

# The roofing spec

October 1980

\$2.00

National Roofing Contractors Association

## HEALTH & SAFETY



J. Stockman

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All  
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PERIMETER WARNING LINE SYSTEM

*This space is reserved for the  
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Line System!  
-- just as soon as OSHA  
issues its standards.  
Watch for it, coming soon!*

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# Bilco Roof Scuttles.

## The standard of the industry.

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

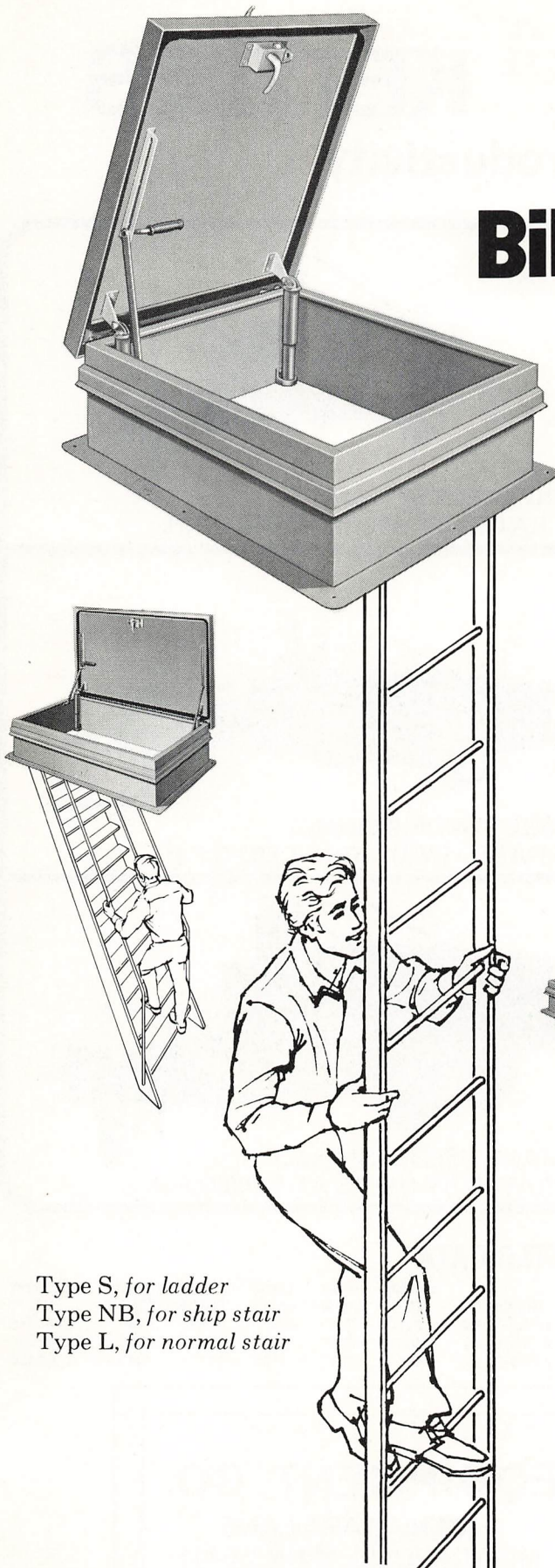
The Type S Scuttle, for ladder access, is an example of our concern for building quality and value into every Bilco product. Constructed of heavy gauge material, it is insulated and gasketed for complete

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

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

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

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



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

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

**Bilco**<sup>®</sup>

DOORS FOR  
SPECIAL SERVICES

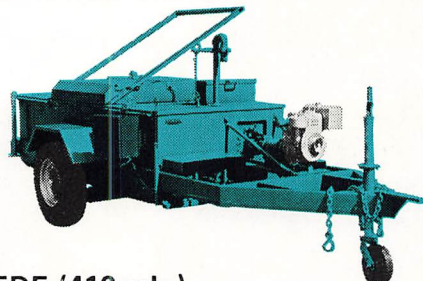
The Bilco Company, Dept. RS-100, New Haven, CT 06505

# THE "SWEDE" KETTLES

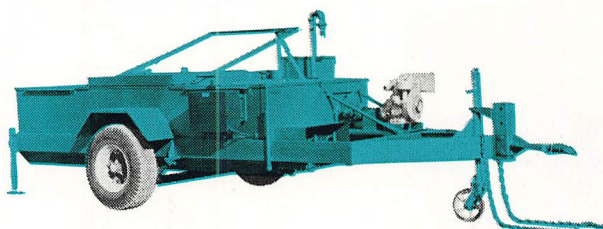
for greater productivity

Buy  
**GARLOCK**  
 Green

- SPECIAL HEAVY DUTY 10 PLY DAYTON THOROBRED TIRES WITH HEAVY DUTY RIM AND SPOKE WHEEL AND BRAKE DRUM (12 PLY - KING SWEDE)
- ADJUSTABLE TOW HITCH
- NO BURNER WELL - MORE USUABLE HOT - SAVES FUEL - ELIMINATES COLD AIR IN BURNER WELL
- LOADING HEIGHT 38" "BIG SWEDE"  
 40" "KING SWEDE"  
 48" "GIANT SWEDE"
- EASY ACCESS TO BURNERS - PUMP - ENGINE
- DOUBLE SAFETY CHAINS - WITH SAFETY HOOKS
- STAINLESS STEEL FLUE LINERS - COMPLETE COMBUSTION. NO DIRECT FIRE ON FLUES
- FLANGE MOUNTED PUMP FOR EXTERNAL SERVICING
- PUMP TO 150' PLUS AT FULL CAPACITY
- BREAK AWAY COVER - LEVER ACTION
- ADJUSTABLE SCREW JACK WITH SWIVEL CASTER
- LIQUID 100% AUTOMATIC OR SEMI AUTOMATIC AVAILABLE. (NO BATTERIES OR ELECTRICITY NEEDED)
- VERY HIGH RECOVERY RATE
- SPECIAL HI TEMP GREASE FOR PUMP AVAILABLE



**BIG SWEDE (410 gals.)**  
 \* RATED BY USERS AT 600 G.P.H.



**KING SWEDE (600 gals.)**  
 \* RATED BY USERS AT 800 G.P.H.



**GIANT SWEDE (840 gals.)**  
 \* RATED BY USERS AT 1,100 G.P.H.

## SWEDE KETTLE DATA

Model	Capacity (gals.)	LPG Burners	Kerosene Burners	Inside Vat.	Outside Vat.	Tire Size	Loading Ht.	Width Inside	Length Inside	Length Overall	Width Overall	Shipping Wt.
BIG SWEDE	410	GG4400 (2)	KB5454 (2)	12 ga.	14 ga.	8 x 14.5-10 ply	38 1/4"	46"	96"	178 1/2"	74"	2,440 lbs.
KING SWEDE	600	GG4302 (2)	KB6402 (2)	10 ga.	12 ga.	9 x 14.5-12 ply	40"	53 1/2"	117"	197"	83"	3,258 lbs.
GIANT SWEDE	840	GG4300 (2)	KB6400 (2)	10 ga.	12 ga.	8 x 14.5-10 ply	48"	53 1/2"	118"	197"	83"	4,000 lbs.

MANUFACTURED BY

**GARLOCK**

**EQUIPMENT CO.**

2601 NIAGARA LANE  
 MINNEAPOLIS, MINN. 55441  
 PHONE 612-553-1935

# OUR GLASS PLYSHEET HAD TO GO THROUGH SNOW AND HEAT AND GLOOM OF NIGHT BEFORE IT COULD GET TO YOUR ROOF.



## **GAF'S EXTENSIVE FIELD TESTING GIVES GAFGLAS™ PLY 4 AN EDGE OVER THE COMPETITION.**

Gafglas Ply 4, our newest glass roofing product, is now ready for national distribution. But it had to go through all kinds of abuse first. On our roofs, in the great outdoors.

We tested its ability to weather the effects of harsh climate changes. How well it resisted moisture or other harmful elements that could cause premature failures. And made sure it was easy to apply, even under extreme conditions.

This rigid testing ritual is the reason Gafglas Ply 4 has actually exceeded ASTM specification D2178 and UL requirements.

In fact, all our glass built-up roofing products—from our glass vent-plys and standard base sheets to our ply and cap sheets—never leave our hands without being tested both on our roofs and in our labs.

What's more, when you specify GAF Built-Up Roofing products, our highly trained team of experts are at your disposal for technical assistance as well as in-put for job specifications.

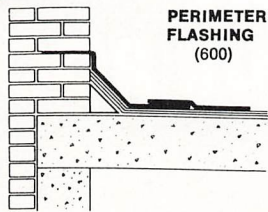
So next time you need a glass plysheel, or any glass built-up roofing product, put Gafglas to the test.

Heaven knows we have.

**GAF**® **GAFGLAS**™  
BUILT-UP ROOFING PRODUCTS

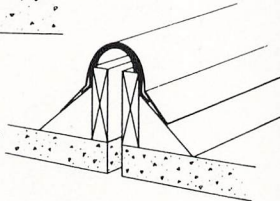
ALL YOUR BUILT-UP ROOFING NEEDS ARE UNDER ONE ROOF.

**UPSTAIRS—DOWNSTAIRS  
ALL AROUND THE HOUSE  
NERVASTRAL WATERPROOFS IT!**

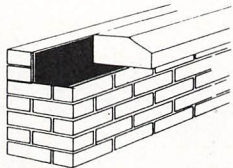
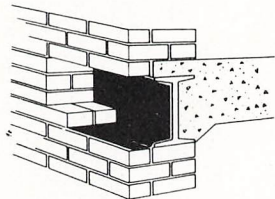


**PERIMETER  
FLASHING  
(600)**

**NERVA-FLEX  
EXPANSION JOINT**

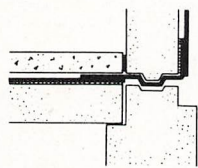
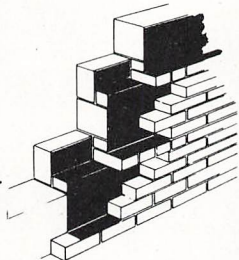


**SPANDREL  
FLASHING  
(H-D, 300)**

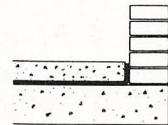


**SILL FLASHING  
(H-D, 300)**

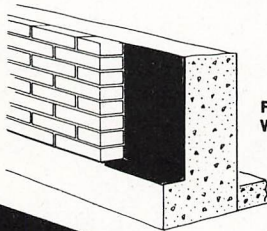
**THRU-WALL  
FLASHING  
(H-D, 300)**



**NERVASTRAL  
SHEET MEMBRANE  
(300-400-56-m600)**



**NERVA-DECK  
SLAB MEMBRANE  
(NERVA-DECK LIQUID)**



**FOUNDATION  
WATERPROOFING  
(300-400-56)**

**RUBBER & PLASTICS COMPOUND CO.,  
INCORPORATED**



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NEW YORK 11106, Telephone 212-392-6780

**Comment**

**The Warning Line,  
Year VIII**

Dealing with the OSHA is always frustrating, but now it's getting embarrassing, too.

It was in 1973 that NRCA first proposed the Warning Line system as an alternative to OSHA's various unworkable schemes for perimeter protection on flat roofs.

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

The report also demonstrated fairly comprehensively that other methods for protecting roofers from falls (guardrails, safety nets, safety belts and lifelines) were at best structurally infeasible, and in fact probably contributed to the dangers they were trying to correct.

By 1975, CNA/Insurance was including the use of the Warning Line as a part of the safety program it required its insured roofing contractors to implement. (Thinking men everywhere should rejoice in the fact that this requirement had more to do with the warning line being used than the myriad OSHA regulations had to do with guardrails, etc., being used.)

By 1978, more than two full years ago, we were confidently proclaiming that the adoption of the warning line proposal by OSHA was imminent.

Exactly one year ago, we said the same thing, feeling a little bit funny about it.

And today, the fun is out of it entirely. We still believe it's a good idea, still believe it to be far superior to the unreasonable alternatives, but...

But, for one thing, we don't know what the final standard will look like. NRCA members should be prepared to take action if it winds up being objectionable.

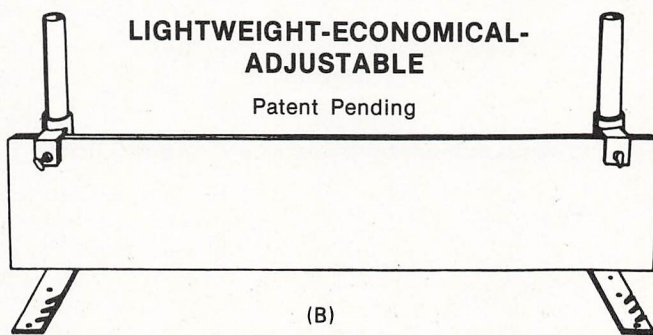
For another thing, believe it or not, we still have members receiving citations for not using guardrails, and we have other members receiving citations for not using warning lines.

If ever a more compelling case could be made for reforming—or eliminating—OSHA, we can't imagine what it might be.

*Bill Good*

# INCREASE PRODUCTIVITY DECREASE COSTS

**SAFELY --- EFFICIENTLY!  
WITH P.A.L. PRODUCTS**



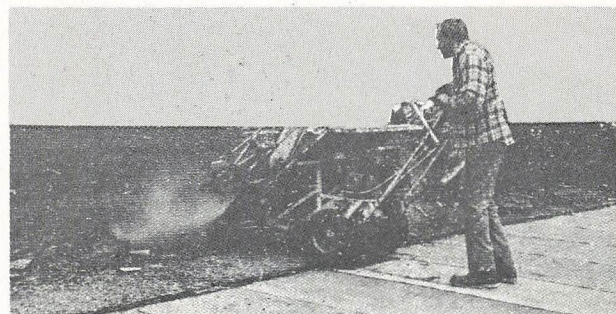
## THE TEMPORARY ROOF PARAPET

- Lightweight, easy and fast to install and dismantle.
- Adjustable from dead-level to 10/12 pitch.
- Lower receiver will support toe board or can be adjusted to receive up to 22 inch width of plywood. (See Drawing B)
- Hold debris on roof level.
- Asphalt shingle can be installed over base and when dismantled strike plate and base will release.
- Also can be used for product storage on steep roofs, and roof bracket with working & storage area.



## POWER CLAW . . . . .

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.



PATENT # 3542433

Write for more information on these P.A.L. products . . . . .  
"Engineered FOR the ROOFER . . . . . BY a ROOFER."

## P.A.L. DEVELOPMENT CORPORATION

P.O. Box #127

(414) 781-6870

Butler, Wisconsin 53007

A close-up photograph of a copper expansion joint cover installed on a roof. The cover is made of two preformed metal flanges permanently bonded to a neoprene bellows. The copper has a warm, reddish-brown patina. The background is dark, making the metallic surfaces stand out.

# Relieves stress.

Expansion joints permit a building to move without damaging the basic structure. But providing a weather-proof covering for these joints that rolls with the punches often presents a real problem.

It's a problem that can be easily solved with J-M Expand-O-Flash® Expansion Joint Covers, now available in sizes to accommodate openings up to 36" wide. They form a strong yet flexible closure that accommodates moderate building movement, while keeping it water- and weather-resistant.

They're constructed with two preformed metal flanges permanently bonded to a neoprene bellows using a patented process, with closed cell foam insulation cemented to the underside of the neoprene. The metal gives strength, the neoprene provides stretch—two vital requirements for an effective joint cover.

J-M Expand-O-Flash comes in a variety of preformed and custom shapes and fittings, with flanges available in several metals. All of which are eligible for coverage under the J-M Guaranteed Roof Program.

For details, consult Sweet's, write for BU-292A and BU-302A, or contact Dave Lucy, Johns-Manville, Ken-Caryl Ranch, Denver, Colorado 80217, (303)979-1000.

**For single-source  
built-up roofing systems**



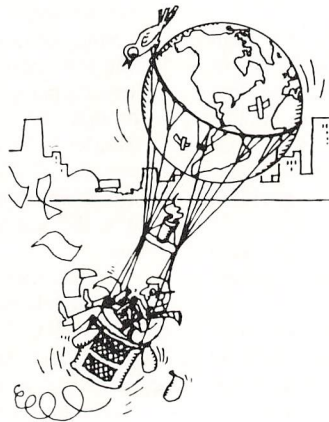
**Johns-Manville**

# Ideas, notes and random thoughts

**It's hard to believe**, but it is time to register for the next NRCA Convention, February 10-13, in Phoenix. And it's one you won't want to miss: Charles Kuralt, Dr. Laurence Peter, James Kilpatrick and Shana Alexander, and Bob Newhart lead the list of big names who'll be on hand. Call the NRCA office for details or help, but register early to insure you get in the hotel of your choice.

**Good News Dep't:** The housing industry seems destined for a boom in the 1980's despite a sharp drop in construction for 1980, reports *Nation's Business*. Housing starts are expected to stop at 1.1 million this year, or almost 40 percent below 1979. The good news is that up to 2.4 million new housing units will be needed annually in the 1980's to meet demand.

**More Good News:** A new survey reveals that U.S. workers have greater confidence in their employers and themselves than in government to work out safety and health problems in their workplaces. When asked which of sev-



eral groups they would trust most to decide difficult issues of safety and health, 40 percent replied a team of workers and management. Second in ranking was the category "fellow workers" at 21 percent, followed by management, 9 percent. Federal health and safety agencies and outside consultants received 7 percent and union officials 6 percent. The survey was conducted by the U.S. Chamber Survey Center in cooperation with the Gallup Organization.

**Quotable:** Alan Greenspan, former chairman of the President's Council of Economic Advisers under President Ford: "If we defuse inflationary forces in this country, all other solutions are possible; if we don't, there is very little else we can do to revitalize America."

#### Recent NRCA mailings include:

- **Action Information**, September issue
- **Congressional Review**, September issue
- Convention registration materials
- Project Pinpoint forms

Additional copies of each are available from the NRCA office.

**That's A Lot of Numbers:** Federal statisticians have conducted a census of—you guessed it—fellow statisticians. According to *U.S. News and World Report*, they found that some 29,000 employees in 100 different agencies of the federal government are assigned to produce statistics for government programs and activities. They also found that it costs taxpayers \$1 billion a year for the statisticians to collect all those figures.

**Also quotable:** Beryl Sprinkel, noted economist and vice president of Harris Trust and Savings Bank of Chicago: "If there were an easy painless way to ease the inflation rate, I am sure some politicians would have discovered it long ago."

**And finally:** Says UPI reporter Donald Lambro, author of the book *Fat City*, "If the average taxpayer wandered through the halls of the government here in Washington, he would immediately come to the conclusion that we have more government than we need, more than we can afford and more than the American people want."



**NRCA Officers at Work Dep't:** That's NRCA VP Bob Bubenzer checking for a leak in the metal roof covering his Florida home. And we wondered where all that know-how came from.



# Letters

Sirs:

With reference to the article under "Letters" written by the TIMA committee and published in the July issue of *Roofing Spec*, it is our opinion that the Thermal Insulation Manufacturer's Association missed the point altogether.

In our opinion the roofing contractors are interested only in "roofing products" that they can use without having a high degree of potential future liability.

Questions regarding Crow Roofing & Sheet Metal's involvement can be best answered by stating that we are and were interested in developing information regarding the urethane blistering that would have concrete credibility. We proceeded to develop this information as follows.

1. Using an independent testing laboratory.
2. Asking manufacturers to furnish us with their own specifications. Each provided us with two written specifications.
3. Crow Roofing & Sheet Metal's objective was to find a method of applying roofing over urethane insulation that did not blister.

Six roofing material manufacturers and three insulation manufacturers participated in the test by furnishing us with roofing and insulation materials, free of charge. Each manufacturer had at least one representative present at the time of the test application.

Photographs, samples, and data were taken by a laboratory technician during each step of the application. Tests were monitored each week by this technician until June 1, 1979, and then again on June 21, and August 22, 1979.

On December 20, 1979 cut-outs were made of each test pattern and were taken to the laboratory for analysis. Each sample was dissected, and again photographs were taken throughout this procedure. 145 color photographs were taken at the start of the test program through the finish. All data and pictures were compiled in book form. Analysis of each test sample showed void formation between roofing membrane and urethane insulation skin, or wherever hot asphalt came in contact with the urethane insulation.

Many of these tests showed no visual blistering prior to analysis. Four test samples were applied using hot asphalt spot mopping and strip mopping, and perforated base sheet where asphalt flowed through the perforations as a means of adherence. Each of the test samples where roofing membrane was solid mopped to the urethane insulation showed potential blistering. The least amount of hot asphalt used in a given spot as a method of adhesion proved to be the best method of roofing applications over urethane insulation.

Each of the roofing material manufacturers were interested and received all material compiled. NONE OF THE INSULATION MANUFACTURERS appeared to be interested in the test results.

You can hide your head in the sand, but that never has proved to be the way to solve a problem.

Anyone interested in receiving our books on the test may purchase them at \$80.00 each, plus postage and handling.

Yours truly,

Walter A. Crow  
Crow Roofing & Sheet Metal, Inc.



