

the
roofing spec

NOVEMBER 1978

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**THE
NRCA
WARNING
LINE
SYSTEM**

THERE'S NO QUESTION
ABOUT IT, OUR
MEN FOUND...



The Benoit Tapered Foam System the easiest and fast- est to install. And believe me we've installed them all!

Try it! You'll prove it to yourself too!



Benoit Inc.

635 North Prior Avenue
St. Paul, Minnesota 55104

*Send us one
of your brochures
immediately.*

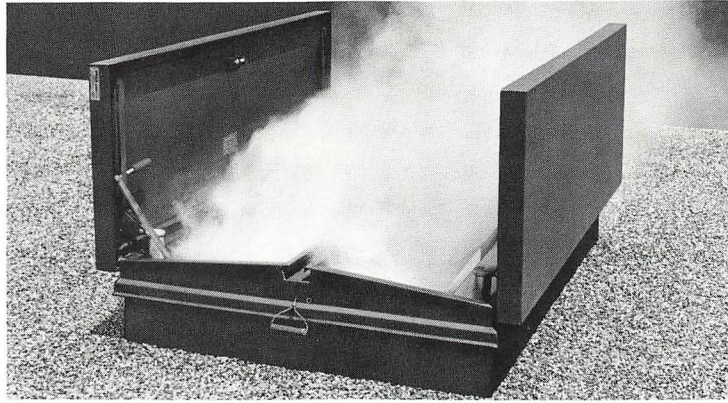
The Benoit System
TAPERED FOAM
ROOF INSULATION

NAME _____

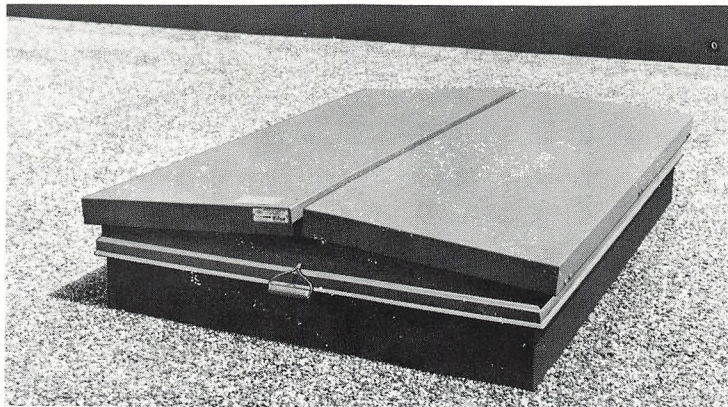
COMPANY ADDRESS _____

CITY _____ STATE _____ ZIP _____

The Bilco Automatic Fire Vent.



When you need it, it works.



When you don't need it, it still works.

There are two requirements of an automatic fire vent. It must work in an emergency. It must work when there is no emergency. Bilco Automatic Fire Vents do both. Our exclusive patented Thermolatch™ mechanism* is foolproof in an emergency. It is equally foolproof at other times, thus preventing the covers from opening inadvertently due to vibrations within the building or high winds (often accompanied by torrential rain). Bilco Vents work to protect a building and its contents **all the time**. They are gasketed and insulated for complete weathertightness, ruggedly built of 14-gauge steel or 11-gauge aluminum, and each carries our guarantee of proper operation.

Automatic venting, vertically through the roof, is the modern way to prevent catastrophic fire losses in single-story industrial and commercial structures. Our new booklet, "Automatic Fire Venting Guide" makes it easy for you to determine vent size and spacing. It also points out some of the reasons why Bilco Vents offer your clients the soundest possible value in this type of emergency equipment. Value your client can measure in terms of reliability and long, trouble-free service. Eight standard sizes with UL and FM labels. Special sizes to order.

*Normally actuated by fusible link. Also available with easily resettable electric operator for actuation by smoke detector or other emergency device.



Send for a copy of this new fire venting guide. Answers the "why, how and what" questions about fire venting.

Since 1926. Building our reputation for products that satisfy.

