

Heatway Radiant Floors Spring a Leak

Company backs its installers, claims Goodyear ignored Entran II specs

BY JOE STODDARD

Big problems are circulating through Entran II rubber radiant floor tubing made by Goodyear Tire and Rubber Company. The tubing, sold between April 1989 and October 1993 by dealers of Heatway Radiant Floors and Snowmelting (a division of Chiles Power Supply Co.), turns brittle and cracks, allowing boiler water to leak into walls, floors, and ceilings. Of the more than 10,000 installations using the defective tubing in the United States, 600 have failed completely, with more added to the list daily. Damage claims ranging from \$50,000 to over \$1 million have been reported, and a possible class-action lawsuit is estimated to reach more than \$2 billion.



High clay content may be to blame for the failure of Entran II piping, such as the 3/8-inch sample shown here (bottom), which became brittle and cracked in service. The 7/8-inch sample (top) has never been used.

Prior to 1989, Heatway had marketed a similar Entran II rubber tubing made by Dayco, but the company switched to Goodyear when it was convinced the giant manufacturer would provide a better product. Cost was "a concern" during the switch, Heatway admits, but not the only factor, and the company claims to have paid a 20% premium for the Goodyear tubing.

Goodyear claims that the tubing is not defective, blaming Heatway and thousands of installers for the failures, which Goodyear attributes to

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Louisiana-Pacific Adds \$125 Million to Siding Settlement

Louisiana-Pacific Corp. has agreed to add another \$125 million to the settlement for failures of its Inner-Seal siding and to speed up reimbursement payments. The agreement, negotiated between the Portland, Oregon-based manufacturer and federal class-action lawyers, came in response to complaints that the original \$375 million settlement was used up long before thousands of aggrieved homeowners filed their claims (see Notebook, 10/98).

According to the arrangement, homeowners who opt for fast-track payments will have to accept reductions in damages payments of 9% to 12% percent. But a quick resolution to the siding problem may be a good idea for those with asthma and allergies. According to state-sponsored tests in Wisconsin, homes with rotting exterior siding showed elevated levels of fungi inside the homes. A state advisory recommended that people living in homes with elevated levels of fungi maintain indoor humidity below 50% and clean mold growth with a diluted bleach solution until the problem is corrected.

OFFCUTS

Wireless power delivery to lights and appliances is number one among the top five predictions for home technology in the next ten years, according to a study by Battelle, a Columbus, Ohio-based nonprofit research organization. The other four are:

- A focus on healthy homes will spawn self-vacuuming carpets and antibacterial surfaces.
- Groceries and new cars will be purchased online.
- Fingerprint-matching will unlock the front door.
- Water-recycling systems will be standard equipment.

"Citizen code inspectors" are fighting crime in York, Pa.

Concern that old, rundown homes might attract crime, a city-neighborhood partnership has begun to train volunteers to evaluate exterior code violations. The inspectors attract attention to the problems by hanging green fluorescent tags, which also list home improvement resources for low-income homeowners. So far, the owners of 88% of tagged properties have corrected identified problems within the five-day grace period.

Almost all cases of wood siding failure can be traced to poor finishing or installation,

according to an industry spokesman cited in the *Random Lengths* newsletter. As a result, the report noted, wood siding manufacturers are losing market share to increasingly competitive alternatives.

Clean is green. Building owners can save up to 10% of their lighting costs simply by keeping light fixtures clean, according to an EPA-funded study by the International Association of Light Management Companies.

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everything from fluid quality to the mechanical staples holding up the tubing. Goodyear's claims may not hold water, however, because other rubber components in the affected systems, such as gaskets and zone valve seals, are not failing.

According to the online newsletter "WetHead Gazette" (www.danholahan.com), maintained by Dan Holohan, a well-known expert on radiant heating and a long-time Heatway advocate, Heatway never tried to cheapen its product and has always been high-priced. "Heatway has never been an easy sale to those who were shopping price alone," Holohan wrote. "Most contractors bought the product on the strength of its flexibility as well as on the strength of the relationships that the Heatway people built." According to Holohan, Goodyear is claiming that Entran II installers caused the problem with the product. "They are saying, in essence, that an entire generation of radiant contractors is comprised of fools and incompetents."

Goodyear ignored Heatway specs. Although gag orders associated with ongoing lawsuits have made it difficult to put the full picture together, some information that has trickled out shows that Heatway did, in fact, expect that Goodyear would provide a superior product. Chiles Vice President Dan Chiles, in a 1988 letter to Tom Alfredson, currently a marketing specialist at Goodyear, clearly outlined the tubing requirements, specifying that "hoses should be built to last indefinitely. Longevity is our greatest concern," and stating that the tubing cover should have "excellent resistance" to hydrocarbons and other common chemicals, to degradation from sunlight and ozone, and to "abrasion and job-site abuse." Heatway clearly had its installers in mind when it further specified that hoses be "flexible and kink-resistant. Both of these

qualities are extremely important to the installing contractor."

