EIGHT-PENNY NEWS

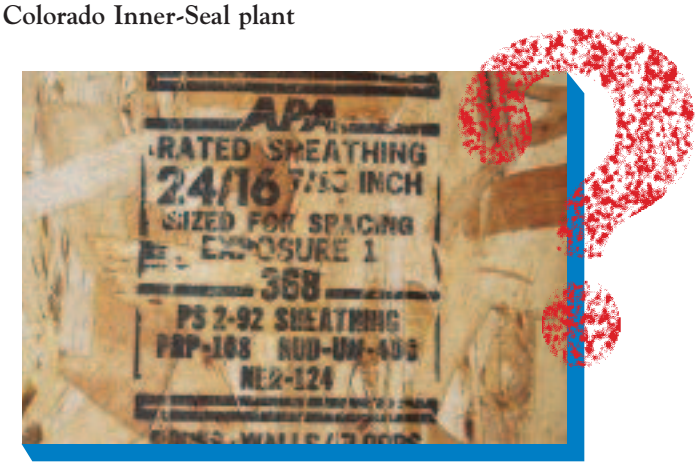
VOLUME 13 • NUMBER 12 SEPTEMBER 1995

Fraud Indictment Raises OSB Quality Concerns

Grand jury says manufacturer hoodwinked APA inspectors at Colorado Inner-Seal plant

Louisiana-Pacific, the Portland, Oregon-based building materials manufacturer, and two of its plant managers have pleaded innocent to felony charges leveled by a federal grand jury in Denver. The indictment charges the company and two managers at the company's Montrose, Colo., Inner-Seal plant with conspiring in a "scheme to defraud" purchasers of oriented strand board (OSB) produced at the plant between 1989 and 1994. According to the grand jury, the Montrose mill managers deliberately deceived industry quality auditors and misled customers about the quality of the OSB the plant produced.

An issue of trust. Although some builders avoid OSB in favor of the more expensive plywood, most have come to accept it for at least some sheathing applications. OSB's wide acceptance since its introduction in the mid-1980s is due, in part, to its certification by APA – The Engineered Wood Association, which runs a comprehensive quality assurance program for the panel industry. APA insists that its trademark stamp found on both OSB and plywood means that the material is more than adequate for use as wall, floor, or roof sheathing. It is hard to evaluate a structural panel's strength in the field, but most builders have come to trust the APA stamp as proof of panel quality.



Can builders be sure? The federal indictment of the nation's biggest OSB producer raises doubts as to whether all APA-rated panels sold to the public live up to APA stan-

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Code Bodies Flip-Flop on Insulation Flammability

Last March, all three major code organizations — BOCA, ICBO, and SBCCI — passed a change that would have effectively outlawed the use of cellulose insulation in attics. But within weeks, all three had retracted the rule change, after being advised by the Consumer Products Safety Commission (CPSC) that the new provision conflicted with federal law and was therefore legally unenforceable.

Holy flame-spread, Battman! Understanding what happened means following a complicated thread of events through the arcane world of American Society of Testing and Materials (ASTM), the model codes, and the federal government.

The fiberglass insulation industry has long maintained that cellulose insulation is inferior to fiberglass because of its higher flammability. This spring, after Canada's National Building Code adopted a modified ASTM test method for determining cellulose flammability, fiberglass interests managed to convince the U.S. code organizations to follow suit. Rather than observing how flame travels across an insulation sample placed on the floor of a test tunnel, the new test method requires the sample to sit on a metal grille or screen while flame is applied from below.

The Canadians' reason for changing the test method was to improve the accuracy of the testing, not to require new qualities of the products tested. Because the new method generally causes a much faster flame spread, the Canadian code group altered the passing score as well as the test method, allowing a material to pass the test with a much faster burning rate. But the American groups who adopted the change neglected to take this additional step, in effect requiring cellulose to be much more resistant to fire.

