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National Roofing Contractors Association

REROOFING & MAINTENANCE

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Giuffre Bros. Roofers Package, which includes the 5/8 yd. clam, 1½ yd. hopper, pallet fork and 3½ yd. humpty dumper, is now available exclusively through 62 RO corporation dealers.

To roofing contractors, this means the Roofers Package is available locally, eliminating the high cost of delivery and offering local qualified service as well.

You can buy, rent or lease the Roofers Package from established RO dealers strategically located around the country. All equipment is distributed to dealers directly from the RO factory, and each dealer is staffed with qualified service personnel trained in making the necessary crane modifications to accommodate the roofer accessories.

RO corporation and Giuffre Bros. joined forces to provide the only qualified single source for roofing equipment available anywhere. This system has been incorporated by "blue chip" roofing contractors nationwide, proving that RO and Giuffre have earned the confidence of users through outstanding equipment design.

The accessories were developed by Giuffre Bros. as an integral combination with the RO stinger crane, not a "me-too" with "anybody's" allied attachemnts. Experience and nationwide user acceptance is testimony to the truck-crane Roofers Package success and it's only available through RO dealers.

Contact the RO dealer closest to your company or the Giuffre Bros. at 414-761-2300, Oak Creek and let them show you the fast, economical, labor-saving way this new roofing system will increase your profit picture . . . he's just a phone call away.

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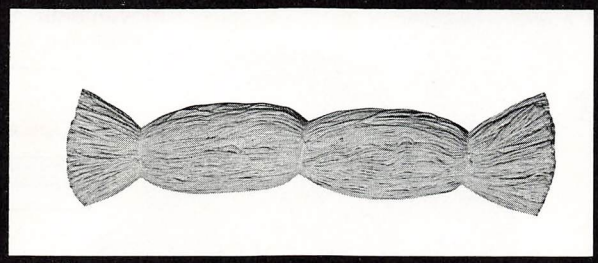

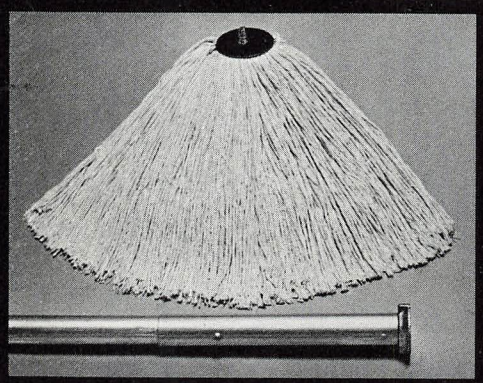

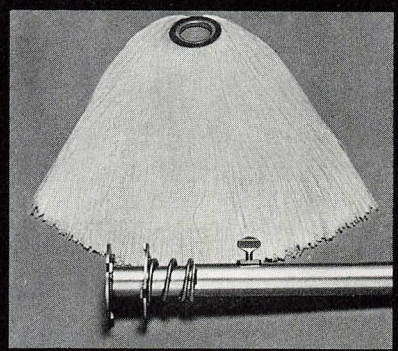

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From **fiberglass** mops to the **Rollercoaster** mop and rugged **roofing brushes**, **brooms** and **cotton or glass membranes**, King Kotton is sure to have the proper equipment to fill all of your roofing applicator needs.

Only top quality materials go into King Kotton's roofing applicator line insuring the performance and durability that is required of all products carrying our name.

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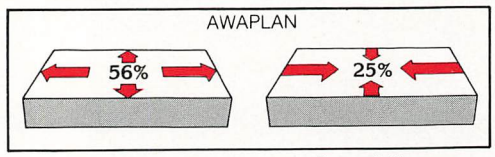

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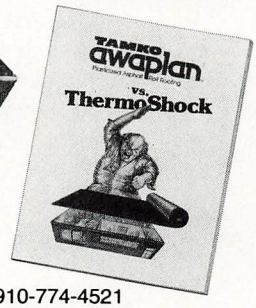

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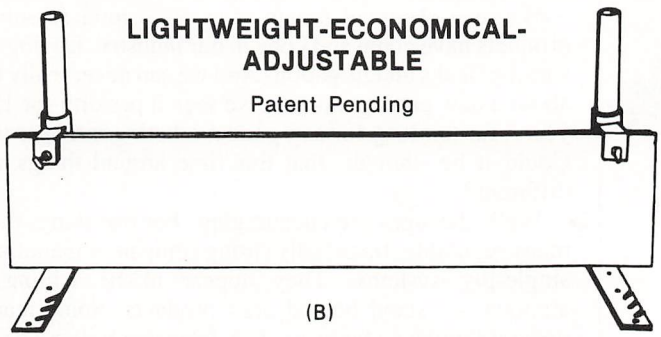

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- Lightweight, easy and fast to install and dismantle.
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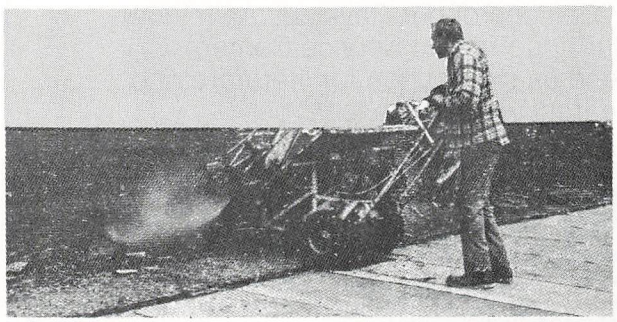
The Power Claw assures a clean, modern, efficient removal operation to make your re-roofing jobs provide larger profit margins. Power Claws are now operating throughout the country, and has proven itself under the most adverse conditions. Therefore, may we suggest that you ask the Roofer who owns one to attest to the Power Claw's capabilities.



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"Engineered FOR the ROOFER . . . . . BY a ROOFER."

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Comment

The Emerging New Marketplace

Any time two or more NRCA members get together, the odds are enormous that within fifteen minutes they'll be talking about single-ply roofing systems. Have you used one? Which company's? How has the company treated you? Do your men like it? What problems have you had?

We're a skeptical bunch, and with good reason. New products have come and gone in our industry, leaving behind a trail of leaks and litigation. And we can never really be sure about a new product until we've seen it perform for 15 or 20 years, far too long for any good marketing manager to wait. Could it be, though, that this time around things will be different?

Well, the signs are encouraging. For one thing, there are many reputable, financially strong companies manufacturing single-ply systems. They appear to be willing—even anxious—to stand behind their products. Some manufacturers are going so far as to offer extensive training programs for applicators. It's important that we recognize and applaud those efforts.

For another thing, with the caveat that there are relatively few single-ply roofs more than five years old, the new systems appear to be performing as advertised. It's early, obviously, to draw conclusions, but so far, so good...

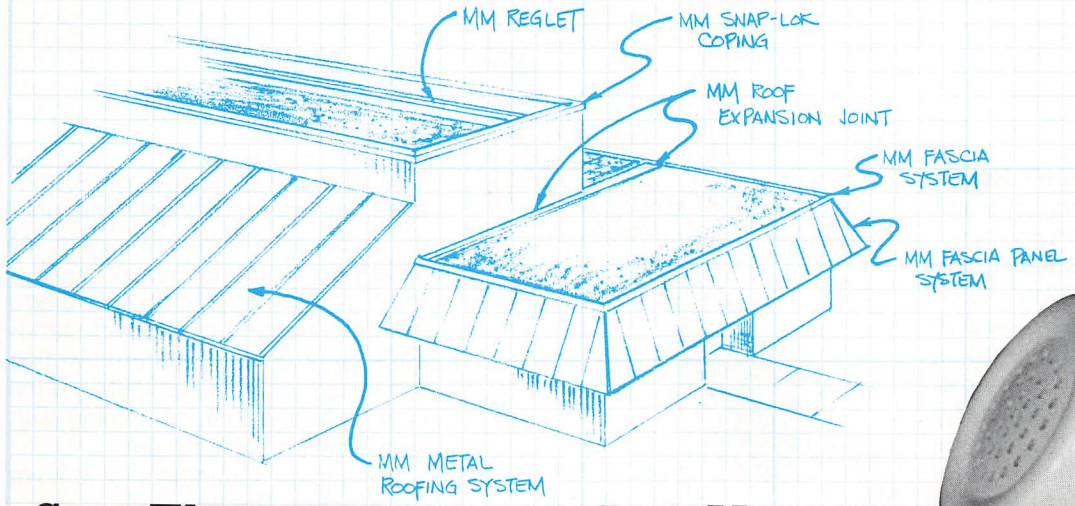
What does all of this mean for the roofing contractor? It means, we think, that he needs to make a careful evaluation of the new marketplace. New materials are suddenly cost-competitive with traditional BUR systems. New roofing companies are springing up, with little needed in investment capital.

It should surprise no one that reroofing and maintenance now account for about 60% of the volume of work in the industry—an incredible turnaround from even five years ago. Many companies, in fact, do nothing else. Owners are becoming more sophisticated and more demanding. Roof maintenance contracts are no longer just idle dreams. Life-cycle costing and energy conservation are playing key roles in the story we must tell to our customers.

And getting that story told, of course, becomes critical. A big part of it is salesmanship—an underused word for some contractors. Another part of it is education, and we're doing our best to get architects and owners acquainted with their roofs. The biggest part of it, though, is preparedness, and the contractor who understands the emerging new marketplace, plans his role in it, and manages properly through these slow times is the one who will benefit the most.

Bill Good

You don't have time to shop around for Architectural Metal Systems



Save Time

At MM Systems, we're your one source for the quality architectural metal systems you need. You won't have to waste your valuable time running from supplier to supplier for fascia, coping, expansion joint assemblies, roof and fascia panel systems, reglets—all the metal specialties you need to meet specifications.

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Find out more about the industry's most complete line of architectural metal products. Call toll-free 1-800-241-3460, and ask about our guaranteed estimates. We'll give you the name of your local MM representative and send you a FREE brochure on the products you need. Put MM Systems to work today saving you time, labor and money.

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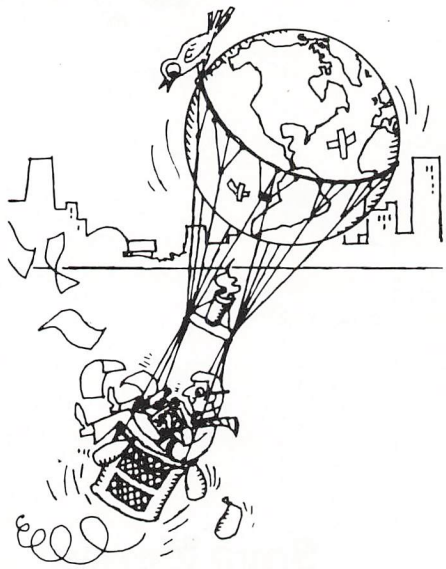
Ideas, notes and random thoughts



Remember Valley Forge? Robert L. Schuettinger, coauthor of "Forty Centuries of Wage and Price Controls," furnished this example of the failure of controls in *Nation's Business:* "In Pennsylvania, where most of George Washington's troops were quartered, the legislature attempted to stem inflation by imposing price controls on supplies needed by the army. The prices of uncontrolled commodities, of course, rose to unprecedented heights, and farmers refused to sell goods to the army at what they felt were unfair prices. After the disastrous winter at Valley Forge, during which the Continental Army nearly starved to death because of its inability to purchase food at controlled prices, Congress ended its ill-fated experiment."

Quotable: William P. Tavoulareas, president of Mobil Oil Corp.: "It seems ironic that when companies are not operating at a profit they should receive so much attention and aid, while companies that do show a profit are treated with hostility. The sober truth is that we aren't generating enough cash to make all the investments we will need to make in the next decade."

Also quotable: "Sending money to Washington to have it administered and sent back is like getting a blood transfusion from your right arm to your left arm with a leaky valve." —Sen. Ernest Hollings (D-SC), chairman of the Senate Budget Committee.

Dr. Richard Lesher, president of the U.S. Chamber, believes organized labor is turning sharply to the left. He says: "George Meany always stood for profits but in recent months the labor unions have been attacking profits, and have passed resolutions at their councils calling for nationalization of some companies in major industries."

Coming Soon: Convention registration and room reservation forms for Phoenix, February 10-14. Once again, it promises to be the biggest and best ever, and you'll want to be sure to advance register to avoid disappointment later.

Recent NRCA mailings include:

- 1980-81 Membership Directory
- Passport to Safety
- Roofing Contractor's Equipment Cost Schedule
- Legislative Bulletin—SBA Size Standards
- ***Action Information***—June issue
- Political Action Committee information

Additional copies of each are available from the NRCA office.

The National Bureau of Standards has magnanimously announced a plan to withdraw some 80 government-sponsored Voluntary Product Standards, "to encourage the development of product standards by private standards-writing organizations." The private groups now have the task of dealing with such ticklish subjects as:

- Package Quantities of Instant Mashed Potatoes
- School Chalk
- Horticultural Grade Perlite
- Hoisery lengths and sizes Excluding Women's

But despite that move, the quantity of federal publications now exceeds the annual production of books and periodicals from the entire U.S. publishing industry, according to Congressional Information Service of Washington, D.C. Congress alone publishes one million pages of information a year, twice the volume of 10 years ago.

Here's a Safety Tip from Dick Simmons, Simmons Roofing Co., Grand Rapids, Michigan: butane cigarette lighters, he says, should be banned from all hot crews. Dick said he has read of several accidents involving welders, and one of his men was badly burned when a lighter exploded after falling in a mop bucket.

And finally: Congratulations to the Department of Energy, for attracting 485 attendees to one of its free conferences. Oh, and by the way, the Department sent out 110,000 color brochures to promote the meeting.

...the material difference in single membrane roofing

CoolTop 40

Cooley Roofing Systems' CoolTop 40 is a white, 40-mil. CPE extrusion coated polyester roofing membrane designed for mechanical fastening as a single membrane system (patent applied for).

Installations in place demonstrate the spectral reflective white color of CoolTop 40, offers great advantages in energy savings and aesthetic appearance.

It's the most utraviolet and ozone resistant material available in single membrane roofing. It is highly chemically resistant . . . compatible with most existing materials, including asphalt; usable around many corrosive liquid or gaseous chemicals that may be in the environment.

CoolTop 40 with its combination of thermoplastic resin and its heat set Celanese Fortrel® polyester reinforcement provides long life, high strength puncture resistance and remarkable dimensional stability.

And, the Cooley Roofing Systems' package of mechanically fastening plates, seam sealing systems and flashing materials make it a totally integrated system you can depend on for truly moisture-free protection.

All in all, Cooley Roofing Systems' CoolTop 40 gives you the one best single membrane roofing system available. And it's backed by one company, all the way from membrane design and manufacture to systems supply with a 10 year warranty.

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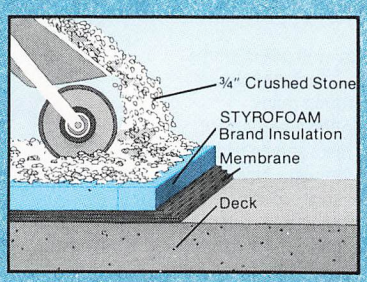
INSIST ON THE WORLD'S MOST PROTECTED ROOF.

Today's most effective and cost-efficient roof system depends on the unique properties of STYROFOAM* brand insulation. It's the most ideally suited insulation for use on top of a roofing membrane. The high moisture resistance, compressive strength and insulating effectiveness of STYROFOAM shield roof membranes from temperature extremes, protect them against physical abuse, and reduce expensive energy loss.



The Protected Membrane Roof (PMR) was pioneered by The Dow Chemical Company and represents a major breakthrough in roofing technology. Because of the superior performance of STYROFOAM brand insulation in roofing applications, building owners can experience substantial long-term savings due to both decreased maintenance and energy costs.

Before you build, evaluate your roofing alternatives. Let your Dow Representative explain the financial benefits of the PMR system. He has data to support STYROFOAM brand insulation's superior insulating effectiveness and long-term proven performance. You'll see why roof systems incorporating STYROFOAM brand insulation are so widely specified by architects and contractors throughout America, and the world.

Write for more information. The Dow Chemical Company, Dept. J95, STYROFOAM Brand Insulation, Midland, MI 48640.

The Proven Answer

Dow* Styrofoam* BRAND

*Trademark of The Dow Chemical Company

WARNING: STYROFOAM brand insulation is combustible and should be properly installed. For roofing applications it should be provided with an adequate protection. For specific instructions see Dow literature available from your supplier or from Dow.

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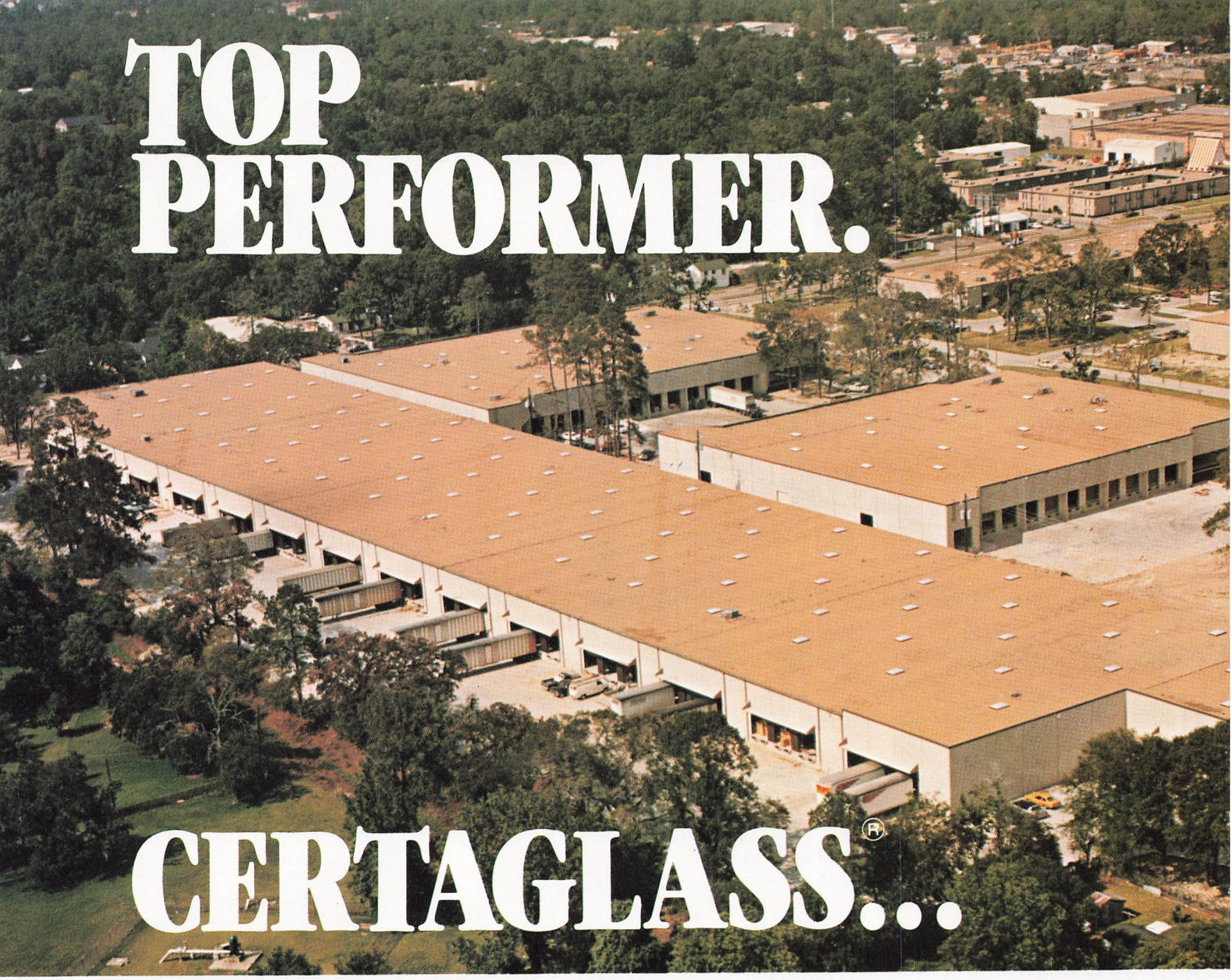

A PROVEN BUILT UP ROOFING PLY SHEET. BUILT ON FIBERGLASS. BACKED BY 5 YEARS OF THOROUGH TESTING.

CertainTeed's fiberglass roofing ply sheet, Certaglass, has met the challenge of 5 years of the toughest field and lab tests, and is now available almost anywhere in the U.S.A.

Built on fiberglass mat reinforced with fiberglass textile yarn, Certaglass has stood up to stresses, strains and sudden temperature changes beyond currently proposed or published BUR performance specifications. It has been used on hundreds of roofs, of all sizes, demonstrating superior weathering and resistance to moisture intrusion every time.

Perhaps best of all, roofers who have worked with Certaglass tell us that it's easy to handle, lays flat and stays flat, and has excellent inter-ply adhesion with no bleed through problems.

Want to put Certaglass to the test yourself? Call your local CertainTeed representative today. Or write on your letterhead.

CertainTeed

CertainTeed Corporation, P.O. Box 860, Valley Forge, PA 19482

SwRI Publishes Final "Blisters" Report

The final report on the formation of blisters over urethane insulation, prepared as part of a joint NRCA-MRCA investigation, concluded that there is a "compelling" case for the role of water vapor in the observed formation of bubbles over urethane insulation. The report, entitled "On the Development of Blisters During the Application of Hot Asphalt Over Urethane Insulation," stated that the properties which make urethane a superior roofing insulation also cause the bubbling evident when asphalt is applied to urethane board insulation.

According to the report's author, U. S. Lindholm of the Southwest Research Institute, Houston, Tex., the only practical solution to the problem is to provide "sinks" for the escape of heat and water vapor. Heat and water vapor would flow into these "sinks" during construction and would help prevent the bubbling dramatically documented at the NRCA Convention in New Orleans.

"In essence," stated the report, "this is addressed in the recommendations of NRCA Technical Bulletins Nos. 4 and 7 which suggest '(1) installing a thin layer of fiberboard, perlite board, or fibrous glass insulation over the top of the polyurethane or (2) install the base ply so as to allow for venting.'"

In an initial report for NRCA and MRCA, submitted in January, 1980, SwRI stated the "most probable mechanisms controlling bubble formation during hot mopping of urethane foam insulation are the availability of moisture and transient temperature distribution in the asphalt and substrate." Lindholm, using data developed for the first report, has constructed a new model of the bubbling phenomena joining the action of both water vapor and temperature. Lindholm points out, however, that "it is only a hypothesis: supported by observations of the phenomena and the known behavior of water vapor in roofing assemblies.

"First, all insulation or substrate materials under normal conditions have surface or near-surface moisture available which can be converted to vapor on contact with hot bitumen or asphalt," stated Lindholm. During application of the asphalt this water vapor will migrate to areas of lower vapor pressure. This movement is governed, however, by the ability of vapor to flow through the material—its permeability.

Highly permeable materials, such as plywood, fiberglass or perlite, permit moisture to flow easily through them and not into the asphalt. "For these materials, condensed moisture can be observed on the back surface following asphalt application, demonstrating the flow of water vapor through the insulation," said Lindholm. The application of hot asphalt to urethane produces a much different temperature profile than other insulation (see chart) with the highest temperatures directly at the surface of the insulation board. This tends to promote movement of vapor into the asphalt. Also, water vapor would be forced to move into the asphalt since the urethane is nearly impermeable.

Further evidence suggesting a movement of water vapor from the face of the urethane into the asphalt comes from a cross section examination of the asphalt mopping layer. "Our observations from sectioning the bubbles after cooling indicates that they are dominantly contained in the asphalt interior rather than at the interface between asphalt and insulation," the report stated.

The role of escaping freon gas in formation of bubbles is all but ruled out in the report. "Since the temperature gradient in the insulation is decreasing from the hot surface (the surface of the board), diffusion of vapor (such as freon in the urethane) from the interior of the insulation toward the hotter asphalt is not probable. Thus the source of gas to form bubbles must originate at the surface of the insulation. This is a compelling argument for water vapor since in any practical situation it is not possible to prevent surface moisture from being present."