When the tubing failures surfaced, Heatway hired its own experts to analyze the chemical content of the Goodyear Entran II tubing. Researcher Ray L. Hauser concluded that Goodyear had used a high clay content in the tubing to cut production costs. The clay absorbs both glycol used as an antifreeze and copper oxides created in the system, turning the tubing brittle. Also at the root of the problem, according to early results from other Heatway research, are nitrile-butadiene rubber (NBR), notorious for being susceptible to oxidation damage, and inconsistent levels of plasticizer compounds used to keep the pipe flexible. "The degradation problems of these hoses are common to all of the installations," Hauser reported, "and they differ only in the degree [of failure]." If Hauser is right, the question for Goodyear Entran II installations may not be *if* they will fail, but *when*.

What to do. Only Entran II manufactured by Goodyear is failing; cross-linked plastic tubings, such as Pex, BPex, Pex-AL-Pex, and other formulations of rubber tubing are not experiencing problems. Heatway has put up an informational Web site (www.gme2.com), which shows how to identify the suspect tubing, and explains how to report failure. To slow the rate of tubing degradation, Heatway recommends that Entran II systems be run at the lowest possible water temperatures.

Heatway also recommends registering on its Web site jobs where Entran II tubing was used — whether or not the system is leaking. While Heatway and its insurance carriers have paid many claims to date, the company is currently backing away from its warranty and instead asking consumers to join a class-action suit against Goodyear.



Caution: Toxic Fluorescent Lamps

It's time to stop throwing spent fluorescent bulbs into the dumpster. After years of lobbying by utilities about energy-efficient, "greener" fluorescent bulbs, builders are now being told that mercury leaching from discarded fluorescent lamps in landfills poses a growing environmental hazard. Some wall thermostats are even worse, containing as much mercury as 100 fluorescent bulbs.

While some newer bulbs have a lower concentration of mercury, all mercury-containing fixtures should be handled by your local household hazardous waste disposal site (the place you take old paint), according to Michael Bender, Executive Director of the Coalition of Lamp Recyclers. Fluorescent lamp makers are also considering a buyback program to recycle spent lamps, similar to programs started by thermostat manufacturers to recycle the mercury in the switch.

Ideally, your contract should place responsibility on the homeowner for disposal of hazardous wastes. At a minimum, your clients should cover the cost of disposal.

Senergy Quits EIFS Group

Senergy has announced its resignation from the EIFS Industry Members Association (EIMA). In a September 1998 press release, David Fyfe, CEO of Harris Specialty Chemicals, Senergy's parent company, cited a long-standing unsuccessful attempt "to convince EIMA's board of directors to adopt a pro-drainage position for all one- and two-family residential construction."

According to Fyfe, Senergy believes that in the residential market, drainable systems are "critical if the EIFS industry is to continue to grow and maintain consumer confidence in its products." Senergy was an original member of EIMA, and its employees have held numerous offices in the organization, including the presidency and chairmanships of key committees. Nearly one-third of all EIMA distributor members were Senergy distributors.

While maintaining that so-called "barrier EIFS" products — synthetic stucco cladding systems intended to provide a sealed, watertight face to the weather — are not themselves to blame for moisture damage widely reported in recent years, Senergy is the first, and so far the only, EIFS manufacturer to settle its part of a North Carolina class-action lawsuit that named seven other manufacturers (*Notebook*, 10/98). The company points to several characteristics of residential construction that contribute to problems with the cladding system, including poor quality windows, doors, and OSB

sheathing; lack of a design professional to integrate detailing; ambiguous building codes; poor coordination of subcontractor work; and improper execution of detailing.

"The EIFS industry is moving into a more technical phase of its life cycle," said Fyfe, in a conversation with *JLC*. He noted that the codes have not been of much help: "EIMA

is waiting for the codes to tell them what to do, but the codes are not being proscriptive." Since Senergy is not likely to change residential building practices, Fyfe said, "What I have to do to protect the reputation of my product is to engineer my piece to take care of the worst it can come up against."

In an interview published in the November 1998 issue of *Walls & Ceilings*, Fyfe explained that "until 1996, we had regarded ourselves as just a component of

the total building envelope." That left builders responsible for making sure that installation of other components — like sheathing, building paper, flashing, and windows — were properly coordinated. "That was our naivete," Fyfe told the interviewer. "We're going to be hung for the performance of the total envelope ... so we'd better recognize that and design EIFS to take care of that reality."

In January 1998, Senergy introduced a drainable EIFS product called Senturion Wall Systems and announced that it would require its use in all one- and two-family residential construction.

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DAVID FYFE,
CEO OF HARRIS
SPECIALTY CHEMICALS

TAX TALK

New Stock Benefits for S-Corp Employees

BY MILTON ZALL

In a private letter ruling, the IRS has said that employees of a type-S corporation can get benefits that are tied to the value of the employer's stock. One of these previously off-limits benefits is called an "incentive stock option," which would offer employees a limited time option to buy a certain number of shares at a below-market-value price. Employees are usually required to hold the shares for a specific period of time before selling them. The other benefit, called a "stock appreciation plan," is similar, except that the option to buy stock

is continuous and not limited to a specific time period. Neither fringe benefit is treated as a second class of stock, which S-corps cannot issue, so offering either one won't jeopardize your S-corp's tax-favored status.