## A BREATH OF FRESH AIR FOR YOUR BUR SYSTEM

vent hole deflection screens keep snow and foreign materials outside

air pressure relief

heavy gauge aluminum construction ensures longer life

large 11 inch flange provides ample leak-proof coverage

WRITE FOR PAMPHLETS:

- 1) "A Good Case for Breathers"
- 2) "Natural Vs. Manipulated Aspiration"

optional insulation insert avoids internal condensation

## MARATHON BUR INSULVENT

BUR system



### MARATHON ROOFING PRODUCTS, INC.

367 Nagel Drive, Buffalo, New York 14225  
(716) 685-3340

Distributors In Principal Cities

## Back-To-Back Gains In Contracting Reported for July

Contracting for new construction advanced for the second consecutive month as projects totaling \$13.5 billion were started in July, it was reported by the F. W. Dodge Division of McGraw-Hill Information Systems Company.

The seasonally-adjusted Dodge Index, which indicates the level of expenditures for construction that will be brought to completion in future months, advanced two percent in July to 148 (1972 = 100). July's small increase followed a strong 16 percent jump in June.

Commenting on the latest developments in the depressed building industry, Dodge chief economist George A. Christie said, "July's contracting statistics were encouraging since they reinforced June's tenuous upturn in the flow of new products. Until June, the construction business had been in a steep downward spiral, as shown by the fall in the Dodge Index from 190 to 125 between January and May."

According to the Dodge economist, "The midyear rebound into the 140's was largely attributable to improvement in the housing sector, which is where things always happen first in construction. Further declines must be expected in nonresidential contracting before a general building recovery takes hold," Christie noted.

Contracting for residential building has strengthened significantly since May, as a result of recent easing of credit, he pointed out. "The value of July's housing starts advanced to a seasonally-adjusted rate nearly 40 percent higher than the cyclical low point reached during April and May. Two months of recovery, however, still left July's \$6.1 billion total of residential building 11 percent below the comparable 1979 value," said Christie, warning that "the renewed upward movement of interest rates threatens to stall the housing recovery."

Contracting for nonresidential buildings, which reached its peak in January, retreated nearly 20 percent by July as the 1980 recession took its toll of commercial and industrial building.

Despite this recent decline, the latest month's nonresidential contract value, at \$4.8 billion, remained 6 percent higher than a year ago. "Past behavior of this lagging part of the construction market suggests that nonresidential contracting will continue to decline for another two or three quarters before making its recovery,"

said Christie. "Institutional building (schools, hospitals, etc.), which is notable for its insensitivity to economic conditions, scored a solid gain in July," he stated.

Nonbuilding construction contracting showed no improvement in July from its depressed conditions throughout the first half of 1980. With virtually no electric power plant construction being initiated, and with Federal funding for many kinds of public works projects being held back in the name of fiscal restraint, July contracting sank 41 percent below its year-ago total to \$2.5 billion.

At the end of seven months, the cumulative value of all construction started in 1980 was \$79.8 billion, down 24 percent from the \$104.6 billion of work begun during the comparable months of 1979. "The prospect for improvement in the residential building markets during 1980's second half is the basis for a forecast of \$137.3 billion of newly-started construction for the full year—a decline of 17 percent from 1979's record \$166.4 billion," said Christie.

## Cullen Named Honorary Member of ASTM

William C. Cullen, of the office of Engineering Standards at the National Bureau of Standards, Gaithersburg, Maryland, has been selected to receive Honorary Membership in the American Society for Testing and Materials (ASTM).

The award is granted to confer honor upon an individual of widely recognized eminence in a field of work covered by the Society and who has rendered especially meritorious service to ASTM.

Cullen received the award June 24th at the ASTM meeting in Chicago. The award recipient was cited for his "long distinguished service to ASTM in promoting its aims both domestically and internationally and for outstanding leadership in, and significant contributions to, voluntary standardization leading to improved standards in the field of building materials."

Cullen, long active in the roofing industry, serves as a Regent of the Roofing Industry Educational Institute, and is the 1974 recipient of NRCA's highest honor, the J. A. Piper Award.

## Workers Vote to Strike on a \$12.50 Wage Offer

Sheet metal workers in California's San Mateo County voted to strike last week after rejecting a tentative wage settlement of \$12.50 an hour over three years. Local 272 Business Manager Irvin L. Ellenberger says there's no strike yet.

The union wants a fatter first-year increase than the \$3.50 the contract provides. It wants it upped to \$5 to match the one other San Francisco Bay area sheet metal worker local unions have won.

Bob J. Shiapinski, executive manager of the San Mateo Sheet Metal Contractors Association, says he's "flabbergasted" by membership rejection of the contract. Because of big backlogs of work bid earlier, the lower first-year increase is important to his members, he says.

Under the old labor contract, no strike or lockout can take place until after the strike issue goes before the industry's National Joint Adjustment Board Sept. 4, Ellenberger explains. "If management locked us out in violation of that agreement, we'd sue their pants off, and I'm sure we could expect the same kind of treatment from them."

## E.L. Mongold Named President of ARMA

Edward L. Mongold of Certain-Teed Corporation has been elected president of the Asphalt Roofing Manufacturers Association (ARMA).

William A. Hindon of Johns-Manville Corporation has been named vice president of the Washington, D.C. based trade association.

A veteran of 32 years' experience in the building materials industry, Mr. Mongold is Senior Vice President for Industrial and Building Products at Cer-



*continued*

tain-Teed, headquartered in Valley Forge, Pennsylvania. Long active in ARMA as a director and Planning Committee chairman, he is also a director of the National Home Improvement Council and a member of several building material trade associations. He has been with Certain-Teed 22 years.

Mr. Hindon, who joined Johns-Manville in 1941, is currently General Manager of Fiber Glass Roofing Industry Sales in the

Building Materials Group of Johns-Manville as well as Vice President of the Johns-Manville Sales Corporation, located in Denver, Colorado. He has served ARMA as a director and as Planning Committee chairman.

ARMA also announced two new members to its executive committee. They are Joseph G. LaCroix of Certain-Teed Corporation and Sam E. Brasher of The Celotex Corporation, Tampa, Florida.

## Newsletter Service Available

Management For Small Business, Inc. has announced that it is offering a Newsletter Writing Service to roofing contractors.

MSB, Inc. will write original material, gather technical material and include personal material about the roofing contractor. Material will be prepared for at least six 4-page Newsletters.

The firm will also assist in preparing a mailing list to industrial owners and architects in the area served by the roofing contractor.

MSB, Inc. will offer the service to only one contractor in a given trade area so that recipients will not receive the same material from more than one source.

Contractors interested in publishing a Newsletter can obtain more details by writing to Jos. Halperin, c/o Management For Small Business, Inc., Box 9582, Riviera Beach, Fla. 33404 or call (305) 848-7672.

## Dallas, Tulsa Enact Legislation on Fire-Retardant Roof Coverings

An ordinance requiring Class C fire-retardant roofing for single-family structures in the City of Dallas became effective June 1.

The Dallas City Council reconfirmed by a 6-5 vote the ordinance which was originally passed last November. Opponents had pressed for a new vote in April, partly because eight of the ten City Council members are new and had not voted on the original proposal.

In another action, the Tulsa, Oklahoma City Commission voted to ban untreated wood shingles on multi-family structures. The Commission's decision followed a major apartment fire in Tulsa.

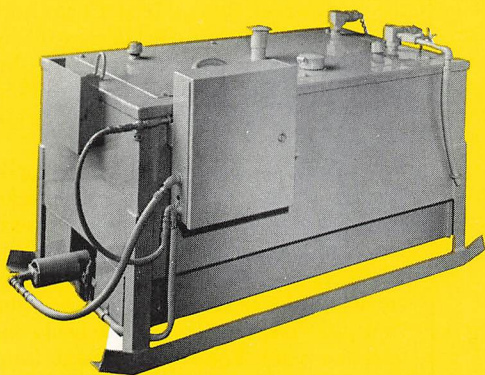
## Workers Can't Sue Under Davis-Bacon

A federal appeals court in New Orleans has ruled that workers generally cannot file private suits against contractors for alleged violations of the federal prevailing wage law. The court affirmed a district court decision dismissing a suit brought by two workers on a federally funded project. The court said Congress intended violations of the Davis-Bacon Act to be enforced through administrative actions and not private litigation.

## New cold process unit

## Eliminates scorching and overheating

## Without thinning or diluting



- Indirect Fired
- Thermostatically Controlled
- Used with High pressure Hydraulic or Air Pumps
- Trailer Mounting Available
- Speeds application and extends spraying season

# WARM-MASTER

PATENT PENDING

### SPECIFICATIONS:

HEIGHT: 29"

LENGTH: 60"

WIDTH: 32"

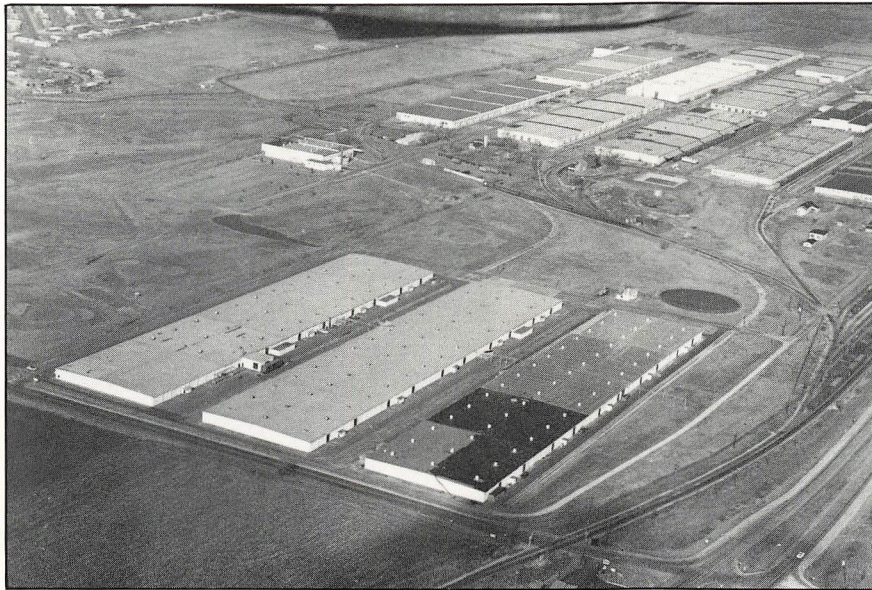
SHIPPING WEIGHT: 650 LBS.

NOTE: Heat transfer oil not furnished. 40 gallons required.

**ROOFMASTER**  
PRODUCTS COMPANY

ROOFMASTER PRODUCTS COMPANY, INC.  
P.O. Box 63309, Los Angeles, Calif. 90063  
Tele: (213) 261-5122  
or (800) 421-6174 toll free (except Calif., Alaska, Hawaii)  
Calif: (800) 372-6409 (except 213 area code)

## Insulation and a New Roof Save Energy for Western Area Postal Facility in Topeka



Western Area Supply Center of U.S. Postal Service in Topeka, Kansas. Building on right is in process of being re-roofed.

The Western Area Supply Center of the U.S. Postal Service in Topeka, Kansas consists of three block-long, single-story, warehouse type buildings distinguished by 240,000 square feet of roof.

The function of this facility is to supply postal equipment of all types to the 26 Western states, the Pacific Islands and military installations in the Far East. On a 24 hour basis, the Western Area Supply Center stocks and furnishes repair parts for 477 major mail processing centers, 251 vehicle maintenance facilities and the 21 bulk mail carriers. Inventory in the warehouse at any one time includes more than 15,500 line items valued at thirty million dollars.

In keeping with U.S. Postal Service policy to update the energy efficiency of its facilities, a contract for a new roof to protect this inventory and operation was awarded to Vincent Roofing Inc., Topeka, Kansas. It called for the reroofing of one of the buildings plus a 200 by 200 foot section of another. The three, 200 ft. wide by 1,000 ft. long buildings are made of concrete blocks with precast gypsum plank roof decks. The original roof was four-ply, and nailed to the gypsum plank deck. The slope was approximately  $\frac{1}{8}$  inch per foot, with a

gravel stop perimeter. A complete tearoff of the old roof was required. After it was removed, and the deck had been cleaned, a 43 pound base sheet was mopped onto the precast gypsum deck. Gaftemp urethane 1.3 inch insulation was then laid down, followed by a ply of GAF stratavent vent ply. This was followed in turn by three plies of 15 lb. air vent felt, applied in asphalt with a flood coating river gravel surface. This met GAF specification 203A, using GAF materials throughout.

Vincent Roofing used from ten- to fifteen-member crews, with the men interchanging tasks, allowing apprentice crew members to gain expertise and experience in all aspects of built-up roofing.

The gravel was put on the roof by a **Morgen conveyor**.

After the basic roof was installed, flashing was put in place at the gravel stop, at various changes in elevation of the deck, and around the existing ventilators.

Work was completed according to Vincent Roofing Inc.'s schedule of early April, well ahead of the May deadline for the contract.



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# The Warning Line Behind the Scenes:

## An Interview with Charlie Jackson

**Editor's Note:** Charlie Jackson, of E.L. Hiltz & Co., Hickory, North Carolina has been an avid OSHA-watcher for years. His company is manufacturer and distributor of roofing equipment and supplies, and Jackson has lived with roofing contractors' OSHA problems on a daily basis for the last decade.

When NRCA first started talking about its Warning Line system some eight years ago, Jackson started listening, and soon he was marketing a pre-packaged, self-contained Warning Line system, which he designed to meet the anticipated OSHA standard.

Jackson, like the rest of the industry, has been watching and waiting for the new regulation to be issued, and some of his frustrations, like ours, are obvious in this recent interview with *Roofing Spec* Associate Editor Diane Guenther.

**Spec:** You have worked with OSHA extensively on the warning line system, haven't you?

**Jackson:** Yes, I've tried to. I don't know how far along we are, even now, because the government has been promising the standard since the end of May. Then they changed it, and now it still isn't out.

**Spec:** How was the warning line concept initiated?

**Jackson:** The warning line idea was originally initiated by NRCA because roofing contractors complained so bitterly about

having to use guard rails, which were terribly expensive. NRCA came up with this system of the perimeter warning line and it went over very well at the time. It serves the purpose very well for what it is intended to do.

**Spec:** What do you think is delaying OSHA?

**Jackson:** OSHA has agreed to issue the standard, but now they're getting so picky and technical about it, and changing a word or phrase here and there, that they can't get it out.

**Spec:** The warning line system is a simple concept isn't it?

**Jackson:** The warning line is portable from job to job, and can be used time and time again. It's easy to set up and very simple to use under what we understand the government regulations are going to be. It will be very effective. The warning line consists of stanchions and rope or wire rigged and supported so that its lowest point is no less than 35 inches from the roof deck and its highest point is no more than 45 inches from the deck.

**Spec:** What is the OSHA standard that is being considered?

**Jackson:** OSHA is proposing, to the best of my knowledge, to use the warning line ten

feet from the roof edge and all around the work area on a job with any kind of mechanized equipment. Roofs where no mechanized equipment is being used should have a warning line six feet from the perimeter or from the roof edge. Another requirement calls for a 13 lb. test on the top of the stanchion before it tips over. Flags or pennants should be 39-40 inches from the roof surface and the flag or pennant line is to have a certain test before it will break, and that would be in the range of 500 lbs. The reason for this is so that during cold weather when a roofer backs up to it with heavy clothes on he will be aware of the line behind him. The flag or pennant line is to be set up in intervals of six feet or less.

We've built our warning line system around those specifications, and as far as we know at the moment our system will perform. We have them ready for shipping, boxed and packaged. We don't have the boxes sealed up because we're waiting for any last minute changes from OSHA.

**Spec:** What is your reaction to the way OSHA is handling the warning line proposal?

**Jackson:** I don't think they're being fair about it, at all. I think they could have had the standard out about six months ago. It's like anything else: they're dragging their heels. I have heard about several contractors who have already been cited for not having a perimeter warning line on their jobs. So the field inspectors are aware that there will be a

standard out. And I know of another roofing contractor who was cited for not having a warning line system on his job, and fined.

**Spec:** *With citations being issued, what does this mean?*

**Jackson:** I think this means that it will be widely accepted by the field inspectors, and they're aware of it.

**Spec:** *Can you tell us more about the citations you've seen?*

**Jackson:** Not having the proper design standards, I don't know the exact work and I didn't see the citation but the man told me he was cited for not having a warning line system on the job. I told him he can't be cited for it because there is no standard for it. The man already had paid the fine, after it was reduced to \$100.00 from \$1100.00. But now this man has left himself open for a willful violation.

**Spec:** *Everyone seems to agree that this is a worthwhile standard. What is holding it up?*

**Jackson:** I just don't know. When they have the standard about ready, someone wants to change a word or phrase. It's the way the government works. It's not going to be an easy thing to conform to when it finally comes out, because it's difficult to design something with a tipover weight or test pull of 13-15 lbs. We're working on that, and thought it would be simple to develop, but the meat base in it is about 18-29 inches square. The base would have to weigh almost 50 pounds, in order to satisfy a 13 lb. tipover test. On our system, we would have to go to that heavy weight or to a much larger base, a base the size of a desk in order to comply with that tipover weight.

**Spec:** *What will the investment for a roofing contractor be for the warning line system?*

**Jackson:** Our system is going to be about \$130-\$140 per set. The set includes four stanchions, which cover a 60 foot perimeter.

**Spec:** *Is there any other information about the warning line system that contractors should know about?*

**Jackson:** I think the standard will be used only as a guideline. I don't know that too many inspectors are going to go by the word of the law. I think that a roofer who has the system in use—whether he uses old buckets with cement in them or an old wooden handle with a flag on it—will satisfy the spirit of the law. The intent to comply is going to do a great deal toward keeping the man safe from the inspector. I certainly want roofing contractors to buy and use my system, because that's why I'm in the business, but I tell them that if they don't

then I'm afraid there is going to be a lot of trouble. We have a fist full of orders right now waiting to be shipped to contractors, just as soon as OSHA comes out with the standards.

NRCA has been very cooperative with us. It's good to belong to an organization that does give not only the roofing contractor but also the associate member a lot of help. "Togetherness" is the key to the whole thing. It's the only way we will be able to beat the law, but again we have to comply. I feel that the warning line is something that is necessary because there are so many

accidents. I hope we can get this moving. I don't think it will settle a lot of questions, but as soon as OSHA does something about it, whether we like it or not, the better off we'll all be.

The guardrail system was said to be an impractical thing to put into use. But now we have no alternative, and I think we should certainly take advantage of what we've got now. I think anything that's going to keep a man from falling off a roof—even if it's only one man—is worth it.



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# Prize-Winning Safety Ideas

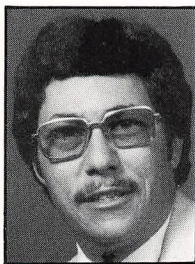
*Editor's Note: Earlier this year, NRCA sponsored a safety contest using the theme, "Be Careful to Make Money." The first-place entry, from Interstate Roofing Company, was featured in the July Roofing Spec.*

## BELDON ROOFING WINS 2nd PLACE

Beldon Roofing and Remodeling Company of San Antonio, Texas has developed several innovative safety measures for use in the company. One idea was recently submitted in NRCA's Safety Contest, "Be Careful to Make Money," by Mike Beldon, president of the firm.

Beldon received the second place award for his safety entry, a ladder chain clamp. The idea originated seven years ago when problems developed because employees did not tie ladders to buildings. The general supervisor, at that time, initiated the idea and assembled the ladder chain clamp.

Beldon explained the device simply as a chain attached to an adjustable clamp. The clamp is attached to the building and the chain to the ladder. The result is a secure



**Beldon: "We need to recognize safety as a part of our living in this industry."**

ladder in almost any situation. The materials used to assemble the clamp are inexpensive and can be purchased at a local hardware store. "The majority of the time," Beldon confirms, "good safety ideas, like this one, are inexpensive, easily developed, and they work. That's what it's all about!"

Beldon supports the NRCA safety program and refers to safety materials distributed by NRCA for his own company use. As a former chairman of the NRCA Safety Committee, he feels safety should be regarded as a top priority of a productive company. "It's unfortunate that safety is not taken seriously in most companies," he says. "If a company would determine the cost of its own safety program versus the dollar amount of a man, insurance, and loss of workmanship, the visible savings would be monumental."

In his company safety program, Beldon uses a checklist that is completed by superintendents on each job site. The checklist notes any major or minor accidents that occur on the job. It enables Beldon to keep informed of job progress and incidents that occur daily on the job. At his monthly employee safety meetings, Beldon refers to the recorded accidents, both major and minor, and discusses prevention methods. "I bring the accidents to the attention of my employees because I want them to be aware that excessive accidents may lead to a major problem."

We need to recognize safety as a part of our living in this industry," Beldon insists. "Many roofing contractors use the excuse that a company can't make its employees follow safety rules and practices; however, that is not true. For example, we had a case where a man accidentally stepped in a bucket of hot asphalt. Because we required specialized footwear he avoided severe foot burns. Up to several years ago, specified footwear was not a requirement, and accidents like this happened. Today, we have a boot with a sewed-in tongue. We enforce the use of this special footwear by purchasing boots in all sizes and stocking them at our company. When our employees are in need of new boots or forget to wear them, they are available for them to purchase at the company. It's a savings anyway to purchase boots in large quantities, and not

much additional work by us. It's also a savings and convenience for our employees and a preventive measure for our company. We can't prevent all accidents from happening, but when they do happen we want the men to be protected."

