Miscellany

Fire Sprinkler Business Is Heating Up

Fire sprinkler systems now account for about $2 billion annually in U.S. sales, and sources close to the industry expect rapid growth in the next few years. The most dramatic increases are anticipated in the residential sprinkler market.

The industry's optimism is based on several factors, including:

- Over 300 communities throughout the U.S. have enacted ordinances requiring sprinklers in multifamily dwellings, hotels, and motels. A few of those communities have mandated sprinklers in all new residences, including single-family detached homes.
- Two of the three major model code organizations have recently approved sprinkler requirements for multifamily residences, hotels, and motels. The third major code group is expected to vote on similar provisions this fall.
- Congress is now considering a bill that would prohibit one of the nation's largest consumer groups, federal employees, from staying at non-sprinklered hotels.
- The cost of residential systems is going down, thanks to the increasing use of plastic pipe and the introduction of fast-acting residential sprinklers, which require less water and can run off the domestic water system, and increasing use of plastic pipe. The average cost is now estimated at between $.95 and $1.86 per square foot.
- Further cost shaving is expected soon, as the National Fire Protection Association plans to adopt a new, more economical standard for residential systems (NFPA 13R) in buildings up to four stories high.

A Young Market

Sprinklers have been around for over 100 years: The first was reportedly installed in 1874 by an American, Henry S. Paralee, to protect his piano factory. The residential sprinkler market is only eight years old, however, according to Russell Fleming, vice president for Engineering, National Fire Sprinkler Association. In 1980, the first fast-acting residential sprinklers became generally available on the market, and the NFPA issued standards (NFPA 13 for general residential installation, 13-D for one-and -two-family homes) to make the systems more economical.

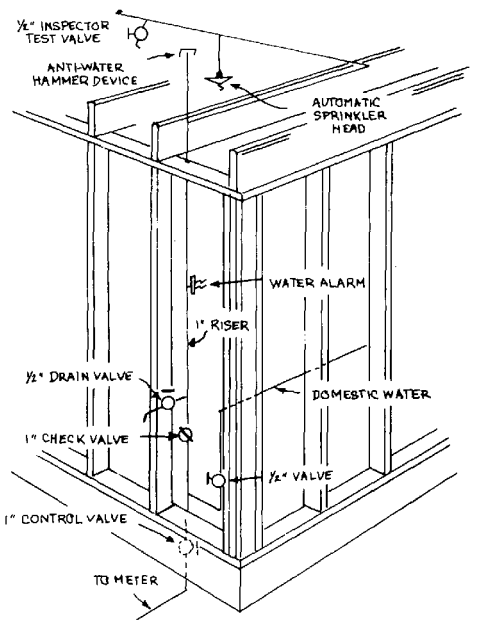
The proposed new standard, 13-R, should make the price of new systems even more attractive, Fleming says. The new standard will allow systems that are less extensive than those now required, as the focus will be on life safety (OLS) rather than property protection.

Black steel piping, which was standard for sprinkler systems until recent years, is seldom used for new residential systems, Fleming says. Copper is sometimes used, but two types of approved plastic piping — polybutylene and CPVC — are increasingly popular because of lower cost.

The major organization working to encourage adoption of sprinkler requirements is Operation Life Safety, a group that operates with both private and public funding in cooperation with the International Association of Fire Chiefs.

OLS Director Jim Dalton says his organization has focused its efforts in recent years on "bridging the gap" between high rise structures and one- and two-family homes. The group has worked hard with local communities on their codes, and has enjoyed recent breakthroughs with the model code organizations.

Sprinkler Pipe Diagram



Standard residential sprinkler installation as recommended by the U.S. Fire Administration.

New Standards In Model Codes

Sprinkler advocates made their first major code breakthrough with ICBO (the International Conference of Building Officials), which is scheduled to publish its sprinkler requirements in the 1988 edition of its Uniform Building Code. The ICBO model mandates sprinklers in hotels and motels that are at least three stories high or have at least 20 units. For multifamily residences, the standard is three stories of 15 units.

