

The  
**roofing spec**

October 1981

National Roofing Contractors Association

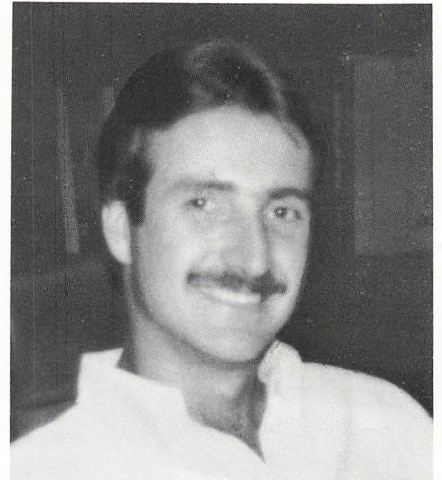
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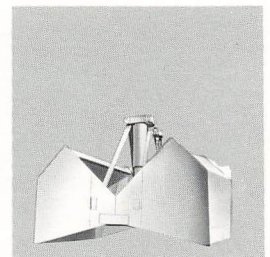
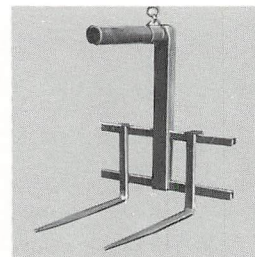
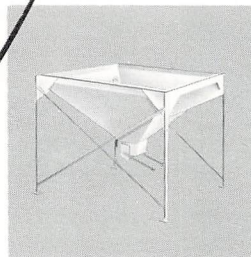
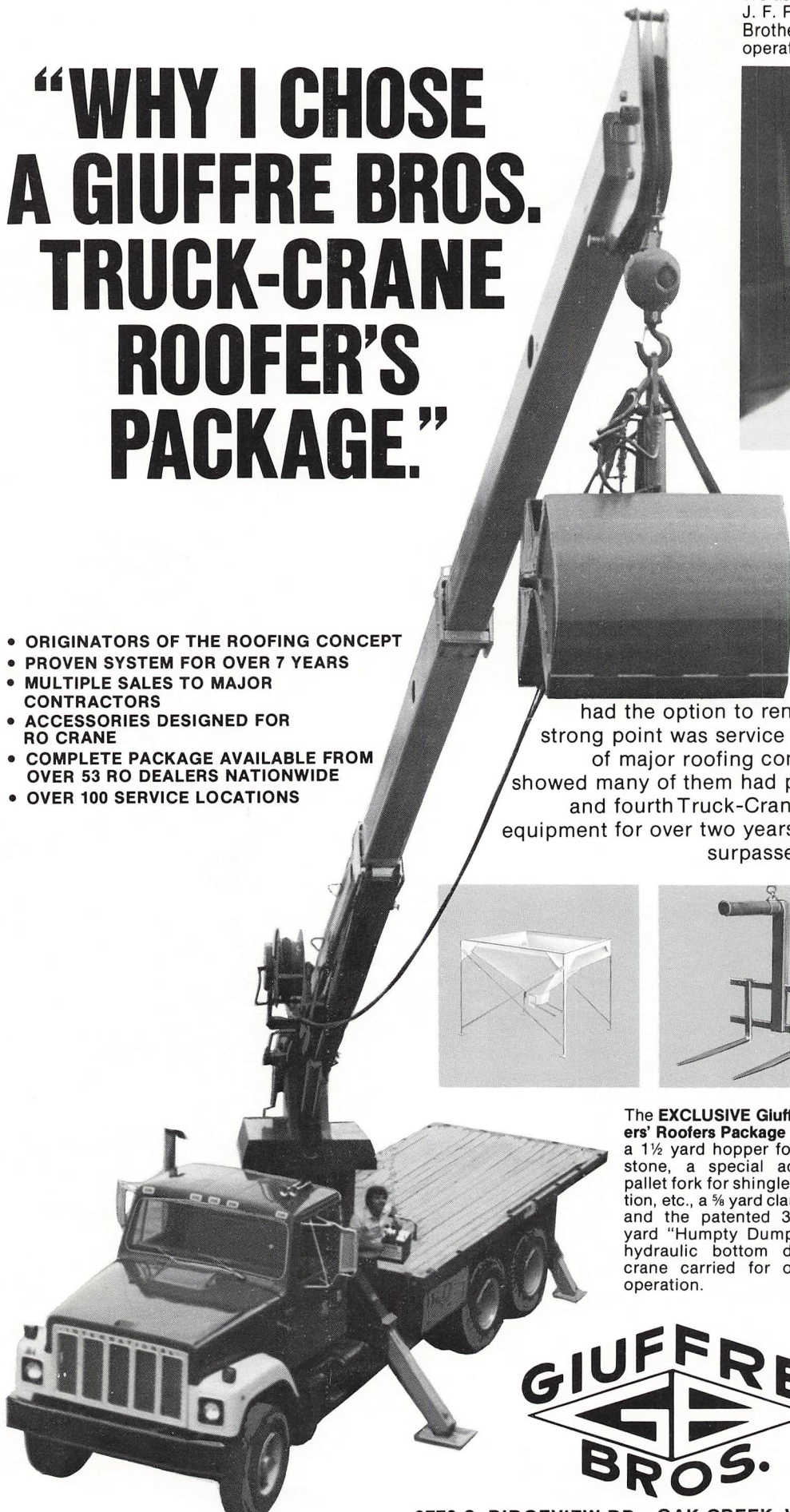
# "WHY I CHOSE A GIUFFRE BROS. TRUCK-CRANE ROOFER'S PACKAGE."

- ORIGINATORS OF THE ROOFING CONCEPT
- PROVEN SYSTEM FOR OVER 7 YEARS
- MULTIPLE SALES TO MAJOR CONTRACTORS
- ACCESSORIES DESIGNED FOR RO CRANE
- COMPLETE PACKAGE AVAILABLE FROM OVER 53 RO DEALERS NATIONWIDE
- OVER 100 SERVICE LOCATIONS

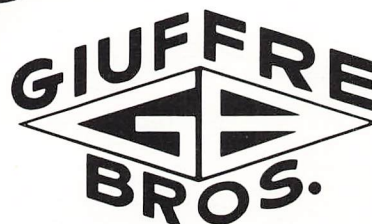
We asked John Probst, president of J. F. Probst Co., Inc., how the Giuffre Brothers Roofer's Package fits into their operation.



“We made our choice based on a number of criteria. First, Giuffre Bros. originated the concept which has a proven track record of over 7 years. When we made our decision, the equipment was immediately available through our local RO dealer. We also had the option to rent first and buy later. Another strong point was service availability close by. A check of major roofing contractors around the country, showed many of them had purchased their second, third and fourth Truck-Crane Package. We have had our equipment for over two years and found it lives up to and surpasses all of our expectations.”



The **EXCLUSIVE Giuffre Brothers' Roofers Package** includes: a 1 1/2 yard hopper for gravel/stone, a special adjustable pallet fork for shingles/insulation, etc., a 5/8 yard clam bucket and the patented 3 1/2 cubic yard "Humpty Dumper" with hydraulic bottom doors — crane carried for one man operation.



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# single-ply roofing: Five reasons why Sarnafil outperforms and outlasts other sheet roofing materials.

**1 It won't shrink . . . ever.** In conventional, calendared polymeric sheet roofing, longitudinal orientation of the polymer molecules causes shrinkage when the material is exposed to the sun's heat. Not with Sarnafil. It is manufactured by an exclusive process combining plastisol coating with non-woven glass-fiber reinforcement. Calendaring is eliminated. In addition, top-grade plasticizers and stabilizers safeguard against embrittlement and shrinkage from aging. Sarnafil is dimensionally stable, and it stays that way.

**2 It can't separate or de-laminate.** Prolonged exposure to the elements can ruin laminated materials. Plies separate. Protection is destroyed. But not with Sarnafil. This unique non-laminated membrane is a single, homogenous layer with integral reinforcement embedded in the center. It cannot delaminate even under the most severe conditions of temperature, humidity, mechanical stress, or exposure to atmospheric pollutants.

**3 It expands and contracts with the structure.** Because of the glass-fiber reinforcement, the thermal expansion of Sarnafil closely approximates



*Sarnafil roofing requires no adhesive or sealants at the joints. Material is fused by means of hot-air welding to produce a continuous leak proof membrane.*

that of roof decks. When Sarnafil is installed even as a fully adhered membrane, expansion or contraction of the structural deck does not affect either the adhesive bond or the membrane itself. Everything moves at the same rate.

**4 You can use a variety of installation techniques.** Sarnafil can be installed in a variety of applications: fully adhered without ballast, loose-laid with ballast, mechanically fastened, and in a protected membrane assembly. Sarnafil is available in a variety of colors besides the standard light gray, and in a variety of thicknesses to accommodate specific conditions, such as walk-on, drive-on, or plant-on roof decks.

**5 It can stand years and years of exposure.** Sarnafil is so highly stabilized that it can be welded to itself even after years of exposure to solar radiation and weather. So if a new penetration must be made in the membrane even after years of service, a new section of Sarnafil can be hot-air welded to the existing aged sheet with assurance of a watertight seal.

**Insist on Sarnafil . . . The only non-shrinking PVC roofing membrane.**

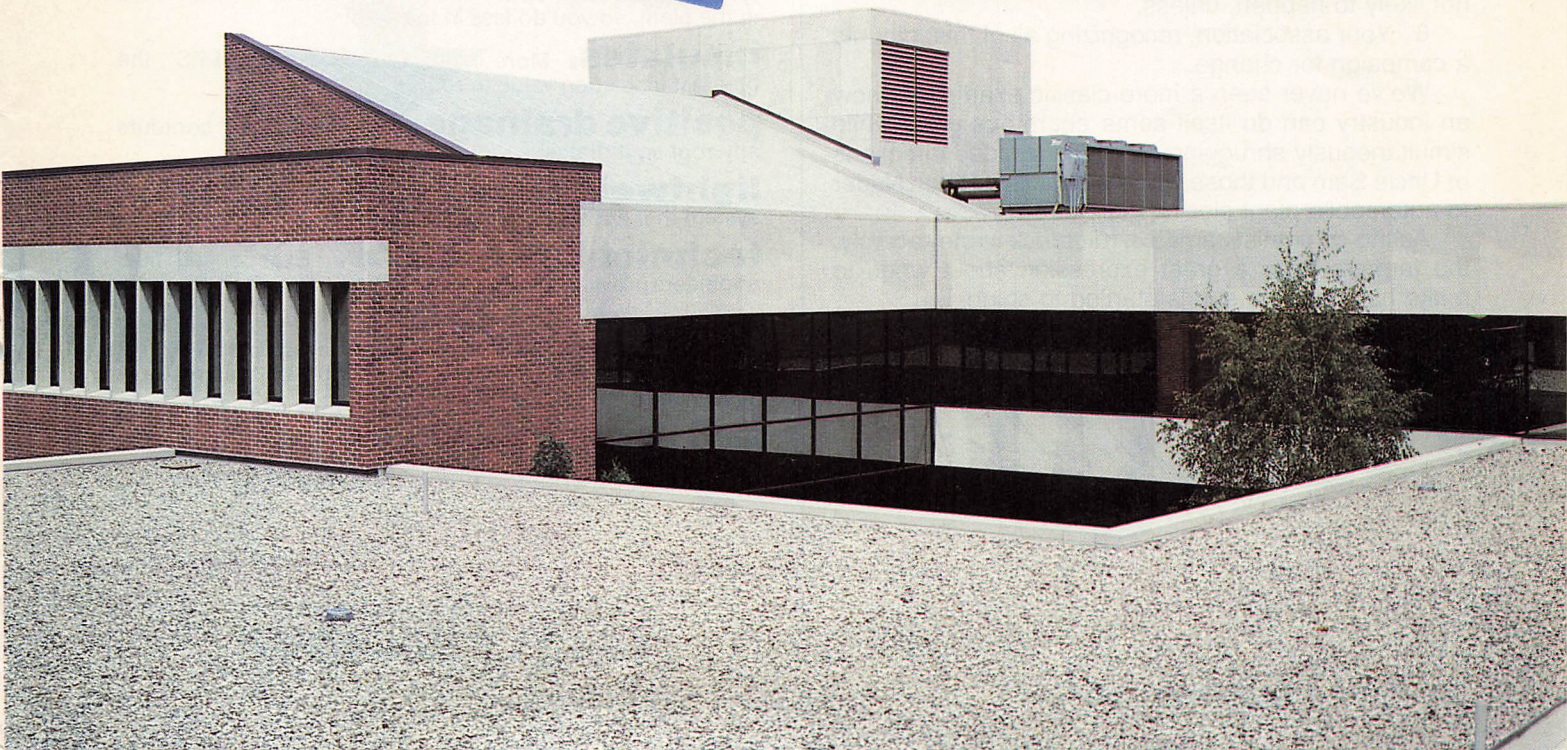
There's no other single-ply roofing system with the stability, endurance, and reliability built into Sarnafil. It's the ultimate in polymeric roofing membranes. Proven world-wide for almost 20 years under all climatic conditions, with the same basic formulation.

*New roof or re-roofing project . . . ballasted or unballasted system . . . big job or small . . . insist on Sarnafil. And be sure. Write for brochure.*



**Sarnafil** <U.S.> inc.

Canton Commerce Center, Canton, Mass. 02192  
Telephone: (617) 828-5400 Telex: 951625



## The Business of Worker Health

On the matter of the occupational health risks of roofers, a few observations:

1. It is presumptuous for anyone to suppose that employers are unconcerned about the health of their workers, if only for the very fundamental reason that healthy workers are better workers.

2. Nearly all employers we've met are human beings, the wide majority of whom have a genuine concern for their fellow man.

3. After years of myth and misrepresentation, the evidence is beginning to suggest, and strongly, that occupational health concerns are relatively minor as compared to the smoking, drinking and eating habits of employees—indeed of all people.

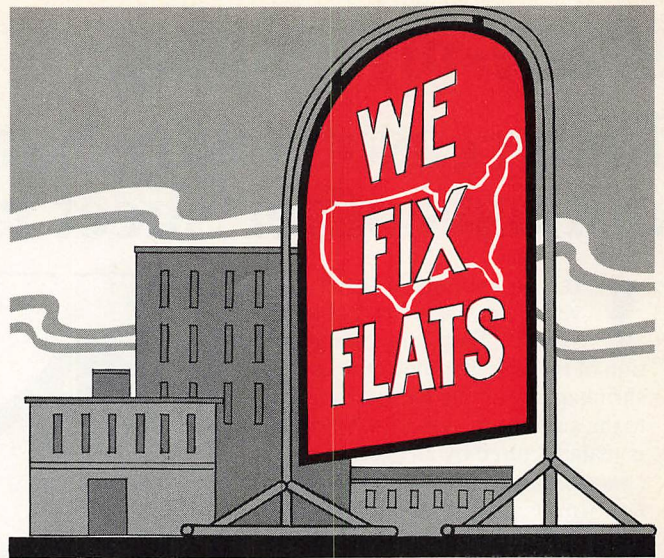
4. Roofers as a trade have one of the highest smoking rates—probably the highest rate—of any category of worker, which ought to mean that their death and cancer rates are much higher than the general population, not even considering the alleged added dangers of exposure to bitumen emissions, etc. They are not.

5. Employers can do a lot more to help their employees stay healthy by educating them as to the importance of good personal living habits than they can do by forcing them to wear, for instance, respirators on a rooftop. Yet, thanks to the boys in Washington, that's not likely to happen, unless,

6. Your association, recognizing all of this, mounts a campaign for change.

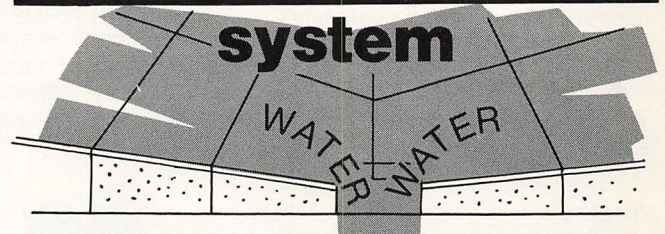
We've never seen a more classic example of how an industry can do itself some enormous good while simultaneously shrugging off the misguided intentions of Uncle Sam and those who would follow Ralph Nader to automobile plant closings in Detroit.

As the columnist James J. Kilpatrick wrote recently, the farmers have a great expression about when to make hay, and the sun is starting to shine.



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**lightweight.** Contour Taper Tile<sup>®</sup> is a one layer system that adds almost no weight to the roof.

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# Ideas, notes and random thoughts

**We'll put this one** in the "nice try" file—The Wall Street Journal reports that leaks caused by squirrels gnawing through the roof don't qualify for a casualty deduction as a sudden, unexpected, or unusual event.

In a private ruling, an IRS spokesman said, "It is common knowledge that squirrels are destructive."

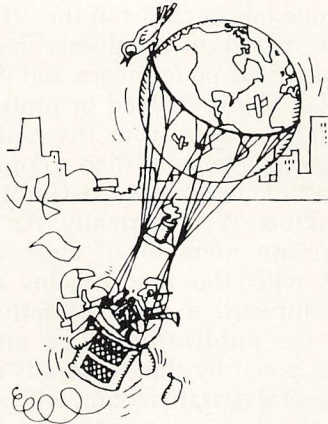
**More info on** the upcoming NRCA Convention and Exhibit in Los Angeles, March 2–5.

Sandy Haberkost, meetings and convention manager, reports that this year's convention will feature two new educational programs, in addition to the always popular regular business sessions.

Two sessions on Solar Energy will be presented for those interested in learning more about this rapidly expanding segment of the construction industry. The first session will cover the basic principles of solar energy; the second session will deal with practical application methods of interest to roofing contractors.

Both sessions will be conducted on Tuesday, March 2.