Cellulose holds high card. But the cellulose industry was holding an ace in the hole. Fire resistance standards for cellulose, it turns out, are set in federal law. In 1978, Congress directed the CPSC to establish nationwide flame-spread and smoldering standards for cellulose insulation, as well as test methods for determining compliance. The legislation requiring the federal standard also prohibits any state or local agency — including building departments — from establishing a standard that is any different from CPSC's. When informed of this fact, all three code bodies corrected their codes to exempt cellulose from the new test method.

Of testing and materials. Fiberglass manufacturers argue that the new standard they advocate is only fair. "Our pri-

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STATE BY STATE

Massachusetts. The open-space bond bill now moving through the legislature will contain an additional $10 million for low-interest loans to help homeowners bring septic systems into compliance with the state's new regulations. The money would be added to $10 million already earmarked for such loans by the governor. The money will be targeted at communities with no sewer systems and low median incomes.

Maine. A new law will speed up the permit process for landowners who want to develop wetlands. Under the law, which was proposed by the governor and supported by the United States Environmental Protection Agency and the U.S. Army Corps of Engineers, the state Department of Environmental Protection must process all wetlands permit applications within 30 days. Projects affecting less than 15,000 square feet of wetlands need not be reviewed by the corps.

Vermont. The Vermont Home Mortgage Guarantee Board (VHMGB) will back loans by a number of state banks to low- and moderate-income homeowners for the purpose of reducing lead paint hazards in homes. Borrowers must meet income guidelines to qualify ($44,500 for a one- or two-person household, or $49,500 for a three-person or larger household). For information, call 800/287-8432.

Zap Invoice: Bar Coding for the Sub-Trades

Ever wonder how your electrician or plumber keeps track of all those items he's billing you for? "At the end of the day, when he's tired and hungry, his wife asks him what he installed that day," says Anne Kessler. "Then she follows him around and writes down everything he can remember."

But Kessler, a data entry consultant, and partner Charlie Morgan, a remodeling contractor, have developed an automated record-keeping system to make life easier for small subcontractors and their dedicated office managers. Called Zap Invoice, the system employs the same bar-coding technology supermarket cashiers use to "swipe in" your purchases at the checkout counter. The electrician or plumber brings a pen-sized data recorder to the job, and from time to time he opens a notebook and runs the device over the code strip for any item he's installed. Later, back at the office, the instrument dumps all its data into a desktop computer running the Zap Invoice program. Zap Invoice generates an accurate invoice for each job and updates the subcontractor's job-costing and accounting records.

The hand-held Zap Invoice bar-code reader makes quick and accurate job-site record-keeping a snap.

The system is mainly for subs, but Kessler says her GC partner has adapted Zap Invoice to keep track of progress on his remodeling jobs. Bar-coding software for job-costing may be next.

Zap Invoice sells for around $2,400. For information, contact The Kessler Group, P.O. Box 147, Point Arena, CA 95468; 800/693-0096. □

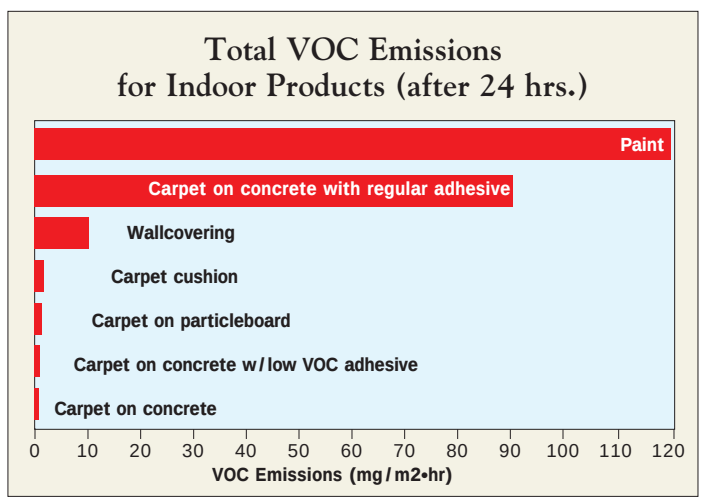
Study Surveys Carpet Literature

People interested in background information about carpet emissions and related health concerns might want to look at a recently released report from researchers Alan Hedge, Ph.D., and Rodney Dietert, Ph.D., of Cornell University. With funding from the Carpet and Rug Institute (a carpet industry association), Hedge and Dietert surveyed the entire body of carpet toxicity research, listing each study in their report and giving a summary of the methods and findings.

