishing the remaining cartilage and acting as a lubricant. Aching knees that receive a series of weekly injections — five for Hyalgan, three for Synvisc — may feel dramatically better for up to 18 months.

"Seven weeks after the first treatment, I got out of bed and couldn't figure out what was wrong," says Paul Agostino, a veteran roofer and ceramic tiler from Wilmington, Mass. "Then I realized what it was: My knees didn't hurt. I can walk and kneel without pain for the first time in fifteen years." According to Richard Hammesfahr, an orthopedic surgeon in Marietta, Ga., who has administered the treatment to about 100 patients over the past three years, the procedure seems to work for about 80% of those treated, and usually takes effect within two months.

Bad knees are a fact of life for many builders, but two new injectable drugs may offer relief.

The new therapy does have a few drawbacks. Each series of injections may cost $1,000 or more, although the cost is often covered by health insurance. The initial effects may wear off in as little as six months, and repeat treatments may not be as effective. It won't do your aching elbow any good, because so far the procedure is only approved for knees.

Finally, Dr. Hammersfahr observes, Synvisc and Hyalgan work best as one part of an overall program of knee rehabilitation. "It's important to strengthen the supporting muscles through exercise, and lose weight to reduce stress on the knee," he says. "Additional treatment with non-steroidal anti-inflammatory drugs may also be helpful."

New Residential Ventilation Standard Meets Static Pressure from NAHB

After months of wrangling between ventilation experts and industry groups, including NAHB, the draft of ASHRAE's proposed new residential ventilation standard has finally been released for public review and comment. ASHRAE Standard 62.2, "Ventilation and Acceptable Indoor Air Quality for Low-Rise Residential Buildings," had been stalled for months as the ASHRAE 62.2 committee worked to achieve a consensus on the draft.

NAHB has long opposed any standards requiring mechanical ventilation. "We continue to believe that people can use windows to ventilate their homes," said Dick Morris, senior construction advisor at NAHB. After negotiations described by committee chairman Max Sherman as "a strain," the committee members finally agreed to NAHB's proposed compromise provisions. The next development surprised most of the committee members: after the draft was approved, NAHB withdrew its support for the document.

"NAHB had a change of heart," said Sherman. "I was disappointed that NAHB reneged on their promise to support the compromise." According to NAHB's Dick Morris, "There was some miscommunication." But when it comes to the ventilation standard, Morris says that NAHB has been unwavering. "We've been opposed to the standard from the very beginning," he says.

Committee member Joe Lstiburek, a building science consultant, also felt betrayed. "We agreed to what NAHB wanted, and they backed away from their initial position," says Lstiburek. "It's like dealing with a used car salesman. You agree on a price, and when you come back to pick up the car, he's decided to raise the price. NAHB has lost a great deal of credibility and goodwill."

The provisions of the draft standard. As released for public comment, the proposed standard would require:

- An operable window or an exhaust fan in all habitable rooms, including basement family rooms, but excluding storage rooms and hallways.
- The installation of a carbon monoxide detector in all houses.
- The installation of a low-noise (1 sone) supply or exhaust fan, intended (in most cases) to run continuously. The simplest way to comply with this requirement is to upgrade a bathroom exhaust fan to an 80 to 100 cfm low-noise model, and wire it for continuous operation. However, the builder has the option of installing a fan controlled by a timer to operate for a portion of each day, as long as certain design criteria are met.

The new residential ventilation standard being proposed by ASHRAE would require mechanical ventilation in all homes, as well as the installation of a carbon monoxide detector. In most cases, the easiest way to comply with the new standard, which was recently released for public comment, would be to install a continuously-operating low-noise exhaust fan, like this Panasonic model, in one of the bathrooms.

The compromise standard is a disappointment to the ventilations specialists on the committee. "It's amazing," complained Lstiburek. "Now we have a proposal that barely comes up to the HUD ventilation standards for mobile homes. Houses with wheels will have better air quality than $100,000 homes." Max Sherman noted that builders can always exceed the standard. "We are trying to write a minimum standard, so there is plenty of room to go beyond it," he said.

NAHB fought successfully to prevent the inclusion of two provisions advocated by ventilation experts: a requirement for ducted range hoods in kitchens, and a provision that would have forbidden the installation of air handlers in garages. "We did a study of 25 air handlers from five manufacturers," says Lstiburek, "and we found they ranged in leakiness from a low of 35 cfm to a high of 100 cfm. Would you put a 100-cfm return duct in your garage?"

Lstiburek estimates that the cost to implement the new draft standard would be about $150 to $250 per house: $75 for a CO detector, and $75 to upgrade the bathroom exhaust fan. Most observers estimate that adoption of the draft standard will take at least a year, and that it will be another year after that, at the earliest, before any building codes reference the new code. In the meantime, the public comment period may result in changes to the draft. "The ultimate standard will probably be more stringent than the one on the table," predicts Lstiburek.