## HANOVER IRON WORKS WINS 3rd PLACE

Hanover Iron Works, Wilmington, NC, won both third place and an honorable mention award in the NRCA Safety Contest. Horace T. King, III, Manager of the Roofing Department, developed the two winning safety ideas. Capturing the third place award of \$300 was the idea of hiring a local retired military person as safety director to make job site inspections and to investigate accidents. The idea of awarding a \$25 savings bond to each foreman whose crew went without accidents during a quarterly period received an honorable mention rating.

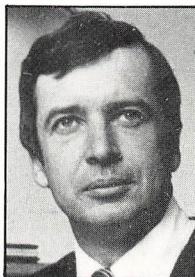
### The Safety Director Program

The key to the success of the safety director program is independence. The safety director reports directly to the boss. Since the director is not a long-time employee or foreman promoted to the job, he can be more objective and can "call them as he sees them."

The safety director investigates accidents and counsels the department manager on corrective action. He conducts quarterly meetings with foremen and maintains all safety records, including injury reports.

The idea of using a retired man is beneficial for keeping compensation at a manageable level. His hours can fluctuate according to the volume of work in progress. "Military men seem to excel here, probably because they are task-orientated and accustomed to taking orders," said Walter Derk, Executive Vice President of Fred S. James & Co., Insurance Brokers.

Hanover Iron Works began work on a company safety inspection policy in 1971 with the advent of OSHA. Elaborate plans and procedures were outlined, but they were never fully implemented because concerns other than safety were given higher priority. Ultimately, the need for an independent safety director—one whose only priority was safety inspection—became apparent.



**Hanover's King:**  
Adding a Safety Director has had unexpected benefits.

#### **Safety Director—Jim Price**

Jim Price, retired Navy Commander and Vice Chancellor of Financial Affairs at the University of North Carolina, has assumed the title of Safety Director at Hanover Iron Works. His duties include meeting with each new employee before he begins work and explaining company policies on safety and protective clothing. He also makes unannounced inspections of each crew in the field at least once a week, checking for safety violations.

Price tries to add a personal touch to his job, a one-to-one relationship with foremen and work crews, so that he can better communicate to them the importance of safety. "At first the men were sort of hesitant about me, as if I was snooping," says Price. "Now they are very cooperative. They know we are looking out for them."

According to Price, the safety inspection program has been a success. "We cut accidents almost in half over a comparable six-month period last year. The men have become very conscientious about tying lad-

ders up and barricading holes in the roof—the really important items. I would say the area we've improved on most is men wearing their goggles while tearing off roofs. We used to get many injuries from men getting pitch dust in their eyes. They used to leave the goggles on the truck or complain about goggles steaming up. We bought new non-fogging goggles and kept on the men to wear them, and the situation finally improved. It takes eternal vigilance, but it pays off. The men really feel that we care about them. Management is behind the program 100 percent—and that means a lot."

#### **Results of the Program**

Roofing Department Manager King praises Price's work with Hanover Iron Works. "Jim calls each situation as he sees it and does not compromise job expediency for safety. I think that our field force is more safety conscious since we started this program, and the number of injuries is much lower than it was.

"Another benefit for the company, one which we did not anticipate," King continues, "is that Jim is one more person representing management on the job site, and he has been able to spot abuse to equipment or property and take corrective action. With both the Field Superintendent and the Safety Director making job inspections, we are doing a better and safer job and even getting it done a little faster. We feel the idea is working for us, and we are glad to share it with our friends in the industry."

The Safety Contest was sponsored by the NRCA Safety Committee. Its purpose was to learn more about the efforts being made by various companies in the industry to reduce accidents and operate under safe conditions. Any safety idea pertaining to the roofing industry was eligible to win. The criteria used for judging the entries were based on universal appeal, feasibility of implementation, and overall improvement to the industry.

Walter Derk and Dick Lietz represent Fred S. James & Co., which administers the NRCA/CNA Property-Casualty Insurance Program. Derk and Lietz, along with loss prevention manager, Evan Wilson, worked with NRCA's Safety Committee to develop the safety contest concept. CNA Insurance Co. generously donated \$2500 in cash prizes.

Dick Lietz, who has seen the safety inspection program work successfully in other companies, commented on the program by saying, "The employees become inundated by the safety director—his ideas, his presence. He could visit a job site in the morning and come back that very afternoon. They know he could show up at any time so they are more aware of wearing protective clothing, using equipment properly, and following other safety precautions. Also, the safety director is usually compensated based on the results of his efforts. If by his efforts, claims costs and insurance premiums are lowered, it will surely be reflected in his salary."

#### **75 Years of Service**

Hanover Iron Works is a roofing and waterproofing company specializing in conventional applications of built-up-roofing, shingle work, waterproofing, and the installation of heating and air conditioning equipment in residential and commercial buildings.

The company celebrated its 75th Anniversary on April 3, 1978. It has remained in the King family since its inception and is now in its fourth generation. The company has grown from four employees in 1903 to over sixty in 1980.

Sound business principles, conservative management and a good working relationship with the people it serves has enabled Hanover Iron Works to survive the economic ups and downs of the last 75 years as well as two world wars. Management hopes that these principles will permit the company to continue to provide many more years of service to the public.



# Asphalt and Coal Tar Pitch Emissions

*Editors Note: The following article is excerpted from a presentation made at NRCA's New Orleans Convention by Dr. Jerome Thomas of the University of California at Berkeley. Dr. Thomas conducted a series of tests on behalf of NRCA to determine whether emissions on roofing job sites are within OSHA standards. Dr. Thomas's work is continuing, and a follow-up presentation is scheduled for NRCA's Phoenix Convention next February.*

I'd like to emphasize that this is a progress report. We're approximately half way through a research program, and I'm not really prepared to come up with hard numbers. This is in no way a recommendation, simply a progress report.



**Dr. Jerome Thomas** reviews health concerns in the roofing industry.

We're talking about a regulation for the roofing industry and I'm going to read that regulation to you because it is the basis of our concern, and then I'm going to tear it apart and explain it in some detail. "An employee's exposure to coal-tar pitch volatiles, and the benzene soluble fraction of coal tar pitch, shall not exceed the eight-hour time weighted average of .2 milligrams per cubic meter in any eight hour work shift of a forty hour work week." Of six compounds that are listed, one is

classed as a powerful carcinogen, the other five are primarily irritants. They will cause allergic reaction, sneezing, and photosensitization of the skin. The emphasis is now placed on benzo-a-pyrene (BaP) as a carcinogen.

All of these compounds are aromatic hydrocarbons, which means they are related to benzene. If you could see the molecule it would look like one little fragment of chicken wire.

Coal tar pitch volatiles include the fused polycyclic hydrocarbons and all of these six are fused polycyclic hydrocarbons which volatilize from the distillation of residues of coal, petroleum, wood and other organic matter. Pitch comes from the distillation of coal—the pot residue that's left after you've distilled all the light ends off. That residue is roofing pitch. Asphalt comes from the distillation of petroleum. After you take the final resin of petroleum and air-blow it, you have asphalt.

The question is: How are the pitch volatiles measured in the scheme that OSHA has proposed? In essence we collect the particulate material on a filter and this filter is mounted on the worker close to his breathing area. The air collected is gathered in a pump which is mounted on his belt. That pump is drawing air through the filter at something close to the breathing rate. The particulate material on the filter is weighed and we express that concentrate in terms of milligrams per cubic meter.

The filter is contained within the holder, the plastic holder housing the pump. We take the filter and extract with benzene all those benzene soluble compounds. The benzene is evaporated and leaves behind soluble material.

To give you an idea of what a milligram is, there are more than 28,000 milligrams in one ounce, and a cubic meter is 35.3 cubic feet, which is like taking the material found in the air contained by five 55 gallon drums. So you can get an idea that this is very, very small amount of material that we're trying to measure.

What are the volatile emissions from hot bitumen? We're talking about what comes from the kettle or the mop cart or any piece of equipment, including those coming right from the roof. The emissions can include gases, debris or hydrocarbons. We're not concerned with the gases that move in and out of the filter. We do collect on the hydrocarbons which are termed the particulates, solid and liquid.

Liquids are called particulates in this definition. There is no water considered here and these are high molecular weight hydrocarbons. Debris can be solid or liquid but when we're measuring a particulate you see that we get debris as well as hydrocarbons.

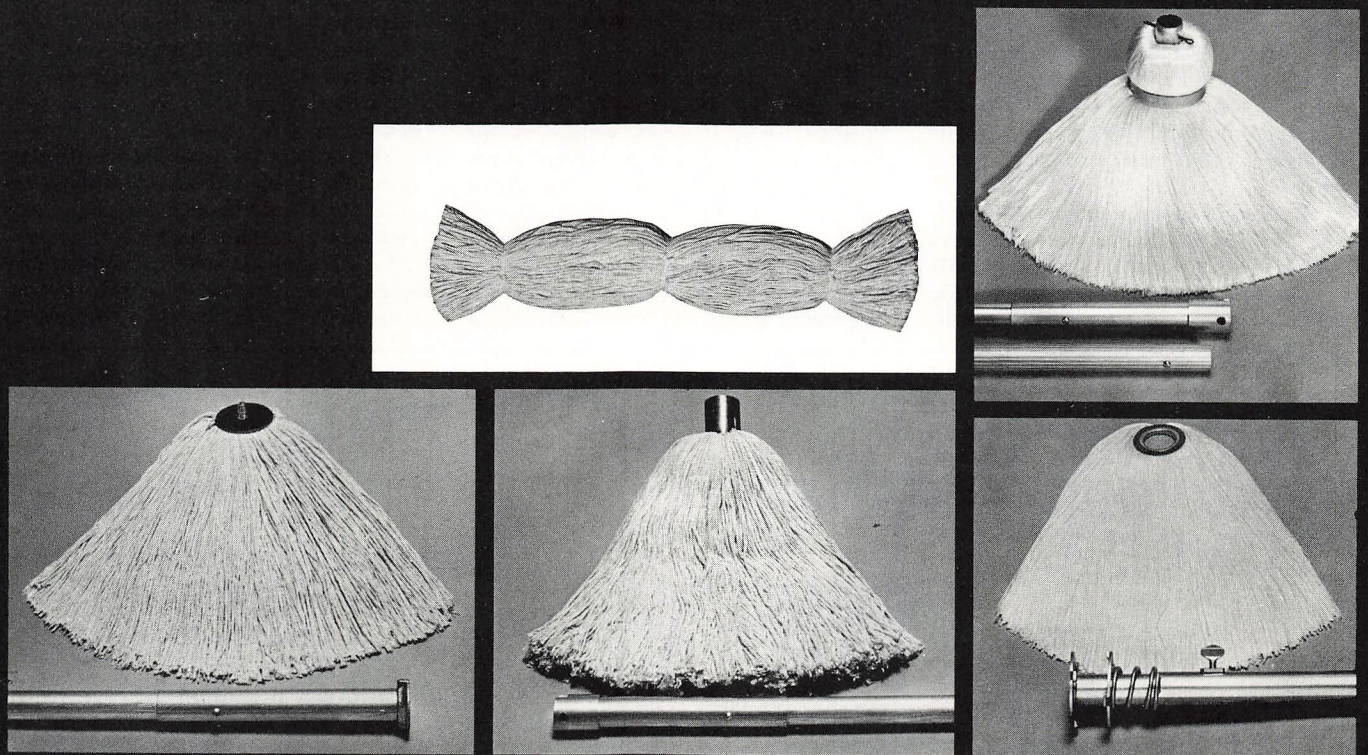
From this material we do our benzene extract. All of the hydrocarbons are soluble in the benzene. We are not interested, however, in all hydrocarbons, just the BaP, which is a solid hydrocarbon. We do not specifically measure BaP at this time. Presently, we look at the benzene-soluble material and say if we have so much of it then we should be concerned because it may contain BaP.

We have current standards covering exposure to both asphalt and pitch. According to the standard the benzene soluble material cannot exceed .2 milligrams per cubic meter. There is some question as to whether to extract material since the benzene itself is carcinogenic and we'd be working with a solvent which is possibly hazardous to work with. But for both asphalt and pitch you should not exceed .2 milligrams per cubic meter on an eight hour time weighted average.

What do we mean by an eight hour time weighted average? To express concentrations of the materials we bring back into the laboratory, we weigh the material and then, for example, if a man were working for approximately one hour drawing in two liters of air per minute, he would have been exposed to 120 liters of air. So what we

*continued on page 20*

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have to do is convert our weight into a concentration of milligrams per cubic meter as stated in the standard. There are 1000 liters in a cubic meter. We multiply that by the actual time. If he only worked one hour, we multiply that concentration by one and divide by eight and we get the eight hour time weighted average.

There are federal standards as indicated which are .2 milligrams. California has a separate set of standards; they restrict the emissions from asphalt to 5 milligrams per cubic meter. We're in compliance as far as asphalt is concerned. They have a different regulation for pitch which is still .2 milligrams per cubic meter, the same as the federal.

The research group of OSHA is NIOSH. They develop the methods and techniques and do all of the analytical work. NIOSH recommends that the limit for asphalt be based on total particulate weight of 5 milli-

grams per cubic meter and that pitch be dropped from .2 to .1 milligrams per cubic meter.

You might ask why the big difference between asphalt and coal tar pitch. Pitch is primarily a mixture of aromatic compounds and the BaP is an aromatic compound. Generally, we find it in higher concentrations in pitch. In asphalt you have a much smaller concentration of the aromatics and you have a smaller concentration of the BaP.

In the study with which I'm involved right now there are a number of areas of concern. These standards which you just saw are based on coke oven workers' exposure. Another area of concern is the size of the particulate material. Certain sizes of particulate material can get into our respiratory system down into our lungs. If you had larger particles, they couldn't get into the respiratory system. We're not really taking

this into account in our sampling techniques. It is a point of concern.

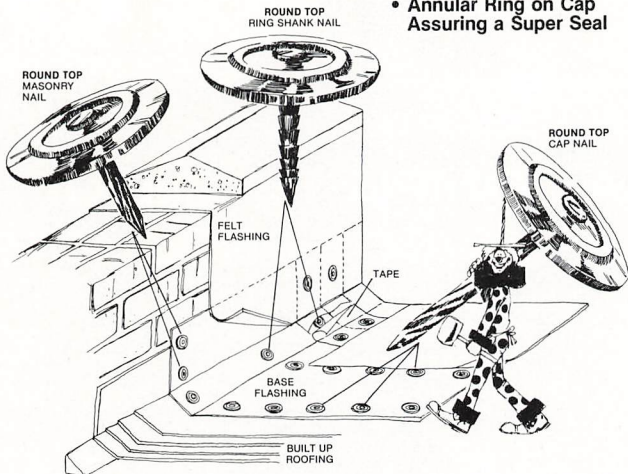
Part of the research that we're involved in is to write a critique of the methods used by OSHA. Another point of concern under OSHA is they have set up within the last month new policies regulating carcinogens. And in the *Federal Register* of January 22nd, they had this policy document. There are two major points. Remember, I indicated that BaP is not specifically identified. We infer it is present if we find something in the benzene extract. Under this new policy document we must have an absolute determination for the BaP.

The second point under their new policy is that the lowest feasible occupational exposure level must be set for all compounds including BaP. It has not been set as yet.

Let me read you some excerpts relative to this lowest feasible occupational exposure to BaP. The American Industrial

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Health Council, which is concerned with worker exposure anywhere to BaP, not specifically to the roofing industry, sent out a letter December 10, 1979. They are concerned with the classification of and the imposition of controls. In this letter they draw reference to a recent release from the Environmental Protection Agency where the EPA had published proposed rules on national emissions standards for hazardous air pollutants and I have a copy of this EPA report which appeared in the *Federal Register*.

Congress says that standards must be set at zero to eliminate the risk of cancer altogether or some residual risk must be permitted. A requirement that atmospheric exposure to carcinogens be reduced to zero would produce massive social dislocation, given the pervasive nature of at least minimal levels of carcinogens in key American industries. Since few such industries could

soon operate in compliance with a zero emission standard, closure would be the only legal alternative.

Those included would be manufacturers or dispensers of any petroleum products. Roofers use, handle and actually dispense petroleum products. Congress had no intention of mandating such results to a zero risk.

I'd like to put to rest this point we have heard many times that they are going to impose a zero risk—absolutely no BaP. We have around us a residual risk that must be permitted. BaP is not unique to the roofing industry. Every time you smoke a cigarette you are exposed to large quantities of BaP. When you go outside today and you breathe in the ambient atmosphere you are being exposed to BaP. An exposure in the work site again exposes you to BaP and the concentrations may or may not be large. We really don't know because we do not have a

good handle, and that's one of the objectives of our research. We want to find out just how much BaP the workers are being exposed to so that we can take some positive action. Not only is the federal government concerned with the problem but I think that the NRCA has taken a big step and is far ahead of the federal government.

We're required by law to go out and sample under what are called the "standard methods." The point in variance as far as the standard method is concerned is that it is not specific for the individual compounds or other possible carcinogens. The samples we obtain do not adjust for any BaP received from the outside atmosphere. Man must work and breathe the ambient air plus any emissions from the job site. Again we talk about the benzene extract and the concern that in the benzene extract we would have materials which would contribute to

*continued*

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## PROGRESS IN TESTING PROGRAM

Dr. Thomas' presentation on health and roofing emissions (see accompanying article) was made several months ago at the NRCA Convention in New Orleans. Since that time there has been significant progress in the industry-sponsored testing program described by Dr. Thomas. There has been little change, unfortunately, in the OSHA-EPA exposure limits.

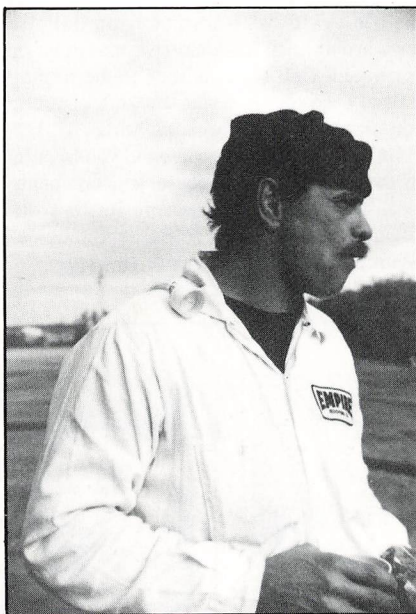
According to NRCA's Member Services Manager, Bob McAdam, roofing contractors are presently held to the .2 milligrams per cubic meter for both asphalt and coal tar pitch. The industry has been working to change the exposure limit and use the level originally proposed by the National Institute for Occupational Safety and Health (NIOSH) in its 1977 document, "Criteria for a Recommended Standard Occupational Exposure to Asphalt Fumes." In this document, NIOSH recommended a threshold limit of 5 milligrams per cubic meter of air over an eight hour time weighted average basis.

As for the program of emissions testing, eight organizations have contributed funds to help gather the scientific data necessary for intelligent decision making in the area of exposure limits to roofing emissions. The eight are: The Roofing Contractors Association of Southern California; The Midwest Roofing Contractors Association; The Chicago Roofing Contractors Association; The Florida Roofing and Sheet Metal Contractors Association; The Michigan Roofing Contractors Association; The Roofing and Sheet Metal Contractors Association of Philadelphia and Vicinity; The Roofing Contractors Association of San Bernadino and the National Roofing Contractors Association. NRCA has acted as the program overall coordinator for the past several months. The total budget for the program is \$37,000.

Thus far 14 job sites have been studied, and information on the exposure of workers to the emissions of asphalt or pitch has been gathered. Two more tests remain to be completed in Southern California. The testing will end sometime in late September or early October. After the tests, Dr. Thomas will undertake extensive analysis of the information developed during the field research. The final results will be presented at NRCA's upcoming Phoenix convention.

the concentration of BaP. Finally, no concern over particulate size is contained in the "standard method."

To compare the emissions received by a worker in a coke oven is somewhat misleading. In a coke oven you take coal and heat it to drive off the coal oil to get the coke which is used steel. That temperature



**Air sampler mounted on worker's shoulder gathers data on asphalt emissions.**

at which the distillation occurs is 2000°F. All of the materials which come off of the coke ovens are aromatic hydrocarbons and at very high concentrations. The same information from the study of coke oven workers was applied to coal tar pitch. Coal tar pitch we know is used in kettle at 350° to 450°F, all aromatic hydrocarbons but at much lower concentrations than out of coke ovens. The asphalt is again at relatively low temperatures compared to the coke ovens 450°-550°F. We are concerned with only one-third of the emissions of aromatic hydrocarbons in asphalt.

All of the hydrocarbons including the aromatics, which are the ones we're interested in, are soluble in benzene and will lead to information that will be in a sense meaningless. We are also concerned about particle size. We measure the diameter of particles in microns. You can't see anything that is smaller than 10 microns in diameter. Hair can be from 10 to 500 microns in

diameter. You can see it easily because the hair is so long. Pollens and the water droplets in fog range from 1-100 microns. Tobacco smoke is 1 micron or less, and gas molecules are below .01 microns.