The report stressed that its findings were associated only with the phenomena of bubble and blister formation during the initial placement of hot asphalt over rigid

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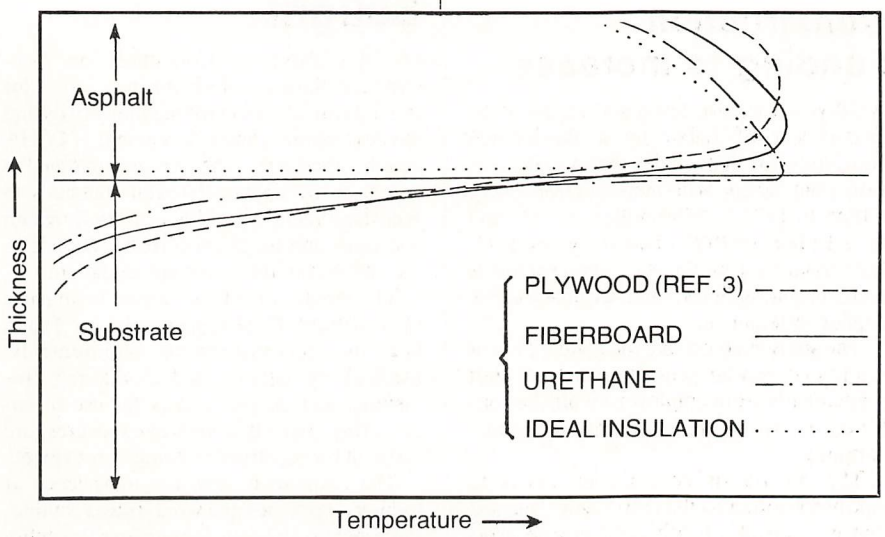


EXPECTED TEMPERATURE PROFILES IN SEVERAL SUBSTRATE MATERIALS.

roof insulation. "There are other blistering, void growth, and delamination phenomena which can occur over the life of a built-up roof deck which are not considered."

Hiring Goals Hit at Conference

The Department of Labor's goals and timetables for women in construction came under fire at an industry conference in Tarrytown, N.Y. The conference was sponsored by the American Arbitration Association (AAA), the National Association of Women in Construction (NAWIC) and the Construction Industry Council of Westchester and Hudson Valley.

The government-mandated goals and timetables "have no place in a cottage industry," said Eva S. Polin, executive vice president of the Mechanical Contractors D.C. Association, Washington, D.C., and past president of NAWIC. Labor's Office of Federal Contract Compliance Programs (OFCCP) "does not understand" that most contractors are small businesses that are "being squeezed out of business by over-regulation," she explained.

Poling feels that affirmative action is not the issue, but more important is the ability of small firms to cope with the administrative burdens of the regulations. The "paper bureaucracy" created by OFCCP for contractors to show use of the 16 affirmative action compliance steps "is not helping women to get into trades," she said. "Documentation is the name of the game," she explained, adding that "if you have the proper amount of paper in your file, you are doing your job—whether or not you meet the goals."

Suggested Change In Rule For Asbestos Criticized

Asbestos manufacturers and some industrial hygienists are taking strong exception to the federal government's approach to reducing exposure to asbestos both in the workplace and the environment.

"We strongly challenge the (National Institute for Occupational Safety and Health and Occupational Safety and Health Administration) statements that there is no safe level of exposure to asbestos and that a hazard warranting additional federal regulatory action exists in the current asbestos workplace environment," says Dr. Paul Kotin, senior vice president of health, safety and environment for Johns-Manville Corp., Denver. The manufacturer's statement was in response to a joint NIOSH-OSHA work group's recommendation that OSHA's current workplace standard of 2 million fibers of asbestos per cubic meter of air should be reduced to 100,000 fibers per cubic meter.

Kotin, who says his firm is preparing a detailed response to the work group report, emphasizes there is a length of time from initial exposure to asbestos to the time the disease becomes evident. He argues that asbestos-related disease being discovered now is the product of "the past, when information was lacking as to the potential hazards of exposure." And he charges that the work group's conclusions "are not supported by the medical/scientific studies cited, and the recommendations are unwarranted. Projections or estimates by the regulatory agencies of future disease cases related to asbestos exposure are also in error," and have been repudiated by "leading scientific researchers worldwide," he claims.

The Asbestos Information Association, Arlington, Va., which represents asbestos manufacturers, underscores Kotin's criticism, saying the work group report "fails to justify the recommended twentyfold reduction in the permissible exposure level."

Construction Funding to Increase

A 20-year forecast developed for the U.S. Department of Labor by a Washington consulting firm concludes that private pension plan assets will increase from $211 billion in 1975 to $890 billion in 1985 and $2.9 trillion in 1995. The study, by ICG, Inc., assumes a continuation of recent trends and current policies, and assumes a 6% annual inflation rate.

The study predicts that the annual flow of funds into private pension plans will shift dramatically from employer-employee contributions to a predominance of assets' earnings.

The growth of accumulated assets to nearly $3 trillion by the mid-1990s "suggest that the portfolio holdings of private plans will have an increasingly important effect on capital markets," the study says.

Asphalt Shingles Most Popular, Survey Shows

Seventy-eight percent of Americans who reroofed their homes in the last three years used asphalt shingles, a recent *Better Homes and Gardens* Consumer Panel survey indicated. The panel tabulated data from 440 completed questionnaires to provide information on roofing preferences.

Following asphalt shingles in preference are fiberglass-based asphalt shingles (7.3%), wood shakes or shingles (3.7%), and terne or sheet metal (1.2%). The survey also shows that 18.6% of the panelists reroofed their homes in the last three years.

Other information developed from the survey was interesting as well:

- 75.6% used contractors or handymen to do the work
- White was the most popular color (26.8%)
- 75.6% used the same type of material that was already on the house
- Roofing material was selected primarily on the recommendation of the roofing contractor (56.1%).

Special OSHA Consideration Sought

OSHA's Advisory Committee on Construction Safety and Health has called for special consideration for the industry during the development and enforcement of OSHA health standards. The group submitted a report on occupational health standards to Assistant Secretary of Labor Eula Bingham last week and Bingham currently is reviewing the committee's recommendation.

The report, which took a year to prepare, says current OSHA standards for health hazards, record-keeping requirements, medical surveillance and monitoring provisions, and general orders for use of engineering controls to reduce exposures, are difficult for construction employers to meet.

The committee cited the transcience of industry worksites and workers as a continuing problem and called for greater flexibility to meet permissible exposure limits to toxic substances and harmful physical agents.

Construction Industry Productivity Improvement Guide Developed

The National Construction Employers Council has announced the development and introduction of a productivity improvement guide designed to give contractors in the construction industry a working-tool to be used by their supervisors or foremen at the jobsite to improve productivity.

Improving productivity in the construction industry has been a popular topic of discussion for many years and gains even more notoriety in recessional times such as we have now. The construction cost escalation experienced in the past decade was based in part on inflationary pressures, burdensome government regulations and declining productivity, which requires practical solutions.

The NCEC Board of Directors authorized the development of a management productivity improvement guide some months ago. The guide was to be a working tool that could be used on site by a construction contractor to help him identify specific problems and find solutions relating to productivity.

The productivity improvement guide was designed to **improve** management productivity. The guide provides the construction contractor with a way to analyze three basic elements in any of his jobs, namely: labor relations, planning and coordination and management methods. The check list and multiple-choice format within the guide enable the individual contractor to create a productivity profile reflecting the strong and weak areas on jobs.

A primary objective of the guide is to raise management consciousness regarding productivity by asking the "right" questions in an organized fashion. Using this method, the guide gives the contractor and his supervisor or foreman the ability to assess and improve his jobsite productivity—a significant element in developing a strong competitive position in today's market. The time needed to answer the questions contained within the guide will be offset many times over by sharpening each contractor's view of productivity and what he can do to improve it.

Construction contractors who test marketed the guide were optimistic on the use it would be in the industry. The comments that follow were characteristic of those received by NCEC.

"You have pulled together a broad spectrum of questions and problems that plague the industry, and a person carefully and honestly answering these questions can improve his operations."

"Were a contractor to want to evaluate a given project, it would be a fine instrument to use as a guide."

For the construction contractor, productivity improvement means accomplishing more work with few (or no) increases in such resources as money, labor and time. Productivity improvement does not mean working harder; it means working smarter. The guide directs the contractor to think about his or her job from the point of view of productivity.

Improving productivity in the construction industry is an increasingly important goal. It is important to the nation in our fight to control inflation. It is important to the industry in its efforts to maintain a market for construction. And, it is important to individual construction contractors in their desire to stay competitive.

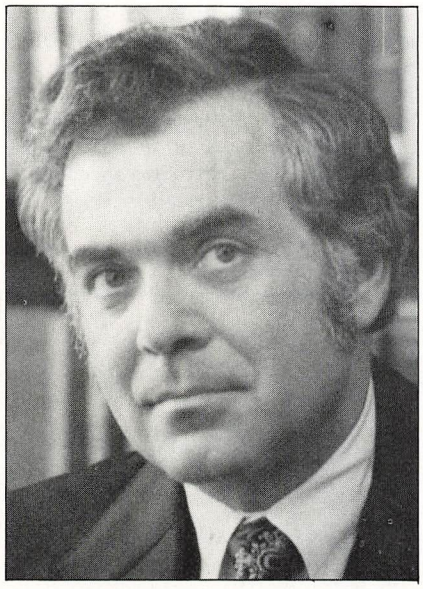
The productivity improvement guide can be ordered directly from NCEC at a cost of $3.00 per copy or $2.50 per copy on orders of 10 copies or more. Shipping charges are included in this price.

The National Construction Employers Council is a national trade association of 17 associations, based in Washington, D.C., representing the interests of unionized employers within the construction industry. NCEC membership represents over 90,000 individual contractors in an industry that accounts for over $200 billion annually and employs 4.5 million people.

National News continued

Brotherson Receives ASTM Award of Merit

Donald E. Brotherson, research professor of architecture at the University of Illinois at Urbana-Champaign, Champaign, Ill., was named a 1980 recipient of the Award of Merit by the American Society for Testing and Materials (ASTM).



Donald E. Brotherson

Brotherson received the award at the June 25, 1980 meeting of ASTM Committee D-9 on Roofing, Waterproofing, and related Materials in Chicago, IL. Brotherson was cited for his outstanding leadership and dedication in promoting voluntary standardization through the development of new and improved standards for roofing, waterproofing, and related materials.

The Award of Merit, naming the recipient a Fellow of the Society, was established in 1949 by ASTM, developers of voluntary consensus standards for materials, products, systems, and services. The award recognizes distinguished service to the cause of voluntary standardization through productive service to ASTM, marked leadership, outstanding contribution, or publication of papers.

Brotherson joined ASTM in 1960, and served as a member of five subcommittees of Committee D-8. He was elected vice chairman of the committee in 1972 and chairman in 1974 and served in that post until 1979.

Brotherson simultaneously served as secretary of ASTM Committee E-32 on Criteria for Evaluating Agencies Concerned with System Analysis, Testing and/or Compliance Assurance of Manufactured Building from 1972 through 1974.

Brotherson also is a member of ASTM Committee C-24 on Building Seals and Sealants and the ASTM Standing Committee on Publications.

Brotherson started his career at the University of Illinois in 1959. He conducted research projects on the causes of built-up roof failures until 1970. Brotherson currently is preparing curriculums in roofing technology for architectural schools and junior colleges.

Brotherson's primary interests are roofing materials, electric heating, fallout and blast protection in houses, and insulation and moisture control in buildings.

In addition to his university work, Brotherson maintains a small, general architectural practice and consulting service on roof failure investigations.

Brotherson also holds membership in the American Institute of Architects, the Building Research Advisory Board, the American Concrete Institute, serves as a Regent of the Roofing Industry Educational Institute, and has been active in the National Roofing Contractors Association and the National Roofing Foundation.

New Forecast Puts 1980 Construction Contracts at $137 Billion, Down 17%

Despite signs of a homebuilding recovery in the third quarter, and a temporary spurt of public works construction before the end of the year, the contract value of new construction in 1980 will decline to $137 billion, 17 percent below 1979's record $166 billion.

According to McGraw-Hill Information Systems Company, which has just issued the second scheduled update of its 1980 ***Dodge/Sweet's Construction Outlook***, the seasonally-adjusted value of construction in the first five months of this year fell by one-third, a much steeper rate of decline than at any time during the 1974-75 recession.

The latest report, prepared by Geroge A. Christie, vice president and chief economist of McGraw-Hill Information Systems Company, indicates that there is no quick turnaround in sight for the construction industry this year. Homebuilding contracts, at $53 billion, will decline 29 percent; nonresidential construction, which began sliding this spring and is not expected to recover until next year, will be down 5 percent to $47.1 billion; and nonbuilding construction, faced by the lowest level of electric utility construction in nearly a decade, is expected to drop 11 percent to $37.2 billion.

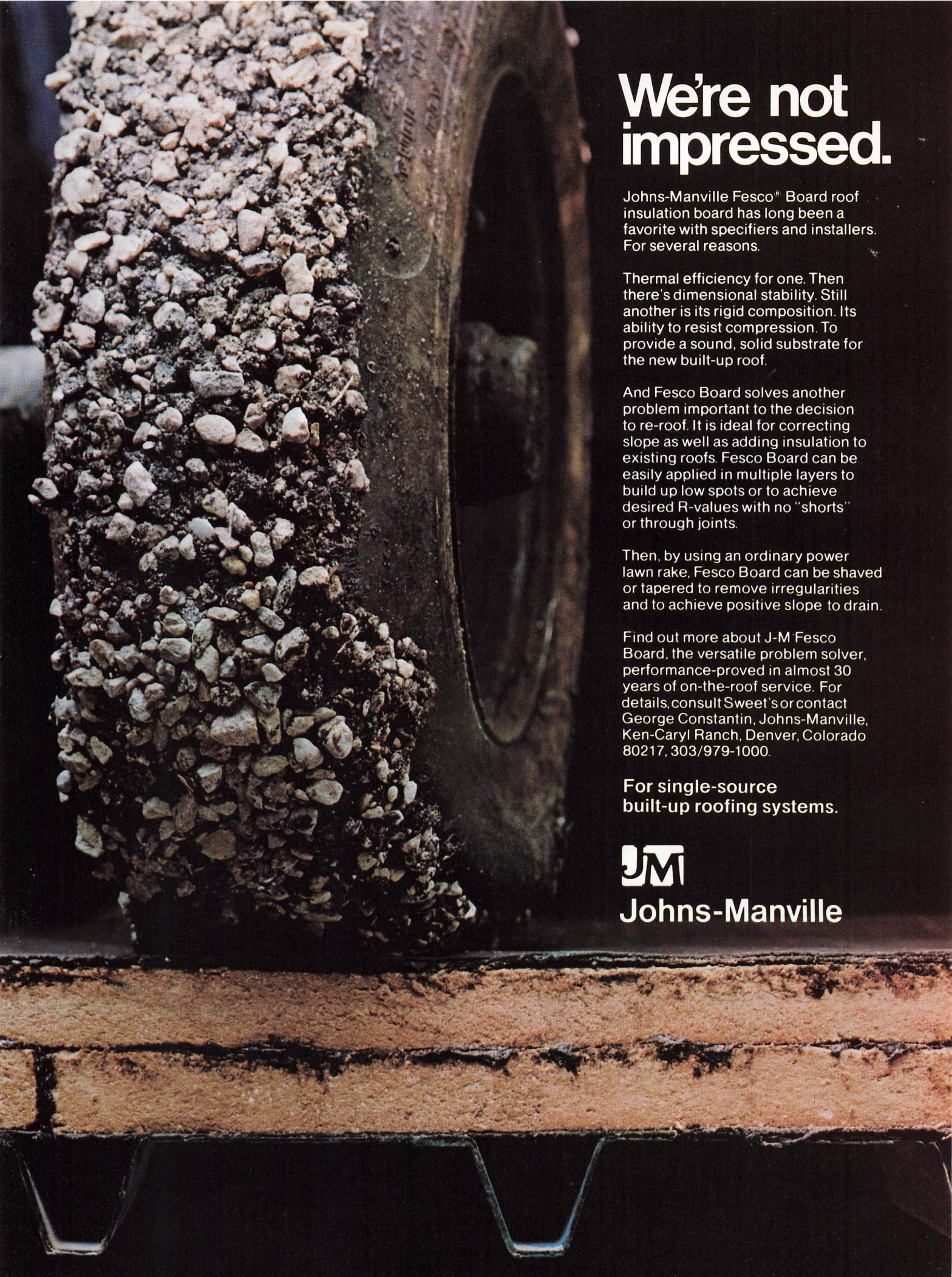
"This year's concurrent collapse of all major construction markets is directly traceable to the all-out effort of reverse inflation at any cost," Christie observed. "Monetary restraint, fiscal restraint, and their inevitable consequence of recession, each took its respective toll on housing, public works, and commercial/industrial building."

According to Christie, "This across-the-board collapse of construction is different from the sequential pattern of recession/recovery that is more typical of building markets. And it is this unusual cyclical behavior that implies that the expected 1981 construction recovery may be as dramatic as its 1980 breakdown."

1980 Capital Spending Plans Called "Uncertain"

According to McGraw-Hill's annual spring survey of capital spending plans, businesses plan a 12.2 percent increase in total capital expenditures in 1980. However, a report in the ***Engineering News-Record***, May 15, 1980 notes that "most of the planned increase may reflect inflation." Looking be-

continued on page 18



We're not impressed.

Johns-Manville Fesco® Board roof insulation board has long been a favorite with specifiers and installers. For several reasons.

Thermal efficiency for one. Then there's dimensional stability. Still another is its rigid composition. Its ability to resist compression. To provide a sound, solid substrate for the new built-up roof.

And Fesco Board solves another problem important to the decision to re-roof. It is ideal for correcting slope as well as adding insulation to existing roofs. Fesco Board can be easily applied in multiple layers to build up low spots or to achieve desired R-values with no "shorts" or through joints.

Then, by using an ordinary power lawn rake, Fesco Board can be shaved or tapered to remove irregularities and to achieve positive slope to drain.

Find out more about J-M Fesco Board, the versatile problem solver, performance-proved in almost 30 years of on-the-roof service. For details, consult Sweet's or contact George Constantin, Johns-Manville, Ken-Caryl Ranch, Denver, Colorado 80217, 303/979-1000.

For single-source built-up roofing systems.

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yond 1980, American businesses plan smaller capital spending incrases: 7.7 percent in 1981—3 percent in 1982—4 percent in 1983.

The manufacturing sector plans to increase capital spending 16.5 percent above the 1979 level, compared to an 8.7 percent increase by nonmanufacturing. The biggest increases are planned by aerospace—40 percent—and nonferrous metals—39.1 percent. Manufacturing firms plan to spend more than $15 billion on the construction of buildings. This expenditure represents 17 percent of manufacturers' total capital spending plans and is an increase from the 15 percent average that has prevailed since 1975. (Prior to the 1960s, manufacturers regularly spent 25 percent of their capital outlays on buildings.)

McGraw-Hill notes that "with the exception of gas utilities, real capital spending may decline this year for every nonmanufacturing industry." The largest capital expenditures planned by nonmanufacturing firms are commercial—$32.9 billion—and electric utilities—$29.6 billion.

Good Named Certified Association Exec

William Good has been designated a Certified Association Executive (CAE) by the American Society of Association Executives (ASAE).

Good, General Manager, National Roofing Contractors Association, was one of 95 association executives who received the honor at the Recognition Breakfast of the 60th Annual ASAE Convention and Exposition in Washington, D.C. on August 12.

Good qualified for the CAE certification by successfully passing an extensive examination covering many association management subjects, and by fulfilling prescribed standards of performance and conduct. Requirements included offering documented evidence of successful association management skills, and demonstration of leadership in community, and other societal activities. Good also met the requirement of at least five years experience as a staff executive, or three years experience as the chief executive of an association.

Objectives of ASAE's voluntary certification program are to raise the professional standards and improve the practice of association management by giving special recognition to those association executives who have demonstrated a high level of competence and ethical fitness.

ASAE is the voluntary membership society for nearly 10,000 executives who manage leading business, professional, educational, technical and industrial associations. This membership, in turn, represents an underlying constituency estimated at more than 24 million persons and firms belonging to national, regional, state and local associations.

Raymond, Willis New Officers of Litigation Center

The Board of Directors of the National Roofing Litigation Center (NRLC) elected Charles Raymond as its new president during its recent meeting in Chicago. Raymond, Giffen Roofing Company, Miami, Fla., will serve a one-year term of office directing the Litigation Center's activities and shaping its operating policies.

Richard Willis, The Wehner Roofing and Tinning Co., Dayton, Ohio, was selected as the Center's new vice president. Willis, a former president of the organization, will serve a one-year term in office. At the meeting two new board members were also inducted. Kenneth Marshall, Federal Sheet Metal and Roofing, Jamaica Plain, Mass., and Paul Morris, Sellers & Marquis Roofing Company, Kansas City, Mo., were selected as new members of the board of directors.

All four new officers and directors have distinguished records of activity within the industry. Raymond has served as president of both the National Roofing Contractors Association and the Florida Roofing and Sheet Metal Contractors Association. Willis has served as a member of NRCA's Executive Committee and both Marshall and Morris have served as NRCA directors.

The NRLC was founded in 1979 to help contractors cut legal expenses stemming from roofing litigation. The Center currently has more than 300 members and has gathered thousands of pages of interrogatories, depositions, and transcripts from court cases involving roofing failures and problems.

OSHA Opens Employers' Records

A regulation requiring businesses to make medical and toxic substance exposure records available to workers was adopted by the Occupational Safety and Health Administration on May 21.

The regulation is effective August 21, and applies to businesses where workers are exposed to toxic substances. Every worker (or representative who has consent) is permitted to examine and copy an employer's records of exposure to toxic substances, personal medical records, and analyses based on the records.

The rule applies to employers in general industry, maritime, and construction.

No Strike Clauses Hurt Construction Wage Negotiations Says MCAA

The Board of Directors of the Mechanical Contractors Association of America, Inc., (MCAA) has endorsed a statement confirming the harmful effects of certain no strike-no lockout clauses. These clauses are especially harmful when they are in effect in national, project, and interim construction agreements in an area where local labor contracts are being negotiated, according to MCAA.

The statement, which is to be widely distributed to owners, architects, engineers and throughout the construction industry, carries out a resolution adopted by association members at their Annual Meeting in January.

In some areas no strike-no lockout clauses have actually enhanced the possibility of construction strikes. Union members, working on no strike jobs, have felt they had nothing to lose by voting down wage proposals.

In other cases these clauses have prolonged strikes because a union has had a substantial number of members on no strike jobs, who have had little interest in settling and who have been contributing to a strike fund.

No strike-no lockout clauses create an imbalance at the bargaining table, the statement says, and because they inflate settlements, they drive up the cost of all future construction.

Experience has also shown that no strike agreements cannot be guaranteed. Strikes and slowdowns have occurred on local no strike jobs, and these projects have been delayed because of labor problems.

When this has occurred, retroactive pay provisions have placed a severe burden on contractors and owners.

In MCAA's view, "no strike-no lockout clauses are really contrary to the best interests of the construction industry and the community."

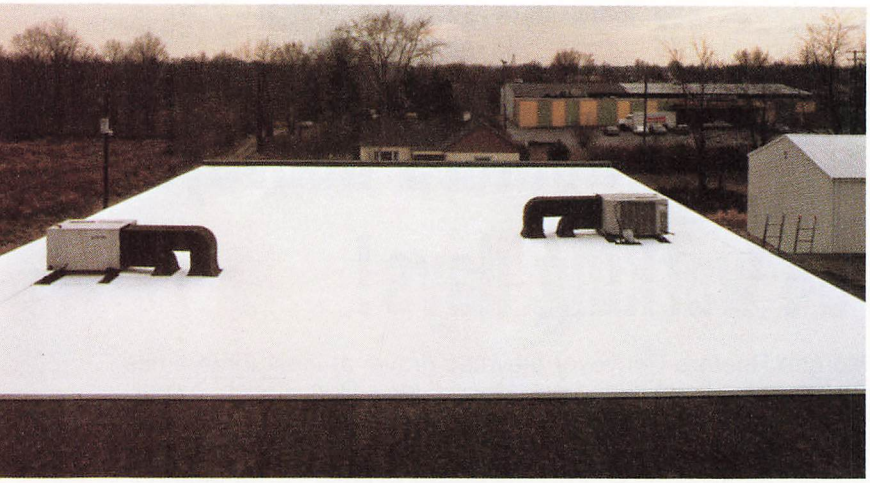
Contractor Wins Reasonable Compensation Suit

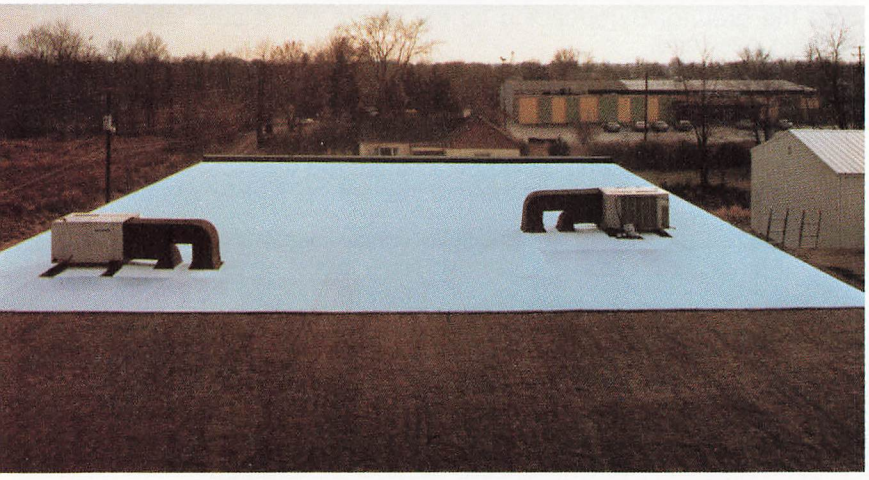
Most contractors are reluctant to pay themselves fair salaries, bonuses, and profit-sharings because of the fear of being charged with unreasonable compensation.

