EIGHT-PENNY NEWS

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Latex Paint Outlasts Oil, Say Researchers

If you go into a paint store and ask how to protect wood from the weather, you'll probably hear this answer: Use an oil-based primer, and top it with one or two coats of premium latex paint. It's widely believed that oil-based primers give the best protection from moisture, because they penetrate the wood more easily.

But testing at the U.S. Department of Agriculture's Forest Products Laboratory (FPL), in Madison, Wis., shows that this conventional wisdom may be wrong. FPL scientists say that, while oil primers and paints adhere well to wood and create the best shield against rain and humidity, the resins in oil-based finishes lose their flexibility over time. No matter how well the surface is sealed, the wood moves in response to humidity and temperature changes, and cracks open up in the brittle paint surface.

FOREST PRODUCTS LABORATORY

Paint and stain systems undergo side-by-side exposure tests at USDA Forest Products Laboratory facilities. Some all-acrylic latex primer and paint systems still look good after 17 years.

By contrast, FPL reports say, the resins in acrylic latex primers stay flexible longer when exposed to weather. So over time, an all-latex primer and topcoat system will hold up longer than an oil-based primer under a latex topcoat.

How much longer? FPL researchers ran side-by-side comparison tests at three different locations around the U.S. They found that southern pine plywood panels painted with oil-based primers and latex topcoats showed face checking in one to three years, while all-latex systems prevented checking for more than seven years. Similar results were recorded in tests on other types of plywood and solid wood siding: All-acrylic latex systems resisted cracking, peeling and flaking longer than did oil-based systems.

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Feds Link Fiberglass to Cancer, Despite Weak Evidence

After a year's delay, the federal government has listed fiberglass as a possible cause of cancer, despite strong objections from the insulation industry. Government officials said the listing is just the first step in the "risk-assessment process," and made it clear that fiberglass insulation is still considered safe for people to handle. No changes in labeling or safety recommendations for insulation products are currently being considered.

The fiberglass industry had argued that it was unfair to stigmatize fiberglass when no cancer risk to humans has been shown and the data showing risk to animals is weak. In fact, even the government officials tasked with creating the congressionally mandated Annual Report on Carcinogens seem uncomfortable with the listing. Several members of the listing committee, which is composed of scientists from various federal agencies, reportedly voted against listing fiberglass.

National Toxicology Program (NTP) rules call for substances to be listed as

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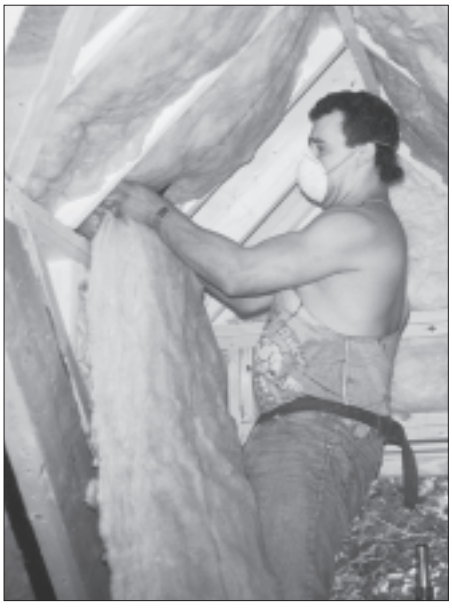


The government's decision to list fiberglass as a possible carcinogen is based on animal studies, and no danger to humans has been established. Federal labeling requirements and safety recommendations for fiberglass insulation have not changed.

STATE BY STATE

New Hampshire. For anyone who has questions about the new workers comp law, a privately produced step-by-step compliance guide is available for $79 from the marketing firm of Chenard, Cassidy, and Cowan (800/498-8000). The guide comes with flow charts, work sheets, and punch lists to help with health and safety record keeping under the new law. A copy of the new law is included, with changes from the old law noted throughout. The new state law requires companies to set up safety committees and file safety plans with the state, or risk a $1,000 fine.

New York. Builders will no longer have to pay New York's 10% real estate gains tax when selling lots they've built on. Building lots that have been improved are exempt from the tax under a N.Y. State Builders Association proposal that passed the legislature in the final days of budget action in June.

Maine. Workers comp costs are dropping significantly here as a result of a pilot OSHA enforcement program that targets companies known to have experienced high rates of injuries. OSHA does not inspect residential building sites in Maine unless there is a death or a complaint, but OSHA will consult with builders on safety. For information, call 207/624-6460.