In another change beginning with tax years after December 31, 1998, ESOPs established by a construction S-corp do not have to give participants the right to demand distributions in company stock.

Milton Zall (miltzall@pop.dn.net) is a Certified Internal Auditor and a Registered Investment Advisor based in Silver Spring, Md. He can be reached at 301/649-6044.

A Fungus Among Us

To say that construction defect lawsuits in California are "mushrooming" is more than a figure of speech. According to indoor environmental lawyer Edward Cross, "California probably has more lawsuits regarding toxic molds than any other state." Cross made these claims at a symposium sponsored by the Orange County Bar Association's construction law section, entitled "Killer Fungus: The Legal Implications of Discovery of Toxic Molds and Fungus in Buildings." Most often, Cross said, the fungus is caused by leaky roofs and improperly constructed drainage and ventilation systems.



California leads the nation in lawsuits over health problems caused by mold growth from leaks and other construction defects.

Wood Stoves the Cure for Y2K Ills?

Sellers of wood stoves have noticed an increase in sales compared with a year ago, according to *Alternative Energy Retailer* magazine. The reason: Many customers are mentioning Y2K scare stories that when computers misidentify the date as 1900 rather than 2000 at the turn of the Millennium, it could interrupt power and gas distribution networks. If that happens, some say the power shutdown could last for months, and people living in cold climates will need to be prepared with an alternative means of keeping themselves and their home's water lines from freezing. If media coverage of the Y2K problem continues to fan the public's fears, builders and remodelers may see a jump in 1999 in customer requests for wood stoves, fireplace inserts, and masonry and insulated-steel chimneys. The last fuel crisis — the oil embargo of the early 1970s — virtually created the wood stove industry, which until recently has been on the wane.

OFFCUTS

Expensive hole in the ground.

That's what Massachusetts excavation contractor P.A. Landers must think of the site that cost him more than \$57,000 in OSHA penalties for alleged "willful and serious safety violations" following a trench collapse that injured a worker. According to OSHA, the 9-foot-deep trench lacked any protection against a collapse.

But it's cheaper than body

work. Researchers at the Lawrence Berkeley National Laboratory in California found that duct tape is good for almost everything — except ducts. When used to seal joints in ductwork, the popular all-purpose tape almost always failed, often catastrophically.

The crane operator must've

been on break. Five old-growth forest activists scaled a giant construction crane in view of Home Depot's world headquarters in Atlanta and unfurled a massive 2,000-square-foot banner with the message, "Home Depot: Stop Selling Old-Growth Wood." At day's end all five were arrested and charged with misdemeanor trespassing.

Tools New-to-You. A new company called ReTool is hoping to sell 500 franchises in the next 10 years to sell used and reconditioned tools. Three stores in Detroit are operated by former Play It Again Sports franchisees.

Finding a home for sink

cutouts. A building materials exchange column is now being published every Wednesday in the classified ad section of the *Santa Barbara News-Press*. The free ads are sponsored by the newspaper and the 200-member Santa Barbara Contractor's Association.

Cathedralized Attics for Hot Climates

In hot climates, building unvented "cathedralized" attics (making the attic a conditioned space by insulating the rafters instead of the flat ceiling below) does not sacrifice energy efficiency, according to a study by Florida Solar Energy Center researcher Armin Rudd and building scientist Joe Lstiburek, as reported in the September 1998 issue of *Energy Design Update*. Although the technique



Unvented cathedral ceilings have advantages in hot humid climates, says a recent study.

goes against current building practice and, with the exception of CertainTeed and Elk Corp., voids all warranties for asphalt shingles, Pulte Homes gained approval to build two model homes in Las Vegas using cathedralized attics. The company is now building whole subdivisions with unvented insulated attics. Individual builders in Orange County, Florida, have also succeeded in convincing code officials that the practice works.

The American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) approves unvented attics in hot humid climates in its 1997 *Handbook of Fundamentals*. The Asphalt Roofing Manufacturers Association (ARMA) is reexamining its position on vented attics in light of ASHRAE's latest stance.

Lstiburek defines hot climates as areas where the average monthly temperatures exceed 45°F; humid climates are those where rainfall exceeds 20 inches annually.

The benefits of including the attic in the insulated space are:

- Duct leakage is not a problem as long as most of the conditioned air gets to the intended destination.
- Air sealing is easier in the roof than in the ceiling.
- Dust and loose insulation are less likely to migrate down into the living spaces.
- Tests show energy costs are lower when the attic is sealed.

Drawbacks include:

- Industry reluctance to change, including code officials and asphalt shingle manufacturers.
- Ice dam buildup in colder climates (test results from a house in Pittsburgh are not yet available).
- Lack of a "best practice" insulating procedure.

For more information, contact ASHRAE (1791 Tullie Circle NE, Atlanta, GA 30329; 800/527-4723 or 404/636-8400; www.ashrae.org) and ask for "Vented and Sealed Attics in Hot Climates." Copies are \$4.