The second innovation this year is a special Foreman and Superintendent's Day, designed specifically for crew leaders. On Friday, March 5, the day will begin with a visit to the trade show at the Convention Center, where your men will see all the latest in roofing materials and equipment. Next, they'll attend a luncheon featuring an address by a motivational speaker. Then it's on to their own educational programs with sessions on roofing equipment maintenance and blueprint reading.



For further information on the entire convention program, contact Melody Lejcar at NRCA headquarters.

**A list of 30** more Federal regulations and nine paperwork requirements slated for scrutiny by the Reagan Administration was announced recently by Vice President Bush, chairman of the President's Task Force on Regulatory Relief.

The new list makes a total of 91 specific regulations which have been singled out by the Administration. The latest additions to the list resulted from Bush's plea to the public for advice on regulatory problems.

"We are carefully reviewing each and

every submission and will continue to do so until each has been analyzed and acted upon," Bush said.

**The adding machines** and calculators are still tallying their losses from this year's collective-bargaining settlements, which are proving to be some of the costliest on record, according to *Energy News Record*.

The Construction Labor Research Council says settlement reached in the first eight months of 1981 provide for first-year hourly wage and fringe-benefit increases averaging 11.8 percent (\$1.78), and second-year increases averaging 10 percent (\$1.66).

The hardest hit region of the country is New England where contractors are facing fast-rising wages and fringe benefits averaging 15.7 percent for the first year, and second-year increases of 11.1 percent.

The West North Central states, on the other hand, are experiencing the slowest rise, with first and second-year increases averaging 10.4 percent and 9.7 percent respectively.

**Proposed changes** in the Davis-Bacon Act may not save contractors as much money as has been suggested by Secretary of Labor Raymond J. Donovan, according to recent statistics released by the U.S. Chamber of Commerce and the Associated Builders and Contractors.

Both groups recently estimated that the proposed changes will result in annual savings of only \$300 million, less than half of the savings claimed by the government.

Both the Chamber and ABC favor repeal of the Davis-Bacon Act.



**Fred Good, CAE**, executive vice president of NRCA, recently was honored by the Roofing Industry Educational Institute for having served on the Board of Regents for two years.

During his tenure on the board, Good headed the Finance and Budget committees. Good was one of the original 12 regents, and also served on the Steering Committee prior to the official formation of RIEI as a non-profit educational institution.

Good is pictured here receiving his plaque from William Steinmetz, former Chairman of the Board of the RIEI Regents.

# Letters

Dear Editor:

I have read with interest your article titled, "The European Roofing Experience," presented in the May 1981 issue.

The article is written by seven [sic] gentlemen who visited Europe after receiving an invitation from a group of European roofers in order to view the roofing material and roofing practices in Europe. It is interesting to note that the roofing companies visited in Europe were all conventional built-up roofers with interests not only in roofing, but also in the manufacture of built-up roofing materials.

I am concerned with the nu-

merous inaccuracies in the article with regard to single-ply membranes, their performance and their market share. Instead of replying to these points from the United States, I have forwarded a copy of the article to Braas & Co. GmbH in Frankfurt, West Germany. An appropriate member of staff will deal with the inaccuracies and will forward a letter directly to you for publication. The viewpoint given by the visitors is one of general dissatisfaction with single ply in the European market. This, I am sure, is the view of conventional built-up roofers in Europe, however, statistically this is

inaccurate. There has been a continual growing trend of the use of single-ply material in Europe, PVC being the dominating membrane. I would like to take this opportunity to invite the authors of this article to return to Europe and view the other side of the European roof experience and see the manufacture, sales and installation of single ply materials in Europe. The authors of this article may then report on their findings in *The Roofing Spec* to round out the readers' roofing experience.

Colin R. R. Murphy  
President, Barra Corporation of America

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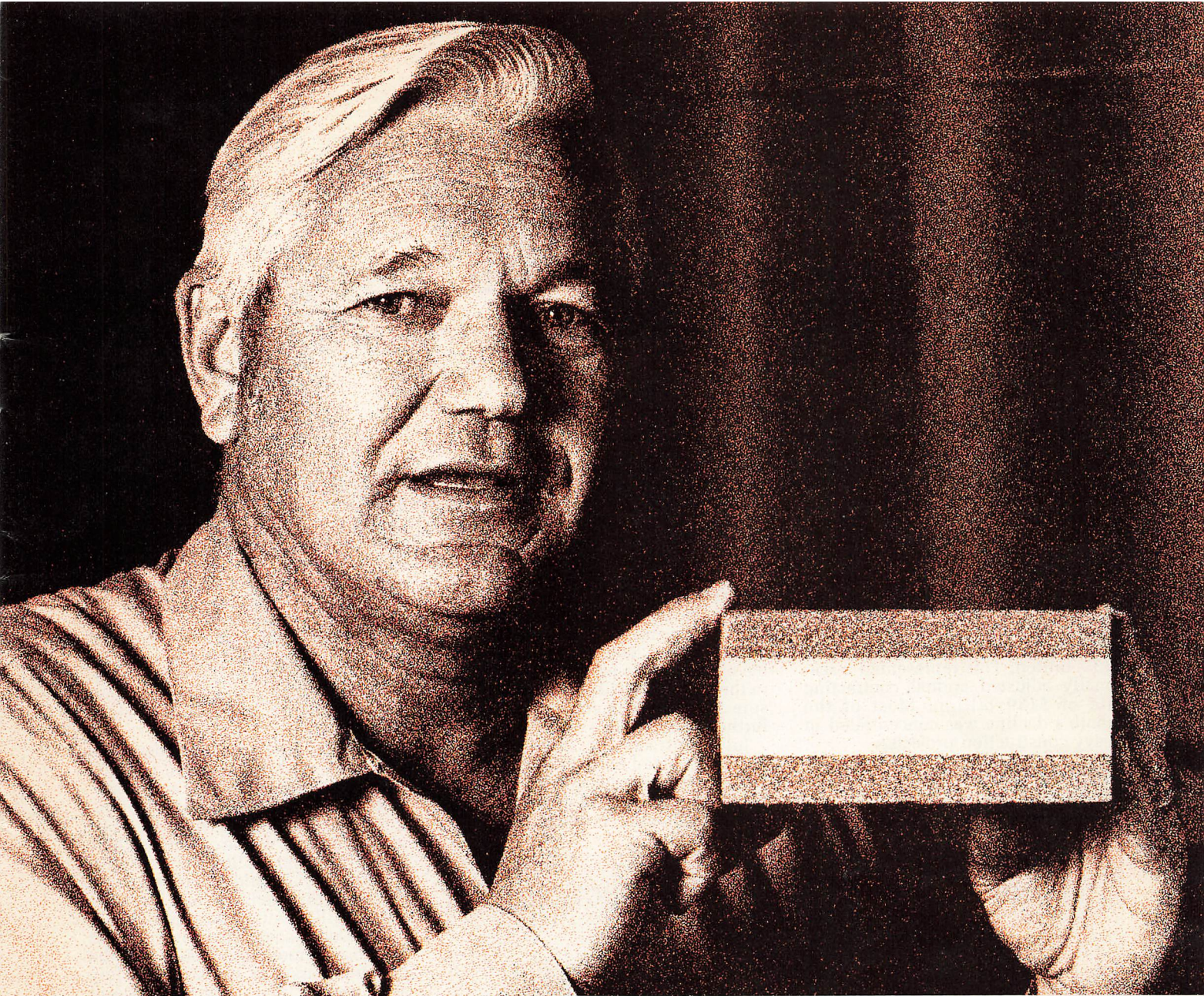
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# NATIONAL NEWS

## Construction Contracts Sag In July to \$13.7 Billion

Contracting for new construction sagged another 10 percent in July under the weight of high interest rates and public works stretchouts, according to the F. W. Dodge Division of McGraw-Hill Information Systems Company.

According to George A. Christie, the firm's vice president and chief economist, the value of newly started construction projects in July came to \$13.7 billion. This represented a seasonally adjusted annual contracting rate of \$139 billion. Most of the month's decline was concentrated in heavy construction projects.

Dipping to 153, the July Dodge Index (1972 = 100) was the lowest reading so far in 1981.

"The Dodge Index of construction

contracting has been declining almost without interruption since it reached a peak of 209 last November," said Christie. "The monetary and budgetary disciplines of the Reagan economic program are choking off essential support of the construction industry."

"The mounting probability of a \$20 billion overrun in 1982's projected budget deficit means still more trouble ahead for the building business—in the form of added interest rate pressure from government borrowing, or further budget cuts—or both."

July contracts for nonresidential building totaled \$5.6 billion, down 2 percent after seasonal adjustment from June's stronger rate of contracting. In the latest month, commercial and in-

dustrial building advanced modestly, while institutional building projects declined.

"Only commercial and industrial building retains its vitality in 1981's third quarter," Christie said. "This construction sector stands to benefit most from the Reagan program. For the short run, however, commercial and industrial building may be temporarily disrupted by excess capacity that is developing in the manufacturing sector and by a tendency toward overbuilding in the booming office market."

"Despite these vulnerabilities, both areas enjoy good economic and demographic support for the longer haul."

July's nonresidential building contracts benefited from a dozen new office buildings with a combined value exceeding \$500 million, and from two large industrial building projects—one a \$255 million refinery, and the other a \$200 million aluminum-rolling mill.

The Dodge economist observed that the cost of mortgage money left the housing market as depressed in July as it was in June, with the value of contracts for residential building virtually unchanged after seasonal adjustment. The latest month's contracting total of \$5.9 billion showed further weakening of one-family building, and "meager improvement" in multi-family starts.

Explaining a 41 percent July decline (seasonally adjusted) in contracting for nonbuilding construction, Christie said it was due to a combination of the Federal budgetary squeeze on public works construction starts of electric power facilities.

At the end of seven months, the cumulative value of all construction started in 1981 was \$90.7 billion, up 12 percent from the same period in 1980.

"Nearly two-thirds of the 'gain,' however, was due to inflation," Christie said.

The accompanying chart shows the latest month's Dodge construction statistics. These contract-award statistics measure the value of newly started construction that will be brought to completion over the months ahead. They indicate the amount and direction of future expenditures of this major sector of the economy.

### MONTHLY SUMMARY OF CONSTRUCTION CONTRACT VALUE

Prepared by  
F. W. Dodge Division  
McGraw-Hill Information Systems Company

	July, 1981 Construction Contract Value (000,000)		Seasonally Adjusted Percent Change From Previous Month
Nonresidential Building	\$ 5,571.9		- 2
Residential Building	5,852.7		- 1
Nonbuilding Construction	2,226.8		-41
Total Construction	\$13,651.4		- 10
	7 Mos., 1981 (000,000)	7 Mos., 1980 (000,000)	Cumulative Percent Change
Nonresidential Building	\$34,267.8	\$29,760.5	+ 15
Residential Building	38,580.7	33,088.1	+ 17
Nonbuilding Construction	17,899.5	18,184.0	- 2
Total Construction	\$90,748.0	\$81,032.6	+ 12

#### DODGE INDEX (1972 = 100, SEASONALLY ADJUSTED)

May, 1981	160
June, 1981	170
July, 1981	153

## GAF To Shut Down Denver, Kansas City, Roofing Plants

GAF Corporation announced recently it closed its roofing plants in Denver, Colo., and Kansas City, Mo. The plants ceased production on September 4, and will remain closed until increased demand justifies re-opening.

The action, GAF said, results from the rapid rise in the cost of asphalt needed to make roofing and a severe decline in demand for roofing in the areas served by the two plants. GAF will continue to serve its customers in these areas with roofing made at other strategically located plants which have adequate production capacity. The plants being closed represent slightly more than 10 percent of GAF's roofing manufacturing capacity.

Asphalt prices at the two plants being shut down have risen more than 50 percent over the past two years, and very soft demand in the marketplace has prevented GAF from passing cost increases along to its customers through price increases.

All employees at the two plants will be laid off. The Kansas City plant employs approximately 180 people; the Denver operation has approximately 110. GAF will make every practical effort, consistent with company personnel policies, to assist employees affected by these shutdowns.

The company said it may re-open either or both plants when demand returns and the opportunity to operate the facilities profitably is restored.

## Fire Official Survey Indicates Support For Automatic Fire Vents

A recent survey of fire officials from around the country indicates that automatic fire vents are helpful, in fact necessary, for fighting blazes in large one-story buildings.

The survey was sponsored by the Fire Vent Industry Task Group and implemented by APC Corporation of Hawthorne, N.J., in response to an announcement made last year by the Standards Council of the National Fire Protection Association, that it may withdraw NFPA 204. NFPA 204, adopted in 1961, is the Guide for Smoke and Heat Venting which requires fire venting in sprinklered and unsprinklered buildings.

Some 14,232 fire officials in professional fire departments around the

country were surveyed regarding their opinion of the retention of NFPA Guide 204. Over 2,300 (16%) chiefs, senior officers and marshalls responded by returning cards which stated, "As a professional firefighter, I urge the NFPA to retain its 204 Guide which calls for automatic fire venting in large one-story buildings."

The Standards Council was considering withdrawing Guide 204 because the full association had not, during the years since 1968, reconfirmed nor amended the original edition. In 1975, the NFPA Committee on Building Construction had recommended that the 1968 edition be reconfirmed, but the Committee report was never adopted.

## Reagan Expects Tax Measures To Result In "Construction Boom"

President Reagan, in an exclusive interview with *Construction Equipment* magazine, predicted that his administration's Economic Recovery Program will trigger "a major investment boom" in construction in the next few years.

President Reagan told editors of *Construction Equipment*, that he ex-

pects business fixed investment to rise to an average \$450 billion a year in the 1981-84 period. This, he said, is approximately \$200 billion more than the prior four years.

"It is quite clear that when the Economic Recovery Program is fully in place, the construction industry should be one of its major beneficiaries," Reagan said.

The construction industry has been jolted by both the lagging economy and the Reagan administration's plans to cut an estimated \$18.2 billion from federally-funded construction programs.

Responding to those concerns, President Reagan said his budget retains "billions of dollars" for public construction programs, including a projected \$8.5 billion highway expenditure in fiscal 1982. Moreover, he said, the tax cuts recently enacted will stimulate a "private construction boom (that) should exceed any federal cut-backs several times over."

Specifically, Reagan said he expects investment capital to come from the combination of increased personal savings and business savings resulting from accelerated depreciation. In addition, "reduction of the federal deficit from \$60 billion to zero will

*continued, page 13*

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State-of-the-art laminated roof drain flashing

- Cannot leak when properly mopped into BUR membrane.
- Flexible at -50°F and stable at +200°F.
- Not damaged by compression of flange-type drains.

Nobleflex laminated roof drain flashing becomes an integral part of the built-up roof membrane that simply cannot leak when properly mopped in. It's rugged, easy to install, and guaranteed for as long as the membrane itself. Get all the answers to your roof drain flashing problems by sending for a free copy of the Dry Goods Catalog today.

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## The Noble Company

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# TAKE TWO TO RELIEVE STRESS.

There's a lot of stress when you get to the top. To the top of your building, that is. Especially on your roofing membrane.

Owens-Corning has a remedy for it: use two layers of insulation instead of one. That's because in a single layer of roof insulation, gaps of up to  $\frac{3}{16}$  inch can occur between the insulation boards. And these gap locations provide the greatest potential for membrane stress.

The second layer of insulation can contribute to reducing stresses to the membrane and, therefore, to longer roof life. It's installed over the bottom layer, with the joints offset and the bottom layer gaps covered. By eliminating

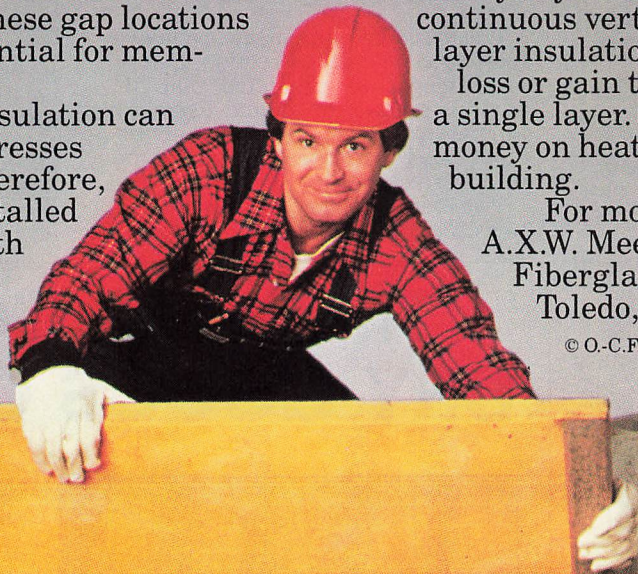
the continuous vertical gaps that extend from the roof deck to the built-up roof in this way, you can reduce membrane stress by as much as 10%.

But double-layer insulation does even more than that. It also increases the energy efficiency of your building. By eliminating continuous vertical joints with double-layer insulation, you'll have less heat loss or gain than you would with just a single layer. So naturally, you'll save money on heating and cooling your building.

For more information, write A.X.W. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, OH 43659.

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## Reaganomics; from previous page

leave that much more for private borrowers."

Asked about long-range plans to rebuild America, Reagan said, "we intend to permit market forces to play a much larger role in directing the course of the U.S. economy in coming years."

The President also told Construction Equipment's editors that the Department of Labor is taking steps to tighten the administration of the Davis-Bacon Act, an action that would "increase the efficiency of construction labor markets throughout the United States."

The Davis-Bacon Act requires that an area's "prevailing wage" be paid to workers on projects receiving federal funding.

Reagan said the competitive position of U.S. construction firms in international markets would benefit from a number of administration-supported measures, including easing of reporting requirements under the Foreign Corrupt Practices Act and permitting smaller companies to work on projects together under the proposed Export Trading Company Act.