Concrete: You Can Float It, But Can You Make It Float?

Lightweight graphite reinforcement is the secret ingredient in the University of Alabama-Huntsville's winning concrete canoe. That's right — a concrete canoe.

You'd believe it if you were in New Orleans this June for the seventh annual National Concrete Canoe Competition. The University of Alabama-Huntsville concrete canoe team believes it — paddling their creation across the finish line first this year earned them $5,000 in scholarship money, and a place in history.

Beating out nearly 200 competitors from engineering schools nationwide in a "battle of brains, brawn, and buoyancy" called for hard work and ingenuity. A lot of work goes into the design of the boat, according to team captain Jeff Lindner. Lightweight reinforcement is one area

UNIVERSITY OF ALABAMA-HUNTSVILLE

The University of Alabama concrete canoe team fielded both the longest and the lightest craft in this year's competition finals.

Huntsville concentrated on this year. Lindner, a NASA employee who is completing his master's degree at the University of Alabama, obtained surplus graphite reinforcing material from NASA's Technology Utilization Office. "They needed to get rid of it," he said, "and we had a use for it." He thinks the graphite reinforcement technology his team is working on has commercial applications. "It's expensive compared with steel," he says, but he points out that the graphite is very corrosion-resistant.

Along with reinforcement and hydrodynamic design improvements, Lindner's team works on refining their portland-based concrete mix. "We tested 45 different mixes this year," said Lindner. "It's tricky — too much of this or too much of that can cause a drastic loss of strength."

The event is sponsored by Master Builders Inc., and is held by the American Society of Civil Engineers. □

Carpet Test Results Questioned

A federal judge in North Carolina has dismissed a lawsuit against a carpet supplier by a woman who claimed to have suffered injuries from toxic chemicals she said came from the carpet. Federal Judge F. T. Dupree ruled that expert testimony by Rosalind Anderson of Anderson Laboratories was not admissible as evidence in the case, because, he said, the scientific community does not generally accept Anderson's results. Anderson is the scientist whose reports of deaths and nervous system damage in mice exposed to carpets caused public concern about the health effects of carpet chemicals (*Eight-Penny News*, 11/93). Without Anderson's testimony, Dupree said, the plaintiff did not have a case.

In disqualifying Anderson as a witness, Dupree referred to a 1993 EPA report describing more than 50 separate tests in which scientists were unable to replicate Anderson's results. According to the EPA report, the tests "were not able to produce any convincing signs of even mild toxicity attributable to carpet." Scientists whose peer reviews of Anderson's and the EPA's studies were included in the EPA report suggested that the health problems of Anderson's mice might have been caused by disease, poor nutrition, or rough handling at the Anderson Labs facility.

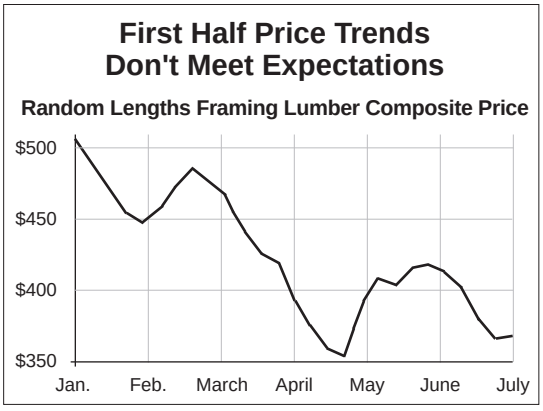
Anderson maintains that her tests are scientifically valid, and says that the toxic effects she has seen in mice are also seen in people. But the EPA reported in February, "It is not possible to say that carpet poses a serious public health threat." □

According to the EPA, off-gassing from new carpet is not a threat to public health.

Market Forces Hold Lumber Prices in Check

For nearly a year, builders associations and lumber industry groups have been predicting that restrictions on old growth logging would combine with rising demand for wood to send lumber prices through the roof. The rapid price increases of last fall and winter were seen as a sign of things to come.

But so far this year, a variety of market mechanisms have kicked in to push prices down. In July, the lumber market newsletter *Random Lengths* took a look back at the first half of 1994, noting a surprising but clear downward trend in lumber prices since January. Although housing starts through May were up 21% from the previous year, the *Random Lengths* index price for framing lumber dropped 28% from January to June.