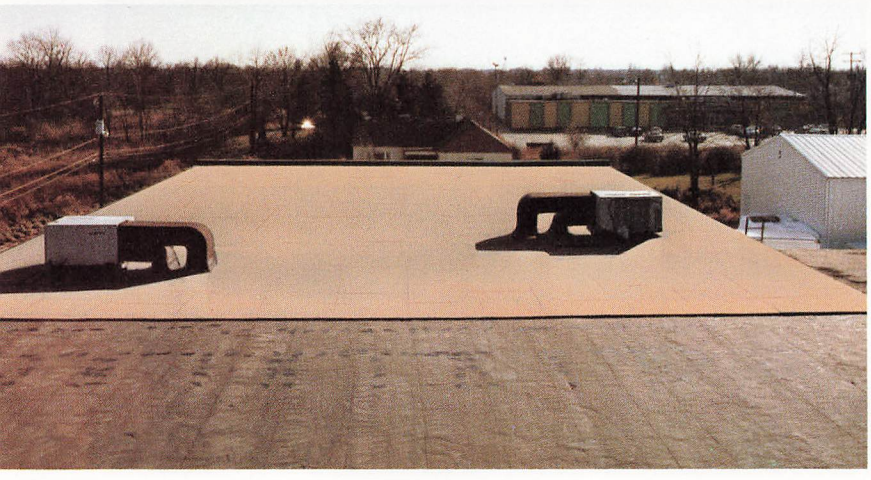
In a recent tax case, Home Interiors and Gifts, Inc. (1980 73 TC No. 92), the Tax Court ruled that compensation above the norm is allowed as long as it pays for services.

The company had achieved phenomenal growth between 1968 when $81,000 in dividends was reported and 1975 when $545,000 was reported, about 8 percent of after tax earnings. In the meantime, the CEO's salary went from $331,000 in 1970 to $1,556,000 in 1974. The second in command earned $265,000 in 1970 and $1,361,000 in 1974. They and a few other family members owned more than 50 percent of the stock. A third key employee and minority stockholder earned $45,000 in 1970 and $211,000 in 1974. All were compensated based on commissions.

When an IRS agent set a reasonable compensation ceiling of $193,000, $110,000 and $74,000 for the three key employees, the Tax Court disagreed saying that "the amounts of compensation paid the officers of Home Interiors were very large, but their efforts produced extraordinary results for Home Interiors and everyone connected with it... Moreover, in these times of unparalleled inflation, our concept of reasonable compensation must take into consideration such inflation..."







ROOF TO ROOF PROOF: YOU GET MORE INSULATION FOR LESS WITH EPS.

Dollar for dollar, you get more roof insulation with EPS than with any other material. Not only more coverage, but better R values, too.

Let's compare roof to roof. Two inches of EPS insulation has a greater R value than one-inch Styrofoam RM, one-inch urethane foam or 15/16″ fibrous glass board, yet costs much less. So, for the same money, you can insulate better, and—as seen in the photos—cover a greater area, too, with EPS.

Sturdy EPS is lightweight, easy to handle and install. And it's readily available from over 175 independent quality manufacturers nationwide in a broad range of sizes, thicknesses, and shapes. You can even get pre-tapered EPS insulation that improves roof drainage while it insulates.

So get the most for your money. Use EPS, the greatest insulation value in roofing.

Get more, spend less with EPS.

MATERIAL	COST/ SQ. FT.*	R VALUE	COVERAGE @ $1195
2″ EPS	23.9¢	7.8	5000 sq. ft.
1″ Styrofoam RM	27.8¢	5.0	4299 sq. ft.
1″ urethane foam	31.9¢	6.2	3746 sq. ft.
15/16″ fibrous glass board	26.6¢	3.8	4492 sq. ft.

*Estimated average manufacturer's published price per square foot based on a random survey of roofing contractors conducted by the Bureau of Building Marketing Research, October 1979. Actual prices may vary.

Expanded polystyrene (EPS) insulation is combustible and should not be exposed to flame or other ignition source.

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Subsidiary of Atlantic Richfield Company
Pipeline to plastics.
Manufacturer of DYLITE™ expandable polystyrene.

A Professional Approach To Residential Reroofing

by Gary Van Ryzin

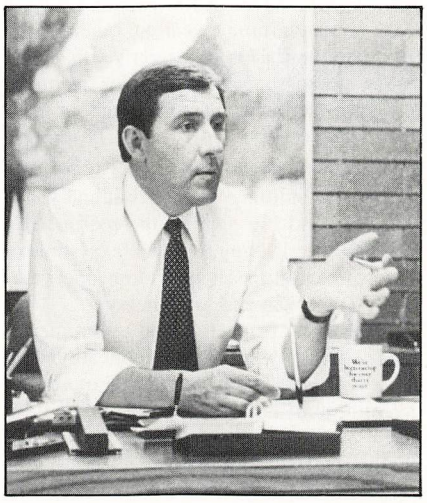
Contractor Mike Promen specializes in hot residential reroofing, yet he won't patch a job that's ready for tear-off. Here's why.

Many of my men have asked me: "How can a bucket of hot fly into a window?" We had it happen once on a four-story apartment building we were roofing in Chicago. The bucket was being hoisted to the roof and it got caught on a ledge or the wind took hold of it, sending it straight through a third-story window. The woman in the apartment came out screaming, "You've ruined my rug, my drapes!"

The kettleman went over to our truck very calmly and produced a copy of our guarantee which states very plainly, 'not responsible for interior damage.' Somehow she accepted that—for a while. You know, asphalt makes an excellent carpet saturant.

Residential built-up roofing has been, for the most part, the province of small, one crew operators. This kind of contractor finds whatever warm bodies or willing relatives who happen to be free during the summer, gets a pick-up truck and a kettle, and is in business. Some more established contractors are out to dispel that image. Specializing in such work, these contractors are gaining an ever-larger share of this market through aggressive promotion and complete service.

One of this new breed of contractors is NRCA Director Mike Promen, head of Clark Roofing Co., Broadview, Ill., a suburb of Chicago. Promen is a reroofing contractor doing both commercial and residential work. According to Promen, there are both obvious and subtle differences between the two types of jobs. A thorough knowledge of those differences is needed to make money and maintain a good business



Clark Roofing's Promen: selling a professional image.

reputation. "The major difference between commercial and residential work is that in residential work you're dealing with a non-compensated owner. He views the roof as something over his head that should never leak. The commercial owner views the roof as a depreciating asset, a maintenance problem—he knows it will eventually wear out."

Most residential built-up roofing is done in the older, industrial sections of the United States, usually the Northeast and Midwest. Residential buildings in these areas are most often the ubiquitous two- and three-flat apartment buildings or two-story homes which line the streets of most central cities. Unless the owner of the structure has an apartment in the building the cost of the new roof comes directly out of his pocket.

Also, according to Promen, roofing problems are a personal insult to many homeowners. "Especially the lady of the house. A store owner or factory owner might view a leak as nuisance but a homeowner is having his home invaded by water. It is a very emotional experience."

While a contractor might find that the clients in residential work are different, he will soon discover the big difference between this work and commercial jobs—competition. The key to meeting the competition in residential work is aggressive salesmanship and careful attention to detail. "We tell our salesman to explain what is going to be done, what the options are; put all of the cards on the table with the final decision resting with the owner."

Promen insists that his salesmen go through these steps, carefully explaining the work to be done no matter how knowledgeable the homeowner may seem. "Many roofing contractors assume a homeowner knows something about roofing because they start throwing out roofing jargon. In most cases this is the result of having spoken to several contractors about his roofing problem and it is nothing more than parrot talk. You have to start from scratch with each contract, building it right up from the bottom."

Rather than strictly following the old saying, "the customer is always right," Promen tries to avoid giving the customer exactly what they want. "You've got to be the doctor on the job. You've got to tell them what they need, and you have to stick to it. It's like selling tires. People used to go out and kick the tire, then buy the one with the big whitewall simply because they didn't know the proper questions to ask."

We had done a two-story building with a truss roof. Unfortunately, the inter-ply mopping was a little too soft. The plies slipped, covering the drains at the back of the building. When water began coming down the walls the landlord figured something was wrong on the roof and decided to investigate using the trap door. At first the door wouldn't budge. He finally went and rounded up two other fellows and forced it open. The reason they had such a difficult time was that the trap door was underwater. They poured about 2000 gallons of water into that building, but you have to admit it was a quick roof drain.

The toughest competitors for residential work, said Promen, are the scores of small contractors—one truck and one crew— that must land every job they can to survive. "They have to take the job at any cost. When the customer says, 'Hey, I just want a little patch or glaze up there,' he will take

continued

the job and hope he can get paid for it before it leaks. That doesn't work in the long run.'' The most important factor in staying in business over the long term is to apply quality roofing. ''You'll lose a few jobs but the customers will always come back if you're doing good work.''

Top quality work means exactly that to Promen—no patch jobs on worn-out roofs. ''If the customer has a worn-out apartment roof and $1,000 to spend, you won't make that roof watertight no matter how hard you try to stretch it. If it is going to cost $5,000 to do the job right, it is going to cost $5,000.'' Promen said that there is nothing wrong with band-aid repairs but the contractor must be honest and tell the owner exactly what that band-aid is going to accomplish. ''You must plainly state that this repair might guard against water for a while. You must also be on guard against the customer misunderstanding what you are saying. You might tell the customer one thing but what he hears is completely different.''

Promen carries this open approach to the sales operation, using the term 'salesman' openly when speaking to or contacting customers. ''We don't have 'estimators' going out, because we're not estimating, we're giving the customer a flat price to do the work. We don't call them bidders, and if the customer asks, we tell them exactly how our salesmen are compensated—salary plus commission. Let them know exactly whom they are dealing with.''

Complete service is another key to building a good residential roofing business. Many homeowners find it convenient to ask one contractor to do a number of jobs. Because of Promen's desire for complete customer service he has performed some out-of-the-ordinary services. ''To get a job we've had to promise to paint an eave, put up a bird house or mow the lawn.''

Intense competition is the name of the game in residential built-up work. ''It's not a coincidence that the big contractors do very little residential work—residential hot work. The first place a hot roofer goes into business is in the residential area. He probably feels less threatened. He seldom has to produce certificates of insurance, performance bonds or recommendations.'' Also, according to Promen, the smaller job size provides some financial advantages. ''The fellow starting out with a two man crew goes out and buys the material that morning, puts it on in the afternoon, and collects that evening. That's quick turnover.''

Another factor adding to the competition is the new contractor is often desperate for the business. ''It is an interesting thing. I've seen it time and time again. Good quality estimators from good quality companies, big companies, who open up their own shops, immediately revert back to being shade tree mechanics. They'll put anything on a roof just to get the job.''

Unlike commercial built-up roofing, technical problems are not much of a bother in residential work. ''You can just about put tissue paper on a residential roof and it won't leak, although it may wear out quickly. But if you do the flashings correctly you should be in good shape. The major technical problem we have in residential is poor maintenance. You can completely reroof a building and the leak won't go away. You go back to the building and check it and you'll probably find big gaps in the mortar. If a roof has been leaking for a while on some of these old buidlings it is seldom one problem—it is always a combination.''

Residential hot roofing presents few technical problems but requires aggressive promotion.

The biggest problem faced by Promen in his residential work is communication with the owner who is reluctant to put more than the minimum amount of money into roofing. ''We have a hard time talking homeowners or apartment owners into tear offs because of the expense. But the same thing holds true for gravel and insulation. Very few owners will let us put on insulation. Although we bid it 100 percent of the time, we're lucky to install it on 25 percent of our jobs. They just don't want that extra cost.''

We did a job one time—I was on the job—we were gravelling and everything was going fine. I went back to the office to catch up on paperwork. The excavator called asking when he could get in to do some landscaping and I told him that it would be a few hours before we could move out and stop blocking the access. He was pleased with that. Just after that conversation the roofing crew came in and said they hadn't finished the job because they had snapped a cable.

The next day I sent out a crew early to finish the job. At 7:00 a.m. they were calling me claiming someone had stolen the gravel. I said nobody in their right mind steals gravel and hopped in my car to see what the problem was. What had happened, I discovered, was that the excavator had been there at 5:00 a.m. and had buried all the gravel, using it for landfill. They just plowed it right under.

Roofing in the nation's second largest city can carry some unique hazards, said Promen. ''We were working in one neighborhood, a high-density neighborhood. It was a three-story building with a two-story garage adjoining it. It was an old coach house loft and I'm sure the coping stones were three-footers. You couldn't see them because the roof was so loaded with cans and beer bottles. All kinds of debris. It had become a game for the residents of the neighboring apartments to throw garbage and see if they could get it on the roof.''

Promen said that while it is not uncommon to find bullet holes being the source of many leaks, abuse and roof traffic on residential roofing is nowhere near the problem it is on commercial jobs. ''Unless there's a sun deck, unless they have a use for it, these buildings are roofed and left alone. The big problem is that they never go back up for ten years.''

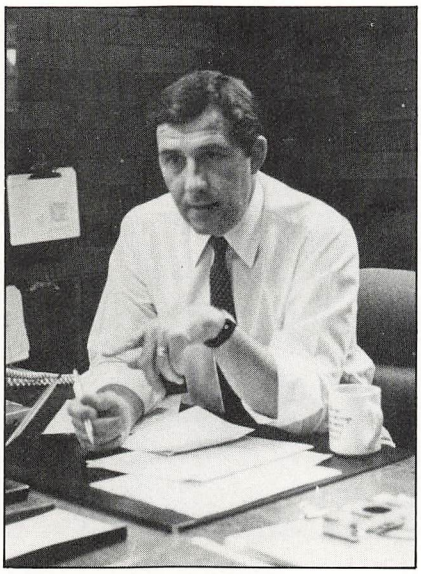
Another big city roofing problem is the possibility of assaults on company personnel working in some core communities. ''We never have any problems with hot crews. That's five or six men. It is the service people that have problems because they're usually going out alone.'' Promen has heard of several sniping incidents and had a case where one of his men was shot by an eleven-year-old boy with a pellet gun.

"Certain conditions do make it hard to work in the city. We got to one job we had sold just a few days before and when we got there someone had burnt the building down." His company worked on another job where an arsonist struck immediately after the roofing was complete.

But getting the business, no matter if the building will be there or not tomorrow, is still difficult, and Promen uses a number of means to get it. Clark Roofing advertises heavily in the metropolitan area, placing large Yellow Pages ads, designed by an advertising agency, to promote the firm. "We have advertisements in the newspapers, we use direct mail and we have a fairly large sales staff here in the office. We have seven salesmen who specialize in either commercial or residential, each with different commission schedules."

Above all, what Promen tries to sell is a unique image for his firm. "There are only about three or four of us who operate this way in the city. We're not interested in selling the customer who only wants cheap, cheap, cheap. I think we're interested in selling new Chevrolets, rather than old beaters or Rolls Royces. We are trying to communicate to the customer that we are not the roofer with the dirty shoes pulling up with his pickup and an old tar pot, banging away and dripping on his driveway."

Despite the sales effort, 1980 is likely to stack up as a slow year. The problem, as



Promen: The customer isn't always right, few know very much about roofing.

Promen sees it, is not that the work isn't there, it is just that, given the expense of roofing today, many building owners can't put together the necessary funds. "This year costs have just skyrocketed and people are afraid. For the first time that I have ever seen, people are simply letting the water drip on their heads."

To get many jobs Promen must offer a fairly extensive financing system for his residential customers. While this may sound complex, Promen claims that the system can work to the contractor's advantage when used properly. "For any job, you should take a credit check because you have to remember that if you don't get paid for a $1,000 job that's $1,000 worth of profit. It may represent only a small portion of your total sales but it's all net profit if you lose it. Get yourself set up with a bank to make installment loans. If you put a bank's name on the loan then the customer thinks he's paying the bank, and most people are afraid of banks."

Promen recommends having small coupon books made up, similar to those used for car loans, and sending those off to the customer. The bank's address is on the coupon, and while the money goes directly into the firm's account, the customer believes he is paying the bank. "The psychological impact of not paying a bank is very different from not paying a roofing contractor," said Promen.

Reroofing The Pantheon

by David Honaker

An Architectural Masterpiece

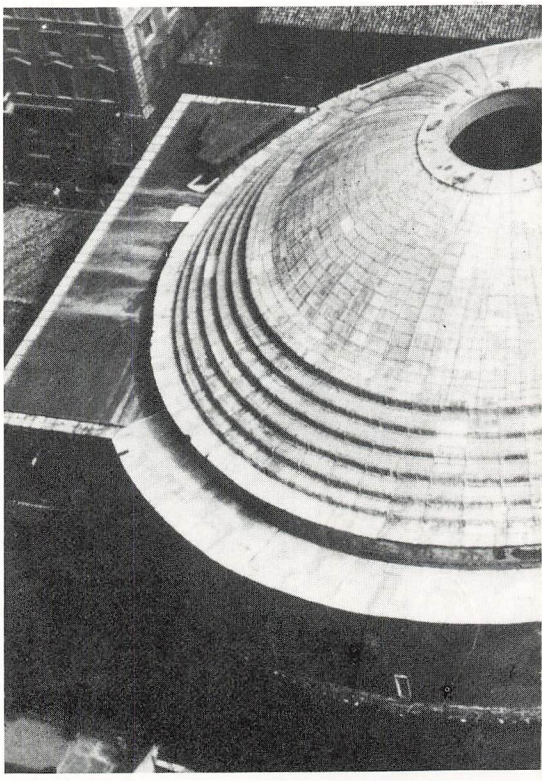
One of the oldest and most cherished architectural masterpieces in the world is the Roman Pantheon. First built in 27 B.C. to the seven planetary deities by Emperor Agrippa, the temple was rebuilt in 126 A.D. by Emperor Hadrian, whom scholars believe might also have helped in the building's design. The Pantheon marked a revolution in architecture in which the concept of interior space became a dominating design factor. The circular temple is topped with a vast dome, which emphasizes the temple's interior space. A 100-foot-long rectangular porch stretches across the front of the building. A triangular roof extending over the porch is supported by 16 Corinthian granite columns, each 42½ feet high. The original bronze doors serve as the entrance to the temple.

The inside of the Pantheon is a circular chamber 144 feet in diameter. The dome, supported by eight large *piers* (rectangular supports), arches to a height of 144 feet above the floor at its highest point. Natural light streams into the temple through the *oculus*, a large, circular opening in the dome, 30 feet in diameter. The temple's chamber is decorated with colored marble designs on the floor and walls, and Corinthian columns and pilasters (flat columns) decorate the chamber. Scholars believe that statues of the seven planetary deities were originally set in recesses along the walls. Since the temple is exactly as wide at its widest point as it is high at its highest point, a sense of harmony and symmetry as well as spaciousness is designed into the structure.

The Pantheon houses seven chapels, which contain the tombs of King Victor Emmanuel I, King Humbert I, the painter Raphael, and other Italian kings. It was used as a church by Christians between the early 600's and 1885.* Today, it stands as a magnificent monument to the ingenuity of the Roman Empire. The Pantheon's construction was an incredible feat of structural engineering. It has survived almost unchanged since its rebuilding in 126 A.D.

Leakage Problems

Through careful maintenance, the original dome of the temple endured the effects of weathering for centuries. In 1500, however, a new covering of lead plates was installed over the Pantheon's dome. The lead plates served their purpose well indeed, considering that not until the late 1960's did the Pantheon suffer serious problems. Corrosion and mechanical damage to the lead plates over the previous 470 years had lead to severe leakage problems. In 1972 the Superintending Officer of Monuments in Rome decided that the Pantheon had to be reroofed. He selected a product known as



In 1972 the centuries-old lead plates were removed, the dome was reroofed with a "Derbigum"

*Field Enterprises Educational Corporation, *The World Book Encyclopedia*, Volume 15 (P), Copyright 1972, U.S.A., pg. 111.

"Derbigum," one of the new single-ply roof membrane systems, to waterproof the Pantheon's dome.

Derbigum

Derbigum is produced by Derbit SPA, which was founded in Europe and now maintains offices in America. A cross sectional analysis of the Derbigum HPS product used to reroof the Pantheon reveals four layers of material. The top layer is a glass fiber mat reinforced weathering surface. Below this layer is a glass fiber web, which serves as reinforcement against impact loads. Below the glass fiber web is a polyester core, beneath which is a 100 mil thick, built-in adhesive. All four layers are embedded in polymer modified bitumen. Polymer modified bitumen is a chemical composition consisting of bitumen, polypropylene, and other resins. Derbigum is 160 mils thick (the equivalent of approximately 5/32 inch) and is designed to be "torch-fused" into place.

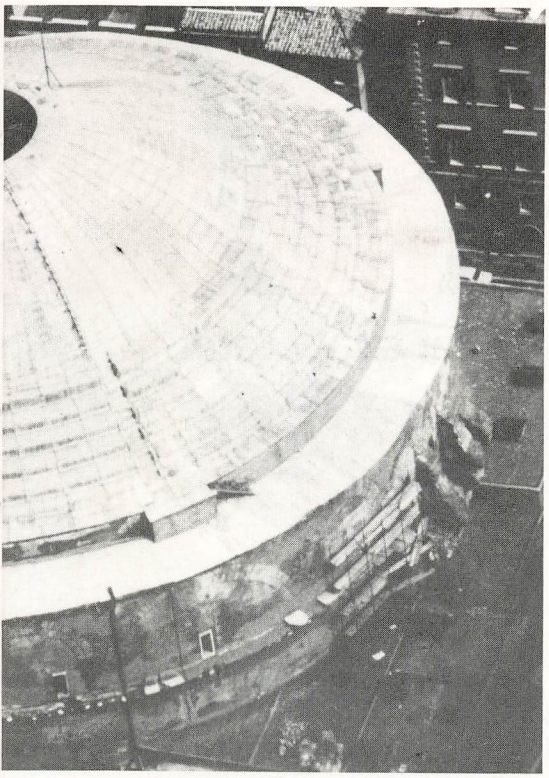
Torching the Roof

To reroof the Pantheon, specially trained Derbigum mechanics carefully removed, catalogued, and stored each lead plate. Over the exposed surface, 1500 square meters of single-ply Derbigum material were applied. One of the unusual features of Derbigum application is that the sheets of material are torch-fused into place. The torching procedure is accomplished as follows:

1. Rolls of material are laid out on the exposed surface.
2. Each roll is so placed as to provide (nominal) 3 inch side laps and 4 inch end laps.
3. As the material is rolled out, the built-in adhesive is located adjacent to the substrate and is easily accessible to the mechanic. The mechanic heats the built-in adhesive with a torch, making it ready for adhesion to the substrate. The heat from the torch also helps evaporate any surface moisture in the substrate to ensure complete bonding of the material.
4. Adhesion at the point where Derbigum sheets overlap one another is especially important, and mechanics must take special care to ensure that each lap is securely sealed.

After the dome of the Pantheon had been covered with 1500 square meters of Derbigum, each lead plate was replaced to restore the dome to its original appearance.

The relatively new single-ply roof membrane systems, of which Derbigum is one, are receiving considerable attention of late. Since they have not been in service as long as the conventional multi-ply built-up roof membrane systems, an abundance of information regarding their durability and longevity is not available. Many contractors and designers will view the Pantheon reroofing project as a pioneer test of the performance capabilities of one single-ply system. To date, no problems have been reported.



single-ply roof membrane system, and each lead plate was replaced.