## CSI Annual Certified Construction Specifier Program

The Certified Construction Specifier program, introduced in 1978, offers the opportunity for individuals to demonstrate expertise in the preparation of written construction documents.

The designation "Certified Construction Specifier" is awarded to those who successfully pass a written examination based on the contents of the CSI Manual of Practice, Conditions of the Contract and the practical preparation of specifications. The examination will be given on Saturday, April 3, 1982 in thirty-five cities throughout the United States.

The program is open to all who meet the prescribed qualifications, and is not limited to CSI members only. An applicant must have at least five years experience in one of the construction design disciplines and has prepared or supervised preparation of written construction documents actually used in construction.

For further information, write to: Chairman, Certification Committee, Construction Specifications Institute, 1150 Seventeenth Street, NW, Suite 300, Washington, D.C. 20036.

## RIEI Seminar in Denver

The Roofing Educational Institute will conduct a two-day seminar on the subject of Elasto/Plastic Sheet Applied Roofing Systems, to be held in Denver on Nov. 19-20.

Among the many objectives of the seminar will be to:

- Familiarize pupils with the new sheet-applied roofing systems, and to compare their advantages and disadvantages with conventional built-up roof systems.

- Review the terminology, chemical and physical properties of the new systems, and to link these properties to the contemporary application methods.

- Illustrate the step-by-step application techniques from deck preparation through flashing and coatings.

- Aid the designer, specification writer and owner in making an appropriate roof system selection and in correctly preparing specifications for their application.

- Cover inspection, protection and maintenance techniques so that owners can set up appropriate programs to achieve long-lasting performance from their roofs.

The seminar will cover three new roofing materials—modified bituminous systems, elastomeric systems and plastic materials.

Attendance is limited. Interested persons should contact Susan Matthews, % The Roofing Industry Educational Institute, 6851 S. Holly Circle, suite 250, Englewood, Colo., 80112.

## Uniroyal To Expand Royalene EPDM Capacity By 50 Percent

Uniroyal will increase the capacity for its Royalene EPDM rubber more than 50 percent, Vincent A. Calarco, president of Uniroyal Chemical Company, said recently.

The expansion will be made at the company's facilities at Geismar, La., where Royalene is currently produced, and will be completed in mid-1983.

"It is consistent with Uniroyal Chemicals' growth plans and with the corporation's continued emphasis in the area of specialty chemicals and polymers," said Calarco. "Uniroyal is committed to the EPDM industry, with it being basic to our strategies to grow in specialty elastomers."

This latest expansion will add a third producing plant to the site, as well as improve the efficiency of the facilities in place. The investment will give Uniroyal's Geismar complex additional production flexibility, as well as increased reliability from the three independent plants.



# 9.3 MILLION SQ. FT. "PROVEN IN USE!"

Conglas now has 9.3 million square feet of Conbase W-1 (Perforated) in place without a known urethane-caused blister.



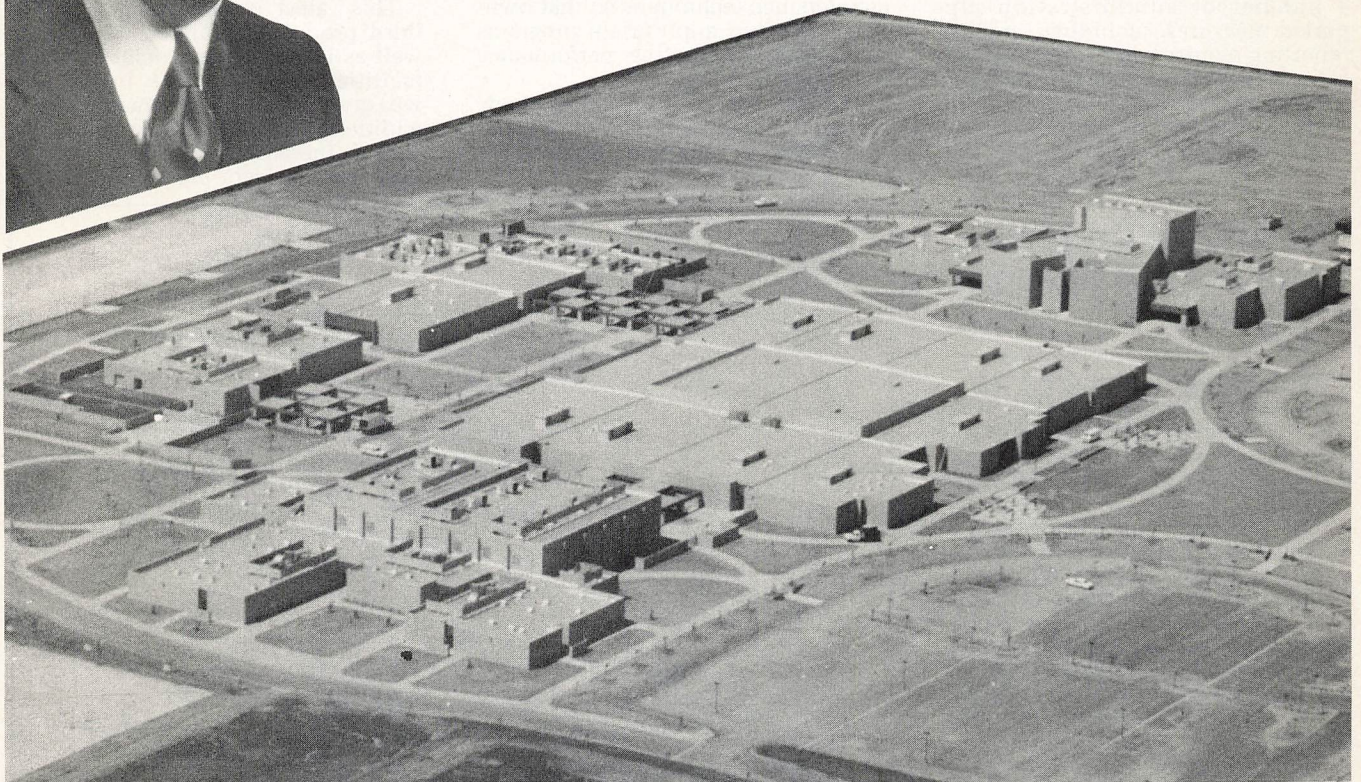
Dobson High School in Mesa, Arizona, was recently completed by Universal Roofers and Builders Incorporated of Phoenix, Arizona. The roof has approximately 260,000 square feet of roof area.

Consolidated Fiber Glass' Conbase W-1 (Perforated) meets the criteria set forth by the National Roofing Contractor's Association for roofing over polyurethane insulations. Bulletin No. 7 calls for either a second layer of roof insulation or a venting-type base sheet when roofing over thermally efficient urethane.

Make your next roofing project Conglas . . . the systems people with proven-in-use performance.

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# National Roofing Foundation Needs Support From Its Friends

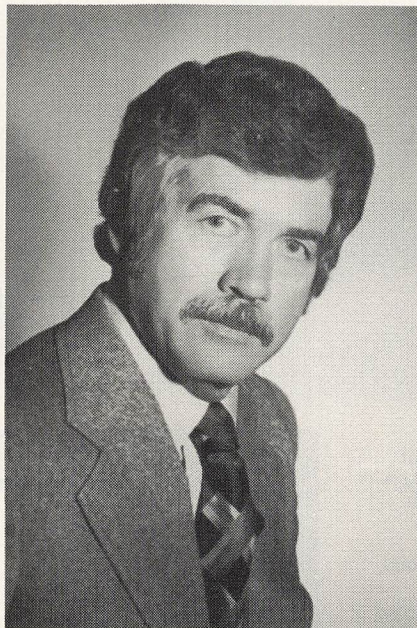
**Editors Note:** The following is an open letter to the international roofing community from NRCA Past President Tom Manson, currently on the Board of Trustees for the National Roofing Foundation.

Recently I had the opportunity to talk with some members of NRCA about the National Roofing Foundation. Although The Foundation was formed only a few years ago, few people active in the roofing industry have heard of its work or know of its purpose. Now that The Foundation has completed its first major task—informing the roofing community of our existence—it is time now to recall once again the function and importance of the National Roofing Foundation as it relates to the roofing industry.

First, current news: The Foundation has completed an educational course for college-level instruction. The course consists of slides and a textbook prepared and funded by The Foundation. Instruction will be by college professors as a part of the generally offered curriculum at institutions across the country. Through this new educational medium, the roofing industry is continuing its drive to perpetuate the future, as well as our concept of professionalism.

The National Roofing Contractors Association will be 100 years old in 1986. It is the oldest subcontractor association in America. The National Roofing Foundation was formed to prove to the total construction industry the value of

educating young people just coming into the roofing business. One of the primary functions of The Foundation is to communicate our dedication to education and continued growth within the roofing industry.



**Thomas Manson**

The Foundation is solely funded by member contributions. Now that the actual course is completed, we want to offer scholarships to both students and professors interested in learning and teaching roofing practices and techniques.

The Roofing Industry Educational Institute (RIEI) has offered

to extend its facilities to teachers interested in offering The Foundation course as a part of their total course offerings. We want to be able to help those willing teachers take advantage of the offer from RIEI. We also want to offer scholarships to students interested in pursuing roofing as a career. But to accomplish these tasks, The Foundation desperately needs your support.

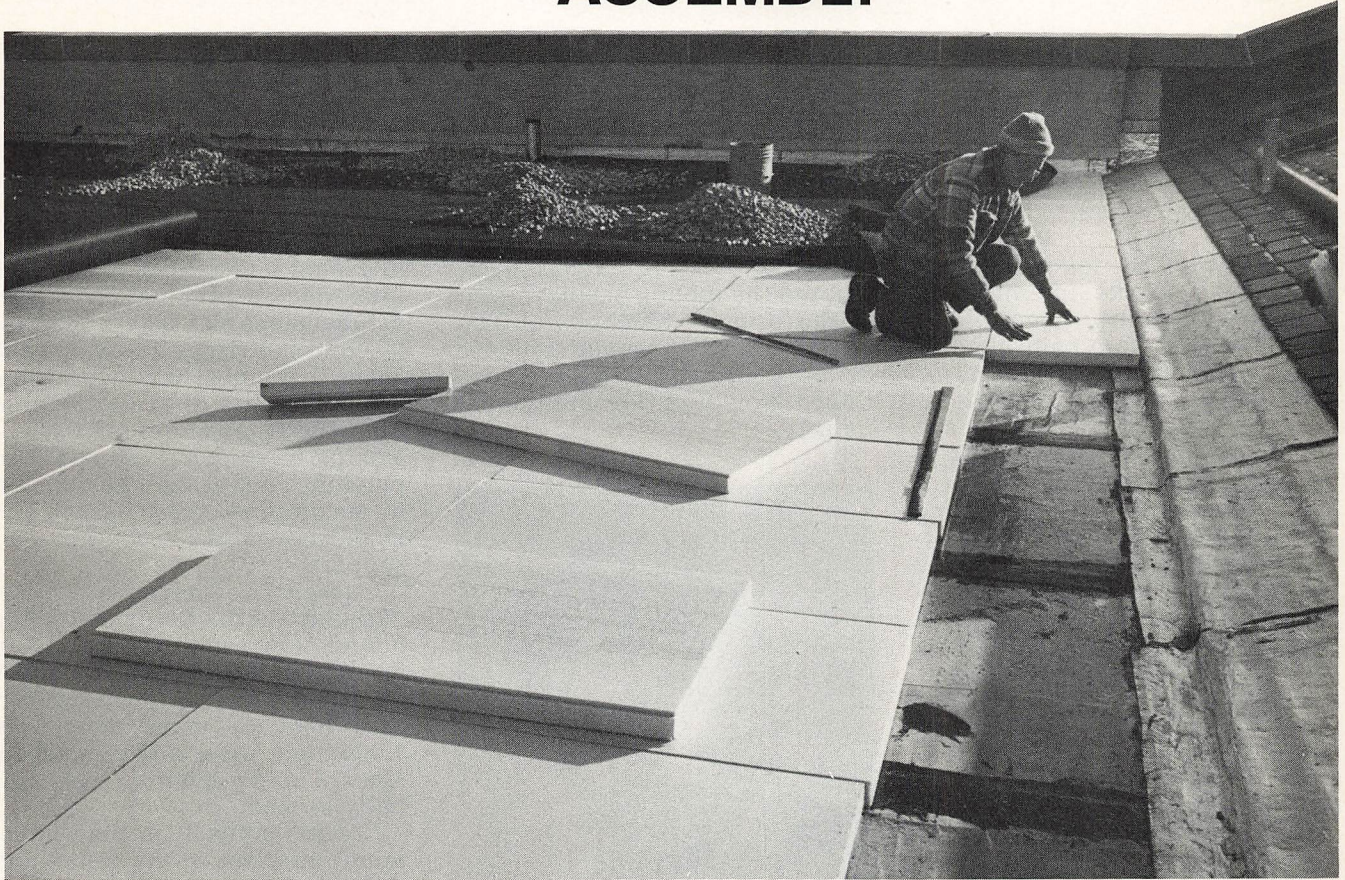
Currently there are 194 "Friends" of the National Roofing Foundation, each contributing an average of \$50 annually. NRCA has grown so rapidly, however, that there are many more than 1,000 new association members since The Foundation was initially formed.

Consequently, it is time to remind ourselves of the vision and dedication brought to the roofing industry by those members in whose honor the National Roofing Foundation was formed. Men like Bob Osterholt, Clyde Scott and John Hartmann, whose belief in greater education within the roofing industry led The Foundation to where it is today.

All of you are encouraged to review the course material at the next annual NRCA Convention & Exhibit, in Los Angeles March 2-5, or you can examine the material at NRCA headquarters in Chicago.

Above all, however, all of you are reminded of the importance of the National Roofing Foundation to the total roofing industry. You are encouraged to lend your support.

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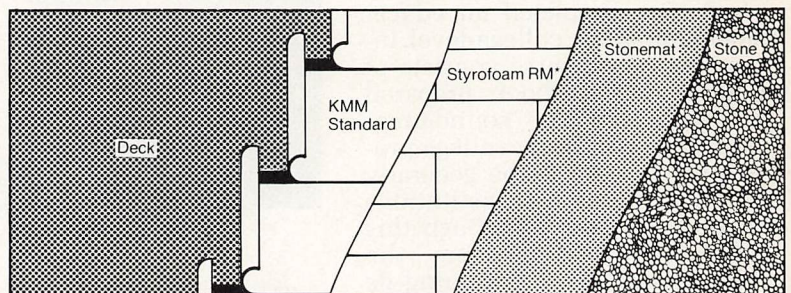
1. Because the membrane is insulated, it's less affected by temperature extremes. And since it is laid loose, it is even less susceptible to normal building expansion and contraction.
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# Affiliate News

## FRSA Building Becomes Reality

Capping over a year of intensive planning, coordination, problem solving, and construction, the Florida Roofing, Sheet Metal & Air conditioning Contractors Association (FRSA) recently opened its new headquarters.

The building, located in suburban Orlando, is a 14,000-square-foot structure with FRSA occupying the ground floor. Rental clients occupy the upper floor. Designed by the Winter Park architectural firm of Lopatka & McQuaig and built by Kincaid Construction, the ultra-modern facility

should meet the association's space needs for years to come.

"Besides the obvious investment benefit, the building serves as a monument to the progress and permanence of FRSA, a focus for our activities," said Bruce Martin, CAE, executive vice president.



In other FRSA news, Milton E. Thompson Jr. in June began serving a one-year term as president. Thompson, a Hilaleah roofing contractor, succeeded James H. Falkner, who will serve as chairman of the board.

Thompson, a long-time FRSA member, is also a NRCA director.

Also installed as officers at the FRSA Convention were President-elect Joe Rutkoski (Giffen Roofing, Tampa), Vice President Don Springer (Florida Sheet Metal, Lakeland), and Secretary/Treasurer Frank Jenkins (J. M. Montgomery, Miami).

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## ARMA Elects Two To Top Positions

Frederic L. Purtill, vice president and general manager of the Roofing Products Operating Division for Owens-Corning Fiberglas Corporation, was elected chairman of the executive committee of the Asphalt Roofing Manufacturers Association.

Edward L. Mongold, senior vice president of CertainTeed Corporation, was elected to serve a two-year term as ARMA president. He had been serving as president since having been named by ARMA to fill a vacancy created by a resignation.

In other ARMA news, the association reports that through the efforts of its Health Steering Committee, OSHA has agreed to remove asphalt from its Category I and II listing of priority substances to be investigated as carcinogens. This decision provides some time for the industry to pursue planned industry toxicological and epidemiological test programs.