BOCA (Building Officials and Code Administrators International) has approved a similar provision for its Basic/National Building Code. The BOCA version mandates sprinklers in all multi-family buildings, hotels, and motels. Exceptions are made if there is direct egress to the outside, or if no floors are higher than 75 feet.

The new BOCA provision is in its 1988 supplement, and will appear in the next edition of the full code, in 1990.

The third model code group, SBCC (Southern Building Code Congress) is scheduled to vote on a new sprinkler standard this fall for its Standard/Southern Building Code. The version presently proposed is virtually identical to the ICBO provision, but with BOCA's exception for units with direct egress. The next full revision of the Standard/Southern Code is scheduled to be published in 1991.

BOCA is the predominant model code in the Northeast, SBCC in the South, and ICBO in the West. The codes overlap in their influence in the Midwestern states.

Dalton sees the model code actions and proliferation of local ordinances as the turning point in his group's efforts to require sprinklers in mid-sized residential buildings. Once success has been assured on that front, he says, OLS will turn its efforts to smaller structures, including one- and two-family homes. Widespread requirements in that area are "just a matter of time, although a ways in the future," he says.

Tough New Local Laws

Meanwhile, Dalton notes, Prince George's County, Md., has joined the handful of communities adopting ordinances to require sprinklers in all new homes, and Montgomery County, Md., will now require sprinklers in all new townhouses. Other communities already requiring sprinklers in single family homes include San Clemente, Calif., and Greenburgh, N.Y.

The list of jurisdictions mandating sprinklers in larger buildings and places of public assembly now includes over 300 communities and is growing rapidly. Some of these provisions are extremely strict. West Virginia requires sprinklers in all new buildings over 40 feet high. Oak Brook, Ill., requires sprinklers in all new buildings exceeding 1,000 square feet, except for single-family residences.

The anticipated explosion in requirements for sprinkler installation will mean additional work for somebody. *Contractor* magazine says plumbing contractors have been slow to pick up the extra training and knowledge needed for sprinkler installation. But since they're in the house anyway, they have an edge over specialized sprinkler contractors if they want the work. ■

— Steve Carlson

New Publication Aims at Energy-Efficient Office Buildings

A guidebook written for architects engineers, developers, facility managers, and owners shows how a typical commercial building can be designed to use one-third less energy without an increase in building costs. Approximately 50 percent of all new commercial buildings coming on-line in the Northeast Utilities (NU) service territory are speculative. By publishing the book, the utility hopes to encourage speculative developers to use energy-efficient design and construction.

To develop the book, a design team looked at a "typical" 60,000-square-foot, three-floor suburban office building. More than 50 different energy-saving strategies were analyzed for cost and performance, such as window shading, color, increased insulation, daylighting, and reduced wattage. Using the U.S Department of Energy's energy analysis computer program, and estimates of construction costs, the team came up with an optimum base-case design. The design group also explored the use of a "village cluster" design — which includes three equal-sized, single-story buildings with the same total usable area as the base-case building. This design led to even greater energy savings — with a total energy bill 43 percent less than the original base-case building — again with no increase in overall construction costs. All concepts and strategies documented in the guidebook are accompanied by detailed illustrations and annotations.

In addition to several charts, a glossary, and other references, the book shows how the DOE's simulation program can be used to test designs currently being considered. (NU offers the use of the expensive software program free of charge to building professionals in the utility's territory.)

The 100-page, full-color guide is free to professionals working in NU's territory (most of Connecticut and western Massachusetts), but any building professional can purchase it for $50. Contact your local Connecticut Light & Power or Western Massachusetts Electric Company office, or contact Northeast Utilities, P.O. Box 270, Hartford, CT 06141; 203/721-2711. ■

Tax Talk:

Build Your House With Company Cash

Most methods you'd use to get surplus cash out of your business end up in your paying taxes on it. If you take it as a salary or dividend, it's taxable. If you take it as a loan, the rules regarding personal and investment interest can eliminate or reduce your interest deduction. But here's a nifty way to take the cash, avoid paying tax, and secure your personal interest deduction: Give the corporation a first mortgage on your home.