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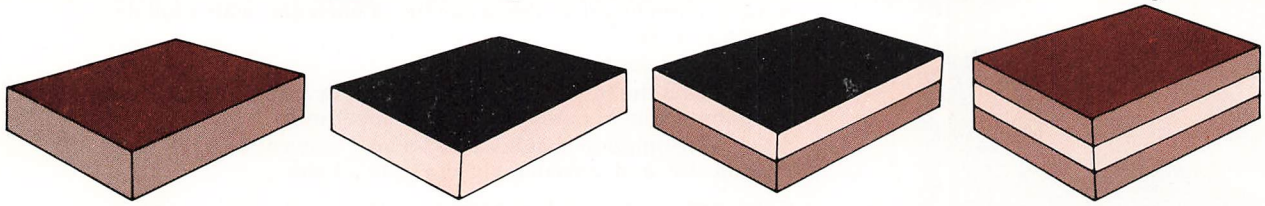

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New Products, New People, New Risks: Profile of A Reroofing Contractor

by Diane Guenther

"The once rambunctious American spirit of innovation and adventurousness," wrote British essayist Henry Fairlie, "is today being paralyzed by the desire to build a risk-free society..." No one has ever characterized the roofing industry as risk-free, so it's interesting and refreshing to see the progress made by one of its newest risk-takers, Kurt Carlson of Roofing Systems, Inc., Loves Park, Ill.

Kurt Carlson: a profitable emphasis on reroofing and repair.

Carlson began his company, which is devoted exclusively to single-ply roof systems and roof repair, in 1977. He began it with young people, new ideas, and new roof systems. The firm applies only cold products, specializing in single-ply, elastomeric roof systems, mastic and felt roof systems, preventive maintenance surveys and applications, and general roof repairs.

Carlson, of course, is no stranger to the industry. His father, Ed, has long been active in NRCA and the Midwest Roofing Contractors Association. Kurt, growing up in the business, had the opportunity to see some of the problems associated with traditional built-up roofing systems.

"In 1966," he says, "we installed some of the thicker sheets of fiberglass and urethane insulation. These roofs survived their life expectancies, but not without extensive roof maintenance, usually beginning within five years of their application.

"The major reason for some early damage and the premature aging of those roofs had been a combination of thermal shock, severe winter weather, and adhesion failures. These new roofs could no longer maintain a constant temperature caused by warm or cool air passing through them from the inside. The additional insulation now segregated the roof mat from the roof deck as well as from indoor winter heating and summer cooling. With every temperature change, it resulted in shrinkage or stretching."

Carlson saw other problems that he attributed to the thick insulations. "Snow and ice no longer melted quickly without interior heat loss. Snow accumulation resulted in ice damage, increased moisture saturation and additional roof stress due to the varying thicknesses and weights of snow loads." Blistering and ridging occured more frequently, he added, because of the multiple thicknesses of insulation and the urethane skin covering.

While working with these recurring problems, Carlson researched alternative roof systems by talking to manufacturers and to roofing contractors from different parts of the country. As a result, he decided to go with the single-ply, elastomeric system, because he believes it to be more effective than the conventional multi-ply, built-up roof membrane system. Today, Carlson continues to recommend the use of an elastomeric roof system when additional layers of insulation are specified.

"This system," he says, "is unaffected by structural or thermal movement, moisture, or ponding water, and any moisture that may exist beneath the roof. Permeability of the sheet membrane allows trapped water vapor under pressure to breathe out. In addition, polystyrene insulation can be used with elastomeric systems to provide a better quality insulation at a lower cost."

More than systems. The philosophy of Roofing Systems, Inc., is to provide its customers with roofs that will be long-lasting, maintenance-free, energy efficient, and a sound investment. "We set high standards for our specifications, materials, and workmanship," says Carlson, "and we are personally involved in all aspects of sales and production.

"To make a quality system competitive, we contract a large but select volume of work, purchase all materials in quantity directly from the manufacturers, transport and warehouse materials with our own fleet and facilities, utilize fully the most advanced roofing material handling equipment, employ excellent supervisory people and a professional labor force, and provide our accounts with efficient and effective repair service, maintenance and budget surveys, and complete recommendations."

Carlson has successfully applied the single-ply system to in-

continued

We asked Kurt Carlson to share with us the business practices he follows which have most contributed to his success. He listed six:

"First, roof maintenance begins immediately following the completion of the roofing job. Many companies complete a job and are never seen or heard from. A profitable program of roof maintenance can be developed for your company.

"Second, know the customer who has contracted the job. It is to your benefit to spend extra time researching the customer's financial status than to find out after you begin the job that the company cannot pay its bills.

"Third, sales is the key. Don't be afraid to set high goals for your company and make a company effort to achieve them. Also, work to expand your business rapidly and be ready to roll with big business volume in a good year.

"Fourth, concentrate your efforts on becoming well known in your local geographical area and business community. As well as establishing a good business rapport, maintain a good line of credit and references.

"Fifth, stress quality workmanship with your employees. Help them realize that their job performance reflects the attitude of the company and determines their own destiny.

"Sixth, establish a good working relationship with your workers and their families and your community. The individuals you work, live and play with provide potential avenues to job prospects."

dustrial plants, like the Carlisle plant in Greenville, Ill., to restaurants, like the Seven Seasons Restaurant at O'Hare International Airport, and to local schools and industries in Rockford. Satisfaction in the roof system is important to Roofing Systems, of course, as well as to the customer, and Carlson seems to be satisfied. "Despite the severity of the past winters, our elastomeric roofs were unaffected by the deflection of snow loads, thermal shock, ice, and ponding water," he says. He is confident in the long life and durability of the single ply system.

Employee Manual. As the company's operations grew, Carlson and his wife Cheri found it necessary to compile their thoughts on policy, benefits, and company direction. The result is Roofing Systems' Employee Manual, written by Cheri Carlson as a project for her M.B.A. degree. Carlson has found it so beneficial for his company that he argues: "One should be in every company."

While the Carlsons rely on the manual as an important management tool, Kurt Carlson says, "There really isn't any one part of the manual that stands out more than the other parts. We teach safety; most of the information is from NRCA. We stress benefits: health, insurance, profit-sharing, and we emphasize reading the policies.

"Manuals are always changing and we have changed many of our policies, but it's good to have all company practices in print." The Roofing Systems manual defines the goals fo the company, hour and wage guidelines, general information regarding work practices, and employee benefits. The document answers any questions employees have regarding their company. (The Roofing Systems, Inc., employee manual can be obtained by writing Kurt Carlson, Roofing Systems, Inc., 7125 Clinton Road, Loves park, Ill. 61111.)

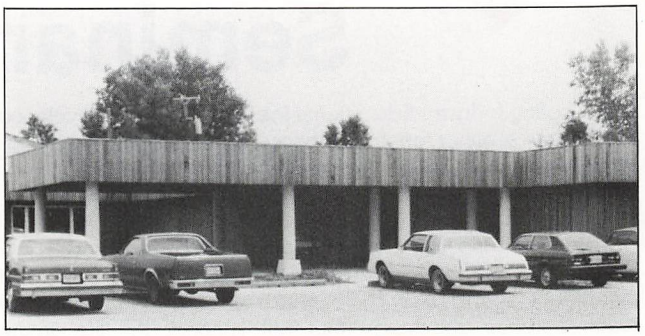
The employee manual offers another clue to Carlson's success, which he attributes in no small measure to the faith he puts in people. And he is proud of the workmen he has brought into the trade. "Our employees are free to be members of a union or not, and we highly respect their right to privacy in regards to their personal records associated with the company. Our personnel and performance accomplishments to date include the recriting and development of a highly dependable, skilled, flexible and effective work force that produces the best quality of workmanship, reflecting a new professionalism and moral integrity in the roofing trade. The educational level, company support and attitude of our employees is remarkable."

To sustain that high caliber of employees, Roofing Systems provides a full insurance program, including dental, maternity, and life insurance benefits, profit sharing, savings and bonus plans, apprenticeship, educational support programs, and family and community relations activities. Carlson believes the support system to be a vital part of company success. And Carlson's own success story is remarkable: a company that began with three employees in 1978 now employs 60 people.

Carlson believes in the merit shop system. The merit shop, he says, allows persons to be hired, retained, paid, and otherwise treated or compensated on the basis of individual work accomplishments. Carlson also provides his employees with on-the-job training, as well as apprenticeship training, and he encourages continuing education.

Reroofing Specialist. Part of Carlson's success is due to his decision to emphasize reroofing and repair. This decision, he says,

was dictated by his location: the Rockford, Ill., area has over 150 major manufacturing plants, most of which date back to the 1950s.



Roofing Systems, Inc., has grown from a small three-person operation to a large business employing 60 people.

Carlson estimates that 80% of the work in his area is reroofing.

Carlson views reroofing as exciting and challenging, and it clearly has given him some added exposure to the industry. He has been called to examine roofs in Florida and South Carolina, and is preparing for a job at the Strong Castle in Oregon, Illinois. "If I were in new construction, when would I get to work on a real castle?" he asks.

Reroofing, says Carlson, is also more demanding than new work. The reroofing contractor provides the materials, has the men to drive the truck, issues the guarantee—in short, does all the work. "Few people can do the analyses and make good recommendations. The customers depend on you to decide what should be done and to give them the conditions, recommendations, and specifications to complete the job."

But all the work has its rewards. Carlson notes, "The big advantage of doing al the work yourself is job satisfaction. When all the preparation and specs are done yourself, you will more than likely get the job. Also, when you do the work yourself, you work closely with the customer and are appreciated more. You hear more compliments than complaints.

"Reroofing does mean a lot of preparation. The contractor also is counted on for budgeting, pricing, maintenance, accounting. Even the professionals, like architects and consultants, rely on us for their information."

Bright future. Carlson is optimistic about the continued growth of Roofing Systems, Inc. The single-ply system, he maintains, will eliminate most of the problems associated with conventional roofs. Also, he adds, "The single-ply system is a technical application, but one that is simpler to apply. There is no need for extra labor or heavy equipment. And the single-ply system is also safer to apply than hot roofing."

Still, in the end it's people. "Today it's changed," he concludes. "We can get good people, well trained, college-level people, to make a career in roofing."

New products, new people, new risks, and a "rambunctious spirit"—it's a formula that seems to be working for one of the industry's bright young faces.

RIEI To Offer Two-Day Seminar

The Roofing Industry Educational Institute (RIEI) has developed a two-day seminar on maintenance methods, visual and instrumental survey techniques, diagnosis of common roof problems and roof repair.

The roof inspection, diagnosis and repair seminar is an intensive course designed to improve membrane roof inspection techniques and to assist the contractor, owner and architect to reach a repair conclusion that will enhance the life of the structure.

The first seminar wil be held in Denver, Colorado, October 7-8 at the Writers' Manor.

Whether the roofing system consists of bitumen and felt construction or the recently developed non-conventional materials, it will require periodic inspection and, to various degrees, regular maintenance.

This course is designed to assist those with a professional responsibility for these roofing systems to establish effective roof inspection programs, to make accurate diagnosis of problems when they occur, and to take cost-effective corrective measures when neeeded. The course is intended to be a practical experience such that a participant will be able to put the acquired knowledge to use at once.

The seminar answers many commonly asked questions, such as:

- Should a roof be repaired or replaced?
- What percent of the total roof area has moisture-laden insulation?
- Can roof vents cure a blistered roof or dry out wet insulation?
- How do the new non-destructive devices work and when should they be used?
- What options are available in making repairs?
- When should a roof be recoated or reimpregnated?
- How should an effective preventative maintenance program be set up?

CURRICULUM

INSPECTION AND DIAGNOSIS

The first segment of the seminar is devoted to exploration of techniques for detecting, isolating, and analyzing problems affecting the roofing system. These include visual inspections, roof cuts and non-destructive evaluations.

The three principal methods of non-destructive evaluation: capacitance, nuclear, and thermographic, are examined in detail, including:

- Physical Principles
- Equipment Employed
- Techniques of Equipment Usage
- Interpretation of Results

The data from the different inspection methods are correlated

to arrive at a conclusion of the roof condition. This includes the decision process which determines whether to repair (and to what extent) or to replace the roof.

CORRECTIVE MEASURES

The next segment covers measures which may be taken to correct conditions found. It covers repair methods and maintenance materials used for everything from simple puncture problems to major replacement.

WORKSHOP SESSION

Following the general sessions just described, attendees are divided into small workshop groups, each of which is given a problem to solve. Data for a different specific structure are furnished to each group, along with the building's history and that of its roof, maintenance history, results of surveys, problems which have been identified, etc. Each group is then required to produce what it believes to be the best solution for its particular structure's problems. Solutions are in the form of detailed recommendation, not generalities, and often alternative solutions are offered.

GROUP DISCUSSION

On the last morning of the seminar the group solutions are presented briefly by each group, followed by a general, open discussion of the workshop solutions. Staff comment on the workshop solutions and on other aspects of problem-solving also takes place at this time. Each attendee will be given copies of all problems and "solutions" at the conclusion of the discussions.

FEES AND EXPENSES

The seminar fee is $275. This reflects the cost of maintaining RIEI on a self-sustaining but non-profit basis. It covers all course materials and reference materials distributed at the session. It also includes refreshments and meals for the full day.

The fee does not include hotel accommodations, nor transportation to and from the seminar location in Denver, Colorado. Whenever possible, RIEI will hold a block of reduced rate rooms at the hotel facility until 30 days prior to the seminar date. Attendees should make their own arrangements and reservations as soon as possible. Be sure to inform the hotel that you are attending the RIEI Seminar to qualify for the preferred rate.

ENROLLMENT

Applications for enrollment, class schedules, fee schedules, and other details may be obtained by writing directly to:

Susan E. Mathews, Coordinator
The Roofing Industry Educational Institute
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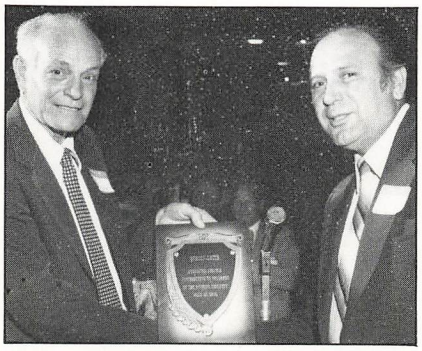
News from affiliates

Detroit

It is a rare roofing apprenticeship graduation banquet that doesn't yield one or two special moments.

This year's June 1980 class of 23 new journeymen provided a first. A father and son, John Taylor, Sr. and Jr., were upgraded to journeymen following completion of their three-year apprenticeship program.



Alex Bodnariuk (right) JAC Secretary and Business Manager Local 149 shown presenting Mervin E. (Smitty) Smith plaque for 43 years of service to the Industry and the Union.

Both men are employed by P. F. LaDuke & Son Roofing and Sheet Metal Co. throughout their apprenticeship.

A second bright spot was a surprise, and "long overdue" honoring of Mervin E. Smith, executive secretary of the Roofing Industry Promotion Fund, for his 43 years in the roofing industry.

Smith received a standing ovation from apprentices and guests as JAC board trustee Phil F. LaDuke presented a plaque recognizing him as "dedicated to progress in the industry."

Smith began his career with Local 149 in 1937. He held the posts of trustee, recording secretary, vice-president and president before elected as business manager in 1951.

During the later '50's, Smith helped put new life into a dormant apprenticeship program, which has evolved into the current, highly respected program. His final term of office ended in 1967, after which he worked briefly with the tools until joining the RIPF as a field representative.

Smith was named 10th vice-president of the International in 1957; when he resigned in 1966 he left as 5th vice-president. Currently, Smith is also executive director of the Michigan Roofing Contractors Association.

(Left to right) Wm. Davis, JAC Employer Representative, James Corwin, Union JAC Member, Jonathon Maule, Runner Up Apprentice, Mark Schlickenmeyer, Outstanding Apprentice, Tom Flynn, U.S. Bureau of Apprentice Training Supervisor, and Alex Bodnariuk JAC Secetary.

Carolinas

The Carolinas Roofing & Sheet Metal Contractors Association has just completed it's thirty-seventh Annual Summer Convention. This year's convention was held at the Hyatt on Hilton Head Island, S.C. With some 300 people in attendance, it was one of their most successful meetings in recent years. One of the highlights of the meeting was the election of officers to lead the Association in 1981. Roger Parker, Pelham Roofing & Sheet Metal Works, Charleston, S.C. was elected president; Bill Hamlin, Jr., Hamlin Companies, Garner, N.C. first vice president; and Richard Watts, Fort Roofing of Columbia, Columbia, S.C., second vice president.

At the annual banquet the Association honored one of its members for outstanding service to the industry. The 1980 recipient of the Gordon M. Waters Distinguished Service Award was Julian M. McKeithan, President of Hanover Iron Works, Wilmington, N.C. Mr. McKeithan was honored for many years of service to the roofing and sheet metal industry in the Carolinas. The Gordon M. Waters Distinguished Service Award is the highest honor within the industry in the Carolinas and is named for the first recipient of that award.

Florida

The ideal chance to combine business and pleasure is coming up. FRSA is sponsoring an educational seminar on a cruise ship. The date will be December 5, 1980 and the subject will be roofing litigation.

Attorney LeBron Free, formerly on the legal staff of Celotex, and now in private practice, will explain the ins and outs of litigation affecting roofing contractors. How to avoid litigation, what to do if sued, and common areas of difficulty will be covered.

The seminar will be conducted in two sessions. The first will be on Friday evening and the second on the return trip Sunday night. Any questions should be directed to the FRSA offices, (305) 671-9232.

FRSA installed Jim Falkner, CPRC, Falkner Inc., Orland, as its 1980-81 President, at its recent convention. Falkner succeeds G. W. "Bill" Tucker, CPRC, who will serve as Chairman of the Board. Also installed at

continued

the Convention's Annual Banquet were the other officers for the year: President-elect, Milton E. "Eddie" Thompson, Milton E. Thompson & Sons, Hialeah; Vice President, Joe Rutkoski, Giffen Rfg. Co., Tampa; and Secretary-Treasurer, Don Springer, Florida Sheet Metal, Lakeland.

At the same convention, FRSA accorded its highest honor to Les Gory, General Sales Manager of Gory Associated Industries, Miami. The Bob Campanella Memorial Award, presented annually, honors that person who has contributed the most to the association and to the industries represented by the organization.

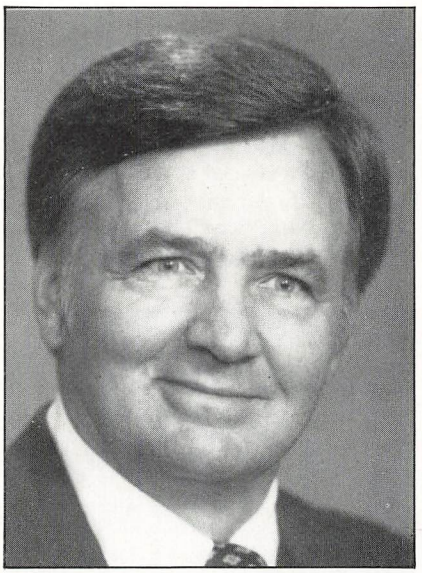
Bob Hightower, president of the Pinellas County Roofing & Sheet Metal Contractors Association cited Gory's efforts in membership development, committee work, and convention activities in making the presentation.

Gory is the first non-contractor ever to win the award. He served on the Board of Directors, the education and governmental affairs committees, chaired the Convention Tennis tournament, and served on the Trade Show Exhibitor's committee. The youngest Campanella Award winner ever, he signed up more than half of FRSA's new members during the last year.

Minnesota

Gerald G. Ramsdell, CAE, 48, of Minnetonka has been elected President of the Minnesota Society of Association Executives (MSAE).

The MSAE is a statewide organization of some 250 trade/professional/business/public service oriented associations whose purpose is continued professional education and advancement for its member executives.



Gerald (Jerry) G. Ramsdell, CAE

MSAE looks after the concerns of all trade/professional associations and organizations in the state in terms of public policy development, as well as relationships with the various industries with which it comes in contact.

Ramsdell, who has served in numerous local, state and national associations and organizations, is Executive Director of SMARCA, the Sheet Metal, Air Conditioning and Roofing Contractors Association of Minnesota, Inc. SMARCA offices are in Minneapolis.

Virginia

The 1980 Annual Summer Convention and Annual Meeting of the Virginia Roofing Contractors Association is now a happy memory.

Elected to office at the meeting were: President, Thomas H. Price, Price Rfg. and Sheet Metal Corp., Springfield, Va.; 1st Vice President Jerold W. Evans, Jerold W. Evans Rfg., Inc., Richmond, Va.; 2nd Vice President, J. Dudley Miles, III, J. D. Miles & Sons, Inc., Chesapeake, Va.; Secretary-Treasurer, George E. Gheen, Quality Rfg. Co., Inc., Manassas, Va.

"Outstanding Roofer of the Year" award was given to Past President, Mr. Millard Lemon, Whitley Roofing Company, Richmond, Va.

Cold Process: Is It Mis-used?

by Burton Karp and the staff of Eagle Moisture Protection Corp.

The 1960s and 1970s have witnessed the emergence of a multitude of new products, systems, equipment, and philosophies in the roofing industry. This is not an entirely new phenomena as new innovations were proposed in the 1950s; but, not of the same magnitude and scope as now confronts the roofing industry. What has prompted this influx of new ideas and initiated this desire for change?

The answer to this question, briefly stated, is that for various reasons many practices in the roofing industry have created an atmosphere prime for new ideas and systems. Unquestionably, the competitive nature of the industry lends itself to this situation. A great many of these new roofing systems and products have been thrust upon us untried and unproven. This paper will discuss only one of these concepts; that referred to as "resaturation."

Resaturation has a history dating back over 50 years, and initially was conceived to be a maintenance product generally applied by a plant or institutional maintenance crew. However, within the last decade, resaturation has been the forerunner of the "Cold Process Bug" that has enveloped the roofing industry. In a recent survey taken by RSI Magazine (Roofing, Siding & Insulation), 55% of the roofing contractors contacted envisioned a promising future for cold process systems; and 36% of those contractors contacted are already actively engaged in cold process applications. This survey revealed a complete turn-about from traditional thinking on the part of contractors who formerly looked down upon what they considered "shoddy sales techniques" and condemned the manufacturers for selling directly to the industrial community.

The reasons behind the sudden emergence of cold process, and resaturation in particular, are several. One major reason is the economic climate. A combination of inflation and recession has caused business and industry to cut their expenditures wherever possible. Many plant engineers are operating under the premise of keeping their roofs watertight until budget money becomes available. This philosophy has had several repercussions. New products are continually unleashed on the market promising "Magic In A Can" type solutions to complex problems. In addition, a condition of "Me-Too-Ism" has pervaded the roofing market. Many manufacturers have marketed materials supposedly equal in chemical make-up and performance to those of their competitors. Too many contractors; unfortunately, faced with loss of business and encumbered by financial stress; have joined in the melee, utilizing new materials and methods indiscriminately. Hopefully, the current economic upswing will continue, and industry leaders will once again seek long term well-planned solutions to their roofing problems.

A second reason behind the emergence of resaturants has been lower labor costs. Many contractors were able to substantially reduce overhead by utilizing untrained personnel. In line with lower labor costs came a reduction in equipment costs. Tankers, kettles, etc. were not needed. Basically, a contractor was able to open a shop with a broom, a squeegie, and a five-gallon can. However, as resaturant jobs became larger, more prevalent, and more competitive, sophisticated equipment again became necessary, and better trained labor (and more expensive labor) became mandatory.

A third reason, and the one considered by some manufacturers of resaturants to be their most effective marketing tool, was the elimination of pollution problems by the use of cold process systems. During the 1960s and early 1970s this argument has had tremendous impact, and is, of course, of national importance. Initially, as mentioned above, the kettles and tankers were eliminated. However, with the increase in both number and size of cold process applications, contractors have reverted back to the use of kettles and tankers to heat the materials and pump them to the roof. Although this may increase the economic efficiency of the application, the same polluting problems occur as in conventional roofing.

OSHA has cited a number of contractors for use of coal tar pitch and asphalts which emit volatiles and fumes the claim are dangerous to an individual's health. However, tar and asphalt based resaturants, even when not heated, emit the same volatiles, and will cause the same health hazards to the roofers. Another factor to consider is that resaturants require approximately six months curing time, thereby subjecting roof top unit mechanics to the hazardous vapors.

The fourth reason has been a booming roof maintenance market. Building owners have become very conscious of their roofs. This owner awareness has probably been both the greatest contribution, and at the same time, the greatest detriment contributed by the cold process industry. Unquestionably, direct sales to industry has been the primary motivating factor in creating owner awareness of his roofing problems. In fact, many astute contractors have adopted this approach. However, at the same time, owners have been given much mis-information, and presented with solutions not always to their advantage.