Bilco®

**DOORS FOR
SPECIAL SERVICES**

The BILCO Company, Dept. RS-118, New Haven, Conn. 06505
Manufactured in Canada by: Richards-Wilcox of Canada, Ltd., London, Ontario

**If Carlisle
is such terrific
roofing material,
so easy to apply,
so long lasting,
with so little
maintenance,
how come
it isn't on
my building?**

We're glad you asked, because nobody is trying to cut you out of a good thing. Just send us your name and address and we'll send you the whole fascinating Sure-Seal story including the Watertight Warranty and the name of you nearest approved Sure-Seal applicator. For your commercial or industrial building, see how easy it is?

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CARLISLE



Construction Materials Department
Carlisle Tire & Rubber Company
Division of Carlisle Corporation
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Carlisle, PA 17013

OSHA, Safety, and the Warning Line

We've said it before, but it's worth repeating: The horrors of OSHA are truly horrible, but we cannot let them interfere with what must be a top priority for all roofing contractors—running an accident-free operation.

Every contractor in the country has either been abused by OSHA or knows of a competitor who has been. And it's not a matter to be taken lightly. But the behavior of the Occupational Safety and Health Administration and good safety practices are two separate matters, all of OSHA's good intentions notwithstanding.

And yes, the point can be made that OSHA, despite its ineptitude, forced us to take a look at ourselves, and forced us to clean up some practices that were, in fact, pretty shoddy. Still, the evidence to date—7 years after OSHA started—indicates that worst of all bureaucracies has made—surprise—very little impact on the health and/or safety of workers in America.

There was, in the roofing industry, an impetus to improve safety practices long before OSHA came into existence. Why? First, for the human reasons: accidents cause pain and suffering and, too often, death. Also for the business reasons: accidents cost time and money and productivity. There is an increasing correlation between safe contractors and successful contractors.

In recent years, the impetus for safety has been spurred along by the insurance industry, which has re-evaluated its posture in our industry. Rates have increased—usually with justification—and some roofing contractors are just plain unable to buy insurance, at any price. More than ever before, safety pays—and it has paid to the tune of literally thousands of dollars in insurance savings for many of our members.

Talking about safety and implementing positive company safety programs have also seemed to be two unrelated activities. In fact, it's probably true that there's been so much talking about safety that those who are supposed to listen get turned off at the first suggestion of first-aid kits or fire extinguishers. But the experts all agree that safety is demanding, and practice and repetition are essential for workers—and employers—to adopt the necessary attitude.

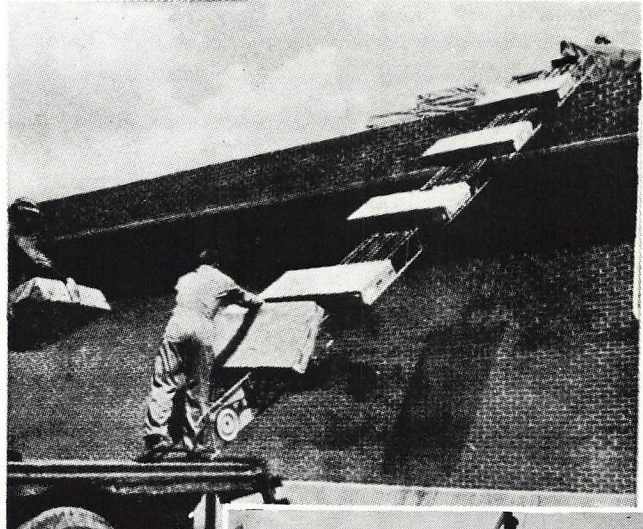
One of the most positive new approaches to safety—easily implemented—that has been developed recently in our industry is the NRCA Warning Line System. Created partly in response to other unreasonable OSHA standards for perimeter guarding, the Warning Line System has begun to receive industry-wide acceptance, and has found its way into some state-run OSHA standards. The whole subject of the Warning Line System is the topic of this issue's feature story.

More important, the Warning Line is being established as a deterrent to accidents, and that's the bottom line, no matter how you look at it.



E-Z LIFT

manufactured exclusively by
MACHINERY DEVELOPMENT, INC.



**America's Finest
Lightweight Portable
Conveyor ...
doing the job of
conveyors costing
three times as much.**

- ★ Easy to move—
Easier to set up
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operate
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carbon steel tube
construction
- ★ 16 to 33½ ft.
lengths standard;
special sizes on
request.
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E-Z LIFTS are moving concrete, bricks, slabs, tile, insulation, shingles, wire, packaged and rolled materials... etc.