Not much there. A close reading of the report reveals little scientific support for the notion that carpet is harmful. Researchers measuring levels of specific chemicals given off by carpet have generally found that the quantities released are below toxic amounts — usually far less than the levels of similar substances that come from a variety of manmade and natural sources (see chart, below).

Study recommended. Noting that health complaints involving carpet are rare, Hedge and Dietert speculated that it is unlikely that further research will uncover a serious health risk associated with carpets. But the pair does recommend continued study: Because carpet is so widely used, they said, it should be possible to design a population study that would reveal significant dangers if any exist.

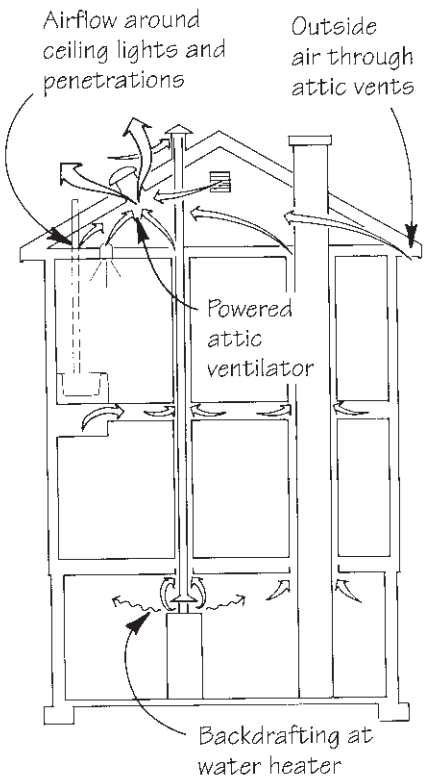
Copies of the report, *Effects of New Carpet Emissions on Indoor Air Quality and Human Health*, are available for $40 (including postage) from Prof. Alan Hedge, MVR Hall, Cornell Univ., Ithaca, NY 14853; 607/255-2168. □



Carpet gives off relatively low levels of volatile organic compounds compared with other common materials.

Powered Attic Ventilators Bring Unforeseen Problems

Powered attic ventilators (PAVs) are commonly installed in both new and old buildings in many parts of the country. They are often set to turn on automatically whenever attic air temperatures rise above a set point. By lowering air temperatures in the attic, builders hope the exhaust fans will cut cooling costs and prolong shingle life.



Powerful attic vent fans can pull air from living space and cause appliance backdrafting, a study warns.

A number of studies, however, have questioned these claimed benefits. And building scientists John Tooley and Bruce Davis warned recently that the fans can cause trouble by sucking air out of the conditioned space below.

Tooley and Davis decided to investigate the effect of PAVs after hearing of cases in which the fans caused combustion equipment to backdraft. Their study of eight North Carolina houses with PAVs found that the ventilators caused depressurization in every house. In two of the houses, backdrafting from the fans caused elevated levels of carbon monoxide in the living space. Two of the houses also had moisture problems caused by fan-induced airflow, the study found. A second study turned up similar results.

Tooley and Davis say that in houses that have air leakage paths between occupied space and the attic, powerful attic vents can depressurize houses even if gable-end or soffit vents are sized to meet code. To prevent safety and moisture problems, they recommend paying close attention to air barrier details whenever an attic ventilator is installed — and they say builders should measure building pressure and airflow, not just guess at the results.

"At the very least," says Tooley, "installers should strictly follow the manufacturer's recommendations for net free vent area."

For more information:

John Tooley, Natural Florida Retrofit, P.O. Box 560301, Montverde, FL 34756.

Bruce Davis, AEC Applied Building Science Center, P.O. Box 12699, Research Triangle Park, NC 27709. □

FROM WHAT WE GATHER

Don't just clean out those rats' nests if you're working on a historic building: Search them. A report in March 16th's *Wall Street Journal* says historians often find valuable artifacts in the piles of junk rats stash away. Restoration experts have used scraps found in the nests to recreate period moldings, wallpaper, and bedspreads.