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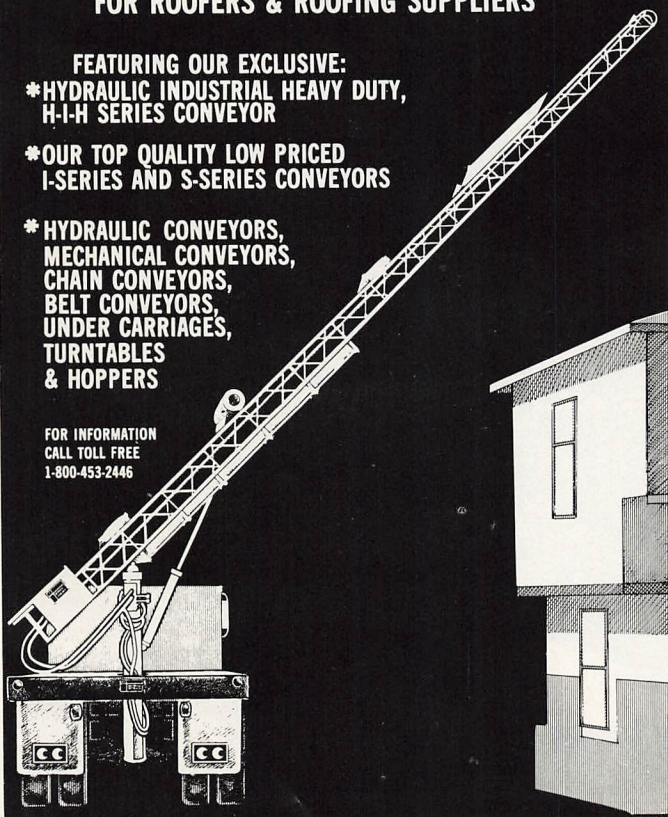
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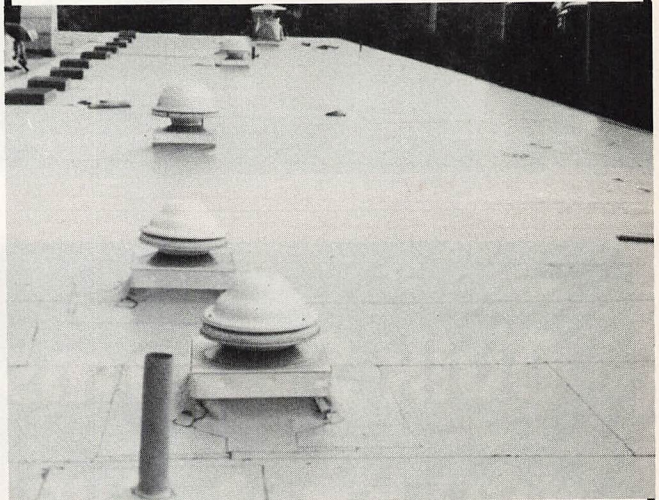
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# Beaver Creek, Nation's Newest World-Class Resort, Fast Taking Shape in Colorado Rockies



## **\$500-Million Development at 7.8-Square-Mile Site Eventually to Offer 1,100 Acres of Trails, 15 Lifts**

**Beaver Creek, Colo.** — It was originally chosen as the site for the 1976 winter Olympics.

Colorado voters turned down the games, but development of the area, 10 miles west of Vail and 110 miles from Denver, continued.

Now, after a decade of planning, the nation's most impressive new world-class year-round re-

sort—\$500-million Beaver Creek—is rapidly taking shape.

The first 33 runs already have been opened for skiing on a 7.8-square-mile site eventually to offer 1,100 acres of trails and 15 lifts. The longest run, Centennial, is an awesome 2½ miles, with a vertical drop of 3,340 feet.

Newest completed structure is Spruce Saddle restaurant, an

18,800-square-foot landmark perched at an elevation of 10,200 feet, midway between a ski village and the 11,400-foot summit, with a spectacular view of both Gore Range and Vail Mountain. From among 630 entries it recently won the 1981 Grand Award of the Pacific Coast Building Conference for the best retail-commercial building.

*continued on page 22*

# Member Services Department

We all remember first impressions. Whether in our professional or personal lives, first impressions can and do have a lasting effect.

Many times, the first contact the prospective NRCA member has with the association is through the Member Services Department.

The Member Services Department provides the vital link between the prospective member and NRCA. The department is responsible for making sure all potential members are given an opportunity to participate in the association by becoming a member.

Pat Appelhans, Member Services director, has seen NRCA grow by more than 700 members since she joined the staff in June of 1979. Appelhans credits this success to "the members who have taken a bigger part in the recruitment process."

Appelhans said NRCA doesn't pressure anyone into joining the association, but she does believe non-members are losing out on the benefits of NRCA membership.

In the 1970s, NRCA membership nearly tripled. This fact becomes even more impressive when one considers that NRCA has been recruiting new members since it was organized in 1886.

"We offer incentive programs to get our members more active in promoting NRCA," Appelhans explained. "The members themselves are a major part of NRCA's success.

Appelhans stressed the increased membership might be attributed to NRCA's low-dues structure.

"NRCA's dues are among the lowest of all associations," she said. "Once we receive a new member's application and dues payment, they are entitled to all NRCA benefits, including a new member information package, a

*"In the two-and-a-half years I've been with NRCA there have been all kinds of changes—especially in the size of the membership. When I started we had under 1,600 members. Now the count is up over 2,300 and still growing.*

*"With the increased membership, the size of the staff has also grown, in order to better serve new and existing members.*

*"And as the membership grows, we'll be able to continue offering bigger and better services to our members."*

Patricia Appelhans  
Sept. 1, 1981

plaque signifying membership, the NRCA Roofing and Waterproofing Manual and other NRCA publications."

In addition, members have the right to incorporate the NRCA logo in their company's identity program.

Solicitation of new members, as well as the retention of existing

members, is the primary responsibility of Program Manager Anna Kazeos. She is the "official scorekeeper" for this year's recruitment contest, the NRCA Superbowl Game. Five teams have been formed, drawing upon the membership of the 2000 Club. Any NRCA member can join the game by becoming a "free agent" and participating with any one of the five regional teams. The team with the most recruiting points will win a trip to the 1983 Superbowl.

Members interested in Superbowl Game details are urged to contact Kazeos at NRCA headquarters.

The 2000 Club, another recruitment program, consists of NRCA members who have recruited at least five new members in a 12-month period. Members of the 2000 Club are awarded an ultrasuede sportcoat and specially designed 2000 Club lapel pins.

Kazeos said she expects the membership surge to continue because "there are many contractors who do not know NRCA exists. Once the word gets around, they'll want to join in order to share in the benefits of NRCA membership.

"In addition, the expansion of the solar field will help increase NRCA membership. Most of the equipment is installed on rooftops, so the connection with NRCA becomes obvious," Kazeos said.

Many prospective NRCA members inquire over the telephone to the NRCA office. Questions range from information on the Annual

# Seeks To Boost NRCA

Convention and Exhibit to subscription requests for The Roofing Spec. Existing members also recommend that their local rivals and friendly competitors in the contracting business contact NRCA with membership questions.

Membership Secretary Patty Clark maintains a prospect list on the NRCA computer, enabling staff to keep tabs on those firms and



**Pat Appelhans**

companies that have expressed an interest in membership.

Not all of the operations of the Member Services Department deal solely with membership. Appelhans and her staff are also responsible for promotion of the *NRCA Roofing and Waterproofing Manual*.

The Member Services staff also

acts as a liaison to several NRCA committees—Safety, Apprenticeship and Training, Project Pinpoint Task Force and the Roofing Industry Mediation Service.

Appelhans also gathers information on Occupational Safety and Health Agency regulations, violations, citations and any other developments from applicable government agencies.

Future plans for the department include publishing safety reports and tips, and updating the Passport to Safety to include a section on the special hazards of single-ply roofing.

In addition to her role as director of the Member Services Department, Appelhans also administers the National Roofing Legal Resource Center and the National Roofing Foundation (see accompanying story).

Assisting Appelhans with the National Roofing Legal Resource Center, the National Roofing Foundation and the promotion of the NRCA manual is Administrative Assistant Bennett Brown. Brown joined the NRCA staff in December of 1979. She is the staff liaison to the National Roofing Foundation and is responsible for the promotion of the "Friends of the Foundation" program, which is the group's most important means of fund raising.

The fifth member of the Member Services Department is Kathy McSheffrey, responsible for the member files of the National Roofing Legal Resource Center and general secretarial duties. ☀️🌀🌪️

## NRF & NRLRC

The National Roofing Foundation is a non-profit educational group established by the National Roofing Contractors Association. The Foundation's purpose is to provide funds for scholarships and the development of educational materials pertinent to the roofing industry. The Foundation also exists to serve as a memorial to those who contributed to the success of the roofing industry.

The Friend of The Foundation program is The Foundation's most important means of raising funds. The Friends contribute \$50 or more per year to The Foundation, an arrangement which assures The Foundation of a yearly income with which to develop its educational and scholarship programs. The other areas of contributions are: Scholarship/Memorial Funds and Life-Time Memberships.

The National Roofing Legal Resource Center was established three years ago to aid roofing contractors and their attorneys with litigation involving alleged roof failures.

"The goal of the Legal Resource Center is to educate and assist the roofing contractor and his attorney with invaluable information such as depositions, interrogatories, court decisions and special information packets," NRLRC Manager Patricia Appelhans said.

NRLRC is a separate organization, funded by its own members dues, which aids roofing contractors in dealing with litigation. Membership to the Legal Resource Center is open to roofing, roof deck, waterproofing contractors, and suppliers in the U.S. The members' annual dues pay for the collection of current case histories, research, and the cost of reproduction and shipping of materials. The \$200 yearly dues a member pays give him unlimited access to the center's files.

## Beaver Creek

To achieve the indigenous look of rural Colorado structures, architects Bull-Bield-Volkman-Stockwell, of Vail and San Francisco, designed Spruce Saddle to make use of materials almost exclusively native to the site.

It is built mainly of wood, both inside and out. Some exterior walls are faced with stone cleared during original grading. Exterior sidings are of 1 x 8-in. resawn spruce, in natural finish. Interior partitioning is of wood studs and cedar siding. Poles and glu-lam beams support a roof covered with hand-split western red cedar shakes.

For resistance to conflagration hazards the roof shakes were pressure treated with "NCX" fire-retardant formulation from Koppers Company, Inc. For added protection the shakes were applied over plastic coated steel foil, also from Koppers. Together they meet Class "B" fire code requirements. NCX is a registered Koppers trademark.

The natural aging qualities of red cedar are unaffected by the NCX pressure treatment, and the material retains its fire retardancy despite exposure to the elements.

"Beaver Creek design guidelines," reports project architect Henrik Bull, "specified that the buildings all have pitched roofs and materials and details similar to the old Alpine villages of Europe."

"To avoid ice drip or the hazard of falling snow, we were concerned that no roofs slope toward areas where people would be sitting, or where there would be heavy pedestrian activity."

"Local mountain winds are generally from the west and north-west, and we felt that the outdoor seating should be wind-sheltered, and should also serve as a sun trap. These various factors led to a truncated pyramid form with part of one quadrant of the essentially square structure carved away to form the sun deck. Walls of the two adjacent quadrants are aligned

with winter sun angles to shelter the area."

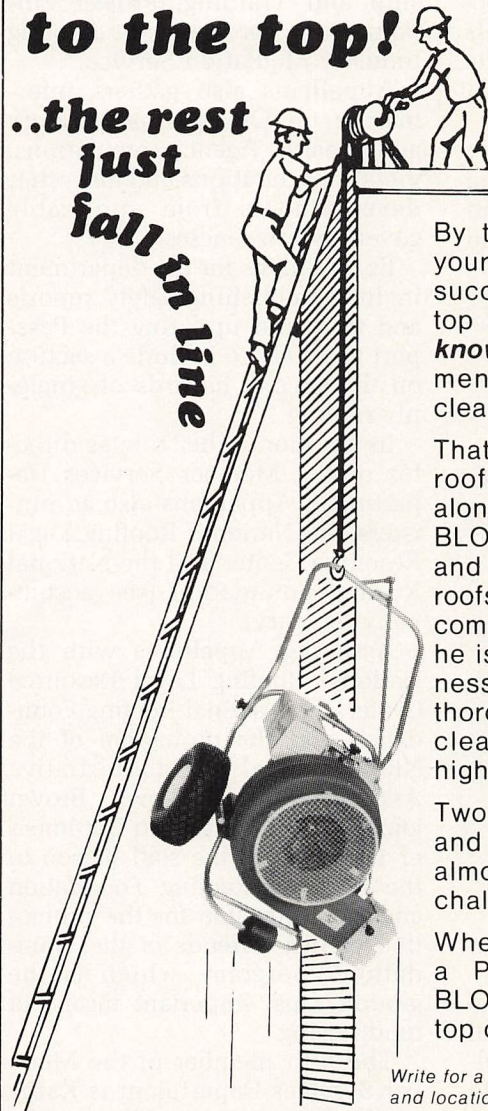
Planners of Beaver Creek report the design "is intended to complement the landscape, not upstage it; we are aiming for the same kind of non-architecture look that gives European villages such a secure and serene feeling."

Beaver Creek is slightly higher than Vail Mountain and is planned to have 30 percent advanced skiing terrain, 40 percent intermediate, and 30 percent novice. The number of U.S. skiers has been increasing at a rate of 10 percent a year to about 7,000,000 last season.



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## Your Association

# Technical Bulletins #9 and #10

**BULLETIN #9**  
NRCA-RIC/TIMA JOINT STATEMENT ON BLISTERING  
Supercedes NRCA Bulletin 7, March 1, 1981

Roof membrane blistering between the top facer of polyurethane insulation and the built-up roofing membrane continues to be a concern to the roofing industry. The TIMA Roofing Insulation Committee plans to continue to conduct field and laboratory testing to determine the causes or contributors to blistering.

The optional procedures for roofing over polyurethane insulation outlined in interim Bulletin #7 have been shown to be effective. These procedures now represent the best current state of the art. Both NRCA and TIMA agree that the preferred method of installing insulation is in two layers. Whereas it is acknowledged that blistering clearly does not occur in all cases, in order to minimize potential blister formation between the top facer sheet of insulation and the built-up roofing membrane, NRCA/RIC-TIMA recommend that one of the two procedures outlined below be followed:

1. Over the top surface of polyurethane insulation, a thin layer of wood fiber board insulation, perlite board insulation or glass fiber board insulation should be installed, staggering the

joints from the layer below. The built-up roofing membrane should then be applied as specified by the designer.

2. Over the top surface of polyurethane insulation, a venting type base ply should be installed in such a way as to allow for venting. The balance of the built-up roofing membrane should then be applied as specified by the designer.

**BULLETIN #10**  
NRCA-RIC/TIMA POSITION ON AGED THERMAL VALUE OF URETHANE ROOF INSULATION

It is recognized within the industry that there is a need for a common method of conditioning for thermal testing of urethane roof insulation since currently no uniformity exists among the many urethane roof insulation manufacturers with regard to thermal properties of their products. In order to provide the design and roofing industry with accurate and consistent thermal information, the Roof Insulation Committee of the Thermal Insulation Manufacturers Association (RIC/TIMA) has adopted a conditioning procedure<sup>1</sup> prior to standard ASTM testing.<sup>2</sup>

RIC/TIMA members intend to develop thermal value data based on this conditioning procedure for publication on a voluntary basis. The National Roofing Contractors Association (NRCA) endorses the roof insulation specimen condi-

tioning procedure and encourages industry-wide acceptance of products valued by this method.

At the present time, The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Handbook of Fundamentals, the most referenced source of heat coefficients of construction insulation materials, states that expanded polyurethane is shown to have a k-value<sup>3</sup> of 0.16 ( $R = 6.25$  per inch of foam) for aged board stock roof insulations.

### RECOMMENDATION

Until data on thermal properties based on this conditioning procedure is available from individual manufacturers, NRCA and RIC/TIMA recommend that insulation materials incorporating urethane for use in roof construction have the thermal conductivity value for the urethane portion calculated using a k-value of 0.16 as published by ASHRAE.

### FOOTNOTES

<sup>1</sup>RIC/TIMA Roof Insulation Specimen Conditioning Procedure (180 days  $\pm$  5 days, 73.4°F  $\pm$  3.6°F, 50% RH  $\pm$  5%)

<sup>2</sup>ASTM Test Method C177, C236, C518 (providing it shows comparability to absolute values in accordance with ASTM C177)

<sup>3</sup>BTU-in/ft.<sup>2</sup> · hr. · F°



# New Members

The following have been approved for NRCA membership between July 28 and August 28, 1981.

## CONTRACTORS

Alabama Roofing Services Inc.  
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2084 Fisher Street Southwest  
Huntsville, AL 35802  
Steve Ward

Aquatronics Inc.  
68 Cooper Road  
Houston, TX 77076  
C. Bruce Cotton

Ash Roofing Inc.  
550-B Railway Avenue  
Campbell, CA 95008  
Bob Ash

California Roofing Co. Inc.  
1595 South Tenth Street  
San Jose, CA 95112  
R. D. Campbell

Casto Roofing Company  
P.O. Box 1051  
Mountain View, CA 94042  
Harold Casto

Conrad Roofing Services Inc.  
332 Phelan Avenue  
San Jose, CA 95112  
Dale Carnahan

Currier Roofing Co. Inc.  
2700 Crystal Drive  
Fort Meyers, FL 33907  
Edward A. Currier III

El Camino Roofing Co. Inc.  
1650 South 7th Street  
San Jose, CA 95112  
Sam Castillo

Forgettable Roof  
1024 West Maude Avenue  
Suite 203  
Sunnyvale, Ca 94086  
Ron Ford

Gerard Roofing Systems  
1300 Galaxy Way  
Suite 7  
Concord, CA 94520  
Wayne Ford

Infrared Energy Scanners Inc.  
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Fairport, NY 14450  
Don Brault Sr.

James W. Martin & Sons Inc.  
P.O. Box 4533  
236 Chartiers Avenue  
Pittsburgh, PA 15204  
Charles R. Martin

Mid-State Roofing Inc.  
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Windsor, CT 06095  
Janice Eccles

Modern Method Roofing Co. Inc.  
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Napa, CA 94559  
Lorne S. Memmott

On-Top Roofing Co. Inc.  
357 Spencer Street  
Syracuse, NY 13204  
Richard L. West

Quality Roofing Contractors  
of SEMO Inc.  
213 Ash/P.O. Box 519  
Senath, MO 63876  
Terry Whitlock

Rich Roofing Corp.  
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Rockville, CT 06066  
Kenneth H. Rich

Shelton Roofing Co. Inc.  
1914 Plymouth  
Mountain View, CA 94040  
Rodney Wray

Standard Roofings Inc.  
P.O. Box 1314 R  
Morristown, NJ 07960  
Joseph Rossi

Wescoat Corporation  
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Phoenix, AZ 85029  
George R. Wadding

Zavala Roofing Co. Inc.  
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San Jose, CA 95126  
Ismael 'Vic' Zavala Sr.