**Small Initial Cost...
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**Production at a PROFIT...
Wherever you use E-Z LIFT**

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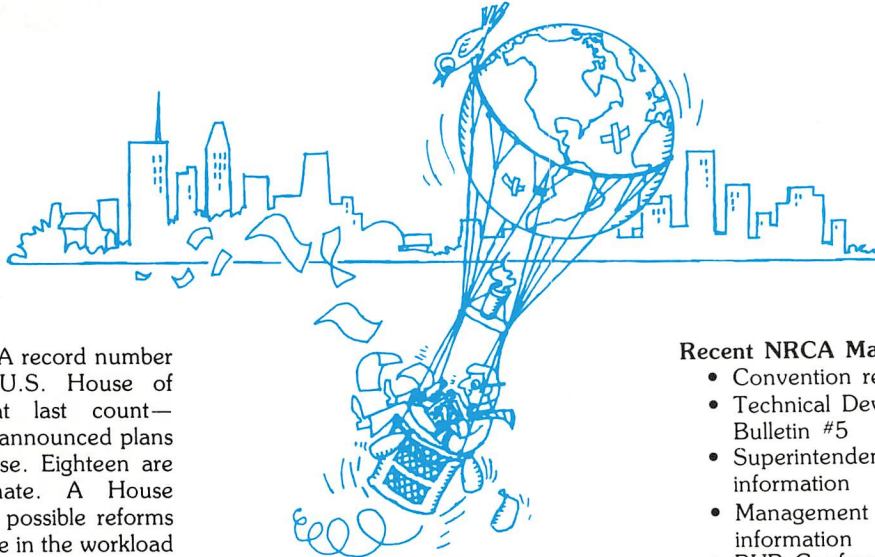
MANUFACTURERS OF E-Z LIFT CONVEYORS

office:
1545 GLENARM PLACE
PHONE 825-8245

DENVER, COLORADO
(area 303)

plant:
2000 S. CHEROKEE ST.
PHONE 733-5642

Ideas, notes and random thoughts



Well, that explains it: A record number of members of the U.S. House of Representatives—59 at last count—called it quits and have announced plans to retire from the House. Eighteen are running for the Senate. A House committee that studied possible reforms reported a great increase in the workload and said a survey showed that in an average 11-hour day a House member had only 11 minutes to think.

Quotable: Economist Dr. Herbert Stein: "The burden is not on the taxpayer to show why he is entitled to keep what he has earned. It is his money. The burden of proof is on those who would tax it away from him..."

Member Don Eck, Oak Park, IL, passes on this piece of advice: State industrial commissions may be a good source for investigating prospective new employees. In Illinois, the Commission keeps Worker's Compensation claims for two years. The Illinois Commission's number is 800-972-4604.

The largest individual claim payment in the history of Travelers Insurance Company has been made to the City of Hartford as a result of the collapse of the Civic Center Coliseum roof last January. The total bill came to \$12.3 million.

Have You Noticed? The Office of Management and Budget recently reported to President Carter that the public spends 10 per cent less time filling out federal forms than was spent in January, 1977. OMB said the government is making "real progress" in its war against federal paperwork, which costs the public and business 785 million hours of work annually, at a cost of \$100

billion. Under current review are more than 1300 reports which various federal agencies are required to send to Congress.

The General Services Administration, perhaps cutting its own paperwork, bypassed competitive bidding requirements on more than \$38 million worth of construction contracts between 1974 and 1976, according to a study by the General Accounting Office. The study found that GSA frequently cited "public exigency" as its reason for not soliciting bids, but that there were many "doubtful cases" of emergency, including non-bid contractors for landscaping, interior decoration, a new Chicago courtroom, and a San Diego border station.

The Queen's English: Michael McGiffert, editor of the *William & Mary Quarterly* in Williamsburg, VA, says the vice of "bureaucratess" is far from new and flourished as long as 400 years ago in England. Queen Elizabeth I, calling on her archbishop to take spiritual action against the plague sweeping the realm in 1563, issued an order calling upon all subjects to "execute, follow, and obey such godly and wholesome orders, as you, being primate of all England, upon godly advice and consideration, shall uniformly devise, prescribe, and publish...during the time of this visitation by sickness and other troubles."