Second, the recession has drastically reduced the amount of new construction business available from which contractors traditionally obtained the majority of their business. Therefore, contractors have turned to re-roofing as their primary source of business. Resaturation and coating type systems have allowed many of these roofers to obtain contracts in a highly competitive market.

The impact of the cold process phenomena has been tremendous. The roofing market place has been deluged with new products and systems. It is impossible for the building owners, the engineers, the architects, and the roofing contractors to keep fully abreast and knowledgeable of all these innovations. Accompanying all these new products are a phalanx of salesmen, each naturally advocating his materials. Many of these salesmen are handed a catalogue and told to "Go Sell." Unfortunately, too many of them have no background in roofing, have not undergone any extensive training program, and in fact, are completely unfamiliar with the technical aspects of roofing.

Along with the new products came all the new equipment to apply the products. Some of this equipment is adaptable to conventional roofing as well as cold process. Other types of equipment have been designed for particular applications. As a result, a contractor who has spent thousands of dollars on a piece of machinery wants to make damn sure he gets full value from his investment.

Competitive bidding has always been advantageous to the owner, the architect, the engineer, and the contractor. However, for bidding to be truly competitive, the submitting parties must quote "apples to apples." This not only includes specifications dealing with systems and design, but

continued

also specifications dealing with materials. With the advent of all the new systems, situations arise whereby six bidding contractors may each be quoting on six different systems, each providing different results and having different life expectancies. Imagine the confusion of the building owner when faced with this situation.

Some important factors for the building owner, the engineer, the architect, and the roofing contractor to consider regarding the use of resaturants are: (1) What is its chemical make-up; (2) What is its track record; (3) Under what conditions should it be applied; (4) Under what conditions should it not be applied; and (5) What is its comparative cost as opposed to conventional roofing?

The first factor, the chemical make-up of resaturants, differs from manufacturer to manufacturer. Due to patents and competition, it is difficult to obtain a precise chemical analysis. However, owners and users should be made aware of what is being applied to their roofs; and whether it is compatible with their existing assembly or whether it will cause any adverse reaction to their roofs.

As a result of discussions with several manufacturers, we were able to obtain some information regarding the make-up of resaturants. Generally, resaturants consist of tar or asphalt bitumen, penetrating oils, asbestos fibers, rust inhibiting chromates, plasticizers, and solvents. These elements exist in varying proportions in most resaturants. Because of the volatiles involved, the proportions are of primary importance as any type of negative reaction can be very harmful to the roofing system. Additionally, substances like penetrating oils can be very confusing. Will the resaturant penetrate the various plies of membrane and if so, through how many plies? Will any chemical reaction occur? And in fact, what is a penetrating oil? The penetrating factors regarding resaturants is the most important item to consider, since resaturants were specifically designed to rejuvenate roofs through the process of membrane penetration. Therefore, the degree of penetration and the resultant reactions are of vital importance. The question arises as to whether penetration will cause the plies to delaminate and the bitumen to dissolve.

The track record of resaturants also differs from manufacturer to manufacturer. Once again, differences of opinion and experience exist within the same manufacturer. As mentioned above, resaturants initally arrived in the roofing industry some fifty years ago, although the majority of manufacturers have entered the field within the last decade. As a result, many of the resaturants which have undergone simulated weathering tests have in actuality been in field use for less than ten years. This can, in no way, constitute a proven record. Additionally, will the resaturants utilized to refurbish the materials used in 1930 and 1940 type roofing construction also effectively refurbish 1960 and 1970 type roofing construction?

There is no doubt that resaturants have been successful in certain particular applications. However, what conditions existed prior to its application, and did its installation actually prevent further deterioration of the roof and extend its life significantly? These questions have not been answered satisfactorily. It is not our intention in this article to denounce resaturants or the entire cold process industry. However, there are many unanswered questions which should be considered regarding their application. Although the use of resaturants dates back a good many years, the full thrust is relatively

new and untested.

When should resaturants be recommended? Until questions regarding chemical compatibility of resaturants with built-up roofing can be determined both through laboratory analysis and the test of time, careful judgements should be exercised. Generally, manufacturers have recommended the use of resaturants in two areas. The first area is utilizing resaturants as a second flood coat on reroofing projects which involve facilities that pond water for cooling purposes. In this instance, the resaturant is substituted for bitumen in the second flood coat and gravelling operation which is often required on ponded roofs. It should be mentioned, however, that this necessitates a change in application procedures, and will raise the cost substantially.

Additionally, in a new well-designed roofing system, the "penetrating" qualities of the resaturant will be ineffective. Discussions with a leading manufacturer of roofing materials further revealed that this would not constitute a bondable roofing system.

The second area where resaturants apparently have performed successfully is on roofs that were well designed, well installed, and in good condition. Naturally, the question arises as to whether any remedial work was necessary beyond localized repairs. However, on a coal tar pitch roofing system exhibiting minor delamination between the top two plies of membrane, particular resaturants have performed well, although to reiterate, the evidence is still inconclusive regarding both the long term performance of resaturants and its physical and chemical compatibility with the existing roofing assembly. It has been our experience that asphalt resaturants lack penetrating qualities of any significant degree. incidentally, this viewpoint is shared by many manufacturers of resaturants as well.

It should also be noted that resaturants themselves do not stop leaks. In fact, the manufacturers specify that all defective areas shall be repaired prior to the application of the resaturant. This is naturally a limiting factor in the use of resaturants as more repairs will increase the cost of the system. This can lead to several areas of concern. One, the contractor may neglect to repair the roof adequately; or two, he may apply the resaturant at less than the recommended rate thereby rendering it ineffective.

Without doubt, the greatest detriment regarding resaturants is the plain fact that they have been misused. This is a concern not only of architects, engineers, and contractors, but also of the manufacturers. This misuse has given not only resaturants, but the entire roofing industry a black-eye.

Salesmen selling resaturants are often inadequately trained and lack sufficient knowledge in the roofing industry. Since many of the resaturant salesmen sell directly to industry owners, there is no check on their recommendations by a knowledgeable individual. This is a particularly dangerous situation as the material representative has often established himself as the specifying authority.

Salesmen are also generally paid on a commission basis causing them to overspecify their materials and to recommend them in incorrect situations. Even the well intentioned salesman is financially compelled to over-use and over-specify his product. As of late the ramifications of much of this misuse has come to light. Asphalt resaturants have been applied over coal tar pitch roofs (and vice versa). Resaturants have been installed over systems

continued

with wet and deteriorated insulation. Resaturants have been applied over inadequately fastened roofing assemblies. And, resaturants have been installed over membranes so deteriorated that no amount of repairs could correct the condition. It is apparent that not nearly enough investigation is done to determine the cause of the roof failure.

Contributing to the misuse of resaturants is the contractor who also does not investigate the roof properly. Additionally, he will often improperly apply the resaturant to increase his profit margin. Improper application of any roofing system, be it resaturation or conventional roofing, not only casts a blemish on the entire roofing industry, but abuses the trust the building owner places in the contractor.

Another problem in the use of resaturants involves specification writing. A representative for a manufacturer cannot objectively write a specification to be quoted upon in a public bid situation. Obviously, he wants his materials used. Therefore, he specifies proprietary materials which may in no way benefit the owner and may greatly increase the cost of the project. Secondly, the competiveness of the situation often forces the salesman to negotiate lower material prices with a "friendly contractor." Compounding the inequities in public bid situations are the manufacturers, who convince a contractor to bid the specifications utilizing their materials. This is dangerous and risky as they are dependent upon their competitor's analysis of the roof. Who will assume responsibility if the diagnosis is incorrect?

In the same vein as specification bias, is consultant bias. The manufacturer's representative will develop specifications to be quoted upon by several competent contractors. However, though the bidding format may be impartial, the specifications are not. Naturally, the representative will specify his company's systems regardless of whether they will truly solve the problems. Adding to this, as discussed several times, the representative is not always properly trained in roofing to be able to serve as a consultant. Additionally, it is important to note that the material salesman carries no professional liability insurance, therefore the account is completely unprotected should the system fail.

The comparative costs between resaturation and reroofing is another factor which should be considered by the building owner when determining which system will be most effective. Generally, the cost of a resaturant job is only slightly lower than that of roof replacement, and its anticipated life expectancy is considerably shorter. Therefore, the savings of a few dollars today may result in twice the expenditure in the near future. It has been our experience that on particular projects, the cost of resaturation has exceeded that of a total roof replacement.

New products and systems arrive on the roofing market every day. We wholly endorse research and evaluation of new systems to improve our industry. However, these systems must be fully tested and caution exercised that they are used correctly. Products and systems must be mastered. Roofers must know what cold process can and cannot do. A tear-off is a tear-off and a repair is a repair. If a job needs a hot roof—and many of today's worn out roofs need just that—don't sell a patch-up panacea. Cold process has an important place in the roofing industry, but must be approached intelligently and honestly.

NRCA Director Burton Karp is president of Eagle Moisture Protection Corp., West Hartford, Conn. Among the many NRCA duties Mr. Karp performs is serving as chairman of the Technical Conferences Committee.

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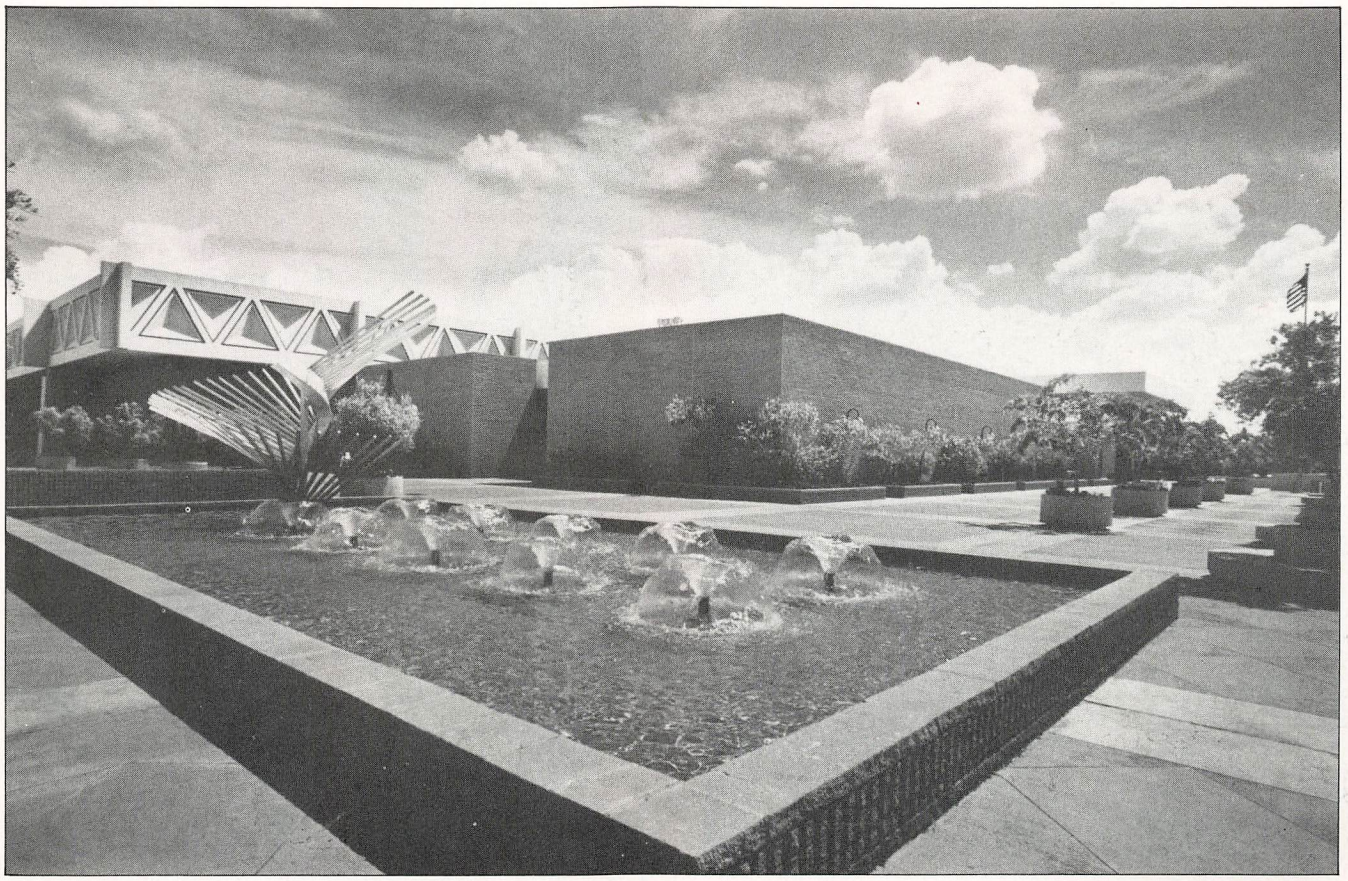
NRCA's 94th Annual Convention & Exhibit



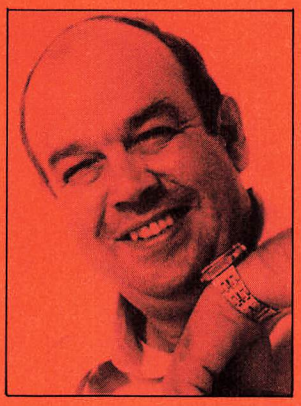
Phoenix Arizona February 10-13, 1981

You Won't Want To Miss

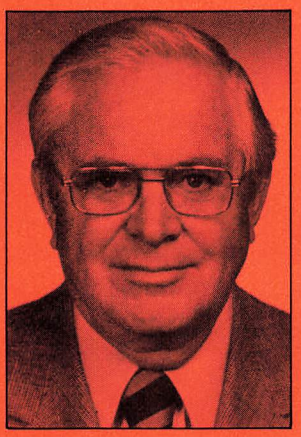
Exhibits

An Exhibit Hall packed with over 300 booths of the latest equipment, products and services available to the roofing industry.

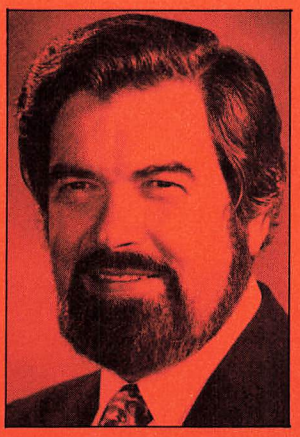
Speakers



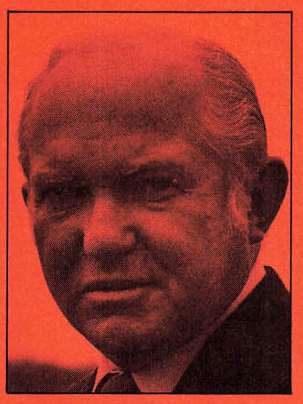
Charles Kuralt, star of "On the Road" television program, will present the Keynote Address, "America Behind the Headlines" at the **Opening Lunch.**



Benjamin A. Rogge, Distinguished Professor of Political Economy, Wabash College, Crawfordsville, Ind., will deliver "Can Capitalism Survive?" at the **Member Breakfast.**



Dr. Laurence Peter, author of "The Peter Principle," will present "The Peter Principle or Why Things Always Go Wrong" at the **Awards Lunch.**



Political columnists, **James Kilpatrick** and **Shana Alexander,** will present a point/counterpoint debate during Wednesday's General Session.

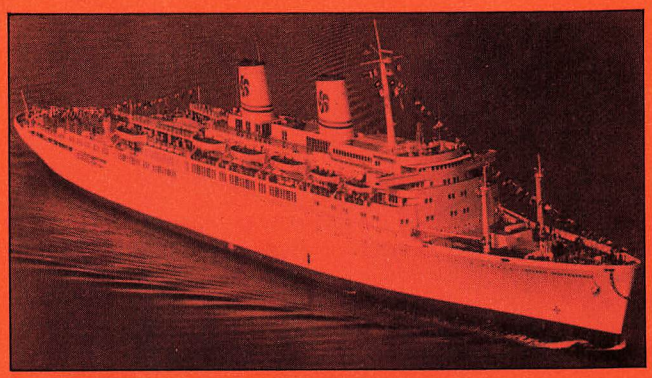
Workshops

Workshops and sessions designed for information sharing and problem solving. Some of the topics will be:
• Estimating Job Costs • Asbestos • Single-ply • How to sell • Architects and Specification Writers: What Do They Expect from the Roofing Contractor • Mediation • The Roofing Industry in Europe as it Relates to the U.S. • Roofing in the Phoenix area • Health • OSHA • Contract Documents • Physical Fitness • Elasto/ Plastics.

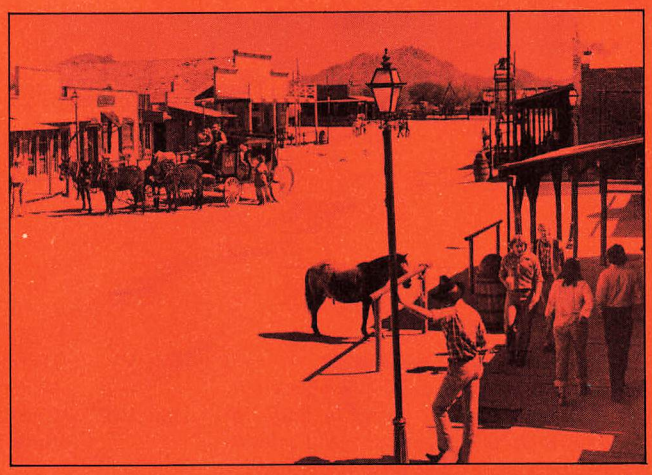
Entertainment

The **Levee Singers,** a Country and Western group, will play at the **Opening Lunch.**

Reconvened Convention



A luxurious cruise of the Hawaiian Islands aboard the SS Oceanic Independence.



An Evening at Rawhide will include a haywagon ride and a cowboy-style cookout in the desert.

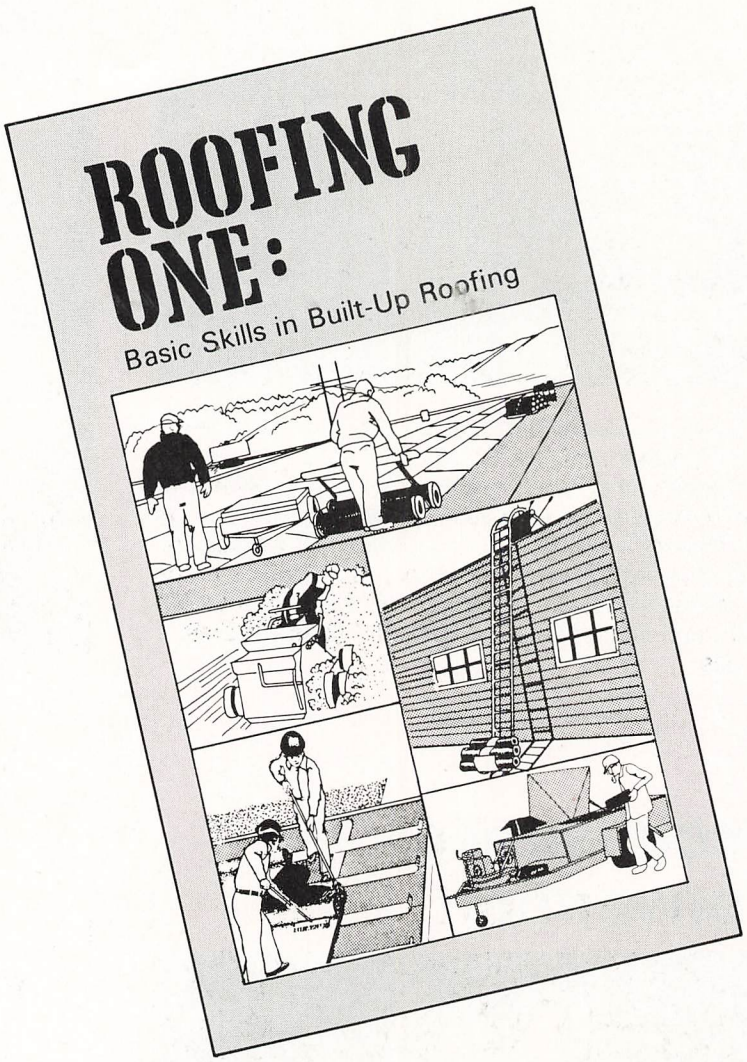
Spouse Program

Letitia Baldrige, head of the White House staff for former First Lady, Jacqueline Kennedy, will present an entertaining talk at a Continental Breakfast.

Also featured will be a luncheon and western-wear fashion show at one of the Phoenix area's loveliest resorts, and shopping at Scottsdale's famous Fifth Avenue Shops.

New Training Manual Available

by David Honaker



Ready for Distribution

Book I of the Apprenticeship Manual, entitled *Roofing I: Basic Skills in Built-Up Roofing*, is in the process of being printed and will be ready for distribution this month. *Roofing I* is a comprehensive text, covering all phases of basic roofing information pertinent to the first year of apprenticeship training. The manual will include separate chapters on each of the following topics:

Section A

Unit I	Occupational Introduction
Unit II	Safety
Unit III	First Aid
Unit IV	Roofs and Roofing Materials
Unit V	Tools and Equipment
Unit VI	Applied Math for Roofers

Section B

Unit I	Introduction to Built-Up Roofing
Unit II	Kettles and Tankers
Unit III	Insulation
Unit IV	Application Techniques
Unit V	Reroofing
Unit VI	Dampproofing and Waterproofing
Unit VII	Checking and Repairing Built-Up Roofs

A series of transparencies has also been developed to illustrate various types of roofing equipment and roofing procedures. The text and transparencies are accompanied by an Instructor's Guide, which offers suggestions and guidelines to instructors for using the materials in *Roofing I*.

According to Bob Krul, National Apprenticeship Coordinator for the United Union of Roofers, Waterproofers and Allied Workers, "*Roofing I* is the most comprehensive apprenticeship training material available anywhere. It covers in great detail all important aspects of an apprentice's first year of training. The manual also has a large number of illustrations, and I think instructors will find the transparencies to be valuable teaching aids."

In speaking of the use of the manual, Krul says, "From the beginning, the manual was never intended to take the place of actual on-the-job training. A single book simply couldn't replace the importance of an apprentice actually performing the various jobs associated with roofing. But the manual will serve to supplement an apprentice's work experience and will provide an apprentice with the basic knowledge of roofing necessary to become a skilled and competent roofing mechanic. In fact, each lesson plan contains suggested activities which are designed to complement the written material in the manual. In the Instructor's Guide, we urge instructors to make a special effort to coordinate the lesson plans with work related activities."

Another valuable part of the manual is the test and answer section. The test questions have been carefully constructed to cover all of the material in each lesson. This removes from the instructor the task of making up tests for each lesson and streamlines the grading of tests, as well.

Tom Harris, one of the Field Coordinators for the National Apprenticeship Program, says of the test and answer section, "With the difficulty that exists in finding

instructors who are both experienced roofers and who have classroom teaching experience, the test and answer part of the manual should help ensure that an instructor, whether he is an experienced roofer or a former teacher, has all of the materials he will need to teach roofing apprenticeship effectively and thoroughly.''

Each apprentice will have his own copy of *Roofing I*. It will be provided in 3-ring binder form so that new material or handouts can be easily inserted into the manual, and each apprentice will be expected to keep his manual for the duration of apprenticeship training.

Evaluating the importance of *Roofing I*, Field Coordinator Brad Raleigh says, ''Obviously, no one can become a good roofer merely by reading a book; actual working experience is the best teacher, but we want roofers to be aware of things like safety and various application techniques so that when they go out on a job, they will have already been exposed to information on how things are done. This will speed up the actual learning of a job and will cut down on costly and often times dangerous mistakes.''