The new law severely limits interest deductions for taxpayers. Personal interest is not deductible at all, and investment interest is deductible only to the extent of investment income (subject to the phase-in provisions). But interest on home mortgages is still fully deductible, as long as the loan doesn't exceed the cost of the home, and providing that the mortgages on the taxpayer's first and second homes don't exceed $1 million combined.

But why borrow from the bank and let it earn the interest when you can borrow from your own corporation, perhaps at a more favorable rate? As long as you dot your "i"s and cross your "t"s, you can nail down substantial tax deductions by letting your corporation finance your home.

Be sure your corporation charges market-rate interest on the loan, and be sure to document the loan with a promissory note and a mortgage recorded at the courthouse. Adhere strictly to the payment schedule called for in the note, and correctly classify the loan and your subsequent repayments on the corporate books. If you carefully follow these guidelines, you can dip into the company till without personally paying tax. ■

Irving L Blackman, CPA, J. D., specializes in closely held businesses. For more information about getting out of your business, Blackman publishes How to Take Money Out of Your Closely-Held Corporation. *Send $25 to Blackman, Kallick, Bartelstein, 300 South Riverside Plaza, Chicago, IL 60606.*

Insurance Hotline

Do you have questions on business, car, home and apartment insurance coverage, policy prices, or claims disputes? Just call 800/221-4954 with your questions. The Insurance Information Institute now offers a hotline to insurance consumers. The Institute (110 William St., New York, N.Y. 10038), a non-profit supported by the insurance industry, also publishes books and other resources on insurance-related topics, such as fire safety, occupational disease, and industry profitability. ■

From What We Gather

Full basements are preferred by two-thirds of potential new home buyers, according to a recent consumer poll taken by NAHB. Yet only 55 percent of builders offer basements in their best-selling models, the study said.

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If a couple has marital problems, the conflicts are likely to show up in their dealings with their builder, says a report in the *Real Estate Newsletter.* Appointing a family spokesperson is recommended, says the newsletter.

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Very few remodelers have been certified by any of the existing programs such as NAHB's Graduate Builders program or NKBA's Certified Kitchen Designer program. But over 51 percent of remodelers would like the professional credibility of such certification, according to a recent survey conducted by the NAHB Remodelors Council. One obstacle cited was the time and location of classes. Topics wanted were: estimating, business management, sales, and marketing.

The popularity of home-equity loans has increased U.S. consumer debt by $75 billion over the last few years when tax reform left home mortgages one of the few remaining interest deductions for consumers. This figure represents 12 percent of all U.S. consumer debt and has been used mostly for home improvements and to pay off other consumer debts.

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The U.S. labor force will have a new look by the year 2000, according to the U.S. Dept. of Labor. The average age will rise from 36 to 39. Almost two-thirds of new entrants from now to 2000 will be women, and 29 percent of new entrants will be from minorities.

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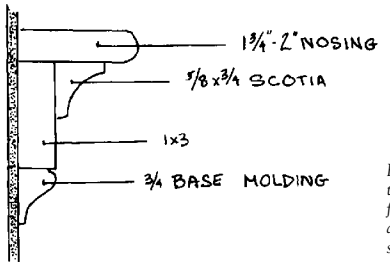
The first worker's compensation agreement was made in 1695 between Captain William Kidd, the pirate, and his crew, according to the U.S. Labor Dept. "If any man should lose a leg or arm in ye said service, he should [get] six hundred pieces of eight, or six able slaves," said Kidd.

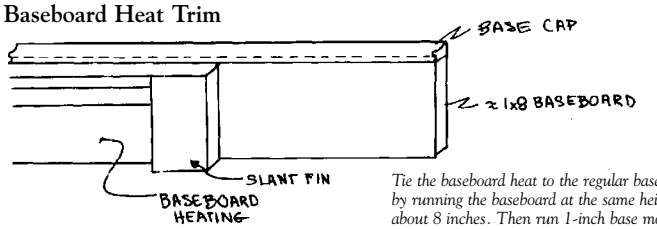
Boston Renovator Offers Tips on Trim

Chair Rail Profile



For a classy chair rail, start with a 1x3 nailed to the wall about 33 to 35 inches above the finish floor. Scribe-fit a 1 3/4-inch nosing to the wall, and nail in place on top of the 1x3. Finish with scotia and base moldings as shown.