Recent NRCA Mailings include:

- Convention registration forms
- Technical Developments Bulletin #5
- Superintendents' Conference information
- Management Conference information
- BUR Conference information
- Annual Report
- Project Pinpoint forms
- The Built-Up Roof Book
- "Roof Insulation" booklet
- Technical Conference information
- Action Information—October issue
- On Target bulletin

Additional copies of most are available from the NRCA office.

NRCA Staff Expands: The NRCA Staff continues to grow with the addition of two new staff professionals:

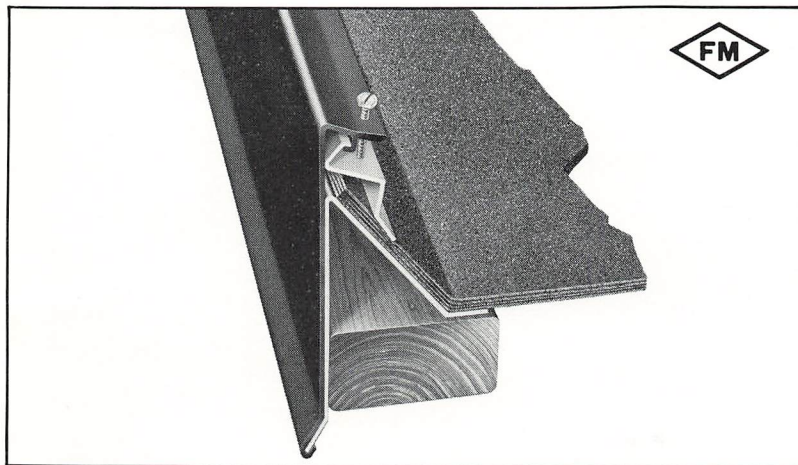
- Janet Gasior will be responsible for managing the new Litigation Center: establishing file information and handling inquiries from members of the Center.
- Peggy Pasquini will assume responsibility for the NRCA Convention and Exhibit, and will work on the Roofing Spec and some education programs as well.

And Finally: We pass along some supplements to Murphy's Law, as reported in the *Wall Street Journal* recently:

- Insurance policies never cover what happens.
- Forecasting is very difficult—especially if it's about the future.
- When you are right, it is your moral duty to impose your will upon anyone who disagrees with you.
- If God had meant for us to fly tourist class, he would have made us narrower.



Light & Lively.



SPECIFY MM FASCIA SYSTEMS
write for
a FREE brochure or refer to SWEET'S 7.3/MM

MM Fascia Systems

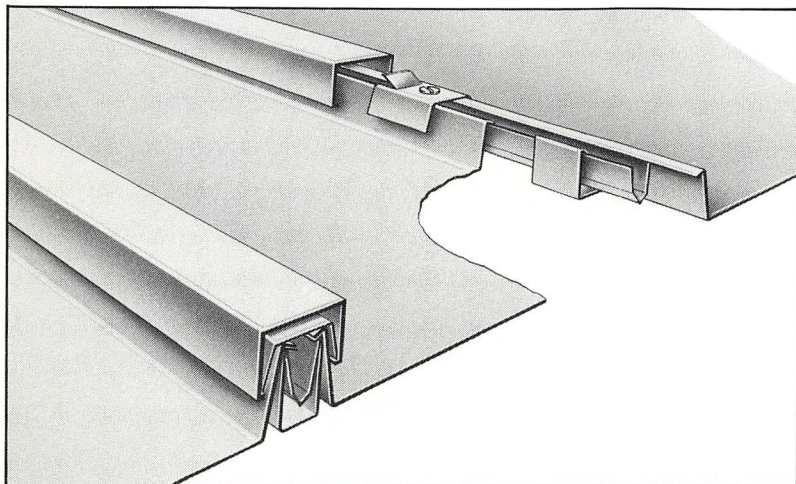
LIGHT IN WEIGHT

Drip-proof MM Fascia Systems are light yet super strong. Made of extruded aluminum, they are factory-fabricated for accuracy and uniformity. Factory Mutual approval assures that wind-load requirements are met. The Lok-Tite design eliminates any penetration of the roof and makes installation easy.