MAVCC

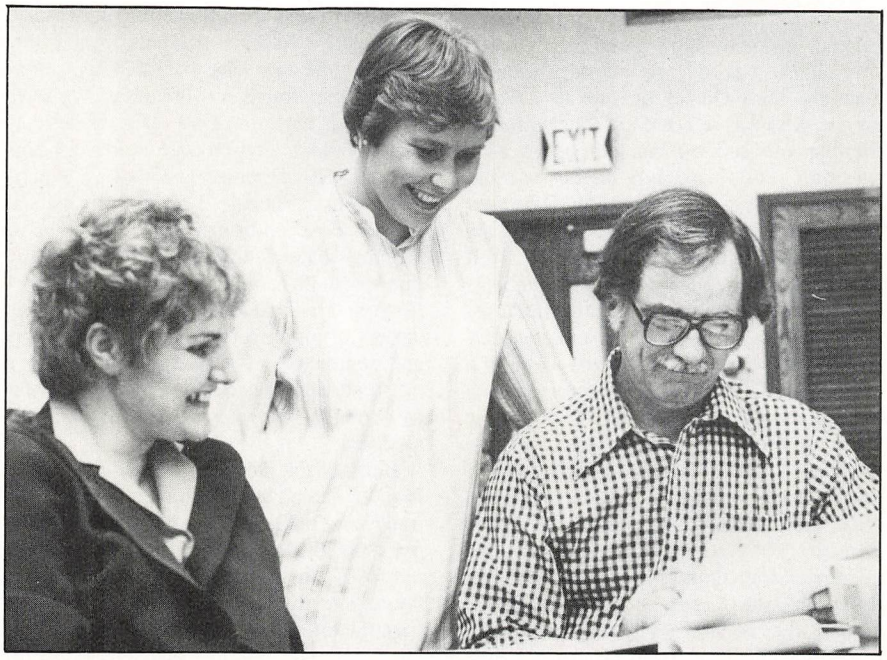
Roofing I was prepared by Mid America Vocational Curriculum Consortium (MAVCC), a non-profit organization located in Stillwater, Oklahoma, which specializes in producing industrial training manuals. Dick Dorsey of Spokane, Washington, who was selected to be the writer for *Roofing I* based on his experience as a foreman and superintendent, worked closely with the staff of MAVCC at their headquarters in Oklahoma to produce the manual. Dorsey and the MAVCC staff worked together intensively for four months developing the lesson plans, illustrations, tables, charts, test questions and transparencies for the manual. The production of a 400 page training manual can prove to be a very time consuming venture. That *Roofing I* was produced in four months is a credit to the very capable, highly trained staff of professionals working at MAVCC. Both NRCA and the Union communicated to Ann Benson, MAVCC's Project Director, the great need for a thorough training manual in order to start apprenticeship programs around the country. The MAVCC staff responded in what can only be termed ''First Class Style''!

Most Up-to-Date Training Manual

Commenting on the manual, Benson says, ''To be sure that *Roofing I* would be as complete and thorough as possible, we used the roofer's training manuals from California and Miami Valley of Ohio, as well as various manufacturers' literature. We were also fortunate to have Mr. Dorsey serve as the technical advisor and writer for this manual. His expertise and roofing experience were invaluable. I believe this manual is the most up-to-date and comprehsive training manual developed in the roofing industry to this point. One of the strengths of *Roofing I* is that it received such a wide variety of input from existing texts, roofers and contractors. The overall product has a greater degree of accuracy and thoroughness by virtue of the wide variety of input we received.''

Benson concluded by saying, ''We would like to extend our gratitude to the other trades and publications which allowed us to use their illustrations in the development of our own illustrations. We endeavored to coordinate the material in *Roofing I* with manufacturers' materials and other reference materials. We feel that a very positive relationship has been established between MAVCC and the roofing industry, and we look forward to working with the roofers again soon on the development of *Roofing II*.''

continued



Project Coordinator Regina Decker, Project Director Ann Benson, and Technical Writer Dan Fulkerson review pages from the new apprenticeship manual.

Teaches Apprentices WHY as Well as How

Dan Fulkerson is a technical writer, a profession requiring an innate curiosity about things that go "bump" in the day, a great deal of patience and an ability to put complex technical concepts and practices into plain English. He has helped write and edit several other manuals for MAVCC. He worked directly with Dick Dorsey to develop the body of written material, test questions, diagrams and charts in the manual.

In speaking of his work on the manual, Fulkerson says, "On other manuals I have worked with people who had extensive educational backgrounds. I found working with a journeyman roofer who has actual field expertise to be just as effective, without question, as working with any other writer. One of the advantages of working with a journeyman roofer, in this case, is that the elements of roofing safety are more clearly correlated with the content of the rest of the manual. Also, the training materials are presented with enough theory and rationale that they provide information beyond that which an apprentice would normally need to know. By virtue of the amount of roofing theory included in the text, an apprentice will understand WHY he is following a particular procedure, and we feel this will improve an apprentice's overal performance on the job."

Fulkerson concluded by saying, "The manual was developed around two premises. First, the roofing industry is a target industry for OSHA. Second, a recent poll reported that 38% of roof failures are blamed on poor workmanship. We have endeavored to produce a manual that will emphasize the importance of safety in roofing and will provide training materials thorough enough for any instructor to teach a comprehensive classroom course in basic roofing techniques and procedures."

Project Coordinator Regina Decker worked with Don Fulkerson and Dick Dorsey to see that their material fit the format of and was detailed in accordance with the standards MAVCC uses for training manuals. She reviewed the text material and test questions to see that the material was of such a nature that students could master the performance requirements of the tests.

Decker represented MAVCC along with Dan Fulkerson at the Resource Panel review of the manual. She conducted the review and discussion of the material and incorporated the changes and additions made by the Resource Panel into the final copy of the manual.

Of the manual, Decker says, "I feel that NRCA and the Union worked together very professionally and very cooperatively in the production of *Roofing I*. It's one of the best manuals we've done, and we feel that the input we received from members of both groups made for a better manual than would otherwise have been possible."

The new manual's writer, Dick Dorsey, at his desk at MAVCC headquarters.

The Writer—Dick Dorsey

To select a writer for the manual, members of the Union Apprenticeship Program and members of NRCA's Apprenticeship Committee submitted names of those individuals they felt were qualified to serve as the writer for *Roofing I*. Dick Dorsey, a former roofer, kettleman, foreman and superintendent with 27 years of roofing experience (17 years of which were spent as a foreman), was selected as the writer for the manual.

In speaking of his work on the manual, Dorsey says, "To produce the book, we first researched all existing apprenticeship material. The main problem we encountered was the lack of material available to apprentices. This was when I personally real-

ized the importance of developing one complete and very detailed volume of material which could be used by all apprenticeship programs; a manual that would cover the basic principles of all aspects of an apprentice's first year of training. We put together *Roofing I* under the premise of providing all the informtion a first year apprentice would need to know in a form that would be easy to understand.

"I worked closely with Dan Fulkerson at MAVCC in Oklahoma to put the body of information together, including the test questions, illustrations and transparencies. Dan and I would first research the existing apprenticeship materials, and then I would fill in the material with information I have gained in my personal work experience. We then discussed this material and edited it according to MAVCC's standard format for industrial manuals. Most of the information in the manual is based on my personal experience with, of course, additional input from the Resource Panel. I must give a great deal of credit to Dan for his writing ability. I'm a roofer first and a writer second, and Dan did a terrific job of putting much of my information in a simplified style consistent with MAVCC's format."

Dorsey also put the illustrations together by working with MAVCC's staff artists. As he says, "I would talk to the Vocational Technology Department artists about each illustration, telling them what should be in the drawing, and sometimes I would provide them with a rough sketch I had drawn. They would then render a drawing for me and call me in to approve it or add other details, depending on what was needed. After we approved a drawing, the artist would render it in final form for the printer."

The manual was developed around the premise of providing training materials that could be taught by anyone involved in an apprenticeship program and that could be understood easily by apprentices. "My own personal premise," says Dorsey, "was to produce training materials that I could use personally to teach a successful course in roofing to first year apprentices." Dorsey plans to uses *Roofing I* to teach his own apprenticeship training course this year.

In summing up his experiences as the writer for *Roofing I*, Dorsey says, "I give praise to the MAVCC staff with whom I worked. I have never worked with a greater, more helpful, more beautiful group of people in my life. They were a joy to work with. Six months ago I couldn't even spell 'author.' Now I are one!"

In recognition of a job well done, NRCA extends its thanks to the following members of MAVCC who helped in the production of the manual:

Staff: Steve Franks, Mary Park and Janet Wilkey.

Assistants: Wendy Rodebaugh, Teddi Cox, Esther Randall, Lin Thurston, Bill Dunn and Jon Dickey.

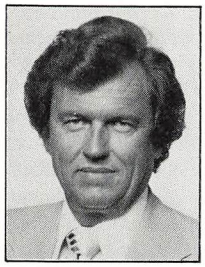
Cooperation a Key

The production of a national training manual for apprentices in the roofing trade, is, to be sure, a significant accomplishment; one that is, perhaps, long overdue. What was especially gratifying to those involved in the production of *Roofing I* was the fine spirit of cooperation that prevailed.

Union President Roy Johnson and then-NRCA President Tom Manson deserve recognition for their efforts in getting the program underway. In just one year, the National Joint Apprenticeship Program has instituted 12 new apprenticeship programs, brought in 325 new apprentices, and produced a new training manual.

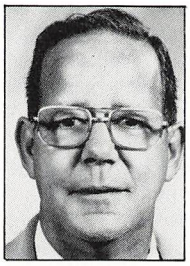
How to Order

Roofing I: Basic Skills in Built-Up Roofing may be obtained from NRCA at $20.00 per copy. This price includes postage and handling charges. To order copies of the manual, simply fill in the gray order blank in the back of this issue and mail the order blank and a check to NRCA Headquarters, 1515 N. Harlem Ave., Oak Park, Illinois 60302.

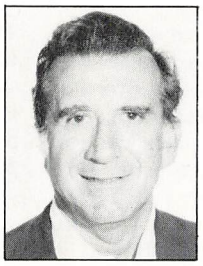


John Carruth

Nicholas Detorie, Jr.

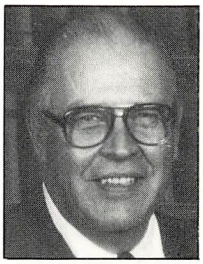


A. B. Hall

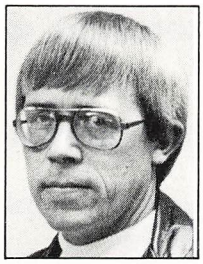


Joe Halperin

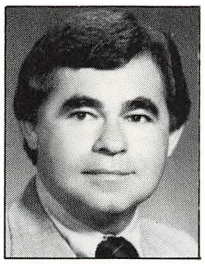
Aiming For 2000



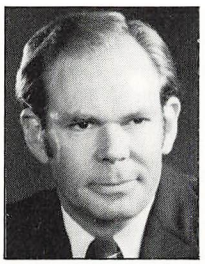
John Hamilton



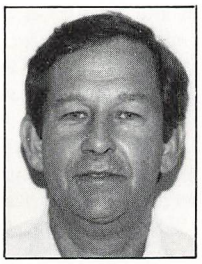
Harlan Hansen



Burton Karp



Bill Kugler



William D. Livengood

At this year's mid-year meeting of the Membership Committee, Chairman Wayne Mullis stated, "Membership is of key importance to this organization. We're close to the two thousand mark, and with an intensive effort this year, we should not only meet our goal but also surpass it by a good margin." Charlie Raymond, a Past President of NRCA (1974) and one of NRCA's most active recruiters, reinforced Mullis's comments by adding, "Without members we wouldn't be an association, and the more members we get, the more benefits and services we can offer our members and the more effectiveness we'll have in working to improve the industry."

The push is on in 1980 for more new members than ever before. Mullis has stated that he wants to see NRCA's membership increase by 300 new members. As he says, "That's obviously an ambitious goal, but I'm convinced that with determination, hard work and some new programs, we can reach it."

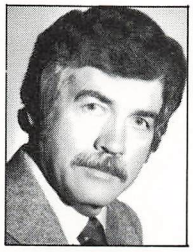
The 2000 Club

At mid-year meetings in July of 1979, the NRCA Membership Committee tossed around various ideas for increasing membership. Johnny Zamrzla suggested that a special club be established for NRCA's leading recruiters. He had worked with a similar club in an organization in his area. Membership in the club was considered an honor, and the prestige associated with being inducted into the club encouraged members of the organization to exert extra effort in personally acquiring new members for the organization. Wayne Mullis took the idea a step further by naming the club the NRCA 2000 Club. The name reflects NRCA's goal of attaining 2000 members. To coordinate the club's activities with convention programs, the decision was made to make the club effective retroactive to March 1, 1979.

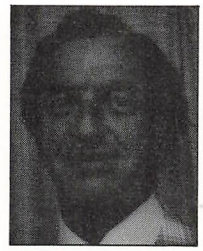
The club's concept is simple. Any NRCA member who signs up five (5) new members within any one year period will be inducted into the 2000 Club. Members of the 2000 Club receive the following benefits:

- **Blazers**—Each member will receive a camel colored, ultra-suede blazer.
- **Lapel Pins**—In addition, each new inductee will receive a specially designed 2000 Club lapel pin. The pin will be a gold plated version of the NRCA logo, with the numbers 2-0-0-0 encircling the top of the logo, and the word "CLUB" encircling the bottom of the logo.
- **Diamond Awards**—When a 2000 Club member brings five more new members into NRCA, his lapel pin will bear a diamond in one of the 0's. When he has brought ten new members into NRCA, his lapel pin will bear diamonds in two of the 0's on the pin. When he has brought twenty new members into NRCA, his lapel pin will bear a diamond in each of the 0's on the pin.
- **Convention Privileges**—At the annual Convention banquet, a specal, free cocktail party will be held for 2000 Club members and their wives in a room adjoining the banquet hall. In addition, club members will enjoy special seating at the banquet in an ideal location and will be recognized by the head table.

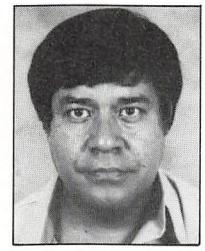
As of March 1, 1979, NRCA had approximately 1700 members. Today,



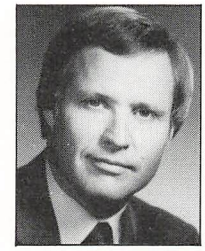
Tom Manson



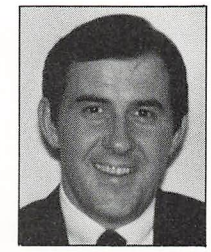
Kenny Marshall



William F. Martin

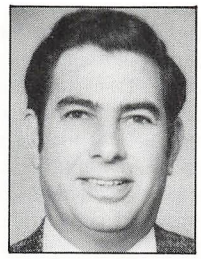


Wayne Mullis

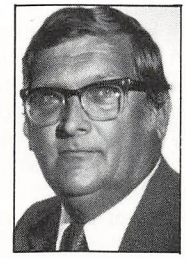


Mike Promen

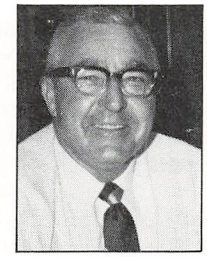
Charlie Raymond



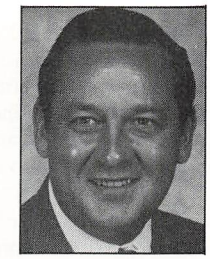
Charles (Bud) Ruff



Joe Rutkoski



Bob Sanders



Dick Willis

NRCA's membership count shows 1900 members. The success of the 2000 Club is revealed by the fact that since March 1, 1979, club members have brought 177 new members into NRCA. In 1980 NRCA hopes to see more of its members get involved in the membership campaign and qualify for inductance into the select 2000 Club, for as NRCA's membership increases, so does its ability to effect change and improvement in the roofing industry.

Phone Days

To zero in on the 2000 mark, another session of Phone Days was held at NRCA headquarters on August 18 and 19. Wayne Mullis, Charlie Raymond, John Carruth, Joe Rutkoski, Gene Scott, Bud Ruff and Steve Krupnik made calls to prospective members all over the country from a bank of telephones at NRCA offices. The results of the Phone Days will be reported in the October ***Roofing Spec.***

Promotional Slide Show

At the recent mid-year meetings, the Membership Committee proposed the development of a special, professional slide program to portray the benefits and services of NRCA. A segment of the program entitled "Who Belongs to NRCA?" will convey the message that membership in NRCA is open to all types of contractors, as well as manufacturers and suppliers. The slide program will also be produced as a 16 mm film. Copies of the slide program and the film will be distributed to members of the 2000 Club to show to non-members in their area. It will also be shown at regional conferences and to affiliate groups and will be available for general use whenever an NRCA member wishes to present NRCA to local non-members. Information on when the program will be available and how copies may be obtained will be published in future issues of the ***Roofing Spec.***

Built-up Roofing Education: A Giant Step Towards Consensus

by Jack Williams

The old cliche that "If you ask five experts the same question, you'll receive five different answers" has often been true in the past in the roofing business. However, a new force, unified education, is now creating a breaktrhough in moving the experts' diverse opinions toward a consensus.

One reason for the historic differences has been the extreme complexity of the roofing business. The roof is a very exposed and vulnerable portion of a building, subject to abuse from many natural forces. It bakes in the sun, is battered by wind and hail, is drenched with rain and melting snow, is subjected to alternating freeze/thaw cycles, rapidly changing temperature extremes, chemical and physical abuse. And it is subjected to these forces in varying degrees, depending on its geographic location.

Another reason for diversity in answers to roofing questions is the industry segment from which the answer comes, and the particular segment's viewpoint toward the roofing industry as a whole.

A third reason for this diversity is economic. As with many other things in life, the answer to a specific problem must often be given in terms of a cost or budget figure, not in terms that do not consider cost.

A fourth, and very vital reason for diversity in the answers given to roofing questions is education, or, rather, the lack of it. Unity in roofing education, in the past, has not existed. Indeed, specific roofing education **per se** has been almost non-existent. I am the president of a fairly substantial roofing contracting concern. I was educated as an architect. In my college career, I received 30 semester **minutes** on the subject of roofing. I received most of my roofing information from manufacturers' representatives, and surely, much of this has been hedged in terms of a fairly narrow viewpoint.

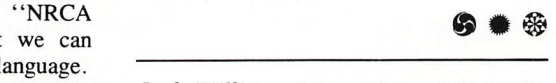
Such education as has been offered has come from **an** industry segment. Yet, architects, engineers, manufacturers, contractors, unions and owners must work closely and cooperatively with each other. While each may have a different phase of the overall problem to solve, and while each may approach the subject differently, the ultimate solution to a roofing situation must represent all views and satisfy all of their diverse requirements. In short, a satisfactory roofing system must be a consensus, not a collection of divergent views.

It is for the reasons listed above that I have been deeply involved with the National Roofing Contractors Association. It is for these reasons that NRCA has published such things as the "Handbook Of Accepted Roofing Knowledge" and the "NRCA Construction Details." At least we can speak and understand a common language.

It is for the same reasons that the NRCA, the major roofing manufacturers and hundreds of other organizations have rallied to support the Roofing Industry Educational Institute. They furnished not only financial support, but their own in-depth knowledge of their own segments of the industry, so that, working together, face to face, we could arrive at a true consensus.

While establishing RIEI and its curriculum, divergent views often had to be reconciled. But as the smoke cleared, it became evident that in such a forum we can reach agreement on roofing concepts. We can clear away old cliches. There are basic principles that we all agree cannot be violated if we wish to achieve qualtiy roofing systems. In this curriculum, we have come as close to consensus as can practically be achieved.

With the Roofing Industry Educational Institute, I believe that we have arrived at a valuable objective and common educational base which can serve the entire roofing industry in all of its diversity. The knowledge which this institution imparts to its attendees will refine and change as our basic knowledge improves, and materials and methods improve. However, I believe that at any given moment, RIEI will dispense the best knowledge that exists at that stage in our industry's history.



Jack Williams is president of Twin City Roofing, Inc., Wahpeton, North Dakota. He serves on the faculty of RIEI, the board of directors of NRCA, and chairs NRCA's Technical Planning Committee.

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MID-YEAR REPORT

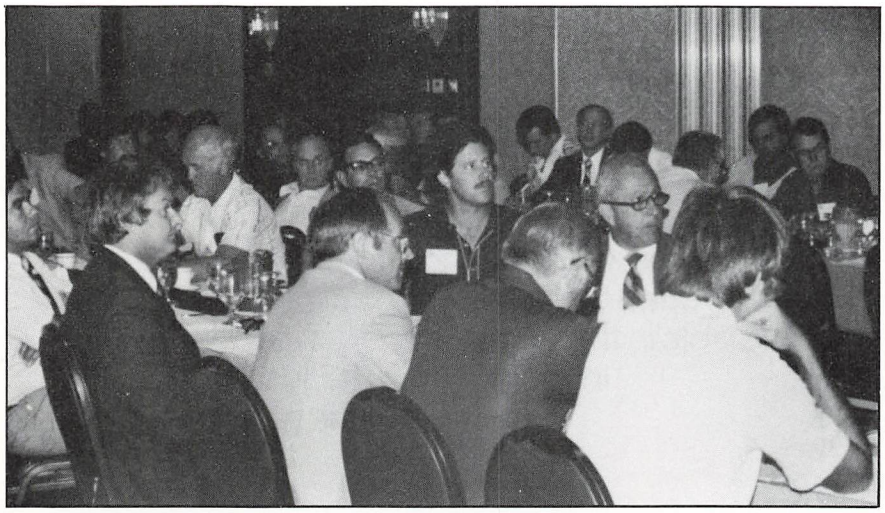
NRCA's 1980 Mid-Year Meeting was held at the Continental Plaza Hotel in Chicago on July 9 through 12. The Board of Directors met for two half day sessions close to 100 committee members met to set direction for NRCA's 39 committees, and the Executive Committee concluded the meeting with a Saturday afternoon session. Following is a brief summary of the highlights of each of the committee meetings.

Education Section. The Apprenticeship Training Committee will continue its working relationship with the United Union of Roofers, Waterproofers and Allied Workers in the National Joint Apprenticeship Program. Gaylord Blue, Blue's Roofing & Insulation, Sunnyvale, Calif., Chris Cronin, Knickerbocker Roofing & Paving, Harvey, Ill., and Tom Brown, Wright-Brown Roofing Co., Detroit, Mich. will serve as voting representatives for NRCA.

The committee also proposed that NRCA contribute $5000 to the joint NRCA fund for the development of further curriculum materials.

Technical Conference Committee coordinators Burton Karp, Eagle Moisture Protection, W. Hartford, Conn. and Wayne Mullis, Universal Roofers & Builders, Phoenix, Ariz., put together a program for five educational conferences. Although dates have not yet been set, Los Angeles, New York City and Milwaukee have been selected as sites with dates in late March or early April. Chicago and Miami will host the conferences in early December.

Conference topics will include: roof decks, insulation and membranes; vapor retarders; conventional built-up roofing and expanded presentations on single-ply membranes; construction details; reroofing; and, workmanship.



NRCA's Board of Directors gathered to deal with the problems facing the roofing industry.

The Superintendents Conference Committee has slated Reno, Nev. and Nashville, Tenn. as the sites for January Conferences. The Sahara Reno will host the Reno conference, January 7-9, 1981, and the Hyatt Regency will be the site for the Nashville conference, January 14-16, 1981. The program will include: job set-up and dealing with problem jobs, with special emphasis on reroofing; single-ply systems; workmanship; insulation and recover board; tear-offs; and, a discussion on safety.

The Management Continuing Education Committee selected The Boca Raton Hotel and Club, Boca Raton, Fla. as the site for the Management Conference on February 1-4, 1981. John Carruth, Carruth Roofing, Miami, Fla., program coordinator, will be developing sessions from the following topics: legal problems, insurance, computers, job set-up, marketing your roofing firm, and recovering overhead.

The comittee will explore the possibility of an employee manual or guidebook for distribution to NRCA members, and will begin plans for the 1981 Management Operations Survey.

The Technical Symposium/NBS Committee has chosen "Performance & Durability of Roofing Systems" as its theme for the 1981 conference, held in conjunction with the National Bureau of Standards. Twelve papers will be prepared for the conference, and information will be sent to NRCA members in the fall.

Program Development Section. The Manpower Development Committee has submitted a proposal to the Job Corps Administration, Department of Labor, seeking funds to develop a national training program enabling hard-core unemployed youths to become roofers. The committee is optimistic that these funds will become available sometime this fall, at which time, they will be able to start the training programs.

The Roof Owners Warranty Committee accepted the idea that the appropriate time has come to have a legal review of the proposed Roof Owners Warranty Program.

The NRCA Building Committee has recommended that the Association explore the possibility of either leasing or buying its own property. An option paper on this possibility will be developed within the next couple of months.

The Roofing Industry Mediation Service Committee decided to launch a public relations program to promote the use of their service. This program will include a session at NRCA's Convention, a movie or slide show, articles in ***The Roofing Spec,*** and wider distribution of RIMS brochures.

Program Advancement Section. The Technical Assistance Program Committee will prepare a promotional brochure. The committee is looking for more TAP participants particularly in the Dakota region and in the south (Alabama and Tennessee).

The EDP Consultation Committee will conduct an update survey on computer use by NRCA members.