Baseboard Heat Trim



Tie the baseboard heat to the regular baseboard by running the baseboard at the same height - about 8 inches. Then run 1-inch base molding along the top of the baseboard and the baseboard heat. You can treat all the rooms like this or save it for the formal rooms only.

Gordon Tully's articles on interior trim (NEB, 11/87; 12/87) inspired reader Rob Fowler, a contractor from Amesbury, Mass., to offer his own ideas. They're a little more elaborate than the typical trim job, but his customers on Boston's North Shore are apparently willing to pay extra for hand-built quality, and additional detailing. Here are Fowler's ideas:

Baseboard heat. Gordon Tully suggested using a full wood cover to conceal baseboard heating. A simpler and less expensive alternative is to run a baseboard at the same height as the baseboard heat (approximately 8 inches), and then run 1-inch base molding on top of the baseboard, continuing it on top of the baseboard heating. This ties it all together and avoids dwarfing the regular baseboard. If the budget is tight, Fowler suggests trying this in the formal rooms only, and using 1x4-inch base in the bedrooms.

Chair rails. Most chair rails built in the last 15 years are a piece of 1 1/2-inch nosing over lineal 2 1/2-inch colonial casing. Next time, try starting with a piece of 1x3-inch nosing to the wall and nail in place on top of the 1x3. If the wall is really bowed, you may have to use a wider nosing to maintain an overhang with the 1x3. Fowler likes to run the nosing about 1/2 inch over door and window casings, and warns: "Don't forget to round off the edges!"

Now nail 5/8 x 3/4-inch scotia to the face of the 1x3 and against the bottom of the nosing. Next, nail 3/4-inch base molding to the wall, up against the bottom edge of the 1x3. This doubles the work, but according to Fowler, "the effect is superior to using colonial casing."

Ceiling moldings. When going over a trim job with a customer, Fowler suggests bringing 36-inch sections of some built-up moldings to hold up against the ceiling. In addition to showing the customer what you are recommending, this mock-up will help you adjust the size of the moldings to keep it in scale with the height of the wall or ceiling. He cautions that these formal moldings may not work in more modest interiors. The scale model will help you and your client select appropriate moldings.

Stair skirts. Dropping a stair skirt in between the wall and the stringer is quick and easy, but Fowler questions the worth of having to scribe both the risers and treads. He feels it's better to cut the skirt like an offset mirror image of the stringer so that the plumb cuts on the skirt butt against the face of the risers. Here's how to do it: Before nailing on the risers, lay in the skirts as usual after making your cuts for ending the skirt at the top and bottom of the stair. Use a piece of scrap 1x pine about 1/2 inch shorter than the width of a tread and slide it back and forth between the skirts to mark the plumb cuts. Then mark the level cut along the top of the stringer. Fowler likes to use a 12-point handsaw to cut the skirt because he has better control over the cut. With the risers tacked in place, lay in the skirts and shim behind the risers to tighten the joint. Now you only have to fit the treads, and a gap won't open between the riser and the skirt if a tread fits a little snug. Fowler promises that this method doesn't take any longer, and avoids "fussing later with the risers."

Flat casings and other things. Most of Fowler's work is remodeling 18th- and 19th-century homes, and he feels there "are few things worse than seeing a lauan door with clamshell casing in an antique home." He suggests removing the colonial casing and replacing it with a matching casing. A typical colonial may have a 1x4 casing with a band molding along the outside edge, nailed flat against the face of the casing. If you don't have a shaper, Fowler suggests checking out antique shops for molding planes so that you can make a bead on the inside edge of the casing if you need to. If you can, store the finish stock in the house for a week or two before use. This will keep the stock from shrinking and joints from opening later on. ■