LIVELY IN APPEARANCE

You can make them as lively as you want. A wide range of architectural finishes and coatings is available. Sharp and straight or curvilinear lines are much easier to achieve because splice plates and fasteners are concealed. So your design is the criterion we meet precisely.

Strong & Silent.



SPECIFY MM BATTEN-TITE ROOFING SYSTEMS
write for a FREE brochure or refer to SWEET'S 7.2/MM

Batten-Tite Roofing System

HIGH STRENGTH.

You specify the thickness. Our strong alloy aluminum has greater tensile strength than steel of the same weight. Wind load analysis is provided to meet local code requirements. Select and specify from a number of patterns and finishes, including a 20-year warranted finish.

NO WIND NOISE.

No clattering in the wind with Batten-Tite Roofing Systems. It goes down easily. And it quietly stays there. With built-in expansion/contraction capability and watertight concealed fastening, Batten-Tite Roofing has no equal. And the cost is surprisingly low to your client.



"The materials make it; the system shows it."

4520 ELMDALE DRIVE, TUCKER, GEORGIA 30084/PHONE (404)938-7570

HOT READY TO GO

WHEN YOU ARE



Taurus' *New* MSTK Series Job Tanks

**The Mini-Mobile Storage Tank that makes
bulk asphalt attractive to more Roofers.**

No more wasting time and labor:

- Start immediately at the beginning of each working day
- No waiting for tank or kettle to warm up
- No wasting time on weekend firing of tank
- Tank will cycle automatically to maintain proper temperature

Economy of operation:

- It costs less to keep material hot than to heat material that has cooled
- Fuel consumption is at least 50% under conventional job tanks, of equal size, and considerably less than a kettle

Safer:

- Totally enclosed flame
- Controlled heating surface, eliminating hot spots which produce super-heated vapors that could cause a fire or explosion
- Fully automatic burner with an approved flame safe-guard control
- Material level shut-down switch for burner

Efficient and durable:

- Heat system is equipped with heat dispersion rings and flue liner
- A controlled heating surface results in prolonged flue life. No hot spots or caking. Longer intervals between cleaning of tank



Liquid Asphalt Systems, Inc.

2425 Jefferson

Kansas City, Mo. 64108 (816) 474-0448



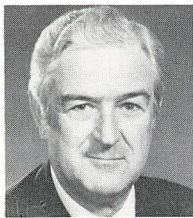
THE CONVENTION WEEK

Feb. 27 to March 2, 1979

- Monday, February 26** While exhibitors begin their move-in and set-up, the NRCA Executive Committee will meet in the afternoon.
- Tuesday, February 27** Following an all-day Board of Directors meeting, Convention activities kick off at 6:30 with a Welcome Party in the Exhibit Hall.
- Wednesday, February 28** The first official Convention day begins when the Exhibit Hall opens at 9 AM, and stays open until 12:30. At that time, the Opening Lunch with Keynote Speaker John Connally begins. Following the luncheon, educational sessions will be held for the balance of the afternoon. The evening is free to see the city, or visit Hospitality suites.
- Thursday, March 1** The Convention continues with the Member Breakfast, and speaker Dr. James Boren. Educational and Technical sessions fill out the morning, and the Exhibit Hall reopens for the afternoon. In the evening, it's the traditional Officer's Reception and Cocktail Party, with cocktails, hors d'oeuvres, and some fun.
- Friday, March 2** The Exhibit Hall opens for the last time at 9, and closes at noon. At 12:30, the Awards Lunch features speaker Ed Foreman and some excitement. Afternoon roundtable discussions are followed by the member meeting and elections. The Convention ends with the annual NRCA Banquet, featuring big-name entertainment, and the presentation of the J. A. Piper Award.

PROGRAM

SPEAKERS



John Connally,
former Governor of Texas,
at the Opening Luncheon.



James Boren,
head of the National
Association of Professional
Bureaucrats, at the
Member Breakfast.



Ed Foreman,
former Congressman from
two different states,
at the Awards Luncheon.