The federal government plans to start supporting energy-efficient home-improvement loans. The Federal National Mortgage Association (Fannie Mae) has announced that it will purchase loans of up to $10,000 made by selected utility companies to residential customers to finance energy-related improvements, or up to $15,000 if windows are included. For information, contact Fannie Mae at 3900 Wisconsin Ave. NW, Washington, DC 20016-2899; 202/752-7000.

The Supreme Court has upheld the Clinton administration's interpretation of the Endangered Species Act. Ruling in the so-called "Sweet Home" case in June, the court said that the Interior Department had the power to enforce the act against individuals and companies who harmed a species by destroying its habitat, not just those who killed or harassed the animals or plants directly. The ruling means that environmental restrictions on logging, building, and development under the act will stay in force unless the law is amended or repealed.

Looking for sustainably harvested wood? Try McKenzie Trading Co. (P.O. Box 694, Redding, CA 96099; 916/247-1727). In a press release, the company said it offers wood products ranging from dimensional lumber to manufactured products. Company president Arnold Jay Koss says the firm's products are "provided by forest management professionals who cut more selectively, so that the diverse plant and animal communities residing in the forest will survive." The company also supplies products made from recycled lumber.

Fewer people are dying in house fires, the National Fire Protection Association (NFPA) reports. A record low of 3,705 people died in one- and two-family house fires in 1993. The number has been dropping for 15 years, from a high of 6,015 in 1978, when the NFPA started tracking the statistic.

Don't buy an ad in the "Bogus Yellow Pages," warns an article in July's Contractor magazine. Numerous scams around the country sell ads in various so-called "Yellow Pages" at around $100 apiece, raking in hundreds of millions of dollars nationwide. To make the scam legal, the fly-by-night publishers actually print up a handful of directories and mail them out, but few, if any, customers ever see the ads. The bogus companies even use the famous "walking fingers" logo in the solicitations they mail contractors — the logo has never been trademarked. To cover yourself, double-check any invoice you receive for Yellow Pages advertising before paying it. For help, call your Better Business Bureau or phone the real Yellow Pages Publishers Association at 800/841-0639.

Code Bodies,
continued

mary concern is that cellulose is held to a different standard," says North American Insulation Manufacturers Association (NAIMA) spokesman Steve Braun.

But the use of different methods to test different materials is common in the ASTM standards, which are set by consensus within committees representing a wide range of interests. ASTM tests are not intended to ensure that products used in similar applications behave identically, but rather to allow for consistent quality control in the manufacturing of specific materials. Materials that come from different sources and are manufactured differently often are tested for different properties, even if they are used for the same end purpose. For example, although steel joists and wood joists are both used to frame floors, specimens are held to different requirements for deflection under a load, because properly manufactured steel is inherently stiffer than wood.

Where there's smoke, there's smoke. Technicalities aside, the brouhaha over the code bodies' sudden reversal has kept alive the issue of the flammability of cellulose insulation, an issue some fiberglass marketers hope will keep smoldering. But when pressed, NAIMA spokesman Braun stopped short of saying that cellulose insulation constitutes a fire hazard in buildings.

And on closer inspection, the facts do not generally support such a claim. In researching its flame-spread standard in the late '70s, CPSC concluded that cellulose insulation was not a risk to the health or safety of American consumers. Attic fires are responsible for very few injuries or deaths, the commission found. At that time, CPSC recommended against setting a federal fire standard for cellulose, arguing in congressional testimony that private-sector efforts were sufficient to protect the public. And since writing the standard at Congress's behest, CPSC has twice asked Congress to repeal it.

The state of California, responding in part to concerns raised by the fiberglass industry, undertook a comprehensive review of state fire statistics to see if cellulose insulation installed as part of state weatherization programs might constitute a fire hazard. The data showed that both fiberglass and cellulose in attics had been involved in some fires. But the numbers of such fires as a percentage of total fires, and the amounts of damage and injury they caused, were so small that the state commission concluded that there was no special fire hazard associated with any type of attic insulation. And in the last year for which statistics are available, only one of the estimated 3 million California homes with cellulose attic insulation experienced an insulation-related fire (total property damage: $25).