The "hot" emissions range from this gaseous range to 10 microns. The Health Effects Research Laboratory of the EPA in a recent publication has recommended standards for inhaled particles of less than 15 microns and they also recommend a second level at 3 microns.

Why do they set the two limits? These limits are relative to the mechanism of inhalation. Particles 15 microns or less can enter our respiratory system. Those above 15 get tied up in the nose but not into the alveolar of the lung. Particles less than 3 microns get into the alveolar.

We should be concerned about the particles, but many of the particles of the kettle are greater than 15 microns. The greatest number of particles coming from a kettle are below 15 microns, but the mass density is the greatest at 15 microns and above. We are basing our standard on mass and because of that we are concerning ourselves with particles that are too large to be of concern to the inhalation mechanism. We are concerned about the particles 3 microns or less because they will get into the lungs. And the lungs cannot easily dislodge and get out the particles of this size.

Now here's what our study was all about. We are going to 17 job sites. Eight of them are completed. Five of them are on asphalt jobs; two are for pitch. We started the study in October of 1979. At each site we spent three days and on each of those days we sample five men. We ideally would like to sample the kettleman, the person on the hot lugger, the felt layer and the broom man. At the site we get information on asphalt temperature, wind velocity, which we are very interested in, and ventilation. The sampler used is a small plastic box about the size of my hand and it is clipped on the belt of the worker. Inside the sampler there are two filters. One is a silver membrane filter, silver metal on which we collect some of the materials. There is also a glass filter. The filter comes from the tests of coal coke ovens. In the laboratory the filters are weighed on very sensitive scales. The one used in our laboratory is sensitive to the third decimal point in milligrams. Stating that another way we can weigh accurately one 27th millionth of an ounce.

We weigh the filter before it goes out in the field. After the filter has been used we

# STYMIED BY LIMITED ACCESS ON RE-ROOFING JOBS?

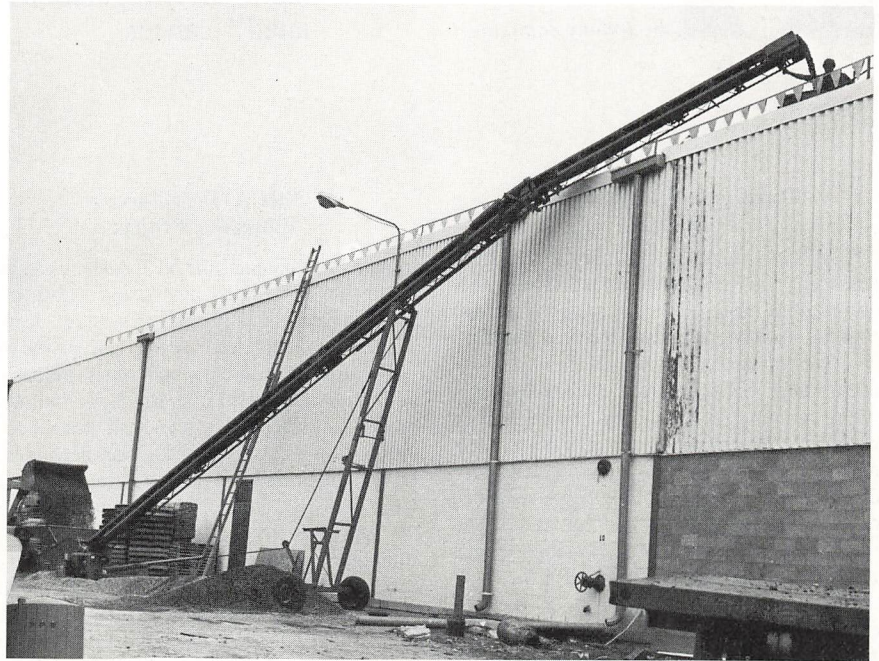
weigh it in the laboratory again and the gain in weight tells us the particulate material that we have collected. We take the filter, fold it up, and push it into a test tube. We add benzene to the test tube and the benzene will extract the material. We take away the benzene loaded with the extract. The liquid is filtered to remove debris, leaving benzene extract. We drive off the benzene, and what remains is the benzene soluble material we are interested in.

The information to date indicates that in general we are complying with the 5 milligram per cubic meter for the asphalt particulate. For benzene extract what we've found is in agreement with what is already out in the literature. The Asphalt Institute found that the emissions from asphalt are three to six times above the .2 limit. It was hoped that we wouldn't be above. Remember that asphalt is not being looked at under the benzene extractable limit but we hope that it will be looked at under the 5 milligrams per cubic meter particulate level.

We have found something which to me is rather nice to hear, comparing our results on pitch with a Canadian study. In the Canadian study, doing work similar to what we had done, they found pitch 30 to 50 times above the limits. We didn't find that. We found that pitch is exactly the same as asphalt. Pitch is no worse than asphalt. But what I have to point out is that what I have just said is meaningless given the new OSHA and EPA policies relative to potential carcinogens. We must identify and quantify the BaP and other carcinogens.

Samples of the materials have been saved from the jobs we have sampled. NRCA had asked at the start of this project that we prepare another proposal requesting additional funding to find just exactly how much BaP and other carcinogens are contained in the samples. This will help in meeting the challenge posed by the new standard.

The objective is all the same. We are interested in the health of the roofing worker whether we are the federal government, management or labor. From what I've seen up to this point we might be slightly above regulation limits. If we find that we are in violation we will take the remedial action to bring things into compliance.



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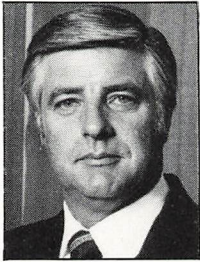
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The Roofing Spec — 23

# Health Problems and the Roofing Contractor



by Johnny Zamrzla

The roofing industry has become a target industry for the Occupational Safety and Health Administration. NRCA Senior Vice President, Johnny Zamrzla, addresses government safety regulations and the question of "industry-associated" cancer.

## Government Regulations Increase

NRCA's involvement in safety and health research has grown more extensive and complex as more government agencies and regulations have directly affected our industry. We all agree that we will continue to reap many benefits from the knowledge we're gaining in this area, but we also recognize that much of our effort must be directed at counteracting unreasonable conclusions made by controlling agencies. Frequently, safety and health regulations are based on limited or questionable information without input from NRCA. It is increasingly important that we, as the national association, maintain aggressive safety and health programs and develop our own research if we want to effectively influence the decisions that will govern our industry.

As roofers we have always known that burns and falls were major occupational hazards. In the early 1970's, however, our industry began to be mentioned in the same breath with terms few of us had associated with our businesses—terms like cancer and air pollution. At that time we were told that our use of kettles and tankers to heat or melt bitumens was a contributing factor in air pollution. As such, we began to gather information on emissions control systems for our equipment. From this beginning, we have seen increasing regulations at the local, state and federal government level. We now find ourselves faced with questions regarding the exposure of our workmen to cancer causing elements and environmental pollution. We hear our industry associated with such terms as "noxious," "carcinogenic," "mutagenic," and "hygiene," just to name a few. We have also become involved with national agencies, such as the National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration (OSHA), and the Environmental Protection Agency (EPA).

## NRCA Task Force Emissions Project

In the last two years, the NRCA Health Task Force has developed health and safety research projects in conjunction with Dr. Jerry Thomas and his staff at the University of California at Berkeley and other industry personnel expert in the field of bitumen emissions. Recently, the task force developed an air sampling program, headed by Dr. Thomas. In this project samples of air were collected at actual job sites to measure the exposure to emissions from hot bituminous materials experienced by roofing mechanics. Working in cooperation with numerous NRCA contractors from across the country, the task force has been able to sample emission exposures incurred by workmen using both coal tar bitumen and asphalts from numerous sources. The samples were collected over a three day period for five workmen, each having varying degrees of exposure. Job conditions, air temperature, wind velocity, bitumen temperature, and other pertinent information was recorded by a technical advisor from Dr. Thomas's staff. At each job site, a five gallon sample of the bitumen material used was retained for back-up or future laboratory work, if required. The results of this project and its importance to our industry will be presented at the 1981 convention in Phoenix and in NRCA publications. As in all NRCA committees and programs, the fine people who have participated in this project have given freely and extensively of their expertise and time to steer our health activities. Our current testing program is being funded in part by several of NRCA's affiliate associations. Without their time and support, such programs might not be possible.

## The Cancer Question

NRCA has become active in the area of health and safety in order to add its own

input into government regulation. For our association to make an important impact in this area, we must develop valid and respected data of our own. The national cancer surveys have been attempting to study cancer rates in this country for many years. Some members of the scientific community have labeled various forms of cancer as "industry-associated" cancers. Among those labeled as such are cancers of the lung, stomach, urinary tract, bladder, liver, skin and larynx. If this assumption is correct, highly industrialized cities would, theoretically, have high rates of these "industry-associated" cancers.

However, the Third National Cancer Survey, which surveyed some 20 million Americans between 1969 and 1971 from both industrial and non-industrial cities, did not show a greater incidence of industry-related cancers in the *industrial* cities. Out of seven cities surveyed, four *non-industrial* or "clean" cities had an 8% higher cancer rate than the remaining three *industrial* or "dirty" cities. These studies were conducted in 1976 by the Cancer Institute of New Jersey, using the information developed in the Third National Cancer Survey.

It has been established that a cancer threshold (a beginning point) exists. Exposure to carcinogens above the threshold level represents an increased cancer risk. Exposure to carcinogens below the threshold lower level represents a cancer risk. A threshold exists for anything noxious or harmful to humans, including carcinogens. Therefore, even though the three "dirty" cities had high levels of exposure to carcinogens, they were below threshold levels and, therefore, had a lower cancer rate.

Cigarettes and alcohol have thresholds. A high tar type cigarette is probably the most carcinogenic item we routinely hear about, but the carcinogenic hazard is reduced or eliminated if a low tar type cigarette is used

moderately. Research indicates that alcohol in moderation also has little hazard although alcohol and cigarettes concurrently, in excessive amounts, may cause most cancers of the lungs, mouth, larynx and esophagus. In addition, according to Dr. Arthur Upton, Director of the National Cancer Institute, 45% of the people who die daily in this country from cancer have a cancer that can be attributed to or related to disordered nutrition. Dr. Upton further states that we do not pay enough attention to the problems of obesity, fiber deficiency, Vitamin A deficiency, and fat ingestion, and he labels these items as disordered nutrition. Dr. Upton recommends decreasing one's consumption of fat, increasing one's consumption of fresh fruit and vegetables, and care in the use of Vitamin A, as too little or too much can lead to cancer.

Good health is something we all want for ourselves and the people we know. We're more aware that certain factors are important to protecting our health, and most of us recognize that the choices we make (smoking, etc.) can determine the risks we impose upon ourselves. While many authorities in the scientific community feel occupational carcinogens are under control and that we will continue to see a decline in what is estimated to be about 5% of the total cancer deaths now labeled occupational cancers, OSHA continues to propose additional rigid controls.

No subject generates more fear than the spectre of cancer. In addition to the cancer causing factors previously discussed, the National Cancer Institute's Epidemiologists have shown, unequivocally, that urban crowding is a predominant factor in cancer causation. Although we know that no single cause exists, it is often politically popular to blame industry for an unrealistic share of this national health problem. All of us must accept our obligations to our employees and should continue to learn more about what we can do for their protection. However, for anyone to attribute a disproportionate responsibility for health hazards to industry is misleading and dangerous. It is false to suggest that by over-regulating an industry we can eliminate a higher percentage of cancer than is related to the industry to begin with.

#### Employers Should Maintain Strong Health and Safety Programs

There is no question that we want and should maintain a safe and healthy work environment in our industry. I don't believe we question sensible controls by government and sensible precautions to safeguard the roofer's health. We should continue our efforts toward good housekeeping practices. We should continue to have workmen wear proper clothing and keep as much of their skin covered as possible. Work clothing,

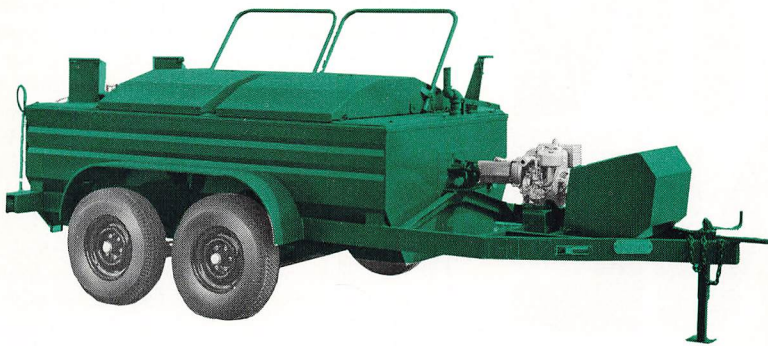
especially undergarments, should be changed daily, and workmen should practice good personal hygiene and bathing each day. Work clothing should be changed before going home and should be washed separately from normal wash loads. Only good hand cleaners should be used (never gasoline) and should be followed with a wash of soap and water. During tear-offs, spud-offs, tile saw cutting and other exposures to dust, workmen should wear approved respirator masks. Bitumen should be heated to the point necessary to achieve the proper Equiviscous Temperature (EVT) at the point of application. Exposure to bitumen fumes should be reduced or avoided whenever possible.

A strong safety and health program should be established by every employer. Setting up such a program simply requires good common sense and a determined effort to see that the safety regulations are carefully followed. In addition, our employees have a responsibility to themselves and their families to do their part in maintaining a good health program—and they need to recognize this responsibility. The NRCA Health and Safety Committee will provide the necessary information to anyone interested in establishing a health and safety program.

Good luck and good health.



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# OSHA Update

by Robert McAdam  
NRCA Member Services Manager

## 1. The Warning Line

We have been following the progress of the Warning Line Proposal closely, since it was published in the *Federal Register* on August 17, 1979. The proposal is the result of years of effort on the part of NRCA to develop an acceptable alternative to the unreasonable "guardrail" standard.

On August 30, 1979 NRCA sent a letter to all members, outlining the proposal, and

asking the members to respond to, and make comments and/or objections to the proposal. All of the comments from our members were discussed at a public hearing that was held in Washington at the Department of Labor on September 28, 1979.

Since that time the proposal has been in the hands of various persons at the Department of Labor, being reviewed and edited. We have kept in touch with the Department of Labor on a weekly basis concerning the

status of the proposal and we feel that within two to three months the Warning Line Proposal will become part of the regulations.

We strongly urge all of our members who are not using this means of protection to start using the Warning Line on all jobs to provide a means of warning to their journeymen and also to comply with the standard. It's as simple as this: the Warning Line System that will be approved in its final form is the one that you will be required by law to use.

## 2. Hazardous Wastes

In the May 19, 1980 issue of the *Federal Register*, Hazardous Wastes were identified and listed by the Environmental Protection Agency, and methods for disposal of those wastes were outlined. In examining the various substances outlined as "hazardous," we noted that asbestos was listed. Subsequently, we heard from several members who had been contacted by EPA regarding their procedures in disposing of "hazardous" materials.

Obviously, the disposal of tear-off materials and waste containing asbestos from roofing applications posed a potential problem.

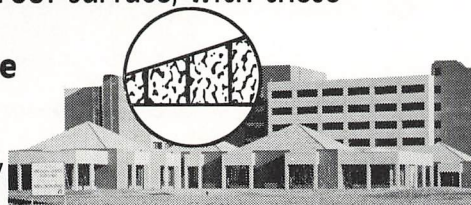
We contacted the EPA office in Washington, D.C., and were given the following information: "Asbestos is included as a hazardous waste *only* as a pure material. Hazardous waste regulations do not apply to waste materials which merely contain asbestos."

This information clearly indicates that roofing materials containing asbestos are not to be classified as "hazardous." It is our opinion that if you receive any correspondence from the EPA concerning hazardous waste it is not necessary for you to file with them for permission to dispose of materials containing asbestos products.

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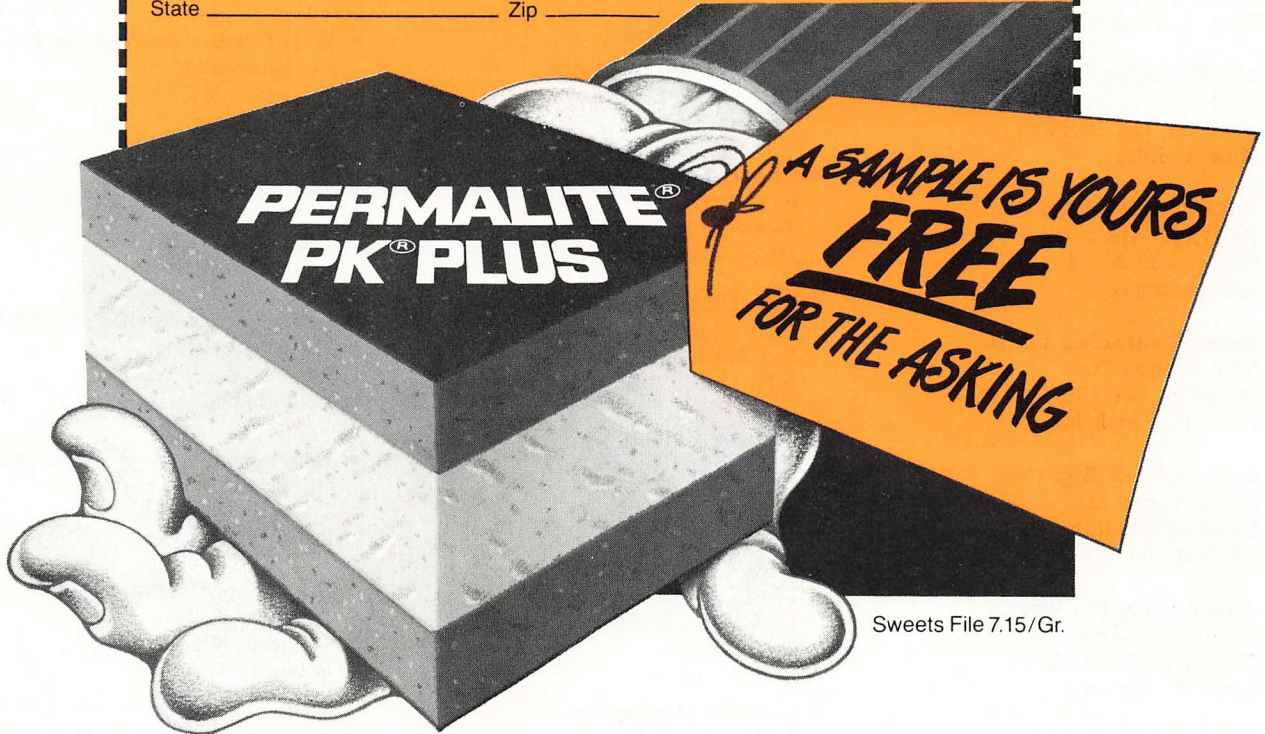
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- **Abcor Contracting Co. Inc.**  
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David A. Tucker
- **United Rfg. & S/M Inc.**  
7255 Progress St.  
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Gary L. Grup
- **United States Rfg. Corp.**  
315 E. 7th Ave.  
Conshohocken, PA 19428  
Charles Hartman
- **Vidale Roofing Inc.**  
7071 SW 13 Terrace  
Miami, FL 33144  
Daniel D'Alessandro
- **W.A. Aiken Inc.**  
P.O. Box 996  
Salem, MA 01870  
Edward P. Swansburg

- **Wayne's Roofing Inc.**  
Rt. 2 Box 2592  
Spanaway, WA 98387  
Donald Guthrie

#### ASSOCIATES

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Norfolk, VA 23517  
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- **Jack Forciea Assocs.  
Division of Arch-Rep Inc.**  
6417 Colony Way 1-D  
Edina, MN 55435  
Jack Forciea
- **VCP Roofing Systems Inc.**  
5820 Fortune Circle West Dr.  
Indianapolis, IN 46241  
Kevin Sullivan

#### INTERNATIONAL

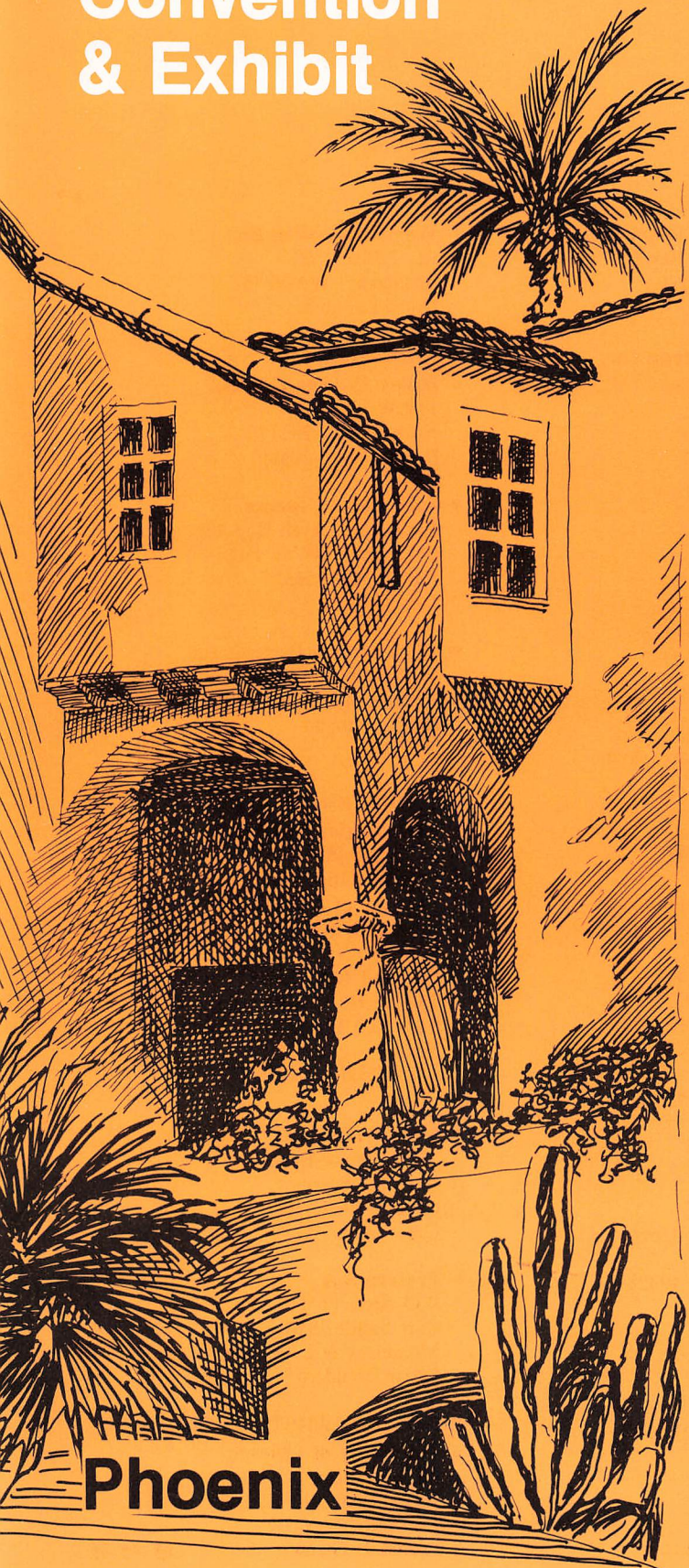
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Edenvale 1610  
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# 94th NRCA Annual Convention & Exhibit



# FEATURED

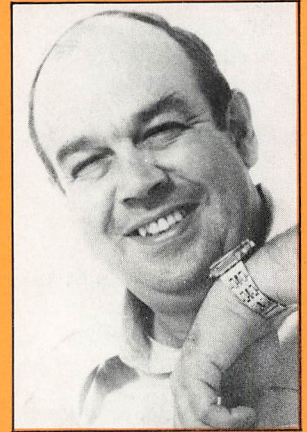
## Welcome Party, February 10

Mariachis will stroll through the Exhibit Hall to entertain as conventioners enjoy champagne and view the biggest NRCA trade show ever.