ADVANCE REGISTRATION

HOUSING

EXHIBITS

LADIES

RECONVENED CONVENTION

EDUCATIONAL SESSIONS

TECHNICAL SESSIONS

FINALLY

HOUSTON HOUSTON HOUSTON



NOTES

packets have been sent to all NRCA members, and are available to anyone interested. Remember—advance registration speeds up the registration process, saves you money, and helps your staff. Please do it promptly!

for the Convention will be at six downtown Houston hotels; headquarters is the Hyatt Regency Houston. Housing information and room reservation forms are also available from the NRCA office.

once again will be bigger than ever before, and will play a large part in the Convention activity. You'll want to budget your time to visit all of the exciting displays.

will have a full program of their own. Special events include a tour of NASA, a luncheon with news commentator Peter Hackes, stimulating educational sessions, and some good old fashioned fun.

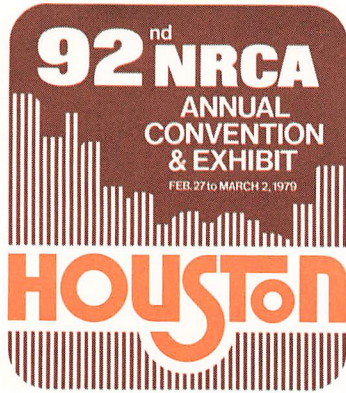
will be held in Costa Del Sol, on the coast of Spain, for eight days, immediately following the Houston Convention.

will have an emphasis on informal discussions and problem-solving sessions, using a roundtable format. Business sessions will feature a talk by attorney McNeill Stokes, a workshop on successful negotiations, and a how-to meeting on income taxes and estate planning.

will feature presentations on blisters over urethane insulation and single-ply state-of-the-art.

we hope you'll agree that the dynamic program in store for you coupled with the dynamic city of Houston will make this Convention an event you won't want to miss. We hope you can plan to be with us.

STON HOUSTON HOUSTON



1979 NRCA EXHIBITORS

Aeroil Products Co., Inc.
 American Associated Companies
 American Weatherproofing Inc.
 APC Corporation
 Apache Foam Products

Ball Metal & Chemical Co.
 Julien P. Benjamin Equipment Co.
 Benoit Inc.
 Berger Brothers Co.
 Bird & Son, Inc.
 Blackwell Burner Co.
 Bostitch Div. of Textron, Inc.

Carlisle Tire & Rubber Co.
 The Celotex Corporation
 CertainTeed Corporation
 Charbonneau Equipment Co.
 Clearfield Conveyors
 Cleasby Manufacturing Co.
 CNA Insurance
 Concrete Products Inc.
 Consolidated Fiber Glass
 Construction Fasteners Inc.
 Contech, Inc.

Dodge/SCAN Div. of McGraw Hill
 Dow Chemical U.S.A.

ES Products Inc.
 Evergreen Slate Co., Inc.
 Evode, Inc.

Fabco
 Fascias Inc.
 Flintkote Co.
 Follansbee Steel Corporation
 FRSA

GAF Corporation
 Garlock Equipment Co.
 Gates Equipment Co., Inc.

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 B. F. Goodrich
 Gravel Vac Service Co.
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 J & P Petroleum Products Co.
 Jetspray Products Inc.
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Karnak Chemical
 Kemco Engineering Corporation
 KMF Equipment Corporation
 Koppers Co., Inc.

Liquid Asphalt Systems Inc.

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 MM Systems Corporation
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 Morgen Manufacturing Co.

Naturalite Inc.
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Onduline U.S.A. Inc.
 Owens Corning Fiberglas

P & D Manufacturing Co.
 P.A.L. Development Corporation

Pacific Clay Building Products
 Panel Era Corporation
 Perlite Institute
 Petersen Aluminum Corporation
 Pittsburgh Corning Corporation
 Polymer Building Systems Inc.
 Power Line Sales
 Pneutek Inc.
 Publishers for Conventions Inc.
 Reeves Roofing Equipment Co., Inc.
 Reflecto-Barrier Sales Co., Inc.
 Reimann & Georger Inc.
 Rent-a-Vac
 Rising & Nelson Slate Co., Inc.
 Roll Former Corporation
 Roofmaster Products Co.
 Rubber & Plastics Compound Co., Inc.