A combination of market forces brought lumber prices down by nearly a third between January and June 1994. (Source: Random Lengths*)*

Random Lengths said that increased mill output could not explain the price drop: Mill production was up only 2% to 4% around the U.S. and Canada. Instead, several economic factors, small by themselves, have combined to provide more than adequate lumber supplies for U.S. markets. For one thing, U.S. timber exports have dropped 18% since last year, and Canadian lumber, instead of leaving the continent for Europe and Asia, is coming to the U.S.

In addition, commercial and industrial users, who can switch to alternative materials more easily than residential builders, have reportedly been cutting back on their wood use. And residential builders pressed by high prices have been reducing lumber waste, and designing homes that can be built with less lumber.

Meanwhile, production capacity for engineered lumber substitutes is continuing to rise nationwide. In the long run, the increasing use of these more resource-efficient products could solve the problem caused by the restricted supply of timber. But in the short run, market adjustments seem to be providing the necessary breathing space to bridge the supply gap until alternative sources come on line.

Forestry economist Ross Gorte of the Congressional Research Service says long-run prospects are good for the U.S. wood supply. "Softwood inventories are the same as 40 years ago. Hardwoods are double," he said. "We've got a lot of trees out there. When the prices rise, we have the technologies to use them." □

FROM WHAT WE GATHER

Compact fluorescent bulbs last longer, according to August's *Consumer Reports*. The consumer magazine says some of the CF bulbs it has tested logged over 18,000 service hours and are still shining. General Electric and Panasonic products were reported to last longest. A consumer could save around $40 per bulb over the product's service life at average American electric rates of 8.4 cents/kwh, the magazine estimated.

Plastic lumber production currently tops 10 million pounds annually, *Plastics in Building Construction* reports. Much of the material is used for park benches or playground equipment, a use in which the absence of splinters or toxic chemicals is an advantage. Plastic lumber now has its own ASTM subcommittee, and a Plastic Lumber Trade Association is also forming (540 S. Main, Bldg. 7, Akron, OH 44311; 216/762-8989).

America's industrial output is up while Japan's and Germany's are down, reports economist Robert Pritchard. Writing in *Contractor's Guide,* Pritchard said U.S. firms are investing in more equipment to boost labor productivity — equipment purchases rose by 16% in 1994 and should rise another 14% in 1995. These investments lay the groundwork for steady economic growth with low inflation, Pritchard said.

Got a great house design? Maybe you should enter the 1995 Innovations in Housing design competition. Contestants must submit a design for a 2,500-sq. ft. move-up home that uses wood and can be built economically. First prize is $10,000. The winning home design will be built and featured in *Better Homes and Gardens*. The deadline for entries is Dec. 6, 1994. For information, contact Innovations in Housing, P.O. Box 11700, Tacoma, WA 98411; 206/565-6600, ext. 172.

A new flooring material could reduce hip fractures in the elderly. The material's design involves two layers of flooring separated by 1-inch columns of highly elastic urethane. The shock-absorbent flooring reduces the impact of a fall by as much as 40%, according to Penn. State researchers Dr. Donald Streit and Dr. Peter Cavanagh. The material is slated for tests at an elderly care facility in Pennsylvania where hip fractures due to falls occur several times yearly. The annual cost of medical care for fractured hips among the elderly runs into the billions.

Looking for recycled-content building materials? The new *Harris Directory: Recycled Content Building Materials* is available on a Mac or PC diskette for $45. The searchable spreadsheet/database has 650 listings containing 1,500 products made with recycled materials. Contact Stafford Harris Inc., 1916 Pike Place #705, Seattle, WA 98101; 206/682-4042.