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Brian Torry

Arvin Industries Inc.  
Arviny L. Division  
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Columbus, IN 47201  
R. Karl Largent

Center Wholesale  
1900 Dennison Street  
Oakland, CA 94606  
Leo Center

Decks International Inc.  
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Clifford Nelson

Glesby Building Materials Co. Inc.  
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Van Nuys, CA 91408  
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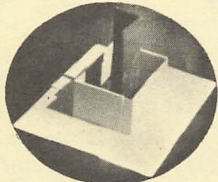
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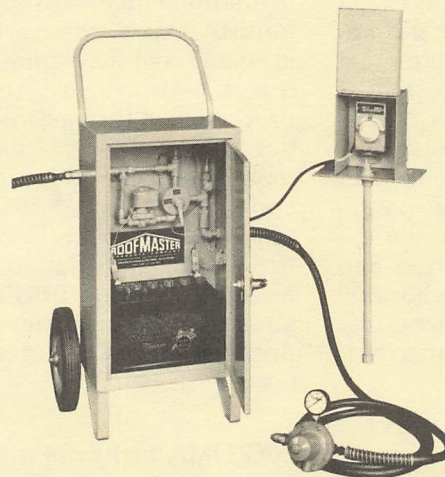
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All controls except the thermostat tube are in a wheel-mounted, all-steel cabinet with door and lock. The thermostat assembly is easily installed on the kettle by cutting a 1-inch hole in the kettle top plate for the sensing tube.

Kerosene fired kettles must be converted to LPG-fired units to use the automatic control system.

LPG tanks and 12-volt battery for the control system are not included.

When ordering specify whether fuel is liquid or vapor LPG.

**ROOFMASTER**  
PRODUCTS COMPANY

P.O. Box 63309, Los Angeles, Calif. 90063

Tele: (213) 261-5122 or toll free

(800) 421-6174 (except CA, AK, HI)

Calif: (800) 372-6409 (except 213 area)

## RIEI To Give Virginia Seminar

The Roofing Industry Educational Institute has announced that it received a contract from the Commonwealth of Virginia to conduct a 2-day seminar in Richmond, Va. on October 28-29, 1981. The subject of the seminar is "Roof Inspection, Diagnosis & Repair."

The seminar will be conducted by Richard Fricklas, director of RIEI and two RIEI faculty members. Anyone interested in an in-house seminar should contact either: Susan Mathews, Business Manager, Roofing Industry Educational Institute, 6851 S. Holly Circle, Suite 250, Englewood, CO 80112, (303)-770-0613; Or Joseph Halperin, Publicity Co-Chairman—RIEI, 98 Lake Drive, Palm Beach Shores, Fla. 33404, (305)-848-7672.

## Friends Foundation

New Friends of the National Roofing Foundation are:

**Roth Brothers, Inc.**  
Sam D. Roth  
Youngstown, Ohio

**Resco Inc.**  
John Rosaco  
Denver, Colo.

**Bradford Roofing & Insul. Co.**  
John Bradford  
Billings, Mont.

**Malott & Peterson Rfg. Co. Inc.**  
D. N. Brown  
Berkeley, Calif.

**L. Martone & Sons Inc.**  
Nicholas L. Martone  
Glen Cove, N.Y.

Contribution was made to the Scholarship/Memorial Fund by:

**Hamilton Roofing Co. Inc.**  
Owen Hamilton  
Lubbock, Texas

You can become a Friend by donating \$50 annually to the Foundation. Your tax-deductible contribution will help provide scholarships and develop educational programs to improve the roofing industry. For information, contact NRCA, 8600 W. Bryn Mawr Ave., Chicago, Ill. 60631.

## 2000 Club

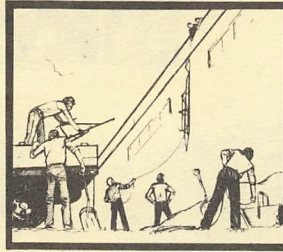
Having personally recruited five new members to NRCA, the following contractor became eligible for membership in the NRCA 2000 Club:

**Gaylord Blue**  
Blue's Roofing Co.  
Sunnyvale, Calif.

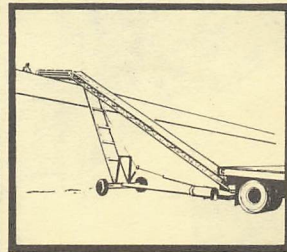
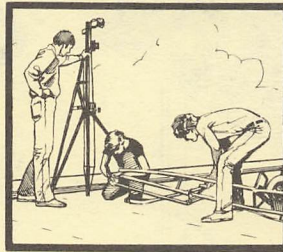
For information on becoming a member of the 2000 Club, contact Anna Kazeos at the NRCA office.

# Compare a roof hoist with a **MORGEN** Roofers Conveyor!

1 to 2 hours to set up

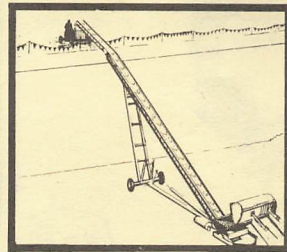
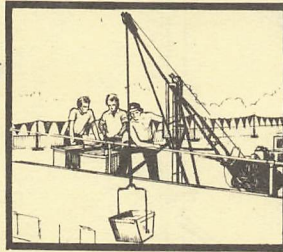


Requires special counter-weight



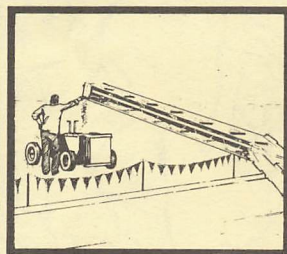
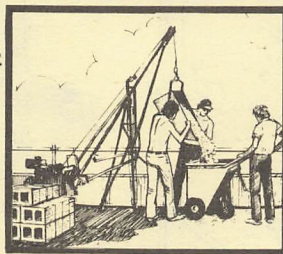
10 minutes to set up!

8 to 13 tons per hour production



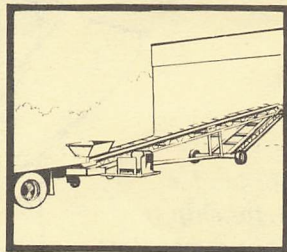
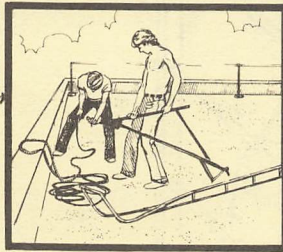
25 tons or more per hour. (Twice the production with the same or smaller crew)

Hoist has to be moved once to gravel under it. OSHA requires independent guard rail.

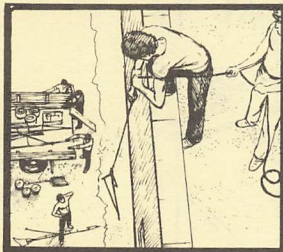


No interruption. Conveyor never touches the roof. Flags can be used for edge warning system.

Up to 1 1/2 hours to dismantle, lower to the ground and load in truck



10 minutes to fold up, hitch up and drive away.



For complete information, write or call

**MORGEN MANUFACTURING CO. Box 160 Yankton, SD 57078**

Telephone (605) 665-9654

# Bilco Roof Scuttles.

## The standard of the industry.

When your specifications call for performance proven Bilco roof scuttles you are specifying the brand that assures lasting satisfaction for your client. Good design, rugged construction, and smooth, easy operation are the qualities that have firmly established Bilco roof scuttles as the standard of the industry.

The Type S Scuttle, for ladder access, is an example of our concern for building quality and value into every Bilco product. Constructed of heavy gauge material, it is insulated and gasketed for complete

weathertightness. In operation, compression spring operators float the cover upward and it locks automatically in the open position.

The convenient operating handle affords effortless one-hand control in closing and latching the cover while the other hand remains securely on the ladder.

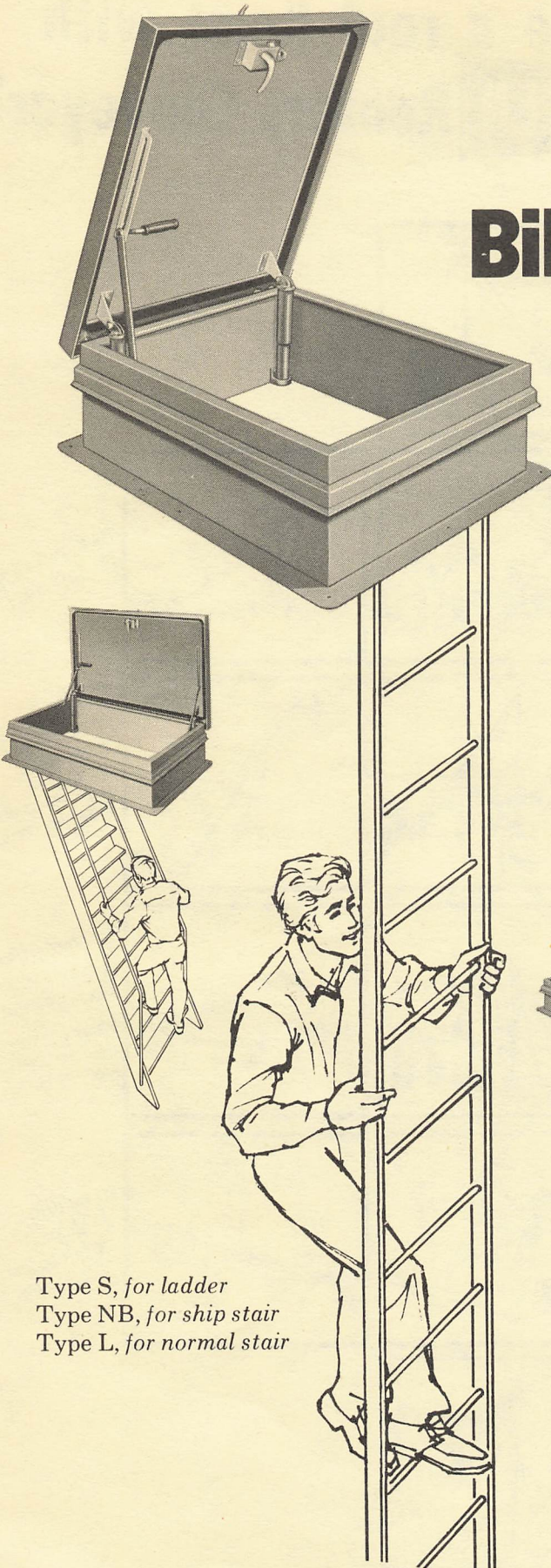
Standard sizes in steel or aluminum for ladder access, ship stairs or normal stairs are always in stock for prompt shipment. Special sizes are also available in single leaf or double leaf design.

See our catalog in Sweet's General Building, Industrial Construction and Engineering Files for complete information, or write for a copy.

**Bilco**<sup>®</sup>

DOORS FOR  
SPECIAL SERVICES

The Bilco Company, Dept. RS-71, New Haven, CT 06505



Type S, for ladder  
Type NB, for ship stair  
Type L, for normal stair

*Their value is measured by the satisfaction they give.*

# Associate Member News

## Nickleson Heads New One-Ply Roofing Products Line For Celotex

Ted A. Nickleson has been named product manager for the new one-ply roofing system introduced this year by Celotex Roofing Products Division.



**Nickleson  
of Celotex**

Nickleson served as sales representative for Celotex Building Products Division, Cincinnati Region, 1973 to 1979. He left the company to join GTR Building Products Company, Toledo, Ohio. He served as a marketing manager for this component firm of General Tire and Rubber Company, Akron, Ohio until May 1981, when he returned to Celotex to head up market planning for the Celotex-1 System.

Nickleson will be working closely with sales representatives and managers in the initial marketing of the

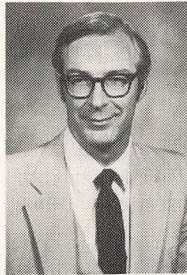
new Celotex-1 roofing system. Celotex-1, an ethelene propylene diene monomer (EPDM) type roof membrane system, was introduced in July.

## Tamko Names Two

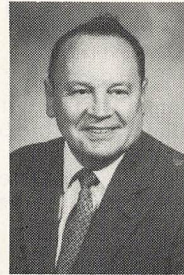
Tamko Asphalt Products, Inc., of Joplin, Mo., recently announced the appointment of two executives to senior positions with the roofing-material manufacturing firm.

John W. Ricketts was promoted to senior vice president, and Leo J. Faneuf has been appointed to the position of vice president of manufacturing.

Ricketts formerly served as vice president of manufacturing. He earned



**Ricketts**



**Faneuf**

a B.S. degree from the University of Missouri—Rolla and an M.B.A. from Drury College in Springfield, Mo.

Faneuf came to Tamko from the GAF Corp. where he was vice president and director of manufacturing. He earned both a B.S. and a M.S. from Columbia University.

Tamko was founded in Joplin in 1944 and has since added manufacturing plants across the central and eastern part of the US. The company offers a full-line of roofing materials and its products are distributed nationally.

## Giuffre Brothers Appoints Marketing Director

Giuffre Bros. Cranes, Inc. of Oak Creek, Wisconsin appointed Patrick H. Seroka to the position of National Marketing Director for its Exclusive "Roofers Package." This package is available through the 62 national R. O. crane dealers.

Prior to joining Giuffre, Seroka served as Marketing Director for a Wisconsin Home Improvement Company and has a broad background in advertising and public relations.

*continued, page 34*

## Nieman Power Roof Remover...\*

\*Patent No. 3,779,605



**does the  
work of 6-8 men**

- A labor-saver — reduces costs over hand labor 50% or more.
- Works fast — you schedule more jobs for greater profit.
- Mounts on self-propelled tractor. Operator just guides unit.
- Works on roofs over a wide temperature range.
- Hydraulically driven blades cut thru all materials without stalling.



POWER ROOF REMOVER is equipped with two cutting tools to remove roofing down to the insulation or down to the decking, even if the insulation is solid mopped. A toothed blade (left) is used on most roof removing jobs when job conditions require its bull-dozer action. The wide cutting blade (above) is used mostly when removing fiberglass insulation and when removing roofing down to the insulation.



**Nieman**  
MANUFACTURING COMPANY, INC.

P. O. Box 64, New Prague, MN 56071 Telephone: (612) 758-4791

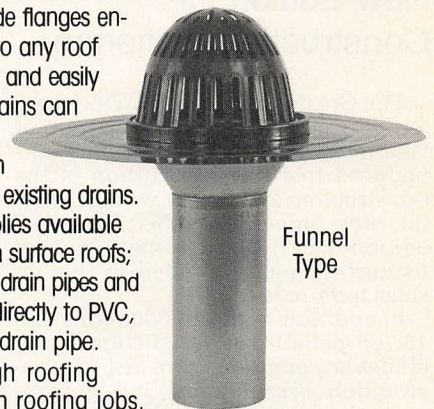
## Marathon Copper Roof Drains

**Economical - Durable - Easy To Install**

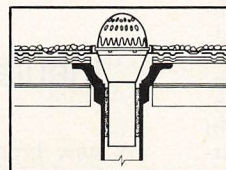
All copper extra wide flanges ensure a good bond to any roof membrane. Quickly and easily installed, copper drains can be connected directly to any drain pipe or caulked into existing drains.

Optional assemblies available for gravel or smooth surface roofs; sizes to fit 2" to 6" drain pipes and connectors to join directly to PVC, copper or cast iron drain pipe.

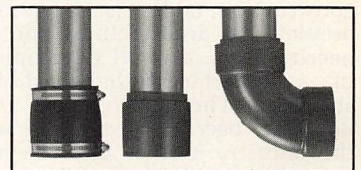
Marathon-tough roofing products for tough roofing jobs.



Funnel  
Type



75 Series -  
Fits inside existing drain.



100 Series -  
Optional connectors for copper, plastic or cast iron pipe.

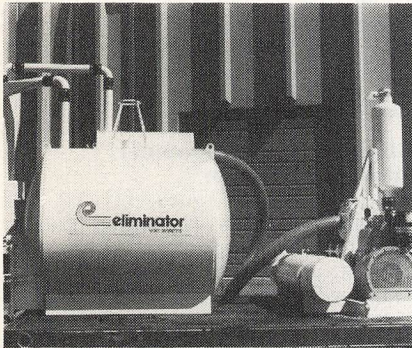
**M** Complete catalog available from your local distributor or write to:

**MARATHON ROOFING PRODUCTS, INC.**  
367 Nagel Drive • Buffalo, NY 14225 (716) 685-3340 • Telex: 64-6214

# New products, ideas, publications

## Eliminator Announces High-Performance, Low-Priced Vacuum

Eliminator Vacuum Systems, a Denver based manufacturer of roof vacuums, has introduced an improved version of its popular low-priced Mark IX model.



The new version features all diesel power for reduced operating costs and longer service life. Performance has been improved with larger diameter hose. The new 3-inch hose handles windrows and heavy gravel faster with a 50 to 80 squares per day capability. The Mark IX offers one-man operation and a dust-free jobsite.

An optional trailer allows the unit to be pulled by an economy pickup. For information write Eliminator Vac Systems, 2609 South Raritan, Englewood, Colo., 80110.

## New Edition Of Construction Dictionary

The Greater Phoenix NAWIC Chapter of the National Association of Women in Construction has announced that the fifth edition of the *Construction Dictionary* will come off the press in early October. This new edition will feature some 200 new listings with an expanded section on solar terminology.

In addition to the 14,000 terms and 15,700 definitions, the dictionary includes a comprehensive list of construction associations and governmental agencies which deal with construction; tables, facts, figures, abbreviations, architectural and engineering feats, as well as people and places important to the world of construction. The *Construction Dictionary* has become a standard within the industry. Copies have been purchased for use by companies, governmental agencies, schools, universities and libraries.