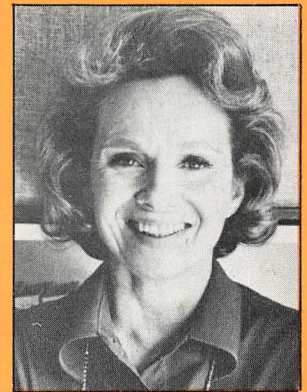
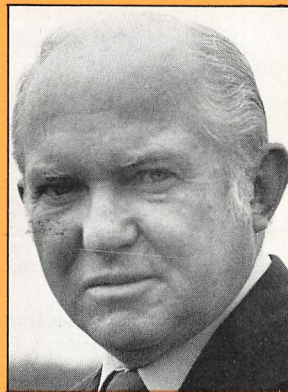
## Opening Lunch, February 11

Charles Kuralt will deliver the keynote address and a country-western group, The Levee Singers will entertain at the official opening of NRCA's Annual Convention.



## General Session, February 11

Political columnists James Kilpatrick and Shana Alexander will present a point/counterpoint debate on the effects of the election results on the U.S.



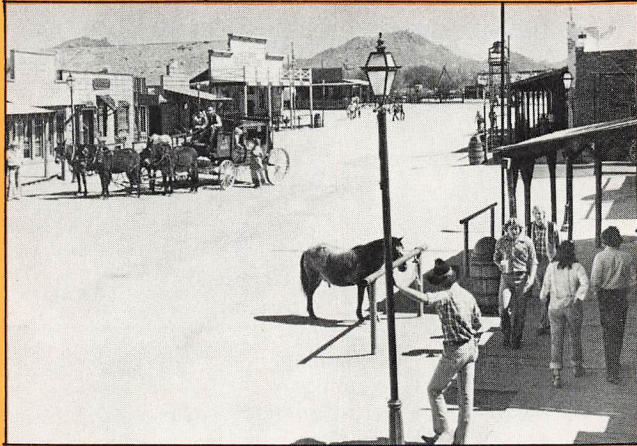
## Member Breakfast, February 12

Ben Rogge, Distinguished Professor of Economics at Wabash College, Crawfordsville, Indiana, will present "Can Capitalism Survive?" at the Member Breakfast.

# EVENTS

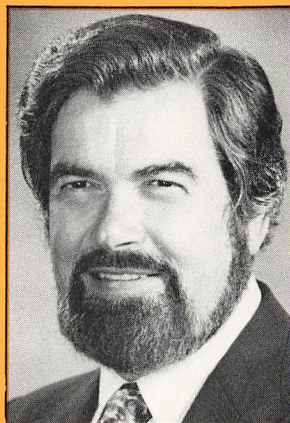
## Evening at Rawhide, February 12

An 1880's Western Town will be the background for a cowboy-style cookout with singing, dancing, and browsing through the town.



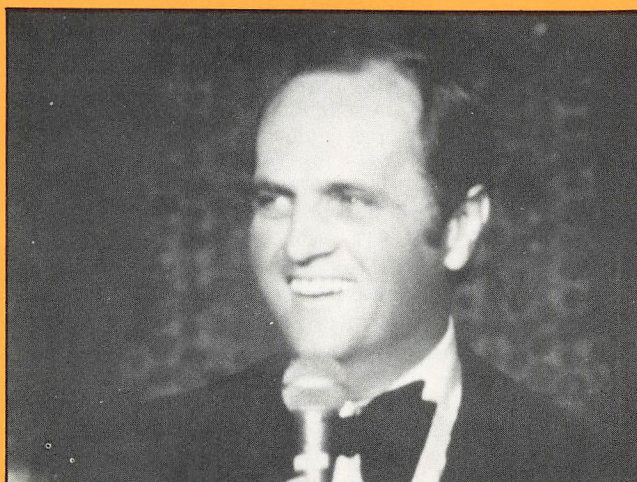
## Awards Lunch, February 13

Dr. Laurence Peter, author of "The Peter Principle" will deliver "The Peter Principle or Why Things Always Go Wrong," and a multimedia presentation will brighten the Awards Lunch.



## Annual Banquet, February 13

Comedian, Bob Newhart, will entertain and The Frank Pratt Orchestra will play music for dancing at the Annual Banquet.



# Business Session Preview

**The European Roofing Experience.** Six NRCA members recently toured European countries and studied roofing systems, materials and workmanship. Those who will report their findings in Phoenix are: John Bradford, Burton Karp, Melvin Kruger, Wayne Mullis, Monte Upshaw, and John Zamrzla.

**Single-Ply State-of-the-Art.** An overview of the newest roofing systems will be presented by noted industry authority, William Cullen, National Bureau of Standards.

**How Mediation Can Work For You.** Joseph Stulberg of the American Arbitration Association will lead a dramatization of a roof failure dispute, showing the role of the mediator and the advantages of the Roofing Industry Mediation Service.

**Why Should I Get Involved In Politics?** Hugh McCahey, of the U.S. Chamber of Commerce, will be joined by a contractor who's been involved, and will offer insights from Washington.

**Estimating Job Costs.** A panel of contractors, led by NRCA Director Burton Karp, will share their estimating techniques, using actual jobs so you can compare your own estimate with the experts.

**Training & Manpower Development.** New opportunities in recruiting and training will be explained by Director Bud Padon and others, who will cover the Job Corps training program, national apprenticeship program, and "Roofing Technology" course developed by the National Roofing Foundation.

**Emissions, OSHA, and Worker Health.** Dr. Jerome Thomas will present the results of the tests he conducted in different parts of the country to determine whether bitumen emissions violate the law and create health hazards.

**How To Manage Your Stress.** Practical—and fun—tips for overcoming stress will be presented by Jerry Teplitz, of Virginia Beach, Va.

**How to Install Glass Ply Felts.** As fiberglass makes its mark, proper application becomes critical, as an experienced contractor will explain.

**How to Install Elasto-Plastic Systems.** There may not be mops and burns, but there are special techniques and dangers, as contractors who have been there will explain.

**How To Get More Work—When You Need It.** As re-roofing dominates the marketplace, the lost art of salesmanship makes a comeback. Successful contractors with aggressive marketing programs will share their secrets.

**Rap Sessions: For Contractors Only.** The always popular sessions will be repeated with a panel of experts to answer your questions on any roofing related topics.



# Record Number of Exhibitors to Display in Phoenix

The following firms have reserved exhibit space in Phoenix as of September 15, 1980.

Aeroil Products Co., Inc.  
 AFCO Products  
 Alcoa Building Products, Inc.  
 Alkor Div./Solvay American  
 A.M. Roof Systems  
 American Associated Companies  
 American Colloid Company  
 American Weatherproofing  
 Anchor Coatings  
 Apache Building Products  
 APC Corporation  
 Arco Polymers  
 Asphalt Products  
 Atlas Turner  
 Ball Metal & Chemical Co.  
 Barra Corporation of America  
 Julien P. Benjamin Equipment Co.  
 Benoit, Inc.  
 Berger Brothers Company  
 Berryfast, Inc.  
 Bilco Company  
 Bird & Son, Inc.  
 Blackwell Burner Co.  
 Buildex, Div. of Ill. Tool Works  
 Carlisle Tire & Rubber Company  
 The Celotex Corporation  
 CertainTeed Corporation  
 Charbonneau Equipment Co.  
 Childers Mfg. Co.  
 Clearfield Conveyors  
 Cleasby Manufacturing Co., Inc.  
 CNA/Insurance  
 Columbia ABECE, Inc.  
 Conklin Company  
 Conro, Inc.  
 Consolidated Fiberglass  
 Construction Fasteners, Inc.  
 Construction Specialties, Inc.  
 Cooley Roofing Systems  
 Dibiten of America Inc.  
 Dodge/SCAN, Div. of McGraw-Hill  
 Du Pont Co.  
 Duro-Dyne Corp.  
 3E Corporation  
 Edcor Safety  
 Elastizell Corporation  
 Eliminator Vac Systems  
 ES Products, Inc.  
 Evergreen Slate Co., Inc.  
 Fabco Fastening Systems  
 Firestone Industrial Products

Flex-Sheild Corp.  
 Flintkote Company  
 Follansbee Steel Corp.  
 Foremost Mfg.  
 Fortifiber Corp.  
 Fry-Reglet Corp.  
 Gaco West  
 GAF Corporation  
 Garlock Equipment Co.  
 Gates Engineering Co.  
 Giuffre Brothers Co.  
 Global Coatings  
 B.F. Goodrich  
 W.R. Grace & Company  
 Graco, Inc.  
 Grefco, Inc.  
 GTR Building Products  
 Gusmer Corp.  
 W.P. Hickman Company  
 Hillside Industries, Inc.  
 E.L. Hilts & Company  
 ICOPAL Corporation  
 IMPER  
 Inryco  
 Insta-Foam Products  
 International Roofing Systems  
 International Tire & Supply Corp.  
 J & P Petroleum Products Inc.  
 Johns-Manville Sales Corp.  
 Karnak Chemical Co.  
 Kendall Company  
 Kold King  
 KMF Equipment Corp.  
 Koppers Co., Inc.  
 Lang & Company  
 Leco Distributors, Inc.  
 Libin & Associates  
 Liquid Asphalt Systems, Inc.  
 Little Giant Industries  
 London Chemical Company  
 Manchester Ladder Co., Inc.  
 Marathon Roofing Products Inc.  
 Mechanization Systems Co.  
 Merchant & Evans Industries  
 Metal Era Inc.  
 MM Systems Corp.  
 Monier Company  
 The Monroe Co.  
 Morgen Manufacturing Co.  
 National Nail Corp.  
 Naturalite, Inc.

Nelson Mop Company  
 Noble Company  
 Nord Bitumi  
 NRG Barriers  
 Otto Fabrics  
 Owens-Corning Fiberglas  
 Pacific Tile  
 P.A.L. Development Corp.  
 Panel Era Corp.  
 Perlite Institute  
 Petersen Aluminum Corp.  
 Pittsburgh Corning Corp.  
 Polymer Building Systems Inc.  
 Power Line Sales  
 Publishers for Conventions Inc.  
 RIEI  
 Reeves Roofing Equipment Co., Inc.  
 Reflecto-Barrier Sales Co., Inc.  
 Reimann & Georger, Inc.  
 Republic Powdered Metals  
 Reynolds Metals  
 Rising & Nelson Slate Co., Inc.  
 Roll Former Corp.  
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 Roofmaster Products Co.  
 Rubber & Plastics Compound Co., Inc.  
 Shelter Insulation  
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 Tennessee Coatings Corp.  
 Thermal Materials  
 Thermal Systems Inc.  
 Tosco Corp.  
 Tremco Manufacturing  
 Tropical Industrial Coatings  
 Truck & Equipment Services  
 CPR Div., The Upjohn Co.  
 USM Weather-Shield Systems Co.  
 Van Dyne & Sons Roofing  
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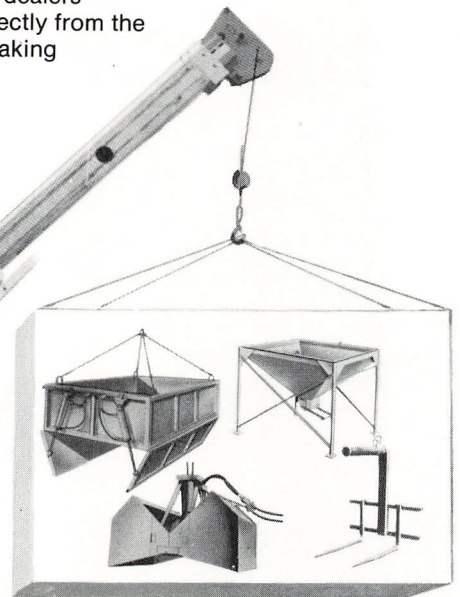
# Truck-Crane roofer's package now goes local

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The Truck-Crane Roofers Package including a Ford, GMC or International-Harvester truck, RO stinger 100 ft. crane, 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 Truck-Crane Roofers Package is available locally, eliminating the high cost of delivery and offering local qualified service as well.

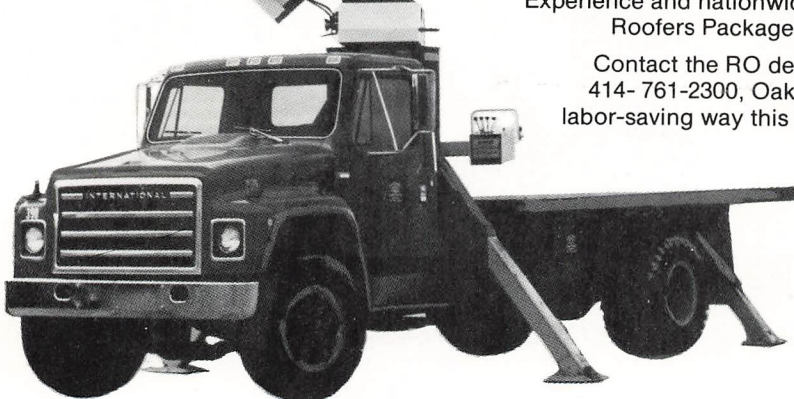
You can buy, rent or lease the Truck-Crane Roofers Package from established RO dealers strategically located around the country. All equipment is distributed to dealers directly from the RO factory, and each dealer is staffed with qualified service personnel trained in making the necessary crane modifications 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 attachments. 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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# Is Asbestos Dangerous? Johns-Manville Fights Back

by Bill Good

**Studies show no problem with asbestos in built-up roofing.**

"Government agencies," says Johns-Manville Corp. Chairman and Chief Executive Officer John A. McKinney, "have created massive public relations organizations, paid for by tax money, to promote their jaundiced view of the issue. Keeping up with their propaganda blitz will be a costly and perhaps futile effort."

But keeping up is precisely what Johns-Manville seems to be attempting, via a hard-hitting campaign of its own to set the record straight on the dangers of exposure to asbestos.

"Asbestos products have served and con-

tinue to serve valuable, often life-saving purposes in our modern technological society," says Walt Cooper, J-M's manager of Environmental Communications. "We now know that excessive exposure to airborne asbestos in the past resulted in increased health risks for some people. We also know that asbestos can be used today to preserve lives and property under conditions that need not create a future disease problem."

The reasons for J-M's strong response are not hard to understand. A 1978 study by three federal agencies projected that over the

next thirty to thirty-five years, 13% to 18% of cancer deaths would be asbestos-related. Former HEW Secretary Joseph Califano used the figure 17% in a subsequent, widely-quoted speech. (Several epidemiologists have disputed the conclusions of that report; Sir Richard Doll, Regius Professor of Medicine, Oxford University, England has called it "scientific nonsense.")

Factual or not, the lawsuits are pouring in: over 3000 suits against J-M and others are pending, more than 600 cases have already been disposed of (average cost: \$15,000, said the *Wall Street Journal*, which esti-

## Johns-Manville's policy on asbestos is as follows:

1. We will continue to market asbestos and asbestos products which can be manufactured and used safely.
2. We will not sell asbestos or asbestos-containing products where adequate precautions are not likely to be observed.
3. We will continue to equip our plants with the best available technology to assure the highest degree of personal safety.
4. We will not engage in operations or product manufacture when dust control technology or work practices are not likely to result in a safe work place.

5. We will provide to users of asbestos and asbestos-containing products produced by the company guidance and work practice information appropriate to assure non-hazardous usage.
6. We will defend the responsible use of asbestos and asbestos-containing products.
7. We will continue to cooperate with competent medical and scientific authorities and appropriate government agencies to increase knowledge of the health aspects of asbestos exposure and to eliminate hazardous exposures and practices.

Asbestos has been an important part of Johns-Manville and the company has been a responsible leader in the industry. We will continue to provide that leadership.

*continued*

mated a like sum in legal costs).

**Is There A Danger?** Dr. Paul Kotin is Senior Vice President, Health, Safety and Environment, for Johns-Manville. He discussed the health problems of asbestos in a recent edition of the J-M publication, "J-M Today."

"Excessive exposure to asbestos has accounted for asbestos-related disease," he said. "We know that of the three major types of disease, asbestosis need not be fatal, lung cancer, which is primarily a problem only for those who smoke, is curable only in certain instances, and mesothelioma, a rare disease, is fatal. The incidence of these diseases reflects the lack of knowledge in the past both in terms of exposure levels, controls, and the understanding of disease development. What we are faced with today is a tragic legacy of that

incomplete knowledge."

When asked to describe the scope of the health problem, Kotin provided some interesting information:

"As with all toxic agents, only a small fraction of those exposed become afflicted, and this varies with the agent. We know that there is a level at which no adverse health effects occur. The incidence of lung cancer and asbestosis is declining in response to control efforts over the past several decades. Though there is little evidence available on mesothelioma, we have every reason to believe it too is declining. Finally, I am satisfied that existing standards for occupational exposure to asbestos provide a workplace that need not lead to any new asbestos-related diseases."

**Asbestos and the Roofing Industry.** Asbestos is used in roofing felts, roofing

cements, and coatings. In 1972, OSHA issued an "emergency" standard covering airborne asbestos. That standard called for a maximum of 5 fibers per cubic centimeter in all workplaces. The regulation was subsequently tightened to 2 fibers (its present level) though there is now talk of reducing it further.

Anticipating that there might be ramifications in this standard for the roofing industry, NRCA and Johns-Manville conducted field exposure tests as early as 1973 (see *the Roofing Spec*, July, 1973). NRCA/J-M tests showed a maximum exposure of 0.4 fibers on new jobs, well within the limits, and a maximum exposure of 1.7 fibers on a tear-off job.