In fact, cellulose insulation has been shown in some cases to *improve* the fire resistance of wood structures. In standardized tests of wall assemblies conducted by the Canadian government, fiberglass-insulated walls performed the same as uninsulated walls, while walls insulated with cellulose or rock wool achieved a 50% increase in fire resistance. However, the Canadian testing also showed that an added thickness of Type X gypsum board was a more effective way to achieve fire resistance than using any type of insulation.

Fight fire — but not with insulation. Insulation in general is largely unrelated to fire safety, statistics show. The overwhelming majority of house or apartment fires start in a kitchen, bedroom, or living room, and the greatest danger to people is the smoke and fumes from burning furniture or other belongings, which can kill in seconds. By the time most fires involve framing or insulation, occupants who have not escaped will have perished. Builders concerned with fire safety are advised to provide functioning smoke alarms and easy escape routes. Beyond that, compartmentalizing rooms with fire-resistant wall and ceiling assemblies sheathed with Type X gypsum board and providing sprinkler systems can best reduce deaths, injuries, and property damage. □

Bamboo Flooring

When it comes to wood flooring, your choices are pretty simple: Oak, maple, bamboo….

Wait a minute. Bamboo flooring? Sure, says Dan Smith. The San Francisco entrepreneur, who holds degrees in Mandarin Chinese and international business, discovered the product on a trip to China. He and a friend founded Smith and Fong Co. to import it to the United States.

Bamboo is widely used in Asia as a structural material — scaffolds of bamboo lashed together with ropes are typical in Chinese high-rise construction. A species of grass, Chinese bamboo grows to 40 feet tall and six inches in diameter. The individual stalks are harvested by hand, with the root system left intact so that new shoots can sprout.

Oriental strand board. To make the flooring, the hollow stalks are split into long strips 3/4 inch wide and 1/4 inch thick. The strips are laminated together into boards called "Plyboo," which can be sanded and stained like any hardwood. Plyboo tongue-and-groove flooring is almost as hard as red oak, and twice as stable, according to Smith.

Although most of his business consists of flooring, Smith says the laminated bamboo product is also available as large panels suitable for wall paneling or countertops.

"Plyboo" bamboo flooring, which is nearly as hard as oak and can be sanded and finished like any wood flooring, has a tawny blonde color and a unique grain.

For information, contact Smith and Fong, 222 1/2 Winfield St., San Francisco, CA 94110; 415/285-8230. □

OSB Quality,
continued from page 7
dards. According to the indictment, L-P's Montrose mill manufactured a special high-strength OSB, allegedly called "superboard" by plant employees, and sent samples of that product to the APA for quality certification. Superboard was not representative of the mill's usual product, according to the grand jury, so panels sold to distributors, though marked with the APA stamp, in fact were not subjected to APA quality assurance testing. "The manufacturing process routinely was altered when the [APA] auditor appeared at the mill so that his selections also would be 'superboard,' " the grand jury charged.

Shake-up at L-P. In an early response, L-P Chairman Harry Merlo said that the indictment referred to "past practices," and that L-P's product sampling procedure has changed recently because of changed APA policies. "If there has been any wrongdoing or misconduct at our Montrose plant or elsewhere, we are ready to deal with it," said Merlo.

On August 7, however, L-P's board of directors removed Merlo from his post, along with Northern Division Manager Jim Eisses and Southern Division Manager Ronnie Paul. While the company searches for a permanent replacement for Merlo, the task of dealing with the company's legal problems will fall to interim chairman Donald Kayser.

Who controls quality? APA engineer Alex Kuchar confirmed that testing procedures for OSB samples have changed following an APA policy evaluation that began in 1992. But Kuchar says the APA still relies on mill personnel to take the mill's "random" daily samples. An APA auditor visits the mill to inspect records and sample the production three times a month, according to Kuchar. "In our manual we state that quality control is the mill's responsibility," he explained. "We can't police the industry — we are not cops. We can't verify every panel that goes out the door."