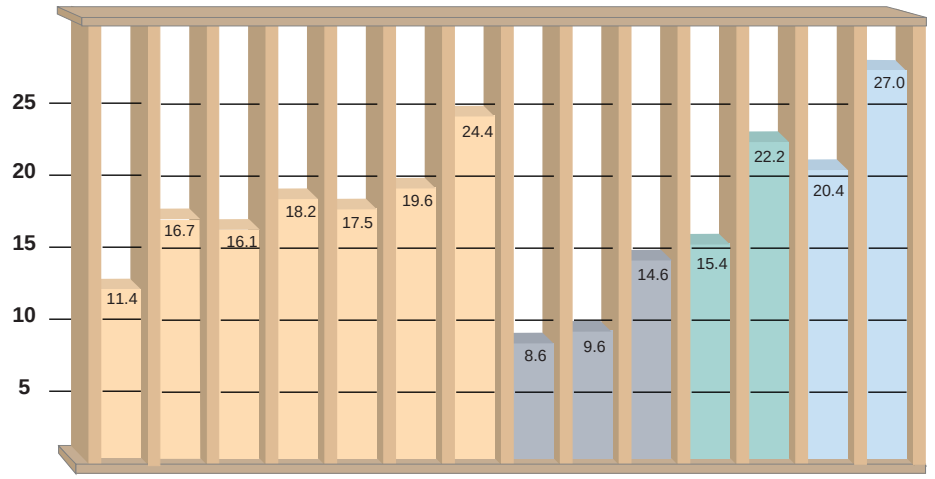
Wall Framing Affects R-Value

When you put an R-21 batt in a wall, you call it an R-21 wall. But that's not right, because the framing in the wall, which can make up as much as 30% of its area, reduces the wall's overall insulating value.

When the vast majority of walls were framed with lumber, the framing factor was a concern mostly to energy purists. Now, however, half a dozen wall systems compete for attention on the basis of R-value claims.

The table at right can help you compare the insulating value of several common wall types. The R-values for steel framed walls were taken from ASHRAE Standard 90.2, a residential building standard now in the final stages of approval. Several research projects are currently underway to measure the impact of steel framing on insulating value. At this point, however, there's little doubt that steel framing substantially reduces R-value. □

Comparing the R-Value of Wall Systems



Framing	2x4 std.	2x4 adv.	2x6 std.	2x6 adv.	2x6 std.	2x6 adv.	2x6 adv.	2x6 (24"c.c.)			—	—	—	—
Foam Sheathing	—	R-5	—	—	—	—	R-5	—	—	R-5	—	—	—	—
Cavity Insulation	R-11	R-11	R-19	R-19	R-21	R-21	R-21	R-21	R-25	R-25	R-13	R-21	—	—
	Wood-Framed Walls* *std.: 16"c.c. adv.: 24"c.c., 2-stud corners							Steel-Framed Walls			Foam-Core Panels		Insul. Concrete Form	

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TAX TALK

Should You Pay Early?

by Stuart Lerman

Many businesses offer cash discounts to their customers for prompt payment. Should you pay early? Consider this example. Full payment on a statement for $1,000 is due within 30 days. But if you pay within 10 days, you can subtract a cash discount of 2%. Use this formula to find the annual interest rate for the discount:

$$\text{Interest} = \frac{\text{Discount}}{(\text{Invoice} - \text{Discount}) \times (\text{Days}/365)}$$

"Days" represents the time between the final discount date and the date full payment is due. Plugging in the numbers from the example gives you:

$$\text{Interest} = \frac{\$20}{(\$1{,}000 - \$20) \times (20/365)} = 37\%$$

Unless you can get more than a 37% return on your money somewhere else, you'd be wise to pay early. Even if you must borrow to pay within the discount period, you're ahead by the number of points between 37% and the borrowing rate.

Stuart Lerman is a Certified Public Accountant in Bloomingdale, Ill.

Latex Paint,

The FPL also found that the performance of any paint system will be improved if the wood is first treated with a water-repellent preservative.

Bill Feist, a research chemist at FPL, says oil primers and paints still have their place. FPL reports say oil primer is better at preventing extractive bleeding — the release of soluble wood pigments from siding. For wood that has weathered extensively, "oil primers may penetrate and seal better," said Feist. "But for new, clean wood, acrylic systems last longer."

FPL scientists caution that their tests were conducted under ideal conditions and using premium 100% acrylic latex paint. You may not get the same results if you paint with cheap paint in bad weather, or if your wood is damp. □

Fiberglass,

"reasonably anticipated" cancer causes if more than one study has found cancer in animals exposed to the material. In the case of fiberglass, when scientists in two studies surgically planted glass fibers in the body cavities of hamsters and rats, some of the animals developed cancerous tumors. On the other hand, laboratory rats have inhaled large quantities of insulation dust without developing cancer, and studies of human populations don't show any increased cancer risk to people who work around fiberglass.

Nevertheless, a majority of the NTP committee concluded that fiberglass qualifies as a "reasonably anticipated" cancer cause. Fiberglass has not been listed as a "known carcinogen" because a link to human cancers has not been shown. □