For each dictionary sold by a NAWIC chapter, \$5 is donated to the NAWIC Education Foundation. A total of \$14,455 was donated this year

with NAWIC chapters selling 2,891 dictionaries. The Greater Phoenix Chapter donated an additional \$4,500 to the NEF from dictionary sales and \$2,500 to the NAWIC Founders Scholarship Foundation.

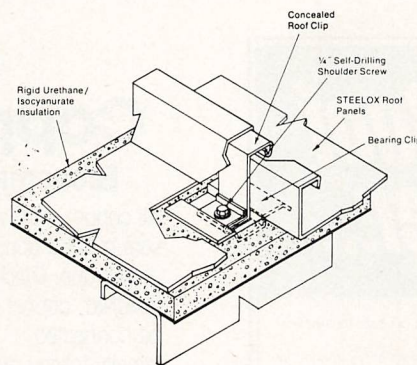
Copies of the *Construction Dictionary* may be purchased from any local NAWIC chapter or direct from the Greater Phoenix Chapter, P.O. Box 6142, Phoenix, Ariz., 85005. The dictionary sells for \$17 a copy, \$18 per copy if billed. A small price increase will be in effect after October 1, 1981.

## Armco Intros CF/R

The STEELOX CF/R roof is designed for use with rigid urethane insulation in thicknesses from one to three inches.

Concealed fasteners minimize roof penetration to help assure weather-tightness.

The new roof can be used with the Armco building system, conventional framing systems and for re-roofing jobs.



The roof system is available with either aluminum or zinc-coated steel panels. It is manufactured by Armco Building Systems of Cincinnati, Ohio and is available through a nationwide network of Armco systems contractors. They can be found in the telephone yellow pages under Buildings—Metal.

## “Insulate Industry”

A new brochure entitled “Insulation for Industry,” is available from the Insulation Group of CertainTeed Corporation.

For a copy of “Insulation for Industry,” write to CertainTeed Corporation, Insulation Group, P.O. Box 860, Valley Forge, Pa. 19482.

## Mechanization Systems To Sell “Follow Tool”

The Follow Tool is used for brooming-in felts, and is manufactured by Mechanization Systems Co., Inc. It allows a firm and uniform setting of felts in the asphalt. Eighteen stainless-steel blades broom independently, thereby eliminating voids or trapped air in the fresh laid sheet.

The average medium-to-large BUR job will throw off one broom a day because it is caked with asphalt. This soon becomes a costly venture. The Follow Tool can be cleaned and will last several months.

Both the frame and handle are constructed with heat-treated aluminum for durability and ease of handling.

The Follow Tool is available at major equipment dealers.

## New Built-Up System Guaranteed In Writing

A proprietary new, completely guaranteed fiberglass built-up roofing system has been announced by the Evans Products Company's Permaglas® Division. A brochure describing that firm's new GLASPHALTIC™ built-up roofing system is immediately available.

With the GLASPHALTIC™ system, Evans Products becomes the first major manufacturer to assume total responsibility, including a written guarantee, for a commercial roof, according to Permaglas Division Vice-President and General Manager, James M. Compton.

The guarantee in writing is possible, Compton said, because his company inspects the roof, certifies it, and applies the wearing surface (with an Evans Products crew performing the application). Normally, these steps are undertaken by a roofing contractor.

An Evans GLASPHALTIC system is composed of glass fiber membranes installed in the traditional manner. The wearing surface is a cold process emulsified asphalt reinforced with chopped glass fiber strands. The GLASPHALTIC system achieves a Class “A” fire rating with a smooth, seamless surface.

The smooth seamless surface allows the architect to be more creative and aesthetic in his designs. The wearing surface conforms to many angles not achievable with other systems.

Within the GLASPHALTIC system, only inorganic membranes are used,

which won't buckle, curl, rot or absorb moisture. Organic materials may rot and delaminate, while a GLASPHALTIC system continues to perform.

Crews of trained specialist technicians from Evans inspect and certify the roof system. Bonding and maintenance programs are readily available.

Evans is involved with the applying contractor during installation, and Evans' people certify the proper assembly procedure. In a given area, a number of applying contractors are designated as Evans Approved GLASPHALTIC Contractors and may install GLASPHALTIC systems for certification.

## New Owens-Corning Glass Fiber Roofing Felt Meets ASTM Type IV Requirements

Owens-Corning Fiberglas Corporation has introduced a new version of its Perma Ply® No. 11 glass fiber roofing felt that meets ASTM D2178 Type IV property requirements, according to the manufacturer.

The new felt, Perma Ply No. 11/IV, is being produced at Owens-Corning's Santa Clara, Calif., manufacturing plant and will be available in the western United States. Perma Ply No. 11, which meets ASTM Type III requirements, will continue to be sold there as well.

"Perma Ply No. 11/IV felt is made with the same proven production process that has been used in making Perma Ply No. 11 since 1948," said Dave Coleman, product manager, Owens-Corning's Commercial Roofing Division.

"However, the mat weight of the new felt has been increased approximately 29 percent, and average tensile strength is 50 percent higher than its predecessor."

"As a result, Perma Ply No. 11/IV meets the ASTM Type IV requirements that specifiers increasingly call for today. And it is better able to resist building movement, thermal shock and other stress factors affecting built-up roof performance."

Like its predecessor, Perma Ply No. 11/IV is constructed of a mat of glass fibers laid down in a jackstraw pattern, reinforced with continuous random and parallel yarns, bonded with a resinous binder and coated with weathering grade asphalt.

Because it is inorganic, Perma Ply No. 11/IV resists rotting, curling and moisture absorption and minimizes fishmouths, wrinkles and buckles.

The new product will be available in five-square rolls, 36-in. wide. Distribution will cover the states of Washington, Oregon, California and Arizona and parts of New Mexico, Nevada, Utah, Idaho, Montana and Wyoming.

## Onduline for "Hog Heaven"

Because Onduline's new, smooth white roofing panels are so highly reflective, buildings they cover can be less affected by temperature changes than buildings covered with other materials.

Each 79" x 46" sheet has white, heat-reflecting latex baked onto its smooth, corrugated surface so that an integral bond is immediately formed as it is being manufactured. This enables every sheet of Onduline's new covering panel to be warranted against defects in workmanship and material for the lifetime of the building, or for as long as the customer owns it.

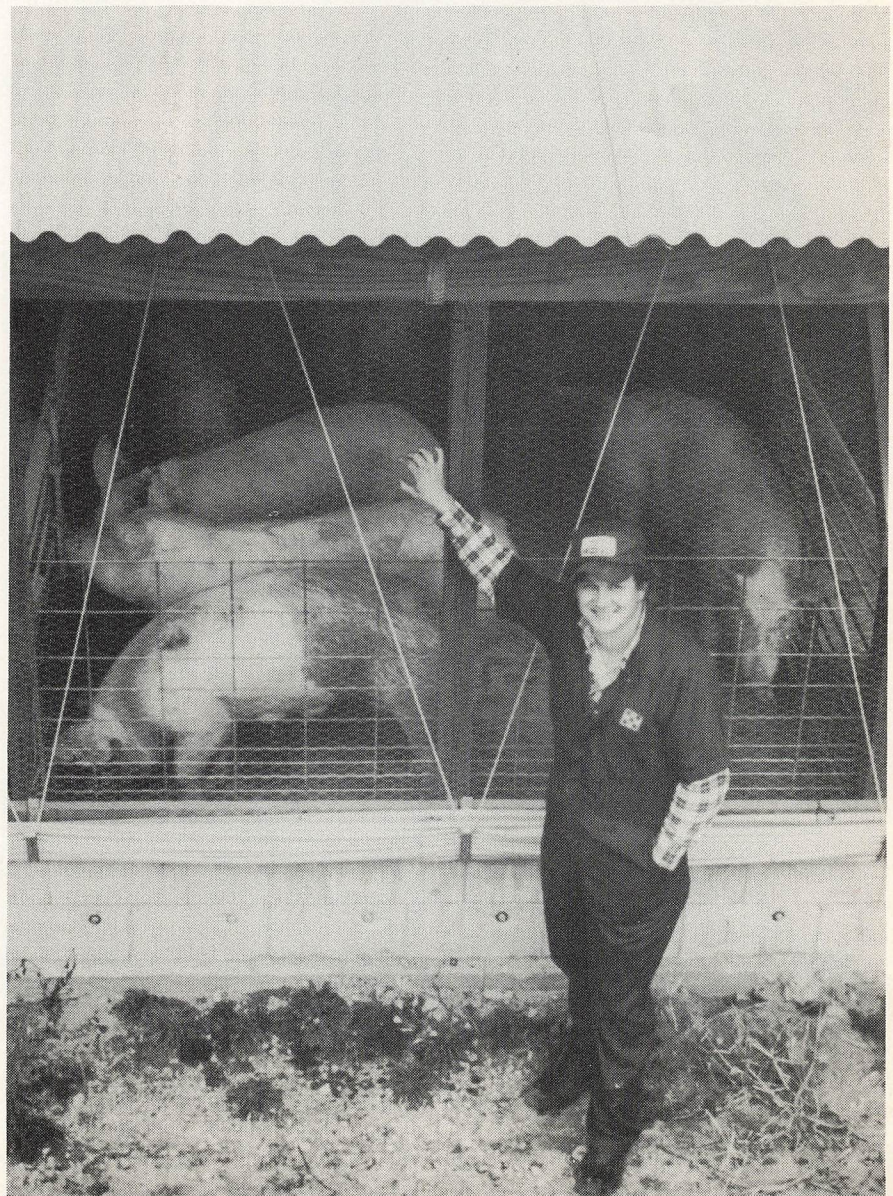
Onduline roofing panels also provide favorable inherent insulation qualities and a low thermal conductivity factor. Such properties mean that new white Onduline sheets offer

low condensation advantages that help protect poultry, livestock, and other contents adversely affected by moisture.

In fact, Edwin Harris, manager of HH&A Hog Farm, Pantego, N.C., says, "We covered all seven of our hog houses with Onduline roofing and siding because it resists condensation caused by the body heat that hogs set off."

This new Onduline panel is white, light, and easy-to-handle. It goes up right the first time because safe, self-aligning installation requires no special tools. Onduline goes on all day long with only a hammer. And it cuts readily with a saw or even a tile knife.

For further information, contact Onduline U.S.A., Route 9, Box 195, Fredericksburg, Va., 22401.



# Contractors Accept

Nine months after OSHA regulations, *The Roofing Spec* line



A majority of roofing contractors in the United States have implemented the warning line system, according to a recent survey conducted by *The Roofing Spec*.

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by Mike Beightol

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Of those surveyed, 31 contractors, or 62 percent of the sample, indicated they are using some form of a warning line system for work done on roofs in excess of 16 feet from the ground.

It should be noted, however, that many of the contractors who admitted they are not using a warning line said most of the work they do is done on roofs with high parapets or firewalls, where the system is not required.

In addition, a few contractors said they rarely if ever do work on roofs higher than 16 feet.

The survey was conducted by telephone in mid-September, and due to the small sampling, the survey is not intended to be interpreted as an accurate reflection on the membership of the National Roofing Contractors Association.

It has been nine months since the federal government amended its regulations pertaining to the guarding of the perimeters of flat roofs where roofing work is in progress.

Following years of research, countless hearings and heated debate, the regulation—officially

# Warning Line

awarded its roof perimeter  
polls contractors on the warning  
issue.

called "Guarding of Low-Pitched Roof Perimeters During the Performance of Built-Up Roofing Work"—was amended on Jan. 13, 1981. A few months prior to passage of the amended version, 14 pages of information outlining the full details of the regulation were published in the Federal Register.

The warning line question first came to light in 1973 when NRCA proposed the system as an alternative to the myriad schemes for roof perimeter protection as dictated by the Occupational Safety and Health Administration.

That year, a report commissioned by NRCA was issued by the Massachusetts engineering firm of Simpson Gumpertz & Heger. That report concluded that the warning line proposal was a "practical solution."

The report also demonstrated that other methods for protecting roofers from falls—guardrails, safety nets, safety belts and lifelines—were structurally infeasible and could contribute to the dangers they were trying to correct.

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**continued, page 28**

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Two years later, in 1975, CNA/Insurance required that its insured roofing contractor firms use the warning line system as part of a safety program.

But it wasn't until early this

## What are the rules?

The basic requirement of the OSHA regulation is that roofing employees be protected from the dangers of falling from the sides or edges of a roof.

Roofers must be protected by one or more of the following safety practices:

- Motion-stopping-safety systems (MSS),
- Warning line systems,
- Safety monitoring systems.

MSS systems are defined as those that include guardrails, platforms or scaffolds with guardrails, safety nets and safety belts.

A safety monitoring system is a verbal warning system which requires that a competent person be designated to monitor the activities of the entire roofing crew. The monitor must warn all employees whenever it appears that they are unaware of a hazard or are working in an unsafe fashion. There are no restrictions on what other kind of duties can be performed by the monitor, but he should not be so occupied that he cannot adequately fulfill his responsibilities as a safety monitor.

The monitor must be on the same roof and be within visual sighting distance of the other employees. In addition, the monitor must be close enough to verbally communicate with every employee on the rooftop.

The warning line is simply a rope, chain or wire supported by a series of weighted stanchions. It

is set back from the edge of the roof and its purpose is to warn employees that they are approaching or are working near a fall hazard.

Basically, the warning line system should:

- Be erected around all sides of the work area. The system is not needed along the entire work area if people aren't working everywhere.
- Be six feet from the roofedge when mechanical equipment is not being used.
- Be *not less than* six feet from the roofedge which is parallel to the direction of mechanical equipment, and *not less than* 10 feet from the roofedge which is perpendicular to the direction of mechanical equipment operation.

Guardrails or safety-belt systems are to be used at the hoisting and hot-pipe areas. Warning lines cannot be substituted for the guardrails or safety belts.

In addition, when working between the warning line and the roofedge, either the MSS system or the safety monitoring system must be used. When mechanical equipment is used, the MSS system must be used.

In some parts of the country, state OSHA laws may supercede federal regulations. For full details on the OSHA regulations pertaining to roof-safety systems, call the NRCA office.

**“On most of our jobs there is a high parapet wall, so we don’t see a need for the warning line.**

**“The parapet itself acts like a warning line.”**

year that the federal government finally passed the amended regulation making the warning line system the law of the land.

In brief, the regulation calls for usage of an acceptable warning line method in all instances where work is conducted on low-pitched roofs with a ground to eave height greater than 16 feet. A low-pitched roof is defined as any roof with a pitch or slope equal to or less than the ratio of four-in-12.

One of the contractors who admitted he has been slow to implement the warning line system is Garry J. Vail, of Wenatchee, Wash.

“We are planning to do it sometime soon, though,” Vail said. “However, on most of our jobs, there’s a high parapet wall, so we really don’t see a need for the warning line.”

“The parapet itself acts like a warning line,” Vail said.

Chicago’s William E. Matthews echoed many of Vail’s sentiments on the necessity of a warning line on roofs with high parapets.

“We don’t use the warning line as much as we probably should,” Matthews said. “We do primarily old, two-story residential flats and apartment buildings with the tall parapet walls.”

“Most jobs are only about 14-to-22 squares each, so we’re up and off of them in a hurry. It seems because of the kind of jobs that we do, it hardly warrants the labor, expense and time for erecting the warning line.”

Contractor James L. Hollar, of Arlington, Texas, said he is most

concerned about workers falling through rooftop holes.

“We built the equipment for the warning line system ourselves, but we hardly ever use it,” Hollar said. “The reason is we really haven’t had any problems with the roof perimeters. Our main concern is with roof holes, so that is where we put most of our safety efforts.”

Hollar added that it’s sometimes difficult understanding the OSHA regulation; “It’s more of a problem of trying to understand the language of the warning line regulation.”

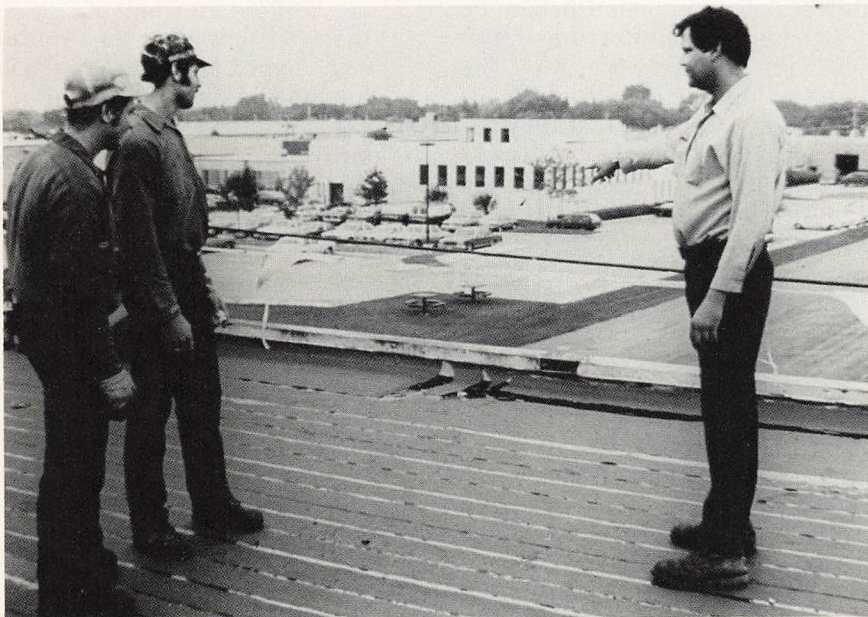
“The way it’s written, it’s sometimes difficult to understand,” Hollar said. “We can’t always tell just when we’re supposed to use it.”