Tests conducted by Johns-Manville between 1974 and 1977 were even more encouraging. On a total of nine jobs, five of

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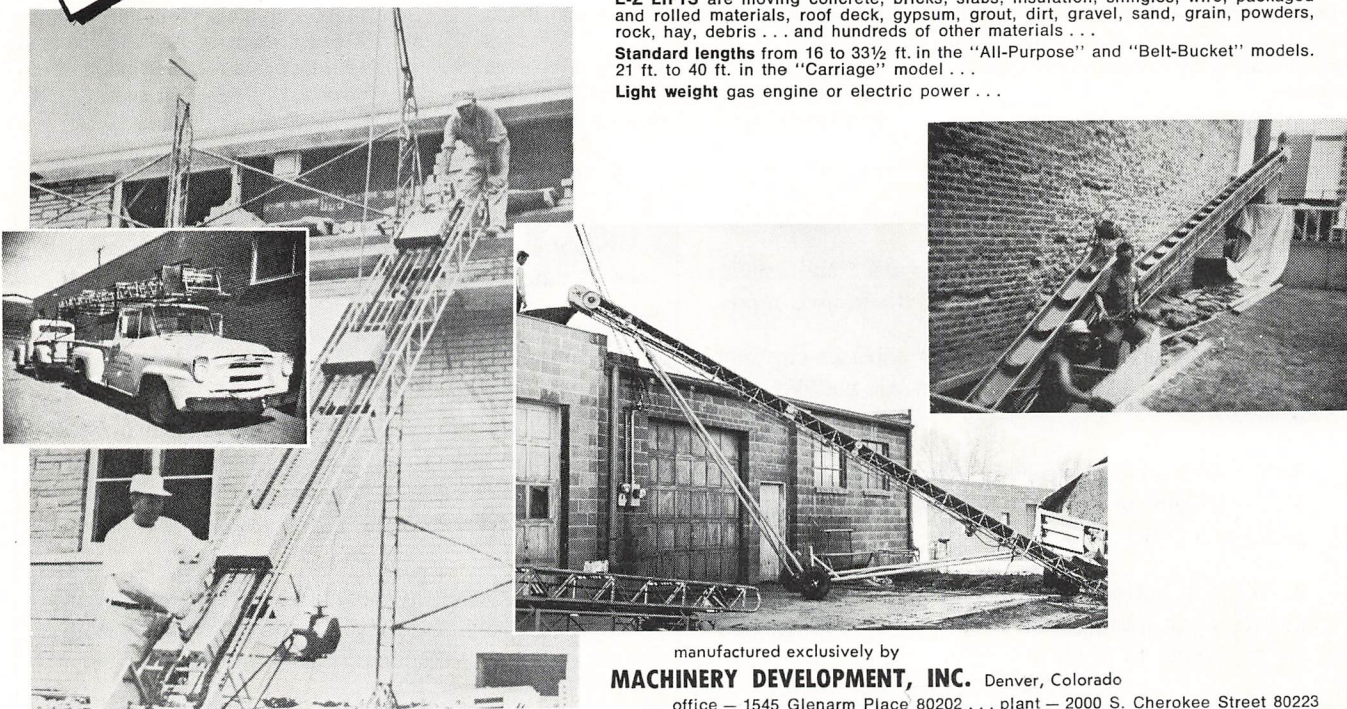
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which involved tear-off, the exposure ranges were as follows:

**FIBER COUNT PER CUBIC CENTIMETER**

New Work	Tear-Off
<0.1 to 0.6	<0.1 to 0.4

This relatively low exposure says Johns-Manville, is attributable to the fact that the fibers are "encapsulated" or locked in by saturants and/or coatings in the manufacturing process.

"Asbestos is a very important component in roof coatings and sealants, caulking and glazing compounds," says the National Paint and Coatings Association. "Indeed, asbestos has proved to be a material of unique properties, necessary for the proper

application and weathering characteristics of roof coating products.

"Over the years, manufacturers of roof coatings have experimented with substitute materials for asbestos. Regardless of price or availability, there has not been any other raw material which yields comparable or suitable properties."

In a Bulletin dated March 6, 1980, and signed by Dr. Kotin, Johns-Manville made the following statements:

"There is no medical evidence to indicate that a health hazard exists when asbestos felts are used in built-up roofing, either during installation, after installation or during tear-off.

"No detectable fibers are released from the finished roof as the result of weathering."

"Industrial hygiene monitoring at job sites where asbestos felt built-up roofing

was torn off and similar new roofing installed determined that the fiber release was below present and proposed OSHA exposure limits.

"We strongly believe that the use of asbestos based built-up roofing poses no hazard to the health or the general public.

"Irving J. Selikoff, M.D., Professor of Community Medicine at the Mt. Sinai School of Medicine in New York City, has studied the health problems of 6,500 members of the roofing workers union in the United States. Based on this study, Dr. Selikoff has concluded '...certainly there can't be any great asbestos hazard with built-up roofing.'"

NRCA is aware of no evidence to suggest that there is any health problem with asbestos in the roofing industry, and urges any member with questions or problems to call the NRCA office.



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# NRCA's Statement on OSHA Reform Legislation

**Editor's Note:** The U.S. Senate held hearings earlier this year on S.2153, a bill introduced by Sen. Richard Schweiker (R-PA). The bill would have exempted from routine OSHA inspections those firms with good safety records. NRCA actively supported that legislation, and submitted the following statement to the Senate Human Resources Committee:

## Statement of the National Roofing Contractors Association in Support of S.2153, The Occupational Safety and Health Improvements Act.

The National Roofing Contractors Association represents over 1700 roofing contracting firms in all 50 states. Our members employ approximately 75,000 tradesmen and account for about 60% of the roofing work performed in the United States.

We are pleased to offer this statement in support of S.2153, The Occupational Safety and Health Improvements Act. This bill seeks to address what we perceive to be a serious problem: OSHA's lack of cost-effectiveness and tendency towards harassment.

The roofing industry was selected by OSHA, back in 1971, as one of its five "target" industries; consequently, we feel especially well qualified to comment on their enforcement procedures and practices.

And in general, our observations can be summarized as follows: A great deal of time, effort and money has been expended both by OSHA and by our industry on matters that have had very little to do with reducing accidents or improving safety.

Everyone has OSHA "horror stories" to cite; abuses occur within every government agency. Still, since this bill addresses such things, we feel it's worthwhile to cite just a few examples of what our members have been facing:

1. One member had to go to elaborate measures to prevent OSHA from taking

him to court for his contesting a citation alleging that a sheet metal shear was not guarded. The guard was there all along—but the inspector didn't recognize it.

2. Another member was cited for failure to guard the "non-current carrying metal parts" of a (leased) soft drink machine.

3. Still another member was cited for "allowing ice to come in direct contact with water," and another for permitting men to wear "absorptive" gloves, whatever that means.

In some ways, these examples, and others like them, are amusing, but we can assure the committee that others are not. One member of ours, after being inspected and cited, wrote a letter of complaint to his Congressman. In the next six month period, he was inspected three more times by OSHA, visited twice by the IRS and once by HEW. Is it any wonder that the small businessman feels frustrated in attempting to cope with the government?

Still, we recognize that the real issue is whether this bill would make OSHA better, and make industry safety practices better. We believe it would do both.

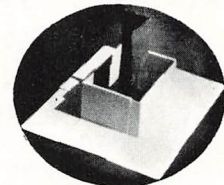
In the roofing industry, the majority of injuries are classified as either 1) burns or 2) strains, sprains and hernias. Yet an examination of OSHA's activity with regard to our industry shows a preponderance of citations dealing with unguarded perimeters of flat roofs. Falls from roof edges are relatively rare, yet OSHA interpreted a standard written for "floors" as applying to roofs, and it has taken our members several years and countless thousands of dollars to prove that there is a difference between a roof and a floor.

We are convinced that if OSHA spent its time where it's needed—with those firms having poor safety records—that it would spend less time enforcing irrelevant or vague standards, and more time correcting obvious shortcomings.

We are also convinced that our members, by virtue of OSHA's notoriety, would be motivated to take steps to avoid routine citations. We're not happy to support a measure that recognizes fear of the government's punitive powers as a motivator, but we recognize the practicalities of the situation, and suspect the net result will be a better OSHA and a safer industry goals with which we can all agree.



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# Coming Events

## OCTOBER

- 1-2 Roofing Industry Educational Institute Two-Day Seminar  
*Denver, Colorado*
- 6-8 Roofing Industry Educational Institute Two-Day Seminar  
*Denver, Colorado*
- 13-17 Roofing Industry Educational 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*
- 12-14 Roofing Industry Educational Institute Two-Day Seminar  
*Denver, Colorado*
- 14-16 Superintendents Conference  
*Nashville, Tennessee*
- 18-21 New York State S/M Rfg. and A/C Contractors Assn. Convention  
*Niagara 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, Missouri*
- 14-16 Roofing Industry Educational Institute Two-Day Seminar  
*Denver, Colorado*
- 30-May 1 NRCA/NBS Technical Conference—6th Conference on Roofing Technology

## MAY

- 11-15 Roofing Industry Educational Institute Seminar  
*Southfield, Michigan*
- 19-21 Roofing Industry Educational Institute Two-Day Seminar  
*Denver, Colorado*

## JUNE

- 1-5 Roofing Industry Educational Institute Seminar  
*Philadelphia, Pennsylvania*
- 15-19 Roofing Industry Educational Institute Seminar  
*Denver, Colorado*



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# Legal

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## COMPLIANCE WITH FEDERAL WAGE AND HOUR LAWS

In a recent decision by the Department of Labor's Wage Appeals Board, a federal contractor's debarment was upheld, **despite a showing that back pay had been distributed and past infractions had not been repeated.** The contractor involved had been performing federal government work for at least ten years and had had more than 100 government contracts since 1974. In 1973 and 1974, the contractor was found in violation of the Davis-Bacon Act and the Contract Work Hours and Safety Standards Act at Ft. MacPherson, Georgia, by failing to pay prevailing wage rates and overtime, and by classifying employees at lower performance levels than their actual work indicated. The contractor was assessed \$67,000 in back wages to its own employees, \$13,000 in back wages to employees of a subcontractor, and \$12,600 in liquidated damages for overtime violations. Subsequent to a settlement agreement whereby the contractor agreed to pay \$80,000 in back wages and subsequent to his actual payment of that amount to involved employees, the Wage and Hour Division brought debarment proceedings against the contractor.

In upholding the contractor's subsequent debarment, the Wage Appeals Board stated that the settlement of back wages does not necessarily dispose of the government's claim; the only pertinent test for debarment is whether or not a contractor's wage and hour violations were willful and constituted a disregard of a contractor's obligations to its employees. The Board was not persuaded by the contractor's explanation that the errors in payroll records were not willful or deliberate, but rather were inadvertent and to be expected because the subcontractor had several simultaneous federal projects in progress at Ft. MacPherson. Furthermore, the Board stated that it expects a contractor with considerable federal contracting experience to keep particularly accurate records and be able to avoid the pitfalls of labor standard violations due to its familiarity with those standards. **Ace Contracting Company, Inc.** WAB Case No. 76-23 (May 30, 1980).

The implications of this decision for those of you performing regular federal government work could be substantial, as it appears that you could be held to a higher standard of

accuracy in your payroll data and documentation in a Wage and Hour review. In order to avoid the triggering of a Wage and Hour investigation, we recommend that you carefully review your own certified payrolls, for obvious errors or suspect information.

Red flags to a Wage and Hour investigator reviewing certified payrolls for compliance with federal wage and hour laws include the following:

1. A consistent showing of employees' daily hours at less than eight hours per day. This is suspicious to the Wage and Hour investigator because it could indicate simulated compliance by showing less-than-actually-worked hours.
2. A showing of abnormal fractions of hours worked by an employee. This also is suspicious because most payroll hours are shown in hours or halves of hours; therefore, other fractions could indicate a cut in actual hours worked.
3. No overtime hours shown over a considerable period of time on a large project. This becomes suspect because there is usually some overtime worked on most projects.
4. Payment of less than the prevailing wage rate for a particular classification. This is a clear violation of the Davis-Bacon Act.
5. Payment of less than 1½ times the regular prevailing wage rate for overtime hours in excess of 8 hours per day, or 40 hours per week. These are clear violations.
6. Out-of-ratio apprentices shown, i.e. too many employees being paid as apprentices for the number of journeymen in the employer's workforce.
7. Split wage classifications, especially where the split is the same over a period of time.

Split wage classification disputes generally are resolved against the contractor, unless he has maintained detailed, accurate records on a daily basis of exactly how much time was spent by an employee in each work classification. The Wage and Hour Division is likely to verify the split wage classifications very carefully by interviewing individuals involved and their co-workers. In situations where a laborer is working very closely with a journeyman, and being paid a laborer's wage rate for part of the time, the Wage and Hour investigator is likely to hold



out for the higher wage rate for all hours worked by that employee.

If you are utilizing apprentices on your federal projects, be certain **each** apprentice is enrolled in a certified program **prior** to paying him at an apprentice wage rate. Also remember that your program certification contained an allowable journeyman/apprentice ratio which must be followed. You are only authorized to pay apprentice wage rates to those enrolled in a certified program and that number of apprentices allowed in your workforce. You must pay any apprentice who is not enrolled in a certified program at the journeyman wage rate for all hours worked. You can only pay a limited number of employees at the apprentice wage rate, even though more may be enrolled in a certified program. The number of employees you can pay at the apprentice wage rate will depend upon your ratio limit, and the number of journeymen employed during a given pay period.

With regard to work classifications and what tasks can be performed by a particular classification, union standards are applied by the Wage and Hour Division if the project location is in a predominately union area. This is generally evidenced by whether or not the prevailing wage rates established for your project are based upon union wage scales. In a non-union area, area practice regarding particular skills should control a labor classification determination.

Debarment generally will not be recommended by the Wage and Hour Division if a contractor is cooperative with the Wage and Hour investigator, if the contractor is not being investigated for continuing wage and hour violations, if payroll violations are clearly inadvertent and unintentional, and in instances where there is a valid disagreement between particular labor classification. In these instances, while you may not necessarily prevail with regard to back wages assessed by the Wage and Hour Division, the Division normally will not recommend debarment if a wage settlement is reached.

Debarment is likely to be recommended where payroll documents have clearly been tampered with, or where hours appear to have been reduced to simulate compliance. In the Ace Contracting Company case, discussed above, not only was there a dispute regarding wage classifications, the contractor was also apparently paying straight time wages for overtime hours, and submitting reduced hours on certified payrolls to simulate compliance. The language in that decision is fairly strong, particularly with

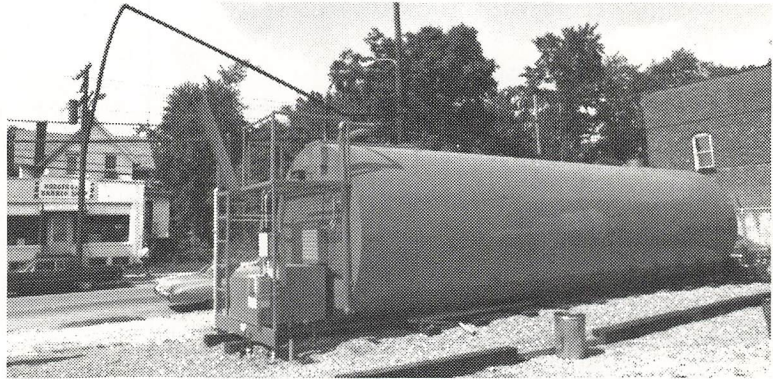
regard to contractors involved in regular federal contract work, but we would like to believe that the Board's harsh remedy, despite back wage payment and no repeated

violations, was due to the clear failure to pay overtime wages and submittal of certified payrolls which were not an accurate representation of actual hours worked.



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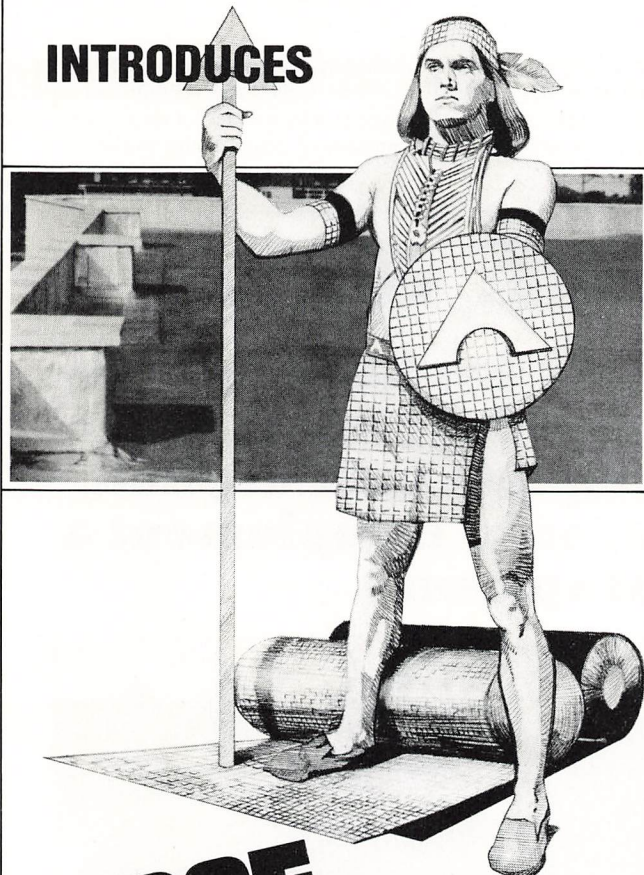


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# News from associate

**GAF Corporation** announces the introduction of GAFGLAS Built-Up Roofing Products, a complete line of glass-based roofing material.

"The key product in the GAFGLAS line is GAFGLAS Ply 4," explains Ralph Faruolo, product manager, Built-Up Roofing, GAF Corporation. "Ply 4 is an asphalt coated glass ply sheet for hot applied built-up roofing and flashing. It is specially designed to stand up to the most severe weather conditions and even exceeds the ASTM Type IV specifications. Now, with the addition of GAFGLAS Ply 4, we can offer contractors a complete system of BUR products to meet all their roofing needs."

The product line also includes GAFGLAS Ply 3, designed for west coast application. Ply 3 has many of the same properties as Ply 4, but meets ASTM III requirements.

GAFGLAS Stratavent is a ventilating base sheet surfaced with mineral granules. The granules, on the underside of the sheet, lie between the built-up roof and the roof deck and provide vent paths for trapped moisture that might otherwise cause blistering and buckling.

Stratavent is available with perforations for time-saving application over non-nailable decks, and without perforations for mechanical application to nailable decks. It is recommended by the National Roofing Contractors Association and the Thermal Insulation Manufacturers Association, for application over urethane insulation.

GAFGLAS Base and Ply Sheet is fully asphalt coated on both sides and is ideal as a base sheet over wood decks.

As a finishing ply for hot-applied roofs and flashing construction, there is GAFGLAS Mineral Surfaced Cap Sheet. Combination Flashing, a glass reinforced asbestos flashing sheet, can be used in constructing all types of built-up roofing systems.

**John T. Gurash, chairman of Certain-Teed 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 Certain-Teed's board of directors. The changes are effective July 7.

Besson, 46, most recently headed the worldwide paper and packaging operations of Saint-Gobain-Pont-à-Mousson (SGPM), the French company that owns 54 percent of Certain-Teed 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.

A graduate of Ecole Centrale des Arts et Manufactures in Paris, Besson earned a master of science degree in chemical engineering at Massachusetts Institute of Technology.

Besson, his wife, and three children reside in Berwyn, Pa.

Winnert, 47, joined Certain-Teed 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

# members

University, and is president of the Cornell Alumni Association and a member of the Cornell Council.

A director of Safeguard Industries, Inc., Winnert also serves on the board of governors of the American Heart Association's South-eastern Pennsylvania chapter.

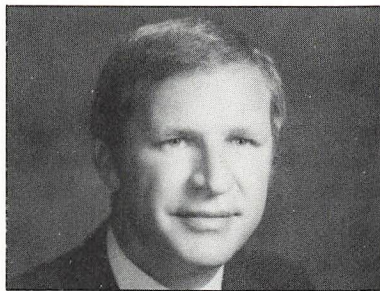
A tennis enthusiast, he has served as chairman of the Pacesetter Committee for the U.S. professional indoor tennis championships.

Winnert and his wife reside in St. Davids, Pa. They have two daughters.

**NRG Barriers** of Sanford, Maine, has announced the availability of a new catalog featuring their tapered urethane roof insulation. The catalog gives the C factors and R values for urethane roof insulation, lists the industrial and governmental approvals that NRG has received and explains, with diagrams, how to install tapered urethane so that ponding will not occur on flat roofs. It also lists the available sizes, thicknesses and slopes of the insulation. Standard size is 4' x 4'.

One of the unique characteristics of NRG's insulation, as described in the catalog, is the standardization of fiberglass facers. Since fiberglass is hydrophobic, insulation with fiberglass facers will retain less moisture than insulation with organic facers. NRG bonds the fiberglass facers to the urethane in the foaming process to form a monolithic, dimensionally stable product.

In July, Frank Nance joined **Power-Line Sales, Inc.**, as president and chief operating officer of the major producer of stapling and nailing equipment, replacing the firm's long-time president, R. E. Powers. Powers remains with the company in



a full-time advisory capacity, primarily concerned with production and with research and development of tools and fasteners.

Nance comes to Power-Line with an extensive background in engineering, sales and marketing. Following graduation from the University of Texas with bachelor of science and master of science degrees in mechanical engineering, he was structural design engineer for Ling Temco Vought Aircraft Company in Dallas and, later, senior structures engineer for Lockheed Georgia Company, Marietta, Georgia, where he was in charge of fastener selection and evaluation for the C-5A aircraft.