The Insurance Committee reported that NRCA's insurance program is strong, and that approximately 75 new companies have joined in the last year. Several mailings will be made in the next six to nine months to generate interest in

the other programs available—long-term income protection, accidental death and dismemberment, and in-hospital benefit insurance.

Industry Relations Section: The Associate Member Advisory Board requested specific project assignments where they can be of assistance to NRCA. The committee will survey associate members for technical expertise in these areas.

The Legislative & Government Committee has been heavily involved with legislation to reform OSHA. A statement was filed with the Senate Human Resources Committee recently and while there is little hope for reform this year, there is hope for the 1981 session.

The committee is also taking an active interest in legislation to encourage accelerated depreciation allowance.

The Political Action Committee reported that it has collected about $5000 in its first year and one half of operation, and has made contributions of $4000 to candidates for federal office.

The 100th Anniversary Committee, at its initial meeting, decided to conduct a search for historical information, pictures, and memorabilia from the past 100 years pertinent to the roofing industry. The committee also will plan activities which will lead up to the 100th Anniversary in 1986 and the 100th NRCA Convention in 1987

The Speakers Bureau Committee will develop and present public relation presentations about NRCA programs. These presentations will be in written form with audio/visual accompaniment, put in library format, and catalogued. Topics will include: NRCA Update; Where to Start When a Problem Occurs; Technical Programs; Health & Safety; NRCA Publications; NRCA Educational Programs; Reroofing; and Guarantees, Warranties & Preventative Maintenance.

Service Section. The Contract Documents Committee will review contracts as they pertain to contractor/supplier relations. Future documents will be reviewed as submitted. This committee will also begin compiling a historical review of such documents for future use.

The Health Committee is working to complete safety, first aid, and health sections of the "Health Guidelines" publication. Upon completion, the publication will be circulated to the membership.

The Safety Committee agreed to distribute and promote the new "Passport to Safety" brochure. This booklet contains safety and first-aid ideas in a pocket size format.

The Membership Committee has set the following goals for 1980-1981:

- Reach 2000 members during this year.
- Retain the current NRCA members.
- Follow up on non-paying members.
- Promote the "2000 Club" membership program.

Research Development Section: The Elasto/Plastic Committee will revise sections of the Project Pinpoint Bulletin to include data relating to elasto/plastic membranes. A spec data sheet containing information from manufacturers of elasto/plastic membrane will be circulated to the membership.

The Energy/DOE Commitee reports energy matters or any energy saving information relating to roof systems to the membership. The Committee will review and update the NRCA Energy Manual. Also, requirements and methods of evaluation for tapered in-

continued

MID-YEAR REPORT

sulation will be established.

The DOE Task Force Committee will finalize six formal proposals to be submitted to the Department of Energy. The proposals contain information on saving energy in roofing systems.

Members of the Research Services Committee have recognized the immediate interest in and need for testing and research in the areas of gravel adherence, gravel size, fibergalss felt, built-up membranes, and complete membranes. Joint testing will continue on the Kansass City test roof.

The Technical Planning Committee monitors the technical and research programs of NRCA and the industry. Current testing projects include work on the mathemtaical model for determining thermal splitting in roofing systems, standard testing for stress and thermal splitting in built-up roofs, and the development of information on a time element between baseline data and problem job data.

Technical Administration Section. The ASTM-Coordinating Committee coordinates the work efforts of NRCA, ASTM, and affiliate members of NRCA. The committee monitors the positions submitted by the Technical & Research Committee to assure they agree with NRCA technical positions.

The Manual Update Committee established guidelines for suggested revisions of the new roofing manual. All revisions submitted to the committee for review should include accurate backup information.

The RSTC & ITC Committee participates in joint meetings with ARMA to recommend technical improvements for roof performance. The committee is working on "NBS Report 55—Preliminary Criteria for Bituminous Membrane Roofing."

The Specifications Review Committee is reviewing manufacturers specification manuals, the Standard Practice for Roofing Systems, Steel Deck, and Bituminous Built-Up Roofing.

The Technical Data & Article Committee reviewed suggestions for articles in ***The Roofing Spec*** for the coming year. Topics included:

- DOE projects
- Fiberglass felts
- Failure in asbestos roofs
- Underwriters Laboratories ABC rating
- Revisions in Factory Mutual Bulletins
- Revisions in ASTM Standard D 1863—Roofing Gravel

A standardized list of roofing terms is being developed for use in conjunction with the new manual. this will provide the roofing industry with a clear and uniform set of terms. The committee also discussed the importance of members responding to the Project Pinpoint Bulletins. The meeting results determined that the bulletin needs to be revised and more specific terms to describe the "problem" areas inserted.

New Members

The following have been approved for NRCA membership between June 1 and August 1, 1980.

CONTRACTORS

- **Adams & Beagles**
  4021 N.W. 28th St.
  Miami, FL 33142
  Charles M. Snelgrove
- **Allstate Roofing Co., Inc.**
  P.O. Box 582
  Fordyce, AR 71742
  Bill Stringfellow
- **Bi-State Roofing, Inc.**
  1503 Talley St.
  Lakeland, GA 31635
  Vascoe Chadwick
- **R. X. Brinker & Sons Inc.**
  626½ Frederick
  Cumberland, MD 21502
  Robert R. Brinker
- **Burton, Gomez and Easley Roofing**
  Rodfield Industrial Park
  Corpus Christi, TX 78412
  Harry M. Bruton, III
- **Cumberland Roofers Inc.**
  52 Hancock Place
  Valley Stream, NY 11580
  Bret Wolff
- **Decks, Inc. of Florida**
  P.O. Box 4753
  Clearwater, FL 33518
  John W. Irwin
- **Everett Roofing Inc.**
  1829 Thornton Ridge Rd.
  Baltimore, MD 21294
  Rodney Everett
- **Professional Rfg. Systems**
  1218 Hoffman Mill Road
  Ft. Collins, CO 80524
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  104 South Leadbetter Road
  Ashland, VA 23005
  James E. Holmes
- **Sta-Dri Company Inc.**
  7403 Elam Road
  Dallas, TX 75217
  Kathleen Barnes
- **U.S. Coating Systems**
  P.O. Box 711
  Holland, MI 49423
  Willis A. Boeve
- **Westal Contracting Corp.**
  1 Mayfair Road
  Eastchester, NY 10701
  Thomas Olam
- **Western Roofing, Inc.**
  2055 S. Oneida #220
  Denver, CO 80224
  John W. Hewatt, III

ASSOCIATES

- **AAA Wholesale, Inc.**
  14805 E. Moncrieff Place
  Aurora, CO 80011
  Rick Merica
- **Alcoa Bldg. Products Inc.**
  2 Alleghny Center, Suite 1200
  Pittsburgh, PA 15212
  Harry Choden
- **B. S. & W Energy Corp.**
  5119 N. 19th Ave., Suite K
  Phoenix, AZ 85015
  Louis Snow
- **Cambridge Lee Industries**
  500 Lincoln Street
  Boston, MA 02134
  James Crothers
- **Southeastern Metals Mfg. Co., Inc.**
  11801 Industry Drive
  Jacksonville, FL 32218
  Don Gramling

INTERNATIONAL

- **Etancheite Tunisienne S.A.**
  10, Rue Senateur Gallini
  Cite Jardins Tunis
  Gilbert Berrebi
- **Imper S.P.A.**
  Via Lanzo 131, 10131 Torino
  Italy
  Marco Schieroni

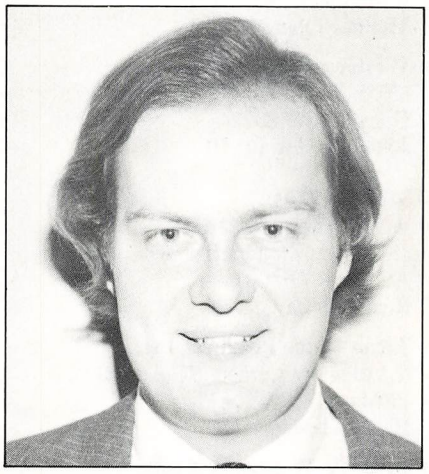
INDUSTRIAL/INSTITUTIONAL

- **Argonne National Laboratory**
  9700 S. Cass Ave., Bldg. #4 PFS
  Argonne, IL 60439
  T. E. Burke
- **State of Maryland**
  Dept. of General Services
  301 West Preston Street
  Baltimore, MD 21201
  R. S. Nietubicz

Washington Report

Proposed Tax Cuts

by William M. Drohan
NRCA Washington Representative



Over the past several months, a great deal of discussion has been generated concerning personal and business tax cuts. Republican Presidential hopeful Ronald Reagan has proposed that personal income tax rates be cut across-the-board by 10 percent a year for the next three years. Additionally, Reagn has called for a tax cut in the form of accelerated depreciation schedules to stimulate capital formation and reinvestment in the economy.

As of this writing, President Carter has been cool to the idea of a tax cut in 1980.

The Administration feels that it is making progress in fighting inflation by holding the line on federal expenditures. They feel that a tax cut at this point will provide too much of a stimulus and rekindle the inflation that ravaged our economy in the first quarter of 1980.

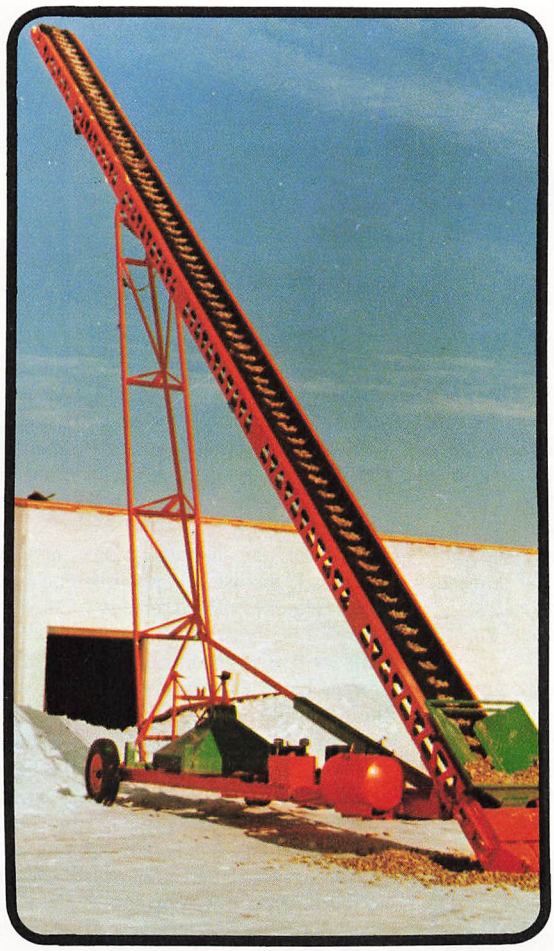
The combination of high interest rates and the discussion of a tax cut in the business community has worked to postpone business capital expenditures. Businessmen are reluctant to invest at this time because they will not realize any additional tax benefit. The lack of spending in the capital investment area, along with a cyclical downturn in the construction and automotive industries, has increased the severity of the recession. Unemployment continues to rise, as our productivity figures continue to fall.

Clearly, when 1981 rolls around, regardless of who occupies the White House, a tax cut is in order to stimulate the economy. A personal income tax cut will stimulate consumer demand and assist the housing and automobile industries. With regard to a business tax cut, such an incentive should not be a "quick fix" to stimulate short run demand, but should address the long-term structural problems we are now encountering in our economy. It has become apparent that the United States economy exhibits a lack of capital formation, as well as decreasing levels of productivity. Structural problems such as these have contributed to the demise of our domestic automotive and steel industries.

In response to these concerns, the Capital Cost Recovery Act (H.R. 4646), commonly known as "10-5-3," has been introduced by Congressman James Jones (D-OK) and Congressman Barber Conable (R-NY). The "10-5-3" concept provides 10-year write-off for structures, five years for most equipment, and three years for some autos and light trucks. This concept will assist business by providing a rapid, streamlined system for recovery of business investment in productive assets. The recovery of the capital cost of most types of assets could then be accomplished over time periods unrelated to the actual useful life of the assets. This concept also lessens the impact of inflation on depreciable assets by allowing firms to recover the costs of investments more quickly.

Benefits do not come without associated costs. "10-5-3" has an estimated cost to the economy of 4.4 billion dollars in foregone revenue in 1981, and 59.8 billion by 1985. However, costs such as these will be offset by gains in the productivity level in our economy, increases in capital formation, and a corresponding rise in real personal income.

In a capital intensive industry, such as the roofing industry, accelerated depreciation will provide an incentive for contractors to invest in new and more productive equipment. NRCA will continue to monitor this legislation and participate in policy discussions when appropriate.



62′ CONVEYOR

by

GARLOCK

FEATURING

- Garlock quality
- Electric brakes
- 25 H.P. Onan engine which runs at constant rpm's for maximum efficiency and long life
- Adjustable belt speed (from very slow to very fast)
- Outriggers for stability in wind
- Push button belt controls at top and bottom

SPECIFICATIONS

Discharge height	40′
Belt speed	400 fpm
Tires	9 X 14.5 - 12 ply
Overall width	7 ft., 8 in.
Overall length	63 ft., 6 in.
Hydraulic oil	Automatic transmission fluid
Wt.	6,000 pounds
Engine	25 H.P. Onan

Handles rolls or insulation to high discharge height.

ALSO INCLUDED

- Battery (standard car battery)
- Gravel hopper (secures to conveyor)
- Telescoping boom support leg

OPTIONS

- Towing tower for pickup truck
- Tail lights and license bracket
- #78 Gravel Hopper w/legs

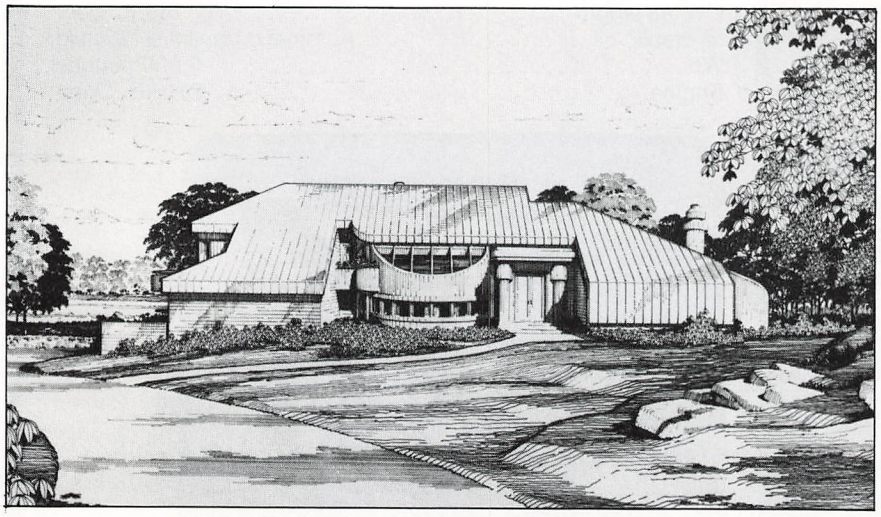
GARLOCK

GARLOCK EQUIPMENT CO.
2601 NIAGARA LANE, MINNEAPOLIS, MN 55441
PHONE: (612) 553-1935

News from associate members

Vermont Structural Slate Co., Inc., is participating with other leading manufacturers in the construction of a "third generation" solar home that also will be the most computerized residence ever built.

Called the "Sun/Tronic Energy House" and now under construction near Stamford, Conn., the home will incorporate the newest in building products, the latest in both active and passive solar technology, and the most sophisticated electronic control systems available today, reports Paul A. Anderson, vice president of building construction markets for Copper Development Association Inc., creator and builder of the new solar home.



Front or north elevation of CDA's Sun/Tronic Energy House is distinguished by an extensive standing-seam copper roof that extends almost to ground level on the right.

In the Sun/Tronic Energy house project, Vermont Structural Slate joins other outstanding companies from the home building products industry, the data processing field, the energy products market, home furnishings, and the appliance industry.

This is the copper and brass industry's third copper-metals showcase house.

In the new Sun/Tronic Energy house, highly advanced micro-computers will mastermind an extensive array of electronic sensors and controls that can act as servant, nursemaid, guard, accountant and in-home entertainer to the family. Duties that could be performed automatically by the home's microprocessors range from controlling and monitoring the home's various energy conservation systems to projecting how much income tax the family will have to pay on its expenditures and income to date.

The Sun/Tronic Energy house's active solar energy systems will supply about 50% of the home's space heating and domestic hot water needs, and include:

- All-copper liquid solar collectors for forced-air space heating,
- All-copper liquid solar collectors for domestic hot water, and
- Air-to-air heat pumps for solar energy system back-up.

Contributing up to 15% of the home's space heating needs are the following passive solar energy systems:

- A newly developed heat pipe and water storage wall with copper heat pipes and storage tubes for passive solar collection, storage, and distribution.
- A greenhouse/solarium which provides solar-heated air that is distributed through an energy column to hollow, concrete "air floors" in the family room and library.
- An innovative all-copper energy storage wall made up of a series of large water-filled copper tubes that capture and radiate direct heat.
- Slate on concrete floors for additional thermal storage.
- Extensive south-facing glass areas including an integral, two-story greenhouse for direct solar gain, all with multi-layer insulating curtains for nights and cloudy days.

One of the home's more innovative features is the use of a photovoltaic system to generate electrical energy. Converting energy directly from the sun, the photvoltaic cells will charge a system of lead-acid storage batteries which, in turn, will supply the electrical needs of the pumps and controls of the active solar heating system.

Furnishing more than 5% of the home's total electrical needs, the batteries also will supply stand-by power for the home's security systems and emergency lighting.

Among particularly noteworthy features of the house are new windows and sliding glass doors framed in a new weather-resistant brass alloy in a width narrower than ever before available in the copper metals. Window framing is joined by a thermal-break material with an insulating, fire retardant urethane foamcore that minimizes heat loss and prevents condensation on the interior surface frame.

Mechancial systems using copper and copper alloys in the Sun/Tronic house include an all-copper fire sprinkler system, the single-stack copper Sovent plumbing drainage system, an all-copper low-voltage signaling system, heat pumps using copper wiring and copper tubing, plus the traditional copper electrical wiring for the house.

Architects for the Sun/Tronic Energy House are the Berkus Group Architects, Santa Barbara, Calif., and Washington, D.C.

Morgen Manufacturing Co., which is celebrating its 30th year in business in Yankton, S.D., recently was honored for its 25 years of membership in Associated Equipment Distributors (AED), a trade association of more than 1,600 construction equipment distributors and manufacturing firms in the U.S., Canada and abroad.

AED's Region 8 Director, John J. Novotney, vice president, Olson Equipment Company, Minneapolis, presented a plaque commemorating the firm's quarter century of membership to James L. Cope, president

continued on page 60

HILCO

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HILCO HD MAGNETIC SWEEPERS

Finally, a Magnetic Sweeper you can afford!

Two sizes to choose from.
Heavy Duty for tough, long-lasting life.

Picks Up: Nails
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Use At: Shops
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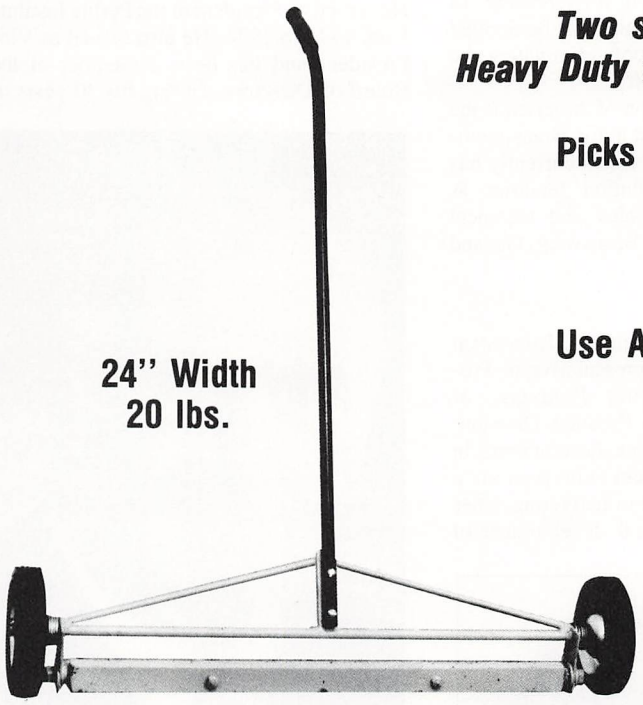
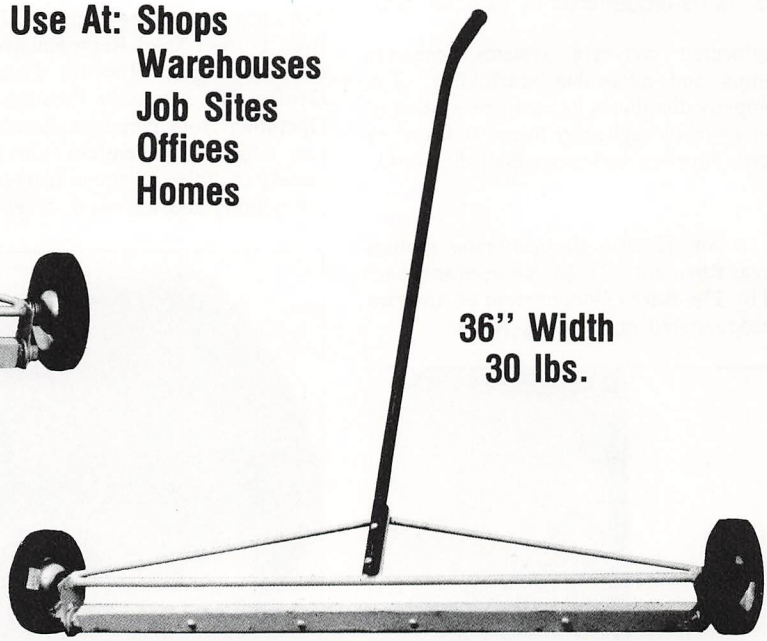
Job Sites
Offices
Homes



24'' Width
20 lbs.



36'' Width
30 lbs.

Easily Carried from job to job

Adjustable height from 1/2'' to 1 1/4''

Permanent Ceramic magnets

Heavy Duty 12 lb. Pull. 2 large 6'' wheels

NEW LOWER PRICES

Model HD-24 (24'' Sweep) $90.00 Ea.

Model HD-36 (36'' Sweep) $104.00 Ea.

E. L. Hilts & Co.
P.O. BOX 1789
HICKORY, NORTH CAROLINA 28601
PHONE 704-327-9141

580

News from Associates

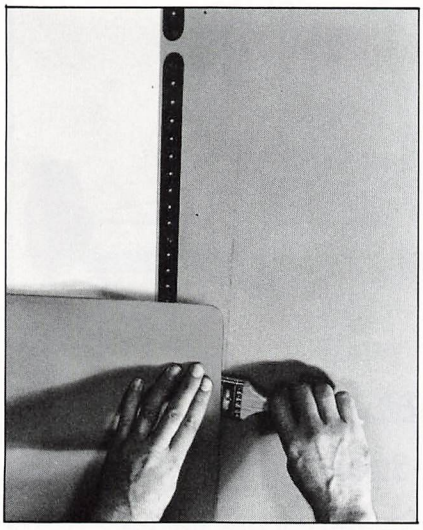
of Morgen Manufacturing Co., at a meeting of the North Dakota Associated Equipment Distributors, Inc.

The firm manufactures portable, side discharge and feeder conveyors, as well as

James L. Cope, President of Morgen Manufacturing Co., (right) receives plaque commemorating the firm's 25 years of membership in Associated Equipment Distributors (AED) from AED Director John N. Nootney, vice president, Olson Equipment Company, Minneapolis. Morgen Manufacturing Co., is headquartered in Yankton, S.D.

engineered conveyor systems, concrete pumps and adjustable scaffolding. The company distributes its complete system of conveyors through more than 100 dealers in North America and throughout the world.

A major advance in membrane roofing, Braas Rhenofol® CV 44, has been announced by **The Barra Corporation of America** headquartered in Fairfield, N.J.



CV 44 is secured with a metal strip and the seams are either solvent or heat welded.

Reinforced for added demensional stability and tensile strength, Rhenofol CV 44 posesses all of the advantages of Rhenofol C, which has been successfully installed worldwide for over 20 years.