“I guess, though, the main thing is we just haven’t gotten into the habit of using the warning line system. We are concerned about the safety of the roofers, and we try to protect them when they are working near the roof edge.

“In some instances, we actually use systems that are better than warning lines. We’ve built really strong barricades that prevent people from falling if they happen to lean against it.

“In addition, we don’t use any equipment where a roofer had to back up. In fact, we have a rule here that nobody is ever allowed to back up anyplace on the rooftop. We think a rule like that is pretty effective.”

Charles Bechtel, an NRCA vice president from Dayton, Ohio, said his firm uses the warning line system, “but sometimes it’s a big hassle.”



"In particular, the rules concerning the pathway to roof-edge equipment are a big 'harangue' because the pathway is changing all the time as we work across a roof," Bechtel said.

While pointing out that the warning line is not intended to break the fall of a roofer, Bechtel did admit that the system is a visible safety reminder.

"Just by having the warning line along the roof perimeter, the roofers are probably more safety conscious," Bechtel said. "Sure, it's basically a visible safety reminder. Everytime you see it, you know why it's there."

NRCA Director Larry Carlson, a former member of the Safety Committee, remains strongly committed to the concept of the warning line system, yet he admitted "we haven't been 100 percent successful with it."

"I think the biggest problem is it's difficult to get the guys to really believe in it," Carlson said. "The general school of thought with most of the men on the roofs is that they think it really doesn't do them much good."

Carlson added, however, that the warning line is an important safety device because it makes roofers aware of where the roof edge is in relation to where they are actually working.

"There is a possibility that a fellow working on a roof can forget just where he is in proximity to the roof edge," Carlson said. "In that way, the warning line reminds him where he is."

According to the regulation, if

mechanical equipment is used between the warning line and the roof edge, the contractor must supply roofers with motion-stopping-safety systems—guardrails, platforms or scaffolds with guardrails, safety belts and safety nets. Because of the obvious expense of the motion-stopping-safety systems, most roofing work done outside the warning line is done by hand, without the benefit of mechanical equipment.

"This part of the law presents a hardship," Carlson said. "Most of the new mechanized or mechanical equipment is designed to help the men do their jobs better and faster."

"When they have to do the work by hand, the men are actually working longer by the roof edge and that might make them even more susceptible to roof edge dangers."


Carlson pointed out that it is the responsibility of every contractor

**"It's basically a visible safety reminder. Everytime you see it, you know why it's there."**

to thoroughly train employees in the usage of the warning line system.

"I think from some of the comments I've heard that some of the guys, aren't convinced that this is something good for them," Carlson said. "Because of that, we've got our work cut out for us."

Along these lines, NRCA and the International Roofers Union are currently working together on the development of an audio-visual presentation on the warning line system.

Once completed, the program will be used as part of a training program for teaching roofers the proper techniques and practices applicable to the use of the motion-stopping-safety systems, the warning line and safety monitoring systems. 





By McNeill Stokes

(NOTE: This legal column presents information on legal matters of general interest. The text is necessarily generalized, and you are advised to consult with a professional legal advisor before taking any action.)

## Wage & hour document wages when paying on a lump sum basis

An employer who has employees covered by the Fair Labor Standards Act (FLSA) who regularly work more than forty hours a week, and who are paid on a lump sum basis for their total workweek must take care to avoid allegations that FLSA overtime requirements are being violated. It may not be sufficient to set the lump sum amount by calculating the basic hourly rate for the first forty hours and then adding time and a half for the overtime hours without proof that this was the method used. The Ninth Court of Appeals held that an employer must be able to demonstrate persuasively that he had included time and a half for overtime in calculating his lump sum payment and that the employees knew and accepted the method of calculation. *Marshall v. Chala Enterprises, Inc.*, 9th Cir., 1981. It is important, therefore, to keep full and accurate records that the lump sum payments received by employees who regularly work more than forty hours a week are equal to a specific hourly rate plus time and a half for overtime hours and that the employees know and agree that their regular workweek is in excess of forty hours and that they are being paid a specified hourly rate plus overtime.

## Check behind manufacturers' claims and warranties

Most construction contracts provide express and implied guarantees of the work. Warranties may be implied through operation of law in certain situations even though they are not expressed in the contract. The risks which the contractor assumes vary greatly according to the scope of the warranty clause. A contractor who is only installing equipment furnished by the owner generally only guarantees the workmanship on a project. However, the contractor who agrees to construct the work to meet certain performance standards may be responsible for defects in the materials or equipment as well as defects in its workmanship.

In the event that the contractor is responsible for meeting certain performance standards, the contractor should direct careful attention to the claims and warranties of its suppliers of materials and equipment. If the contractor can count on the manufacturer's warranty, the contractor would then have recourse against the manufacturers to offset any potential liability to the owner for defective materials or equipment. However, the most strategic plan would be for the contractor to avoid liability in the first place.

Contractors should put in maximum effort to stay out of potential liability situations by initially checking out manufacturers' claims for materials or equipment. The manufacturer of a product should be tied into the warranties of the contract and the plans and specifications. A wise course of action to pursue on major warranties of the materials or

equipment is to make sure that the warranties are properly made by the manufacturer in favor of the owner so that if problems arise after the contractor has completed its work, the owner can go against the manufacturer without necessarily involving the contractor in a legal hassle.

Contractors should not blindly accept the manufacturer's claim as to the performance of its product, but should insist that the manufacturer substantiate its claims with technical backup. For example, the manufacturer should furnish detailed technical backup on performance, including the results of previous field testing and where the product has been previously used successfully. Many products are brought on the market by marginal manufacturers who guarantee their products for a number of years, when the product and the manufacturer have only been in existence for a few months. Too often manufacturers have field tested their products at the expense of contractors by simply selling the product without any manufacturer's field testing. The manufacturer simply went from product development, to manufacturing, and then to distribution with no field testing. Contractors should require technical backup and should not accept a manufacturer's claims without delving further into where the product has been used successfully and the results.

It is also vital for contractors to be aware of the financial strength and reputation of the manufacturers standing behind the materials being used in a project. The worth behind the manufacturer's warranty is an important factor to contractors. If the manufacturer can not financially back up its warranty, the contractor may find that it is solely responsible for defects in the materials or equipment used in a project. It could be devastating for a contractor to redo a job that had failed because of defective materials, only to find that the contractor has to take full financial responsibility because the manufacturer is not financially responsible or unwilling to back up its warranty obligations. On the other hand, if the manufacturer can back up its product claims and warranties, the contractor will at least be relieved of some liability.

Manufacturers' warranties can be accorded different weight depending on what kind of company is backing it up. Two warranties which are worded exactly the same may not have the same value. A warranty which is given by a manufacturer who has an in-depth product knowledge and can back it up with financial strength and stability is worth much more than a warranty from a manufacturer who has no real appraisal of the quality of the product and who has no substantial assets to back up the warranty if the product should be defective. Without the financial responsibility to back its obligations, the warranty does not really mean anything at all. Thus, it is really important to check behind what is written in the warranty to find out its value.

When examining a manufacturer, several factors may be considered. Look at its reputation in the field. Has it been a recognized leader established in the industry? Or,

has it just started and has no track record. How financially stable is the manufacturer? Look at its size and financial strength. Is it a recognized leader? What is its net worth? Can it back up its warranty now? How about 4 years from now? 10 years? The warranty is worthless if it can't be backed up. What kind of testing have they done on their product? Have they just done UL and FM testing or have they done extensive tests for the actual environment that the material is exposed to? Do they want you to be their field testing? What kind of technical backup has been utilized? All of these factors are important in determining whether the manufacturer will be around to back up its warranty.

In summary, contractors need to be sure that the manufacturers of any materials or equipment used can back up their claims and warranties. Otherwise, the contractor may be solely responsible for any defects in the materials. Good indicators of manufacturer stability are past reputation in the field and financial strength. Don't take the word of an ad brochure, check it out independently—otherwise the contractor may be on the line alone.

## Placing liens on public projects

As a general rule, a mechanic's lien can be lodged against a construction project on public property. The reason behind this is that such a lien could not be foreclosed since property owned by a public authority is generally not subject to levy or sale. The statutory alternative to placing liens on public property is a bonding procedure for public works construction projects. This procedure is derived from the Federal Miller Act and is therefore similar to the procedure under the federal statute. There are situations though, where a subcontractor can assert a mechanic's lien against a public authority.

One such situation is if the public authority does not require the general contractor on the public job to acquire performance and payment bonds. In this case, the public body is liable to all subcontractors in the absence of such bonds. The subcontractor however must first proceed against the general contractor before bringing suit against the public authority. The subcontractor must then show that it has not been able to collect from the contractor and therefore its loss resulted from the contractor's failure to have a bond. Factors that tend to show that the subcontractor has not been able to collect from the general contractor are: a suit has been filed in an effort to collect; the officers of the general contractor have absconded; or the general contractor is insolvent or out of business. The presence of one of these conditions may give rise to the opportunity for the subcontractor to place a lien directly on the public property.

## There may be no need to pay pre-hire trainees

A district court has ruled that under certain circumstances job applicants accepted for training may not be "employees" under the Fair Labor Standards Act (FLSA) and thus may not have to be paid during their training. In this case, the court held that American Airlines need not pay wages to candidates for flight attendant and reservation sales jobs during their period of instruction at the company's school. The court stressed that the training was not conducted in the workplace, as with on the job training, and that the skills learned through the training would benefit the students by qualifying them for other jobs, as well as with American. The court also emphasized that the trainees had signed agreements that they were not employees and thus

*continued, page 32*

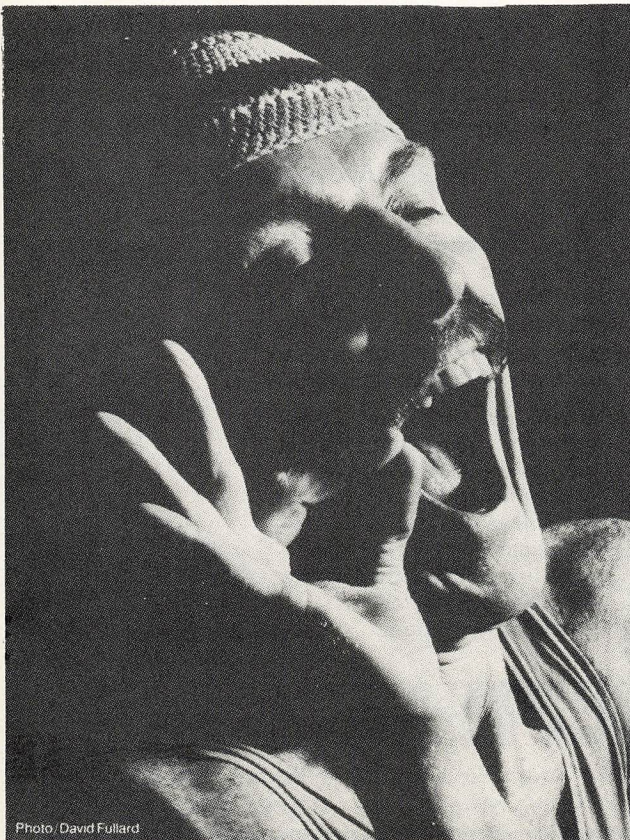


Photo: David Fullard

## "I'm a professional dancer, actor and storyteller who just happens to be deaf!"

These are the words of a very spirited man who has pushed and pushed hard to obtain his goals.

Born deaf, his greatest joy while growing up was watching the famous Hollywood musicals choreographed by Busby Berkeley on TV. As a child, he recognized his overwhelming response to music and dance. "I didn't have to hear the music because the music was inside my body. I feel proud and beautiful when I dance."

His interest in dance, theatre and storytelling began during his early school years and continued through college to the present time.

As for most schools for the deaf, Sam Edwards states emphatically, "Hearing Authorities refuse to listen to deaf people's opinions. They are deaf and blind. They want deaf people to talk, to wear hearing aids and to be like hearing people. Many deaf people including myself are left with bad scars because of our experiences at school."

One of the points that Sam Edwards stresses is that there is already too much violence in the world and he doesn't believe in being violent or militant on his behalf or for deaf people as a group.

So Sam Edwards' militancy takes the form of encouraging other deaf people to pursue all art forms as a means to express their creativity and to gain exposure anywhere and everywhere possible. In fact, he wants deaf people to become the visible as opposed to the invisible minority.

President's Committee on  
Employment of the Handicapped  
Washington, D.C. 20210

Produced by The School of Visual Arts Public Advertising System



did not expect to be compensated. The court set out certain criteria which must be met in order to avoid paying pre-hire trainees:

- The training benefits the trainees.
- The trainees do not replace regular employees.
- The employer gets no immediate benefit from the training. (The court acknowledged that ultimately the company would benefit by creating a trained labor pool but that that was acceptable.)
- The training is similar to that of a vocational school.
- The trainees are not guaranteed a job upon successful completion of the school.
- The trainees acknowledge that they are not employees and do not expect compensation for that training.

## IRS provides for higher limitations on benefits and contributions under pension plans

Under the Internal Revenue Code, qualified pension, profit sharing and stock bonus plans are subject to limitations on the maximum permissible annual benefit or contribution which can be made to the plan. Although no specific plan provision is required under this section, the plan provisions must preclude the possibility that those limitations will be exceeded. For example, a plan might provide that the rate of benefit accrual or the annual addition is automatically

frozen or reduced to a level which will insure that the limitations are not exceeded with respect to any participant. The dollar limitations are generally adjusted by IRS annually to take into account increases in the cost of living. The adjusted dollar limitation is effective as of January 1 of the applicable calendar year and applies with respect to limitation years ending with or within that calendar year. A plan may include a provision which provides for an annual automatic cost of living adjustment of the dollar limitation. The IRS has just announced new and higher limitations on benefits and contributions effective for 1981. The maximum permissible annual benefit under a defined benefit plan is now \$124,500; the maximum permissible annual contribution to a defined contribution plan is now \$41,500. New and higher figures are expected for January 1, 1982.

## Accounting

Smith, Adcock and Company has just released to us a summary of the American Institute of CPA's new Statement of Position for Contractors Accounting. Here is a summary of the significant points and the results it could have on some contractors.

1. The term "long-term" is no longer used to define the contracts to be covered by the accounting methods specified.

*continued, page 36*

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## **And this elasticity lasts.**

With 14 years of experience and millions

of squares presently in place, Paradiene continues to retain its elasticity through the sun's severe ultraviolet rays, thermal shocks, random ponding water and extreme low temperature.

Because of its granular surfaced top ply, Paradiene doesn't require gravel, making it a relatively lightweight system at a maximum of 180 pounds per square. This makes it ideal for new and re-roofing applications.

Available in seven colors, the Paradiene system has a time-proven performance record, guaranteed against leaks for 10 full years.

So when you invest in your next roofing system, why forfeit anything?

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## American Associated and Russ Hines Form Partnership

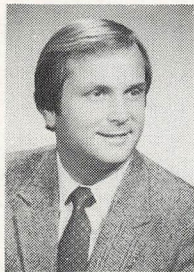
The American Associated Companies, Atlanta, and Russ Hines & Associates Inc, Auburn, N.Y., recently joined forces in an effort to better serve manufacturers along the eastern seaboard.

American, founded in 1900, is a multi-million dollar national sales organization, rated AAA-1 by Dun & Bradstreet. Hines has worked closely with American since 1961.

Hines is Garlock's exclusive representative in New York and Pennsylvania, and also does business in New Jersey and Delaware.

## New Marketing Director For Koppers Co. Division

Drew H. Bachman has been appointed Director of Marketing for the



**Bachman  
of Koppers**

Building Materials Division, Organic Materials Group of Koppers Company, Inc., Pittsburg, Pa.

He will be responsible for marketing programs for Koppers products supplied to the roofing and waterproofing industry including coal tar bitumen roofing and waterproofing systems, KMM® Membrane single-ply roofing, roof insulation products, and maintenance coatings, fabrics and adhesives.

Mr. Bachman joined Koppers in 1966 and has served in various sales and marketing assignments, most recently as Midwest Region manager located in Chicago.

## New Marketing Group Formed

A new marketing organization, AGR Company, has been formed through the joint efforts of REPUBLIC POWDERED METALS and BRASS & CO., GmbH, of Frankfurt, Germany. AGR, a partnership company, is being established to manufacture and market a plastomeric single-ply roofing membrane from polyisobutylene.

The product system to be sold by AGR COMPANY—a 60 mil waterproofing membrane laminated to a 40 mil polyester fleece-backed fabric—is designed for new construction and remedial reroofing as a replacement for the conventional built-up roof.

An AGR COMPANY spokesman also stated that ALPHAGARD will be a

warranted system.

The same spokesman also stated that their priorities include the approval of experienced roofing contractors who will apply the system and the preparation of new and restoration specifications through architects and engineers.

To contact AGR COMPANY, write to: AGR COMPANY, Box 484, Brunswick, Ohio 44212.

## Alcoa Elects Head

The Aluminum Company of America (Alcoa) has elected Marvin E. Gantz Jr., director and vice chairman to the board of directors. At the same time, C. Fred Fetterolf, vice president-science and technology, became executive president-mill products, succeeding Gantz.

As vice chairman, a new position at Alcoa, Gantz will assume responsibility for Alcoa's sea and development programs, with particular emphasis on process and productivity improvement.

Gantz joined Alcoa in 1940 as a metallurgical engineer. He has held various vice presidential positions since 1968.

Fetterolf joined Alcoa in 1952 as a sales trainee. He has been vice president-operations, primary products, since August 1979.

## Free Computer Service

A brochure has been issued by Johns-Manville describing a free computer service, F.A.S.T. (Field Application of Systems Technology), for the design and specification of built-up roofing systems. The service is available to builders, contractors, architects or anyone involved in built-up roofing requirements.