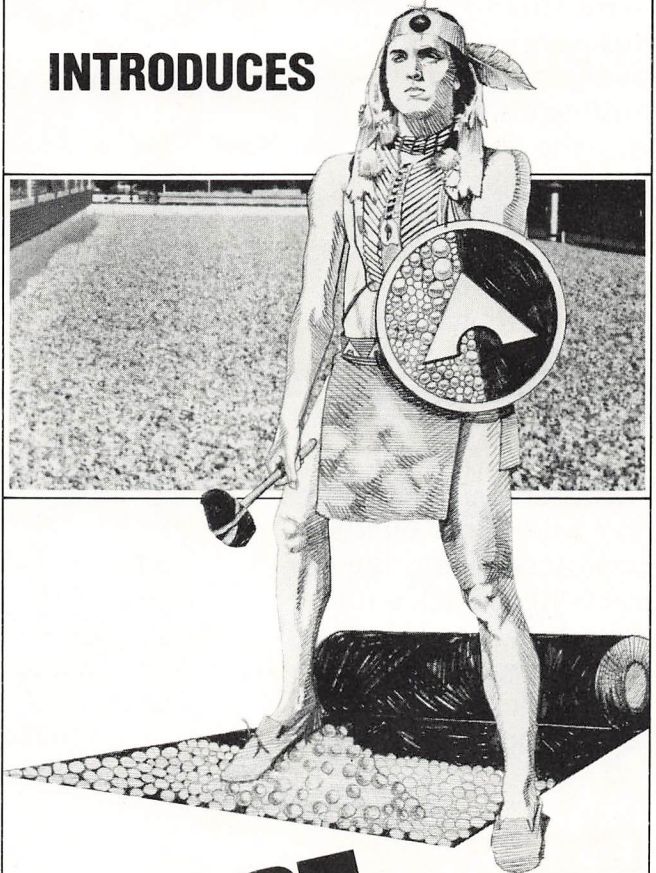
Following several years with Hi-Shear Corporation, first as regional sales representative and then as national sales manager, Frank Nance became director of sales and marketing for Olympic Fastening Systems, producer of blind fastening systems with plants in Downey, California, and Vivian, Louisiana. He was named general manager of Olympic in 1972 and served as its president from 1973 until his recent election to the Power-Line presidency.



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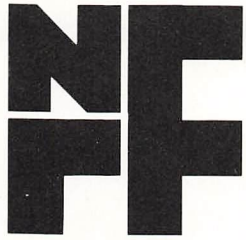
you won't need to service it for up to 10 years. **Paradiene** — the elastomeric system for hot roofing contractors. You know what they say — **if you can't stand the heat, get off the roof.**

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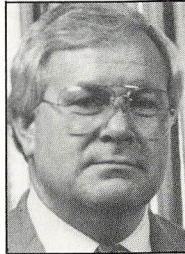
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# Trustees Report—1980

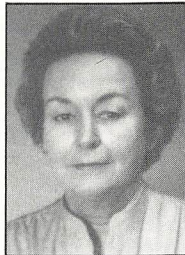
NRCA President Bill Kugler has made education a priority concern for his administration. The Foundation is doing its part to help meet the educational needs of the roofing industry.

**Cloyd Tucker**  
*President*

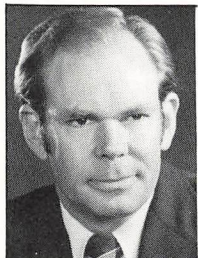


The purpose of the National Roofing Foundation is to enrich the roofing industry on a national level by developing educational programs that are in need of funds which are not available from other sources. These funds must come from those of us within the roofing industry who share the goal of educating our people. To date, Foundation funds have been used to develop the college level "Roofing Technology" course and to provide scholarships to RIEI seminars for prospective instructors of the course. **Become a Friend of the National Roofing Foundation.**

**Henrietta Osterholt**  
*Vice President*

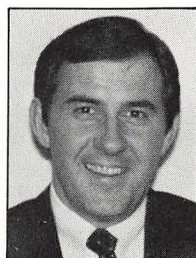


The National Roofing Foundation has its show on the road with the "Roofing Technology" course being offered at two colleges this fall. The presentation of this course by means of lesson plans and slides will provide those engaged in building design with essential, first-hand information on successful roofing design and correct methods of application. There has been a definite void in this field of education in the past, but, hopefully, as the course is offered in more and more colleges and universities, a better and more complete understanding of proper built-up roofing design and practice will benefit us all. In addition, the scholarships to RIEI seminars offered to approved instructors of the "Roofing Technology" course will provide knowledgeable instructors to teach the course. The Foundation's work has just begun for until we have this educational programs for our industry in schools east-west-north-south, offering young people the opportunity to gain knowledge of roofing, there will continue to be a void in our industry in the area of education.



**Bill Kugler**  
*NRCA President*

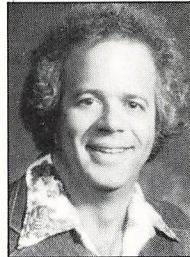
"Education is of major importance in our industry. Educational programs are needed at the undergraduate collegiate level to educate architectural and engineering students in roofing theory and practice. More and better apprenticeship curriculum materials are needed to train roofing mechanics. Training programs also need to be developed for those who wish to become roofing contractors. The Foundation can be instrumental in helping to meet these needs."



**Mike Promen**  
*Treasurer*

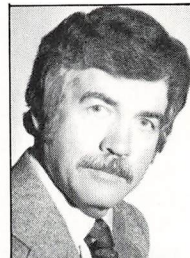
As the cartoon character Linus has said, "There is no greater pressure in life than having potential." Such is the case with The Foundation. It has the potential of providing scholarships and grants for developing educational programs that will improve every aspect of our industry. Already our "Roofing Technology" course is generating enthusiastic response from many schools around the country. As one of The Foundation's Trustees, I urge those associated with our industry to support the Friend of The Foundation program. The funds generated by this program will make possible many more valuable educational projects and will help The Foundation realize its potential.

*continued*



## **Bud Padon**

I envision The Foundation as an opportunity to extend roofing knowledge into areas where, previously, little work has been done. The Foundation has developed a basic course on roofing technology for undergraduate architectural and engineering students in the hope that they will learn something more about roofing than the fact that every building has one. The course is already being offered in various schools, and in the future, we expect to see this course widely used. Our main goal for this year is to develop a continuing source of income based on contributions from our members. If large numbers of members will support the Friend of The Foundation program, we will have the funds to convey our message and develop our educational materials.

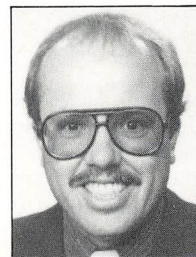


## **Tom Manson**

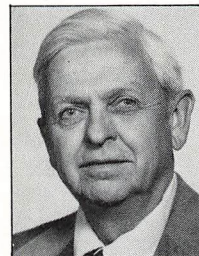
As roofing contractors, we are regularly confronted with the need for education in our industry. For too many years, roofing theory and practice have been overlooked, and industry personnel are now beginning to recognize the need for a thorough understanding of roofing. The National Roofing Foundation is working to meet this need. Our most important work at present is to provide architectural and engineering students with educational materials covering the basic practices and theories of built-up roofing so that as these young men and women enter the design field, they will understand roofing.

This will result in better roof construction because we will be working together from a similar base of knowledge to create our "product." The Foundation's work has only begun. We want to provide scholarships, develop new course materials for students, and fund other educational programs in the industry. Our possibilities are limited only by our funds. I feel my purpose as a Trustee is to inform others of the good work The Foundation can do and to urge all of those associated with the roofing industry to support the Friend of The Foundation program.

## **Kurt Carlson**

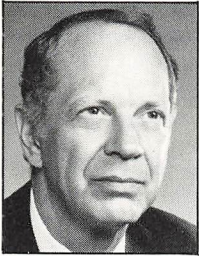


An original purpose of the National Roofing Foundation was "to advance the roofing industry by providing grants for developing educational courses and curriculum materials pertinent to roofing." The first of these materials, the "Roofing Technology" course, has been developed and is now in use. This course and others projected for architects, manufacturers, owners, contractors, and employees will be even more beneficial in years ahead. The rapid changes occurring in the construction industry, the "boom" in energy related roofing, the advent of new roofing systems and products and increased government insurance and labor demands will surely necessitate a continued education for all.



## **Country Harrison** *Vice President, Coordinator*

The problems experienced in the roofing industry are attributable in large part to a lack of technical knowledge, poor communication, questionable materials and designs, or improper attitudes. Through the educational process, we can now attack some of these problem areas. The National Roofing Foundation, managed by six Trustees, all of whom are knowledgeable in the roofing industry, is an independent organization whose sole purpose is the improvement of the roofing industry. This goal is being accomplished through carefully selected projects in the area of education. This effort is so important that all designers, owners, contractors, manufacturers and others affected by the roofing industry should give their full support to The Foundation. This can be done simply by becoming a Friend of The Foundation. We will all stand to benefit from The Foundation's work. I urge all of those who wish to see improvement in the industry to act now.



**Fred Good**  
*Executive Vice President of NCRA*

The National Roofing Foundation is, at last, a known and respected factor in the roofing industry. Separate from the Roofing Industry Educational Institute (RIEI) and serving a complimentary but distinctly different purpose, NRF is continually promoting roofing education at universities, colleges, and junior colleges. The Foundation is a vital part of the industry's future. I'm a Friend of The Foundation personally. I hope you are, too.

### **Priorities Defined at Mid-Year Meetings**

At this year's mid-year meeting, NRF's Board of Trustees evaluated the progress made in the past year and defined The Foundation's priorities for the coming year. In the past year, The Foundation established its identity as an educational branch of NRCA devoted to providing funds for the development of curriculum materials and scholarship grants; the "Roofing Technology" course was implemented in three schools, revised and upgraded; an annual income was established by recruiting 104 new Friends of The Foundation, whose donation of \$50.00 per year will provide funds with which The Foundation may carry out its various activities.

As new business was brought up, the Board agreed that The Foundation's most important priorities for the coming year were two-fold:

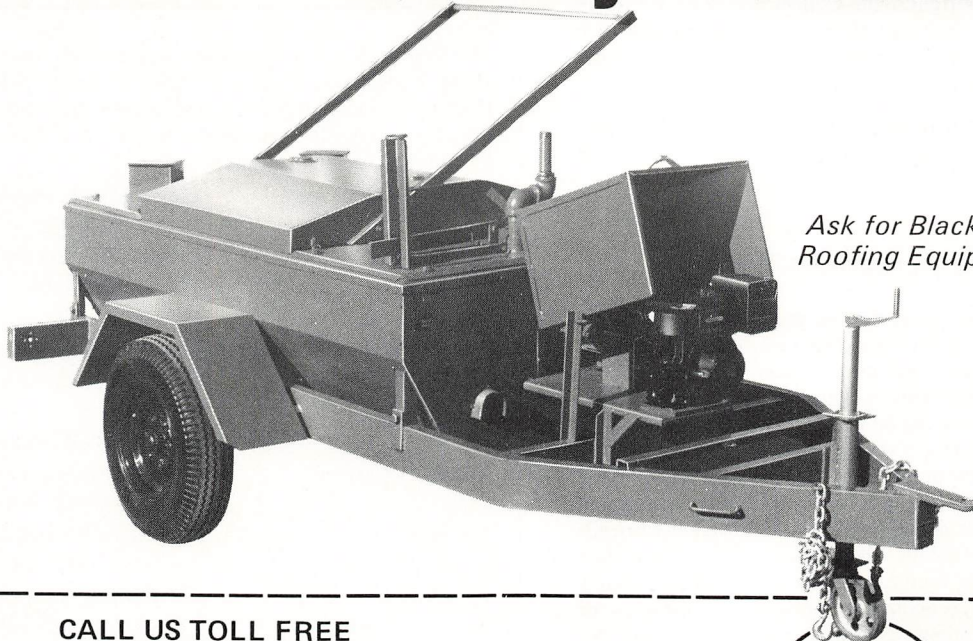
1. To implement "Roofing Technology" in as many schools as possible.
2. To increase The Foundation's funds by concentrating all fund raising efforts on the Friend of The Foundation program.

### **Brotherson Discusses the "Roofing Technology" Course**

At the request of the Board, Don Brotherson, who developed the "Roofing Technology" course, attended the mid-year meeting to

*continued*

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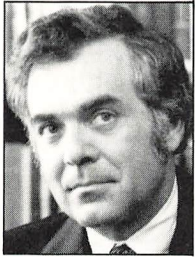
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# Trustees Report

discuss the course and its use with the Trustees. The course is intended for use at the college level to educate undergraduate architectural and engineering students in the basic principles and practices of built-up roofing. In discussing the course, Brotherson stated, "I've prepared the lesson plans in an outline format for easy reference. You simply can't tell a professor what he is going to actually say in the classroom so the outline format will provide the instructor with a guide to presenting the course and will allow him to develop the course as he sees fit."



In speaking of the possible uses of the course, Don added, "I developed the course around the possibility of incorporating it into a complete construction design program. Roofing is only part of a designer's concern. Ideally, an architect's or engineer's education would include a program covering all aspects of construction design, and the 'Roofing Technology' course should fit easily into such a program. The course is prepared in such a manner, however, that it may be used, independent of a construction design program, simply as a course covering the basic practices, principles, materials, requirements, precautions and standards of built-up roofing."

Don concluded by saying, "I would like to see 'Roofing Technology' stimulate those schools not having a construction design program become interested in developing such a program. There is certainly a need for such a program in the construction industry. In fact, there seems to be a growing desire among architects and engineers to learn more about roofing and especially the integration of roofing into a building's complete structural design."

As the year progresses, The Foundation's Trustees will oversee the widespread implementation of the course in a variety of schools, from major universities to construction trade schools. At present, "Roofing Technology" is being offered at two Chicago area schools, Wright Junior College and the Chicago Circle Campus of the University of Illinois. According to the instructors at both schools (George Criel at Wright Junior College and Professor Henry Mikolajczyk at the University of Illinois), enrollment has been excellent, and the students are enthusiastic about gaining a better understanding of built-up roofing theory and practice.

Those schools interested in reviewing "Roofing Technology" may obtain copies of the course by contacting Dave Honaker at NRCA headquarters (312/383-9513).

## The Friend of The Foundation Program

As its last order of business at the mid-year meeting, the Board agreed to concentrate its efforts in the area of fund raising on the Friend of The Foundation program. Outgoing Trustee, Bill Steinmetz, spoke at length about the value of this program to The Foundation. "This program can be an excellent source of revenue for The Foundation," Steinmetz stated, "but I feel we need to give more recognition both to the program itself and to those who become Friends of The Foundation. Recognition is the key to the success of this kind of program. The donations of The Foundation's Friends will make possible scholarships, the development of curriculum materials, and will help pay for the expenses of duplicating the many slides for the 'Roofing Technology' course, not to mention the procedural expenses of running any organization. Those who become Friends, then, deserve special recognition because their funds are helping provide our industry with much needed educational materials and programs."

In speaking of The Foundation's goals for the coming year, Steinmetz added, "We also need to make it known that The Foundation is a non-profit organization dependent for its resources upon the

contributions of concerned people, and that without these contributions, the National Roofing Foundation cannot exist. The Foundation can be instrumental in helping to meet the educational needs of our industry. As such, The Foundation needs to make people aware of the importance of educational programs; it needs to make people aware of the 'Roofing Technology' course and the scholarship to RIEI seminars for instructors of the course to show what The Foundation has done and can do with the contributions of The Foundation's Friends; and it needs to make people more aware of the Friend of The Foundation program in order to build a strong financial base with which to develop educational programs and materials."

## Becoming a Friend

Anyone interested in improving the roofing industry through education can become a Friend of The Foundation simply by agreeing to contribute \$50.00 to The Foundation every year. These donations may be considered tax deductible donations. After the first \$50.00 donation, contributors will be invoiced every year thereafter. The importance of the funds generated by the program cannot be over-emphasized. The expenses of developing educational materials, duplicating slides, developing brochures, and providing scholarships are high indeed, and The Foundation must rely completely on contributions to meet its expenses.

The Board of Trustees hopes to see the Friend of The Foundation program receive widespread support from all of those associated with the roofing industry. If the program receives a large response, The Foundation can continue its present work and expand its future activities.

Contributions, of course, are not limited to the Friend of The Foundation program. The Foundation welcomes any and all contributions at its offices located at NRCA headquarters.

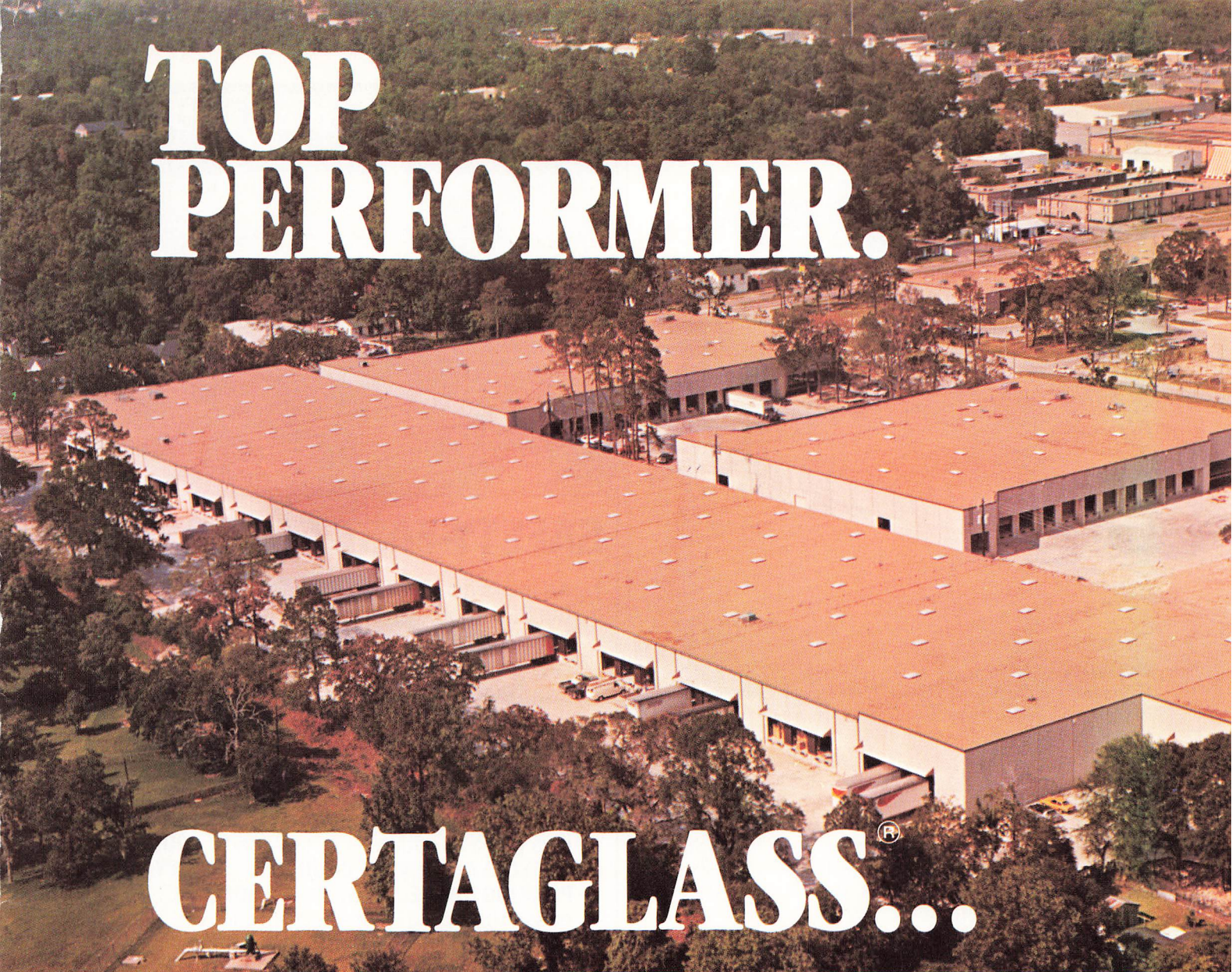
To become a Friend of The Foundation, simply fill out the gray card in the back of this issue and send it with a check for \$50.00 to:

National Roofing Foundation  
1515 North Harlem  
Oak Park, Illinois 60302

The Foundation has gained ten new Friends since May 1, 1980. Their annual donation of \$50.00 will help the National Roofing Foundation provide scholarships and develop educational programs to improve the roofing industry. The new Friends of The Foundation are:

Earl F. Douglas	Earl F. Douglas Roofing Co. Greely, Colorado
A. B. Padon	Independent Roofing Co. Omaha, Nebraska
R. E. Forshee	R. E. Forshee Co. Cincinnati, Ohio
Tomco Equipment Co.	Louisville, Kentucky
Robert Weinert	Crafts, Inc. Manitowoc, Wisconsin
Joseph T. Cazeault	Joseph T. Cazeault & Sons, Inc. East Weymouth, Massachusetts
Jim Perry	Associated Roofing Consultants Salt Lake City, Utah
John Roach	The Roofing & Sheet Metal Contractors of Philadelphia & Vicinity Philadelphia, Pennsylvania
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# News from affiliates

## GEORGIA

Culminating its highly successful 27th Annual Convention, the Roofing and Sheet Metal Contractors Association of Georgia elected the following officers for 1981:

President . . . . . William Scupine  
 1st Vice President . . . . . Clark Mock, Jr.  
 2nd Vice President . . . . . Stanley Gerson  
 Secretary-Treasurer . . . . . Franklin Still

The Association presented its highest honor, the Boone Noblitt Award, to Marie Carr, Assistant Executive Director of the Association, for her dedication and outstanding service to the association.