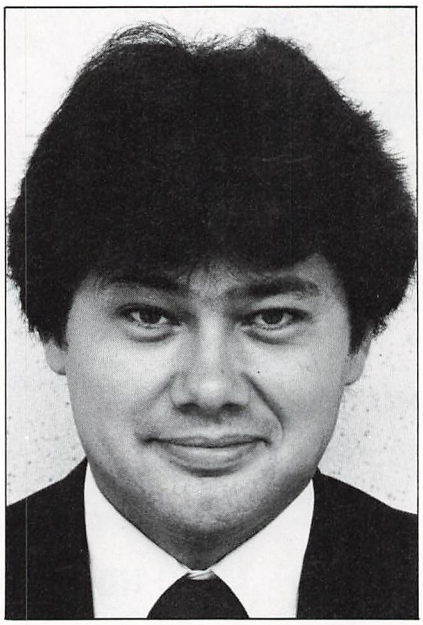
Weighing less than ½ lb. per square foot, Rhenofol CV 44 is ideal for flat roofs where ballasting is not possible because of load factors or where a smooth surface is required.

Rhenofol CV 44 eliminates most of the major problems, such as cracking, blistering and leaking associated with roofs bonded with bitumen. The membrane resists thermal changes, ultraviolet light, radiant heat and waste gases from industrial and heating plants, according to Barra.

Mechanically fastened, Rhenofol CV 44 can accommodate every roof slope or size and is especially suitable for reroofing. In most cases, the membrane can be applied directly over the old roof, eliminating the need for a costly rip off.

The Barra Corporation of America is the exclusive U.S. distributor for Braas membrane roofing systems. Barra currently has three warehouse/distribution facilities as well as fully-staffed sales and technical offices in Chicago, Ill., Brunswick, Ga. and Fairfield, N.J.

Advancement moves Manny H. Rubinstein from District Sales Representative to Product Manager, Roofing Products, of **Grefco, Inc.,** Building Products Division. Operating from corporate headquarters in Los Angeles, Rubenstein will perform a variety of duties related to marketing, sales promotion, and technical development of



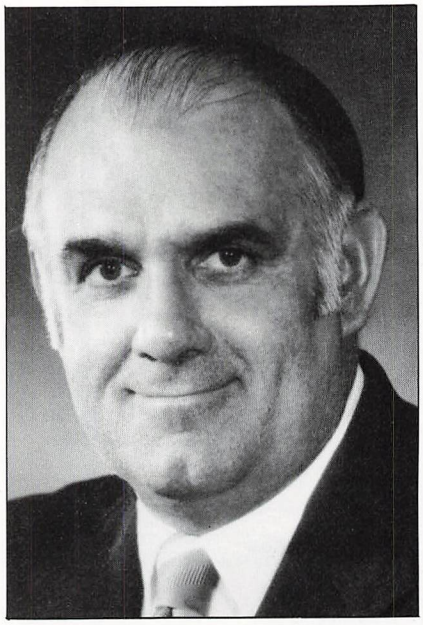
Manny H. Rubinstein

new and existing products related to the company's Permalite insulations and roofing products.

Rubinstein holds a BS degree from Miami University, with majors in Industrial Engineering and Computer Systems. He has 10 years experience in the construction industry including 2 years with this major perlite and urethane board producer.

William R. Howell, Perlite Ore Products Manager, Minerals Division, **Grefco, Inc.,** subsidiary of General Refractories Co., Oak Brook, Illinois, was elected President of Perlite Institute at the Institute's 31st Annual Meeting at the Hawaiian Regent Hotel, Honolulu.

Howell began his association with the perlite industry in 1946. In 1979, he received the Lewis Lloyd award—the highest honor that can be granted by the industry. He served as President of the Perlite Institute from 1972 to 1974. He also served as Vice President and has been a member of the Board of Directors. During his 30 years of



William R. Howell

association with the Institute, Howell has served on virtually all committees and has played a leading role in the growth of the industry and the trade association.

Perlite Institute is an international trade association of perlite producers, expanders and applicators with members in 22 countries formed in 1949 to establish product standards and specifications and to encourage the development of new products through research and marketing activities.

John T. Gurash, chairman of **CertainTeed Corporation,** has announced that Michel L. Besson has been appointed vice chairman and chief executive officer and Franklin R. Winnert, chief operating officer, has been named president.

Both Besson and Winnert have also been elected to CertainTeed's board of directors. The changes took effect July 7.

Besson, 46, most recent headed a world-

continued on page 62

HOW YOU CAN JOIN THE NRCA 2000 CLUB AND WIN SOME NICE PRIZES, TOO

Become a member of the elite 2000 Club and help NRCA reach its next milestone of 2000 members.

ANNOUNCING... THE 2000 CLUB

To be inducted into the 2000 Club, an NRCA member need only bring 5 new members into NRCA in any one year period. Those inducted will be presented a special ultra-suede blazer and a specially designed lapel pin.

The one year period begins retroactive to March 1, 1980 and runs to February 1, 1981. Any NRCA member who signs up 5 new members within this time period will become a member of the 2000 Club and will receive his blazer and lapel pin.

ANNOUNCING... THE 1980 MEMBERSHIP CONTEST

Between March 1, 1980 and February 1, 1981, a special Membership Contest will be held. The rules for the contest are simple. NRCA members can deposit one ticket for each new member they sign up within the designated time period into a prize drawing to be held at the Convention. Newly signed members must have paid their dues in full prior to the drawing in order for their drawing ticket to be eligible. Each member can win only one prize, but the more members you sign up the better your chances are of winning part of the $500 jackpot.

wide paper and packaging operations of Saint-Gobain-a-Mousson (SGPM), the French company that owns 54 percent of CertainTeed common stock.

In addition, Besson also served as chairman and chief executive officer of La Cellulose du Pin, an SGPM affiliate and France's largest paper and packaging manufacturer.

Winnert, 47, joined CertainTeed in 1970 as corporate vice president and served as president of the company's Shelter Materials Group and as group vice president of Industrial and Building Products before being promoted to executive vice president in 1978. He was named chief operating officer in 1979.

Winnert earned bachelor of science and MBA degrees at Cornell University, and is president of the Cornell Alumni Association and a member of the Cornell Council.

Leister, makers of electric hot air welding tools for the roofing industry, has recently announced a new automatic welder for single ply roofing systems. The new X-10 is extremely effective on re-roofing projects where an uneven surface may be a problem. The X-10 can weld vertical seams with the same ease as horizontal seams. This machine attaches to the material and creates its own pressure.

Write today for your free color brochure A 59. **Brian R. White Co., Inc.,** 313 Henry Station Rd., Ukiah, CA 95482, 707/462-9795. Distributor inquiries invited.

An insulating silicone/urethane roof system has cut annual fuel consumption at the French King Bowling Center, Millers Falls, Ma., by 75%. In the process the roof has saved owner Ralph Semb more than $8,000 in fuel oil costs alone, in just five years.

During the three years immediately prior to the installation of the new roof system, the center's average annual fuel consumption was 4,160 gallons. During the period July 1978 to August 1979, only 1,002 gallons were burned, at a cost of $790.58. At 1979 prices, 4,000 gallons would have cost $3,156.

Semb installed the new 12,500 sq. ft. roof in August 1974 to replace a badly leaking 15-year-old built-up roof. With the fuel crunch of 1974 fresh in his mind, he sought a roof that would not only be leak free, but would conserve heat as well.

As a result Semb contracted with James E. Hanrahan & Sons, Northfield, Ma. to install a roof system consisting of a 2-in. thick layer of sprayed-in-place polyurethane foam covered by a 20-mil thick membrane of **Dow-Corning®** 3-5000 construction coating. The urethane foam provides a high degree of thermal insulation and the sprayed-on silicone membrane protects the foam from ultraviolet light and the weather. Combined, the two materials produce a roof that has no seams or joints to open up and leak. This system cost Semb $5,000 to $6,000 more than a conventional built-up roof, but he felt it would be worth it, and history has proved him right.

Fuel oil savings alone paid back the additional cost of the silicone/urethane roof system in less than four years—even before the steep increases in fuel oil prices that occurred in 1979. In 1979, the roof saved an estimated $2,492 in fuel costs, all clear profit. Overall savings are even greater because the reduced summer air conditioning load has cut electrical consumption substantially.

And, the roof continues leak-free.

The new **GAF** Timberline Class A fiber glass shingle combines the classic three-dimensional appearance which has made Timberline shingles so popular with the coveted Class A rating of Underwriters' Laboratories, the maximum fire-resistant rating available for an asphalt shingle.

The Underwriters' Laboratories Class A burning brand test, on which the rating is based, consists of the application of dried wood upon a bed of shingles. The wood is ignited and then fanned by a 12 mile an hour wind. If the fire is completely contained on the surface of the shingles and never passes through to the pine board deck beneath, the product receives a Class A rating.

Because the fiber glass base is moisture resistant, the new shingle offers greater longevity in moist, warm climates. In addition, Timberline Class A fiber glass shingles resist rot, curling and oxidizing. They offer exceptional dimensional stability, lie flat during installation, and are easier to handle because of their lighter weight per square.

A special thermoplastic adhesive on the back of each shingle is activated by the heat of the sun after installation so that the Timberline roof becomes, in effect, a bonded one-piece unit. When properly installed, a Timberline Class A fiber glass shingle roof will provide maximum protection against fire, wind, leakage, etc.

The new shingles measure 12 × 36 inches, feature a random tab design with 5 inch exposure, and weigh approximately 290 lbs. per square.

A new chart comparing the life cycle costs of residential roofing materials is available from the Residential Products Division, **Johns-Manville Corp.** Designed as an information source for both the professional and do-it-yourself roofer, the chart shows cost comparisons based on national product and labor averages, for a typical 20-square house roof.

Materials included in the chart are fiber glass, standard organic, laminated fiber glass and laminated organic shingles, in addition to wood shakes. The comparison of these materials shows the ultimate cost per year, considering the initial installed cost, and the warranty in years.

For a free copy of "A Good Roof is One of the Best Investments a Buyer Can Make" (RF-440), contact Johns-Manville, Service Center West, 1601 23rd Street, Denver, CO, 80216.

...and a J-M fiber glass roof is today's best roofing value!

Compare these life cycle costs

Shingle	Installed Cost*	Warranty in years**	Cost per year
Fiber Glass (J-M Fire-Glass III)	**$1200**	**20**	**$ 60.00**
Standard Organic	$1160	15	$ 77.34
Laminated Fiber Glass (J-M Woodlands "the 20% labor saver")	**$2020**	**25**	**$ 80.80**
Laminated Organic	$2200	25	$ 88.00
Wood Shakes			
Untreated	$2400	No Warranty	$200.00
Treated	$3500	(est. 12 yr. life)	$291.67

*Installed costs based on national product and labor averages for a typical 20-square house roof in July, 1980. Labor varies according to shingle type.
**Roof life may be longer.

National Roofing Foundation

The NATIONAL ROOFING FOUNDATION belongs to the NRCA Roofing Contractor. It provides him the opportunity to improve the Roofing Industry through Educational Grants. The Foundation's funds

- have been used to create a course entitled "Roofing Technology," which will educate architectural, engineering and design students in the basic theories of commercial and industrial roofing....
- will be used to purchase seats at various RIEI seminars for attendance by worthy recipients in the Roofing Industry....
- will be used to provide scholarships to students pursuing careers related to the Roofing Industry....
- will be used to provide grants for developing curriculum materials beneficial to the Roofing Industry....

To achieve its goals, The Foundation urges NRCA members to support The Foundation's various donation programs and fund raising activities.

THE FOUNDATION IS YOUR MEANS OF IMPROVING THE ROOFING INDUSTRY!

Coming Events

SEPTEMBER	
8-Oct.20	Roofing Technology Course University of Illinois, Chicago Campus,IL
8-Nov. 3	Roofing Technology Course Wright Junior College, Chicago, IL
17	NCEC Board Meeting Washington, DC
22-26	Roofing Industry Educational Institute Seminar Boston, Massachusetts
OCTOBER	
6-8	Roofing Industry Iducational Institute Seminar Two-Day Course Denver, Colorado
13-17	Roofing Industry Education Institute Seminar Denver, Colorado
27-31	Roofing Industry Educational Institute Seminar Washington, D.C.
NOVEMBER	
3-5	Midwest Roofing Contractors Assn. Convention Indianapolis, Indiana
5-10	Associated Roofing Contractors of Maryland Convention, Miami—Bahamas
12-14	NRCA November Committee Meetings Chicago, Illinois
17-21	Roofing Industry Educational Institute Seminar San Francisco, California
DECEMBER	
5-6	Chicago Roofing Contractors Assn. Convention St. Charles, Illinois
10	NCEC Annual Meeting, Washington, D.C.
JANUARY	
7-9	Superintendents Conference, Reno, Nevada
14-16	Superintendents Conference Nashville, Tennessee
18-21	New York State S/M Rfg. and A/C Contractors Assn. Convention Niagra Falls, New York
19-23	Roofing Industry Educational Institute Seminar Tarrytown, New York
FEBRUARY	
1-5	NRCA Management Education Conference Boca Raton, Florida
10-14	NRCA Annual Convention, Phoenix, Arizona
23-27	Roofing Industry Educational Institute Seminar Orlando, Florida
MARCH	
1-3	Construction Industry National Legislative Conference, Washington, D.C.
16-20	Roofing Industry Educational Institute Seminar Denver, Colorado
19-20	Northeast Roofing Contractors Assn. Convention Boston, Massachusetts
APRIL	
6-10	Roofing Industry Educational Institute Seminar St. Louis, MO
30-May 1	NRCA/NBS Technical Conference—6th Conference on Roofing Technology
MAY	
11-15	Roofing Industry Educational Institute Seminar Detroit, MI

The **roofing spec**

CLASSIFIED

DRY-APPLIED ROOF LEVELER AND INSULATION

"THERM-O-DECK" is easy to use, providing positive, permanent results in correcting low spots, irregularities, etc., and building up a slope for proper drainage on old or new decks. Insulating "K" factor = 0.46. Simply tamp in place and cover. Shipped anywhere in 75 lb., 4 cu. ft. bags. Write Brouk Co., 1367 S. Kingshighway, St. Louis, Mo. 63110.

ROOF PROTECTION & LEAK SOLUTION

Roof protection and leak solution. Rapid Roof is an acrylic latex roof coating that's waterproof, weatherproof, flexible, cuts roof temperatures up to 50° to conserve energy, and patches effectively. Distributorships also available. Write Jahns & Associates, 1724 4th Ave., Sacramento, CA 95818.

COMMERCIAL ROOFING SALESMAN

Commercial Roofing Salesman wanted. Northern Illinois area. Must have experience in BUR, Single Ply, Roof Resaturants, and Maintenance Programs. Good employee benefit program. Paid on commission with unlimited earning opportunities. Send complete resume written in your own handwriting to Box L, **Roofing Spec.**

OPERATIONS MANAGER/SUPERINTENDENT

Large progressive and agressive roofing contractor located in the southwest has a position open for a thoroughly experienced Operations Manager. Applicant must have strong experience in all phases of built-up roofing. Job includes planning, scheduling, and executive supervision. Good salary plus bonus and excellent company benefit program. Reply in confidence to P.O. Box 20627, Phoenix, Ariz. 85036.

SOUTHERN CALIFORNIA ROOFING COMPANY

Southern California Roofing Company located in Los Angeles County California, is interested in hiring experienced estimators, supervisors and foremen. Estimators should be thoroughly experienced in new and reroofing of commercial buildings. We are looking for top men thoroughly familiar with all phases of government work. Only the very best and top in their fields need apply. Send resume outlining qualifications and salary requirements to: 9623 Imperial Highway, P.O. Box 158, Downey, California 90241, Attention: Harold R. Provin, General Mgr. & Chairman of the Board or James Lawson, President.

MANUFACTURERS REPRESENTATIVES

Established equipment representatives sought to take on Aluminum Feltlayer and asphalt resistant tire. Exclusive areas available. Send resume to M.S.C., Inc. 22991 La Cadena Dr., Laguna Hills, CA 92653—714/586-3832.

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AGENCIES SCRAMBLE TO BEAT HIRING FREEZE

By

Richard L. Lesher
President
Chamber of Commerce
of the United States

Who says bureaucrats can't make things happen? Just before the President presented his latest anti-inflation plan (I keep forgetting, is this his fourth or fifth?), the entire federal bureaucracy erupted in frenzied activity.

Fearing an imminent hiring freeze, waves of agency heads began to scramble, trying to fill all the empty slots in their departments. At the Department of Justice, for example, workers reported their superiors had put aside all their normal activities to concentrate on hiring new employees.

Surveying this explosion of patriotic anti-inflationary spirit, one government personnel officer remarked with indifference: "It's a normal bureaucratic action in a situation like this."

We Take A Licking

Question: If the government wants to do away with Saturday mail delivery, how can it justify its proposal to increase the cost of postage stamps to 20 cents?

Answer: To pay the storage charges.

Question: But isn't there any way to straighten out the postal service?

Answer: Yes, send the postal workers their paychecks through the mail.

Fun, Frolic and Fraud

UPI reporter Don Lambro knows a thing or two about waste in government. In 1975, he catalogued many of his horror stories in a book, "The Federal Rathole." The book stirred up such a storm, and was so popular, that Lambro was soon asked to research and write another.

His latest work is titled "Fat City: How Washington Wastes Your Taxes." Lambro says: "Things are a lot worse than I thought." He estimates that government loses up to $50 billion a year on fraud, abuse and mismanagement and wastes *another* $50 billion on nonessential programs.

In a chapter titled "Cutting the Government: Jimmy Carter's Broken Promise," Lambro looks into Mr. Carter's claim to have abolished 760 federal agencies. He finds only a dozen agencies of little significance or cost have been eliminated. All the rest have been merged with and hidden inside larger programs and continue to function.

Do You Speak Regulation?

Gene Burton, dean, School of Business and Administrative Sciences at Fresno State University, has come up with some interesting statistics.

When Jesus wanted to instruct his disciples how to communicate with God, He taught them the Lord's prayer, which contains 56 words.

When Abraham Lincoln wanted to reunify Americans under one government, of the people, by the people and for the people, he made his Gettysburg Address, which contains 268 words.

And when the Founding Fathers wanted to tell the world the colonies could no longer remain subordinate to Great Britain, but must become sovereign and free, they wrote the Declaration of Independence, which contains 1,322 words.

The question is: If all those great men could communicate those great thoughts, with those few words, why do bureaucrats need 27,000 words just to regulate the sale of cabbage? Maybe Ralph Nader knows.

Latest Energy Bulletin

The Department of Energy, which has been blasted by the House Operations Committee for its "abysmal record in saving energy," remains undaunted. It has requested a 17 percent increase in its travel budget, presumably so it can travel to more places and give more speeches on the need for more Americans to conserve more energy—by traveling less.

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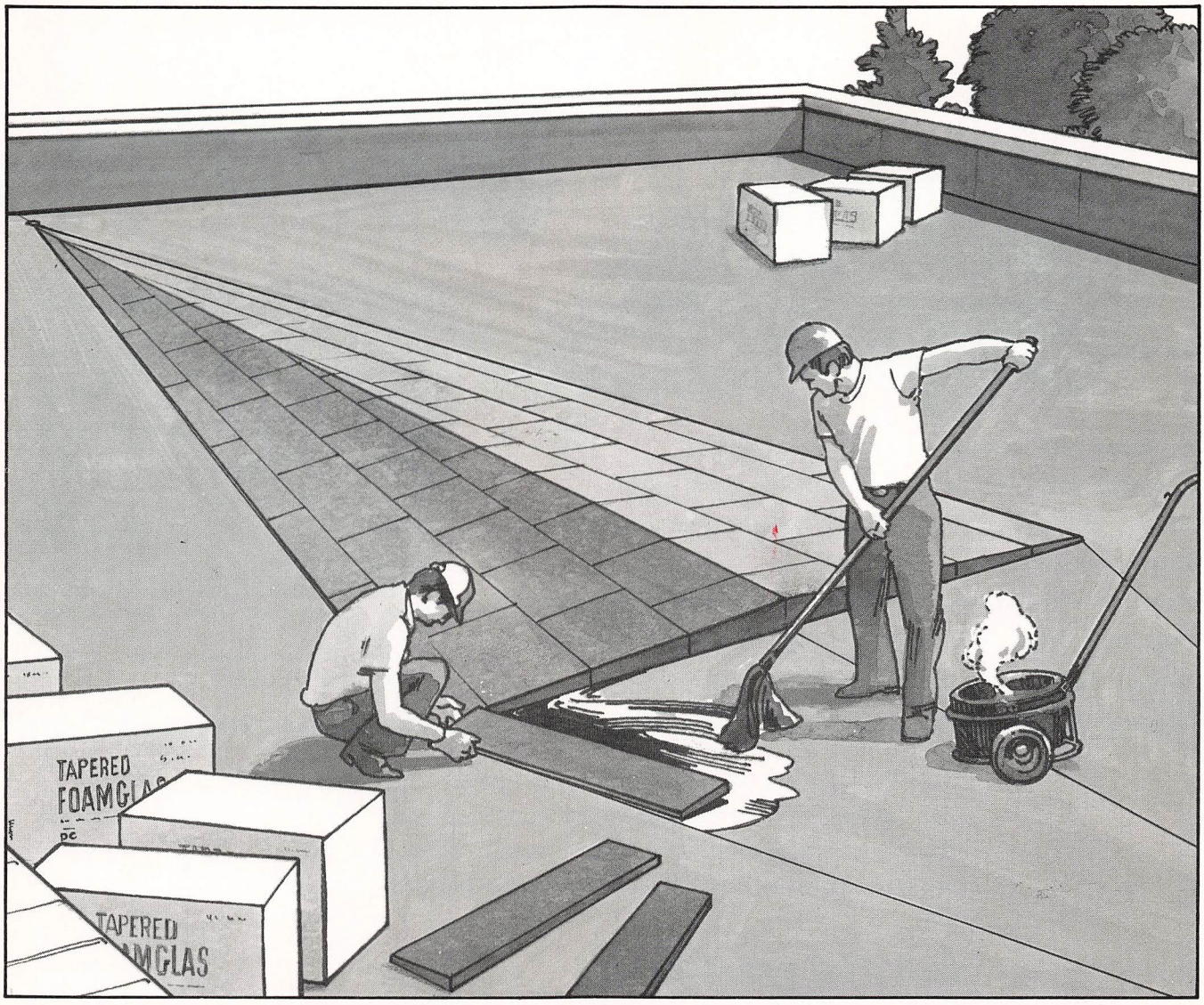
Better for the roofer... again



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Now we've developed six new cricket systems. They're available in 30-foot to 80-foot lengths in 10-foot increments.

You give us the distance between drains and we ship you the complete system. That's right, all the pieces you'll need, packed and labeled, ready for installation.

Today, there are FOAMGLAS Insulation Tapered Systems to fit any deck and any drain location. We're working to make roofing easier for the roofer with better FOAMGLAS Insulation Tapered Systems. For more information write Pittsburgh Corning Corporation, Marketing Department **RF0980**, 800 Presque Isle Drive, Pittsburgh, PA 15239, (412) 327-6100.

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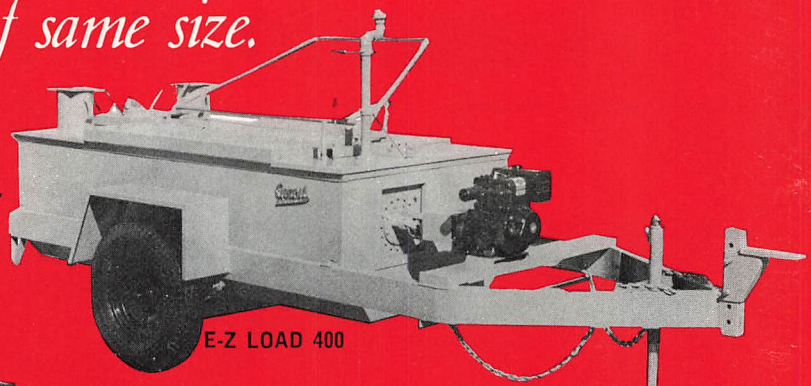

E-Z LOAD 400

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- Patented Heat-Riser cuts morning heat up time in half.
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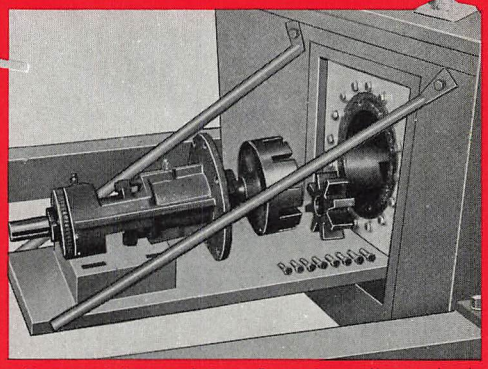

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the roofing spec

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