The six-page-booklet contains a list of all F.A.S.T. outlets, and a complete explanation of the system's capabilities, including calculations on roof area, dewpoint, tapered built-up roofs, parallel R-values and other design and specifying problems. There is a separate program for each.

Also included are illustrations showing the computer, printouts, and two examples of problem solving with the F.A.S.T. system.

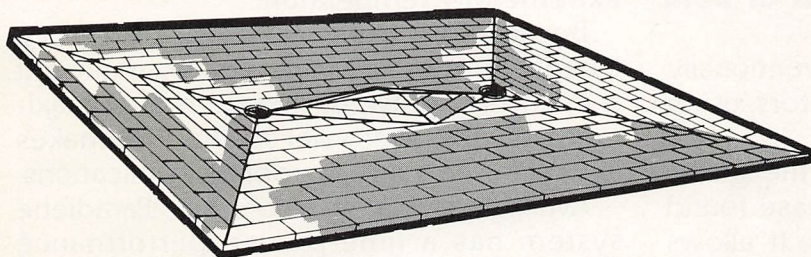
For a copy of J-M's brochure, "Computer Program for J-M Built-Up Roofing Customers" contact the Johns-Manville Service Center, 1601 23rd Street, Denver, Colo., 80216.

## Buildex Appoints Fusakio

Edward A. Fusakio has been appointed sales and marketing manager of ITW's Buildex division distribution organization. Headquartered in Elk Grove Village, Ill., Fusakio will be responsible for national sales of Buildex fastening systems.

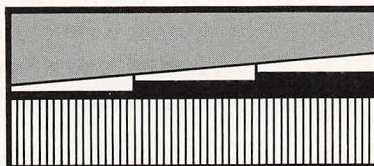


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# Roof Maintenance

Maybe the savings aren't obvious in hard dollars, but Michael Kinzer, architect-in-residence at Colorado State University, is convinced the school's emphasis on building good roofs in the first place and then maintaining them pays real dividends.

Paul Bisel, Greeley, Colo., and Gerald Scott, Texas A & M University share that opinion.

Their national association—Association of Physical Plant Administrators—also considers the subject of good roofing important and stresses it to its members through educational programs.

The idea is to get away from the attitude that has a facility administrator saying: A roof should be specified to have a life expectancy of 20 years; and since I'll in all probability not be here 20 years from now, there is no need to worry about what happens then.

## Colorado State University

Michael Kinzer expects the roofs at Colorado State University to last 20 years, but then he has good reason to think that way.

The university has a comprehensive program which includes:

- Specifying high quality roofs;
- Selecting pre-qualified roofing contractors to do the work;
- Inspecting all roofs annually; and
- Taking care of problems early.

Kinzer is convinced that "you pay for cheap roofs. We specify good quality roofs and we get more for our money."

Architect Kinzer explained that a complete set of plans and specs are prepared internally, and then the school puts the job out for bids. But it's very selective about who gets to bid. Contractors must be pre-qualified; and Kinzer said, "We're hard-nosed about that."

Eight contractors are on the university's list, and Kinzer considers them the cream of the crop.

"This helps us for a couple of reasons," he said. "Good contractors don't like bidding against low-quality roofing companies . . . and we don't want to cut everything to the bone."

Kinzer believes the university still gets good competition. "We have gotten some extremely good bids."

## Qualifications for Contractors

What kind of qualifications does a contractor have to meet to be on the list? The company has to have a good track record. That doesn't

Three experts share their views on the topic of roof care and repair.

mean it can't have any failures in its past, "but we take a close look at how it has handled failures and problems. The company must have the resources to back up failures," Kinzer said.

The screening of the contractors includes checking with roofing product representatives to see if the company is qualified to use the materials specified. Other references are sought from architects and owners; the company must have 10-15 performance recommendations.

The university has approximately 12,000 to 15,000 squares of roofing, and most of the roofs

were put on between 1957-70. Ninety to 95 percent of the roofs are built-up, and of that group many are "dead flat, dead level."

The school's maintenance people inspect the roofs as they are being put on. Not only does that aid in quality control, but it gives the maintenance people a good understanding of the roof, Kinzer said.

As part of the final inspection testing is done with a moisture meter.

"Annually we go back and inspect all structures with the meters. That insures our people get up on the roof to see what is going on and also gives us a historical record on each roof," Kinzer said.

Another important reason for the inspection is that "since we are a state institution, we can't get money just like that. We need to plan ahead," Kinzer said.

The roofing crew consists of at least three people. It does repair and maintenance work only. All new work and reroofing projects are contracted out.

"Historically, we have avoided restaurants and temporary fixes," Kinzer said.

The inspection program allows them to find the problems "before they get downstairs; and that's important because it's difficult to shut down a building," Kinzer said.

"Quality control is expensive, but the payback is there right away," Kinzer said.

Also in Colorado and in an education setting is Paul Bisel. He, too, is a proponent of a good roofing program.

## Weld County School District

Bisel, director of facilities and planning for the Weld School District, developed the district's

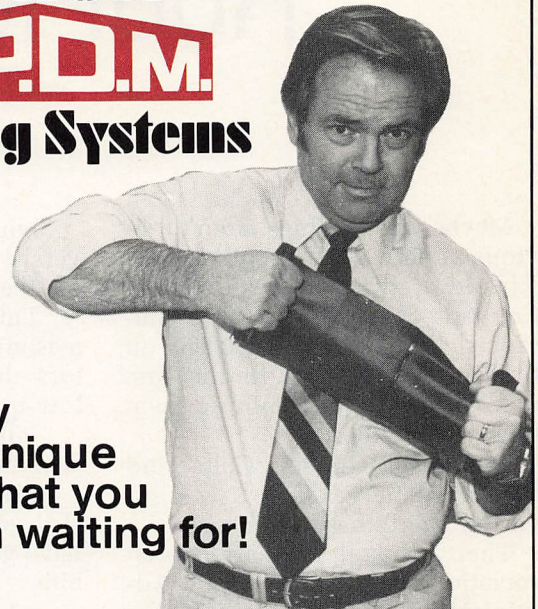
*Continued, page 38*

2. Contracts covered by the statement not only include lump-sum contracts, but also cost-type (including cost-plus) contracts, time-and-material contracts, and unit-price contracts.
3. The cumulative catch-up method of accounting for changes in estimates under the percentage-of-completion method of accounting is the only acceptable method. (The change period and subsequent periods are stated as if the revised estimate had been the original estimate.)
4. The completed-contract method may only be used as the basic accounting method when the financial position and results of operation would be materially the same as if the percentage-of-completion method were used.
5. The completed-contract method may be used on individual contracts for which (a) reasonably dependable estimates cannot be made, (b) enforceable rights of both parties are not specified, or (c) either party cannot be expected to live up to the contract term.

The percentage-of-completion method requires the use of costs accumulated by job. The Statement of Position further states that "a company should be able to determine costs incurred on a contract with a relatively high degree of precision, depending on the adequacy and effectiveness of its cost accounting system . . . (and) . . . should be able to accumulate costs properly and consistently by contract with a sufficient degree of accuracy to assure a basis for the satisfactory measurement of earnings. An entity without the ability to update and revise estimates continually with a degree of confidence could not meet that essential requirement of generally accepted accounting principles." Many contractors will have to improve their cost accounting system in order to have financial statements that are acceptable by their stockholders, sureties, contract owners, and state and federal agencies.



# Introducing Benoit E.P.D.M. Roofing Systems



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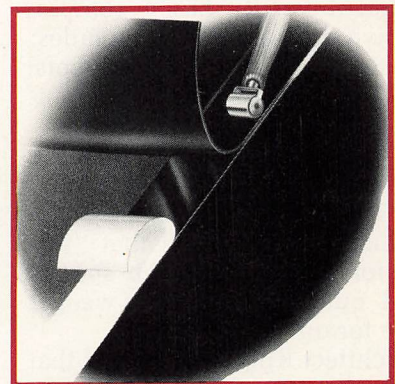
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# The roofing spec

## CLASSIFIED

Place a classified ad in *Roofing Spec* for 25 cents per word. There is a minimum charge of \$10.00. Boxed or display advertisements are available in the classified section for \$20.00 per inch (one inch minimum). Ads using blind boxes available at no additional charge to NRCA members; non-members add \$5.00 to total order. Send ad copy and payment to: Advertising Manager, *Roofing Spec*, 8600 Bryn Mawr Ave., Chicago, Ill., 60631

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If you qualify with the above specifications and are interested, telephone Doug Colwell at 1-800-321-7990 8:30 A.M. to 5 P.M. EST weekdays or forward your resume with compensation history to: Douglas A. Colwell, National Recruiting Manager, MONROE SYSTEMS, INC., 30801 Carter St., Cleveland, OH 44139

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Northeastern Oklahoma Roofing Contractor seeking an experienced FOREMAN, knowledgeable in built-up roofing and one-ply systems. Fortysix-year-old firm with excellent benefits and working conditions. Send resume outlining qualifications and salary requirements to Box OK, *The Roofing Spec*.

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## Roof care & repair . . .

maintenance program when he came there nine years ago.

"Our roofs are now in the condition that they could go a year without any repair," said Bisel. He however, doesn't believe in waiting that long.

The district has approximately 10,000 squares of roof ranging in age from 30 years to six months. The smallest roof is 330 squares and the largest is 1500 squares.

Bisel supervises an ongoing replacement program. Since the district cannot get funds for the replacement of whole roofs at one time, work is done on sections each year. Also each year, the district increases insulation.

### Schedule followed

A three-year schedule is followed, but just because a roof was put on the schedule three years ago doesn't mean it automatically gets taken care of on schedule. Bisel noted that this year the district did some switch-

ing around.

When the district does reroofing, it writes its own specifications, and for approximately 90 percent of the work the district has used the same contractor.

"We have found someone we trust," Bisel said.

**Due to a tight funding situation, the Weld School District handles roof repairs section by section.**

Bisel believes the district has good control over the workmanship and specifications. They inspect the roof while its going on, and they prepare their own specifications which have proven themselves over time. The materials are what he feels he has the

least control over.

The program is paying off, Bisel asserted. It prevents structural damage as well as damage to the contents of the building. When he came to the district, parts of buildings were not being used because of roof problems.

"We now have an environment that is acceptable," he said.

What about his colleagues around the country? Bisel, who is active in the physical plant administrators association, said only a minority have repair programs.

"When school facility people get together and you mention roofs, everyone frowns."

### Texas A & M

Another physical plant administrator, while sharing Bisel and Kinzer's concerns about the importance of good maintenance programs, takes a little different approach to maintenance and repair.

Gerald Scott, manager of engi-

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## Roof care & repair . . .

neering-physical plants at Texas A & M University, oversees a re-roofing program that uses urethane foam exclusively.

The university has between 40,000 and 50,000 squares of roofing on between 500 and 600 buildings. While some old buildings still have their original roofs—which have been repaired—the university in 1974 started its urethane foam program.

Why urethane foam exclusively?

"Frankly we were looking for an easier way to maintain and repair roofs than the built-up roofing way," Scott said. "We noticed that roofs constructed in the 60's were deteriorating at a faster rate so we began looking for a better way."

The foam was used first on one building and then gradually phased in others. And they've been satisfied with foam.

The university has just under

10,000 squares of replacement roof on existing buildings and is approaching 3,000 squares of new construction with foam roofs. This year, which Scott indicated was a slower one than usual, the university is doing work on about 500 to 600 squares.

Scott supervises a regularly

**Urethane foam used for roof repairs at Texas A & M because it is dependable and easy to use.**

scheduled maintenance and repair program.

The school has a six-person repair and maintenance crew. Every six months all roofs get inspected. The inspection crew gets up on the roof and walks on it, using a check-off list to indicate needed

repair.

The work order is developed from the check-off list, with the maintenance crew taking care of such items as cleaning, removing materials that are failing, resaturating and ballasting.

For replacement work, a schedule is prepared annually. Standard specifications are used, and bids are taken for the installation of urethane foam systems. As a general rule, Scott said, the existing system is not removed before the foam is applied unless it is really in bad shape; however, repairs are made and the roof is cleaned before the two-inch thick foam is applied, over which a three-layer top coating is added.

Maintenance for the urethane roofs, Scott said, is "extremely simple." If the top coat is damaged, the foam itself will disintegrate. When that happens, crew members cut out the bad portion and refoam the area with a little repair kit.



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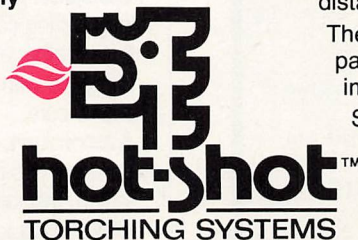
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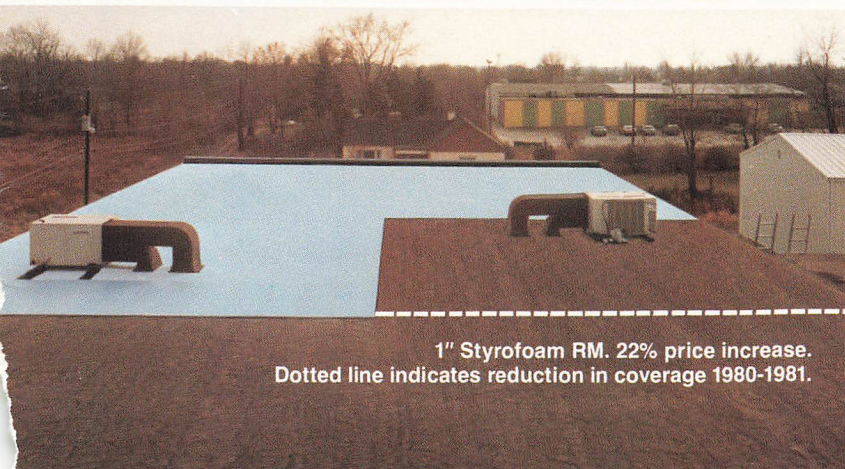
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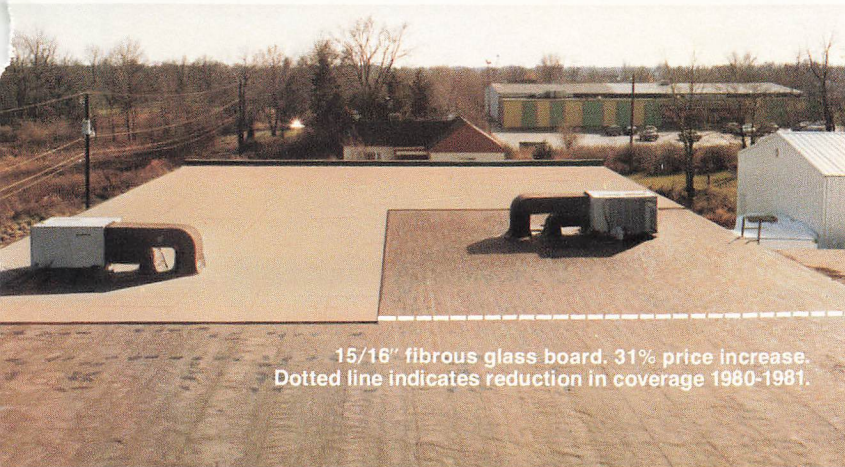
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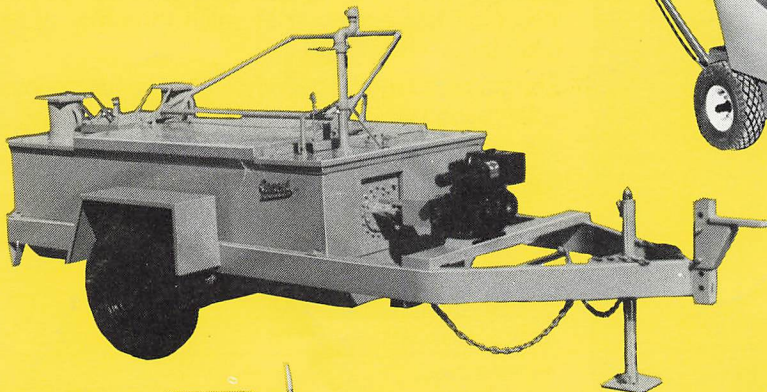
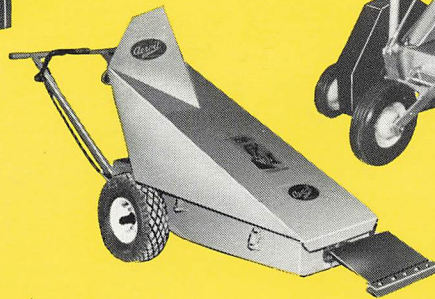
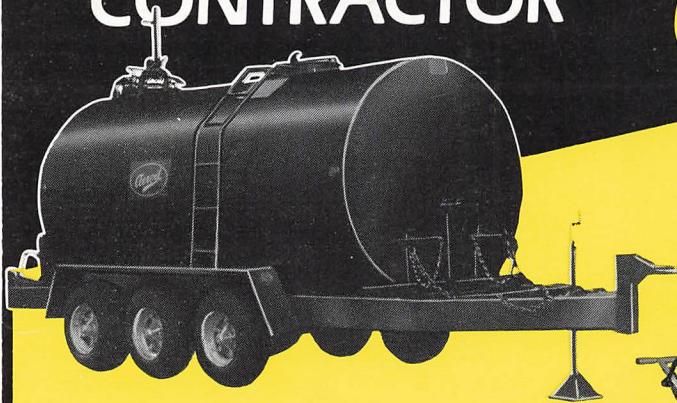
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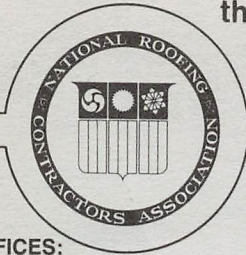
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