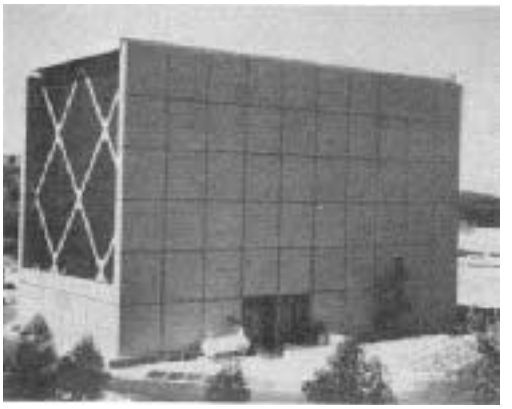
DuPont To Introduce Radiant Barrier

A radiant barrier is under development at DuPont (manufacturer of Tyvek), according to Mark Vergnano, the Eastern Regional Sales Manager for Tyvek Housewrap.

The product is essentially a metallized Tyvek — a layer of aluminum is deposited on the spun-bonded polyethylene air barrier. This as-yet-unnamed Tyvek product should offer high reflectivity and excellent permeability characteristics, according to Vergnano.

Permeability is a big issue, since the Reflective Insulation Manufacturers Association (RIMA) warned in a March 1988 position paper that radiant barriers can lead to moisture problems when used directly over insulation on the attic floor (as reported in the newsletter *Energy Design Update,* 7/88). If DuPont's new product can match the reflective performance of existing radiant barriers, and provide higher vapor permeability, they could well capture a significant share of this rapidly growing market.

The first prototype production run of the new product was made on August 11th. Following satisfactory performance in tests held during August and September, the product should be on the market by the end of the year. ■



Largest Blower Door Test Done To Save Ozone

Four blower doors were used to pressurize this 2-million-cubic-foot building recently — probably the largest building ever tested. The 100-foot-high, 100-foot-wide, 200-foot-long building also boasts a huge halon fire suppression system, which was the reason for the test.

EPA officials, worried about ozone depletion, are concerned about the release of halons into the atmosphere. Halons are related to chlorofluorocarbons (CFCs), and are held to have an even worse effect on the ozone layer. As a result, the agency is studying buildings that use the substance to put out fires. They are testing for tightness, in a desire to find buildings where halon discharges (particularly those done simply for testing purposes) may be causing harm to the surrounding air. The building featured in the photo was tested because its fire suppression system releases 71,000 pounds of halons in a single discharge, and halon leakage would have been a significant problem, if found. (It wasn't — the building was surprisingly tight.)

Halon suppression is often used when water damage from conventional water sprinkler systems would be disastrous, such as in computer or data rooms. Infiltec of Falls Church, Va., which has been looking at other applications for blower-door technology since its use became popular in the energy field, conducted the test. ■

Teens Trained in Rehab

A 12-week course in house remodeling trains teens as part of a community effort in Portland, Maine. The Remodeling Technology Course is a joint venture of the Portland West Neighborhood Planning Council (PWNPC) and Southern Maine Vocational Technical Institute (SMVTI). PWNPC has purchased several buildings in Portland's West End to be renovated for low income rental housing.

SMVTI uses the buildings as field classrooms so that students can learn basic skills while the renovations are being completed. Students, 16 years and older, are recruited through the Community Employment Project, a PWNPC program. The 12-week course includes training in job planning and energy conservation, framing, drywalling, kitchen and bath renovations, flooring, interior painting, door and window installations, and finish carpentry. An additional three weeks provides support services including job counseling. In addition to providing affordable housing for the neighborhood, it's hoped that the training will enable the teens to enter the construction labor pool. For info: Community Employment Project, 14 Sherman Street, Portland, Maine 04101; 207/879-8710. ■

N.Y. Contractors Can Go To Small Claims

The State of New York has added a commercial division to its small claims court, allowing contractors to initiate suits and represent themselves for claims of $1,500 or less.

The law takes effect in district and city courts Jan. 1, 1989, and in New York City on Jan. 1, 1991. Firms will be limited to five claims per month. ■