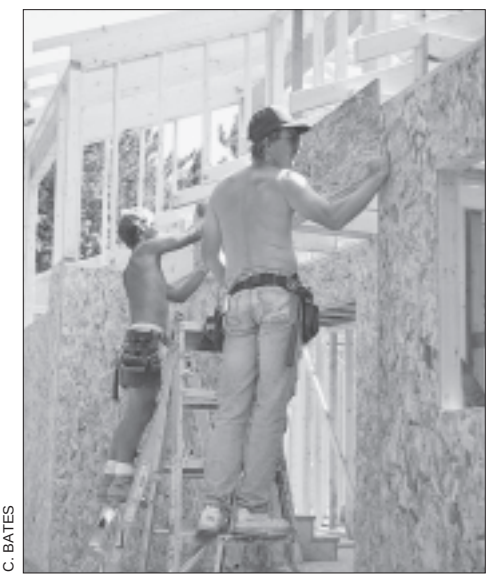
Field performance. The big issue, of course, is performance: Are the allegedly mislabeled panels likely to cause problems in the field? Both L-P and APA maintain that performance has not suffered. APA said in a press release, "The performance record of OSB sheathing has been outstanding, both for APA members in general and for Louisiana-Pacific Corporation." L-P added in its own release that "a review of complaint rates during the past five years shows claims paid of less than one-fifth of 1% of sales of OSB construction panels."

Margins of safety. Engineers inside and outside the APA generally agree that structural panels are designed to exceed the strength requirements of ordinary building situations. Building codes include a safety margin, and APA engineers creating specifications for panels that would meet code included an additional safety margin. On top of that, many builders also add their own safety margin, for instance, using roof sheathing rated for a 32-inch span over trusses framed 2 feet on-center.

So even if some panels that reached the market were weaker than their APA rating implied, they probably would not fail structurally under ordinary conditions. But it remains an open question whether an extreme event like a hurricane or an earthquake would stress substandard panels past their failure point.

In fact, based partly on quality assurance concerns, the building code in Dade County, Fla., banned OSB for use as roof sheathing in the wake of Hurricane Andrew.

Hands-on experience. In the field, carpenters have varying opinions about OSB.



C. BATES

Evaluating panel quality on site is difficult. OSB maker Louisiana-Pacific says complaints about its product have been few.

Some have found the quality to be consistently high, while others have complained about swelling, fastener withdrawal and pull-through, and low impact strength. It is unknown how much of the variance in contractors' opinions is due to differences in their individual quality standards and how much may result from inconsistent panel quality.

Who is the judge? Short of hiring a private lab to test OSB panels according to APA protocols, a builder has no way to judge whether he's getting what's promised — other than using his eyes, ears, and instincts. A builder who does have a complaint has to pursue it through the chain of distribution, says APA engineer Kuchar. If, after the dealing with the lumberyard and the distributor, the builder winds up dealing with the manufacturer, the manufacturer can ask APA to get involved and run structural tests on panels, but APA will not run any tests for the builder. And APA does not routinely test panels after they've left the mill, although spokesman Jack Merry says the APA membership (all panel manufacturers) is considering such testing.

As long as doubts about panel quality persist, the following prudent steps are recommended:

- **Document.** Save all the paperwork relating to each panel shipment you accept. Record the manufacturer, the lumberyard, and the distributor that handled the boards. Inspect each shipment and keep notes about what you observed.
- **Install carefully.** If there is a problem, you'll be left holding the bag if you didn't keep the product dry and nail it properly. APA guidelines call for nails every 6 inches on-center in panels (4 inches at seams in high-wind areas). APA will send you its literature on panel ratings and installation. Order it, read it, and keep it on hand so that you can show that you know what you're doing. (To order APA publications, call 206/565-6600.)
- **Follow specs.** If you're building from someone else's plans, don't substitute products. If the specs say "plywood," use plywood, not OSB. Get specs, including span ratings, in writing — don't rely on oral contracts. □