## MICHIGAN

At the Michigan Roofing Contractors Association Convention held at Sugar Loaf Village, Cedar, Michigan August 14-17, 1980, the following officers were elected to serve in 1980-81:

President . . . . . Walter E. Duke  
*Duke's Roofing & Supply Co.*  
*Ypsilanti, Michigan*

Vice President . . . . . Ray Coppens  
*Bruno Martin Company*  
*Saginaw, Michigan*

Treasurer . . . . . P. F. LaDuke, Jr.  
*P. F. LaDuke & Son Roofing Co.*  
*Detroit, Michigan*

Secretary . . . . . Mervin E. Smith  
*Warren, Michigan*

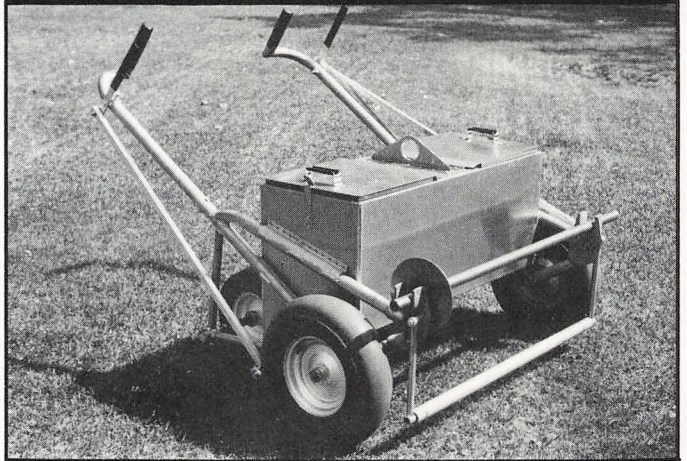
Also elected as Directors were Ray Boom, Grand Rapids; Lyle Bornor, Lansing; Lou DeRyckere, Detroit; Harwood Fenner, Benton Harbor; Ron Frosh, Flint; John Gundrum, Ypsilanti; Gerry Lewless, Bay City; Ralph Maier, Lansing; Richard Reynolds, Novi; and George Schena, Mt. Clemens.

## VIRGINIA

The Virginia Association of Roofing & Sheet Metal Contractors have a full calendar this coming year of programs and meetings. Included are the Mid-Winter Convention at the Boar's Head Inn, Charlottesville, January 23 & 24, 1981, the Annual Roofing Personnel School, March 21, Summer Convention and the Special Educational Forum, June 18-21. Also in the planning is another Contractors Seminar, an educational activity which is tentatively planned for late October or early November, 1980.



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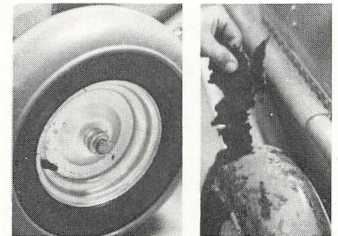
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#### SOUTHERN CALIFORNIA ROOFING COMPANY

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Place a classified ad in *Roofing Spec* for 25 cents per word. There is a minimum charge of \$10.00. Boxed or display advertisements are available in the classified section for \$20.00 per inch (one inch minimum). Ads using blind boxes available at no additional charge to NRCA members, non-members add \$5.00 to total order. Send ad copy and payment to: Margaret Pasquini, Advertising Manager, *Roofing Spec*, 1515 N. Harlem Ave., Oak Park, IL 60302.

## 100th Anniversary

NRCA's recently formed 100th Anniversary Committee is looking for historical information, pictures, or memorabilia relating to the roofing industry and the Association from the past 100 years.

1986 will mark NRCA's 100th Anniversary. In preparation for the 1986 celebration, the Committee is starting now to gather information. 1986 may seem as if it's a long time away, but compiling 100 years worth of history is no small task, and the NRCA office has little historical information recorded.

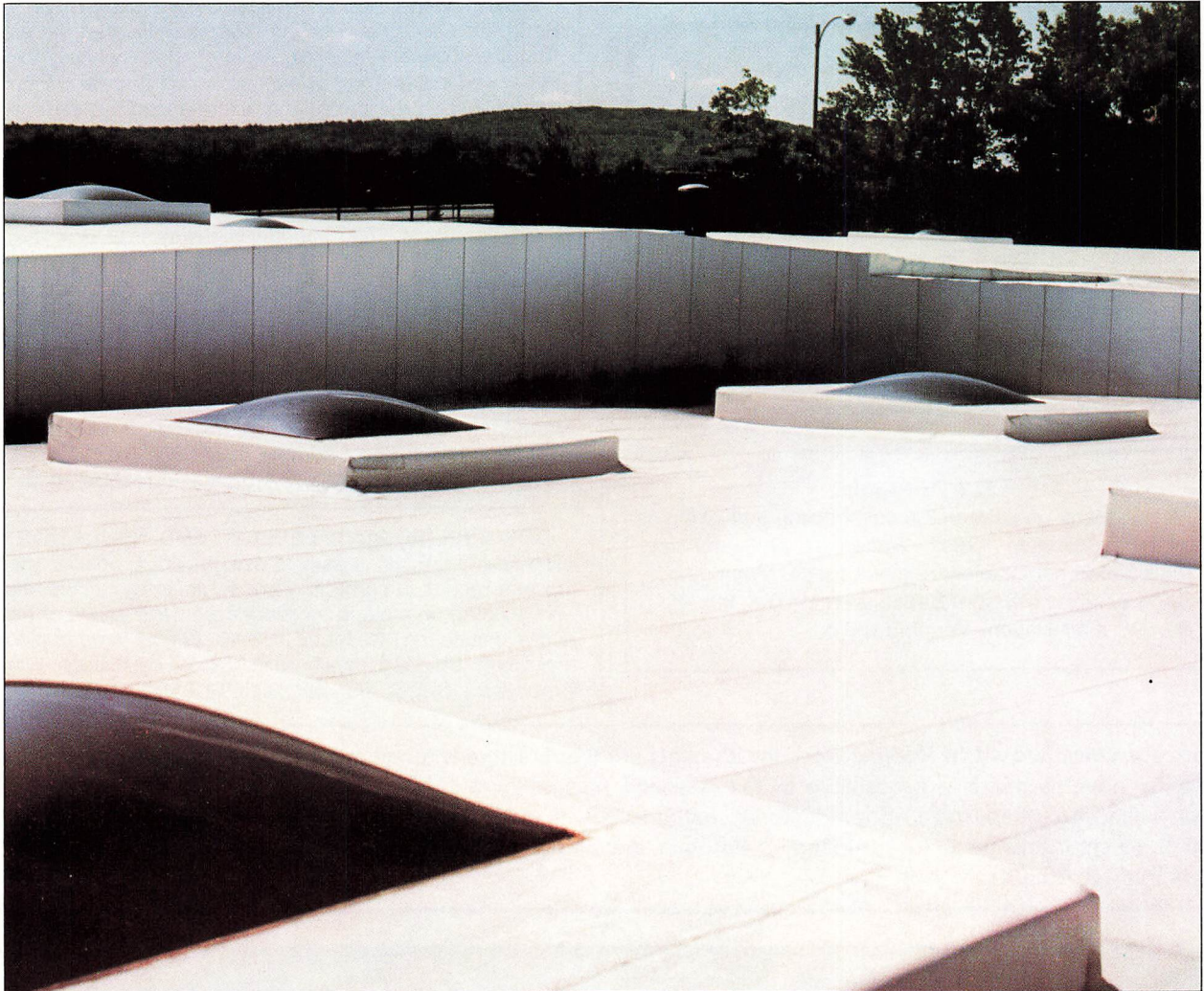
The Committee intends to make NRCA's 100th Anniversary in 1987 a memorable event. Although no definite plans have been made as yet, a book or multi-media presentation are possibilities.

Help the 100th Anniversary Committee to make the 1986 celebration the great event that the roofing industry deserves.

Glenn Langer, Langer Roofing and Sheet Metal, Milwaukee, Wis., chairman of the 100th Anniversary Committee, is anxious to get this project off the ground.

If you have any historical information, pictures, or memorabilia that you will share with the Committee, please call or write NRCA. Pictures will be returned as requested, and all precautions will be taken for their protection. Pictures should be dated and individuals identified wherever possible.

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# Washington Report



## Reindustrialization of the United States Economy

by William M. Drohan  
NRCA Washington Representative



"Reindustrialization" of the United States economy is a totally new concept to Americans. For over one hundred years, the United States has experienced tremendous economic growth, as evidenced by healthy increases in the Gross National Product; increases in the productive capacity of the nation; expansion and domination of world markets; and gains in the real personal incomes of our citizens.

We now find ourselves as a nation in a much different situation. We have an extremely low national savings rate. The productivity levels in our economy have declined steadily, along with levels of capital formation. We now find ourselves with a serious balance-of-payments problem and lack of vigor in exporting American-made products to foreign markets. We are now major importers of large quantities of products from firms in Japan, Germany, Taiwan, and South Korea. In a word, we are losing our dominance as a world leader and the strongest capitalistic economy.

In order to address the problem of reindustrialization, President Carter recently

proposed a broad program to address these current issues. The President's package includes \$27.6 billion in tax cuts for individuals and businesses, and approximately \$3.6 billion in aid for economically distressed areas and grants for research and development. Part of Carter's tax cut proposals calls for rapid depreciation schedules for businesses. He has proposed that business depreciation be increased by 40 percent for new investment in plant and equipment, along with a major simplification of the current 10 percent investment tax credit which would apply to equipment lasting more than one year.

Additionally, Carter has created a new Economic Revitalization Board composed of business, labor and public leaders. Initially, this group is to be headed by DuPont Chairman Irving Shapiro and AFL-CIO President Lane Kirkland. This Board will be charged with the responsibility of planning the future course of a long-range program of industrial renewal.

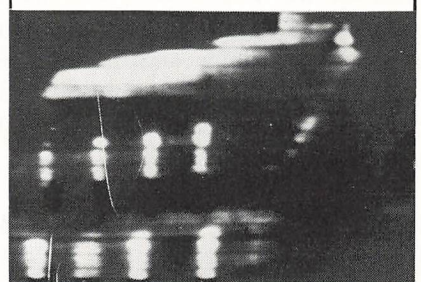
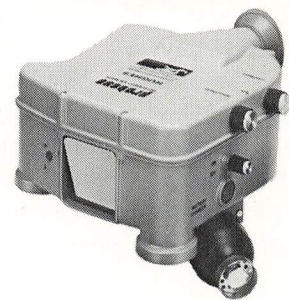
The long-term objectives of this policy will be to create one million new jobs by the end of 1982, to revitalize obsolescent industrial plants, to make American exports more competitive, and to give assistance to small businesses.

The construction industry in general, and the roofing industry in particular, stand to benefit a great deal by a government reindustrialization policy. New plants will be constructed, and old plants will be refurbished, creating additional volume for roofing contractors. Rapid depreciation of plant and equipment will provide an incentive for roofing contractors to invest in modern equipment.

The reindustrialization of America will not be an easy chore. This issue will be an important and provocative one in the coming decade.

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## AN EXAMINATION FOR RIGHT-WING EXTREMISTS

By

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



I don't mind admitting that I have always considered myself a reasonable fellow. Imagine then my shock upon learning recently that some of Washington's most trusted experts might consider my views extremely dangerous. I pass along this information not to bore you with my personal problems, but to suggest that you also analyze yourselves to root out any subversive tendencies which could threaten your communities, or worse, (and I shudder to even consider it) slow the growth of the federal government.

Let me assure you straight off that if you can answer yes to the following three questions you have nothing to worry about: First, while the population of the U.S. was increasing by just 10% between 1967 and 1978, was it not perfectly reasonable for the cost of government to increase by 212%? Second, were not Congress and the Administration acting in our best interests when they tried to "balance" next year's budget by passing up spending cuts in favor of the largest one-year tax increase in our history—nearly \$100 billion? And finally, are not the experts who fashion and defend these policies right on the mark when they claim that, dollar for dollar, the government spends our money more effectively than we do?

Unless you honestly answered all three questions with a resounding "Yes Sir, Big Brother!" then I fear that you, like me, may be infected with that dreadful disease Washingtonians love to call: Right-Wing Extremism. Although the experts here don't seem to know or care too much about what causes this disease, they do talk a lot about its symptoms, pointing out that those afflicted suffer from extreme views on a whole variety of subjects.

However, the experts probably save their bitterest barbs for a relatively new, but highly dangerous group of extremists who call themselves Supply-Siders. These people actually believe individual

behavior is influenced by incentives. Imagine that! Thus, they claim tax rate reductions could generate economic growth without inflation, because, if given the chance to keep more of their earnings, Americans would produce more goods and be able to save and invest more of their after-tax income.

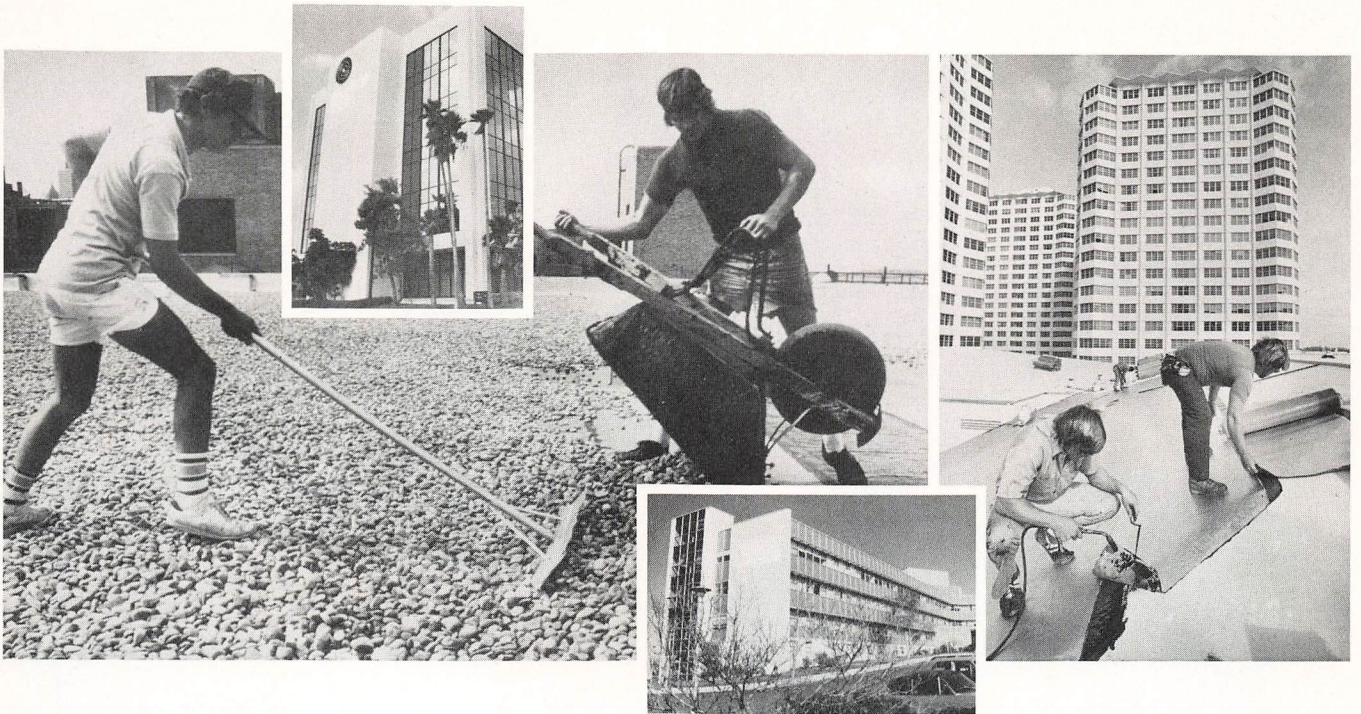
The experts reject supply-side arguments, labeling them preposterous heresy. As the Congressional Budget Office, (CBO), the official economic forecasting agency for the Congress, has tried so patiently, and so often, to explain, the best way to stimulate the economy and create new jobs is not through tax reduction, but more government spending. Indeed, although later denying it, the director of the CBO was recently reported to have complained that the supply-side critics who object to the agency's forecasts "are an extreme right-wing clique who should not be given an audience, lest it legitimize their views . . ."

So there you have it. Perhaps many of you have already been thinking: "Hey, wait a minute. I want to cut government spending, and reduce tax rates, and eliminate inequities favoring government employees, but that doesn't make me an extremist. I'm a sensible person!" Indeed you are, and you have lots of company.

Well then, if it is we who are in the mainstream, just who are the extremists? Why I do believe they might be some of those very people in Washington who call themselves moderates while labeling others as extremists. The people who, in less than four years, have given us: Such moderate spending—up 41%; such moderate taxation—up 49% (The four-year increase will be nearly 75%!); such moderate inflation—up from 5% to 18%; and, finally, such moderate prosperity—the average family has just suffered the sharpest decline in its purchasing power in the last 40 years.

Fellows, at the risk of sounding downright immoderate, you've done an extremely poor job.





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Richard F. Milanese,  
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KMM Membrane systems solve roofing applicator problems, too. Mr. Milanese who heads one of the largest commercial roofing firms on the East Coast, speaks from experience when he states . . . “The simplicity of KMM is beautiful. Unlike built-up roofing that takes years to learn, KMM techniques can be mastered rapidly. Once our initial crew is built up we can train new men to operate at full capacity, almost immediately.”

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“ . . . no trucks, no kettles, no equipment, no ripping bars.”

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For roofing applicators who work in different localities, there's another big advantage in using KMM. Mr. Milanese, whose Triple M firm works on jobs all over the Eastern Seaboard, says it's no longer the hassle it used to be . . . “All we do is send one of our trained crews out of town with a minimum of hand tools . . . no trucks, no kettles, no equipment, no ripping bars.” What was once a major logistical problem, no longer is.

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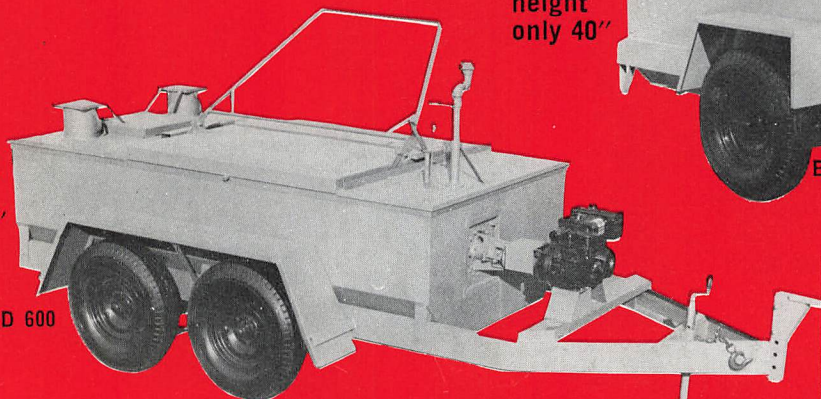


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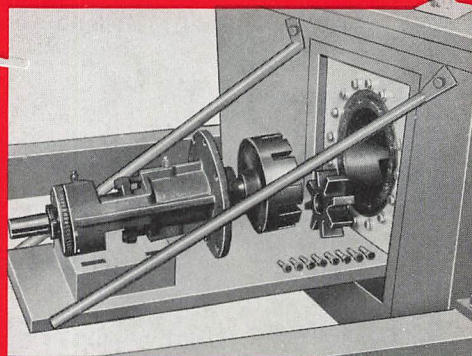
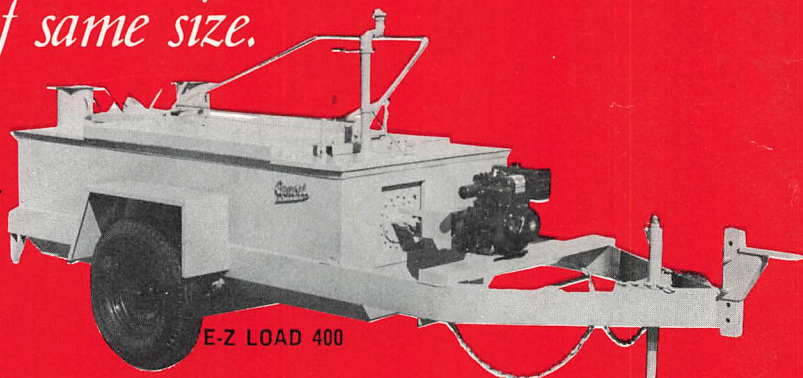
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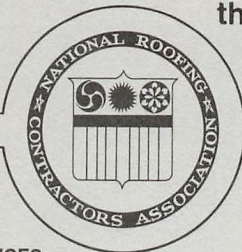
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# the roofing spec

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Number 7

October 1980

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