Smith Hoist Manufacturing Co., Inc.
 Super "K" Industries
 Sun & Roof Engineering
 Supradur Manufacturing Corporation

Tamko Asphalt Products
 Tennant Co.
 Tennessee Coatings Corporation
 Tremco Manufacturing
 Transfer Technology

CPR Div., The Upjohn Co.

Vacuum Engineering
 Vermont Structural Slate Co., Inc.
 Vincent Brass & Aluminum

W. R. Grace & Co.
 Wasco Products Inc.
 Waukesha Foundry Co., Inc.
 West Michigan Nail & Wire Co.
 Wilen Manufacturing Co.
 WSRCA



Personalized Service

LADDER TIE-OFF BRACKET

Patent Pending

The National Roofing Contractors Association reports that the two most frequent time-loss accidents result from burns and falls.

Most falls involve the use of a ladder.

Most ladder accidents result from poor or NO TIE-OFF of the ladder at the roof edge.

THE **HILCO LADDER TIE-OFF BRACKET** CAN HELP ELIMINATE MOST OF THESE PROBLEMS.

The *ONLY* practical method of securing ladders to:

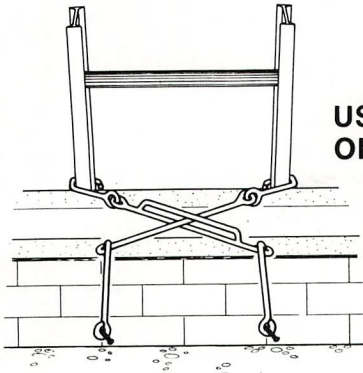
Flat roofs with gravel stop or no parapet.

Flat roofs with a parapet wall.

Shingle or sloped roofs.

SIMPLE ——— QUICK ——— PRACTICAL ——— ECONOMICAL

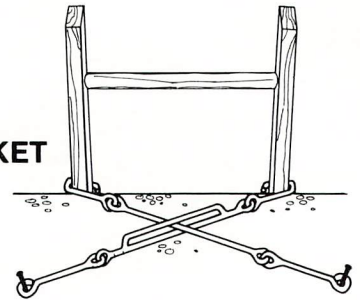
Ladders should ALWAYS be tied off. The **FIRST** man up the ladder installs the **HILCO LADDER TIE-OFF BRACKET** in a secure manner. The **LAST** man off the roof removes the bracket.



CAUTION: Pictures below only show that bracket may be used with aluminum or wooden ladders. Regulations require that ladder be run up past roof edge by three (3) feet.

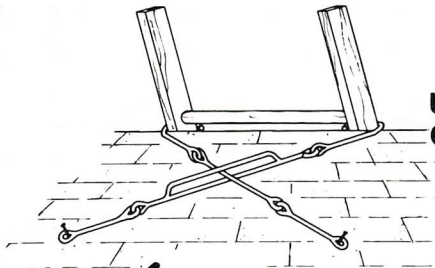
USE THE HILCO LADDER TIE-OFF BRACKET ON FLAT ROOFS WITH A PARAPET.

Hook bracket onto rails of ladder.
Pull bracket arms tight and down inside the parapet wall.
Nail bracket in place.



USE THE HILCO LADDER TIE-OFF BRACKET ON FLAT ROOFS WITH NO PARAPET.

Hook bracket onto rails of ladder.
Pull bracket arms tight.
Nail bracket in place.



USE THE HILCO LADDER TIE-OFF BRACKET ON SHINGLE ROOFS OR ROOFS WITH A SLOPE.

Hook bracket onto rails being sure to also hook under a ladder rung.
Pull bracket arms tight.
Nail bracket in place.



Hilco LADDER TIE-OFF BRACKET Patent Pending

Price: \$12.50 each

Packed: 3 per carton

Made from Steel Rod Stock

Weight: 1 1/3 lbs. each

LADDER TIE-OFFS ARE
REQUIRED BY OSHA
See Regulation 1926.450 (a) (10)

MANUFACTURED BY
E. L. HILTS & CO.

P. O. BOX 1789
HICKORY, NORTH CAROLINA 28601
PHONE 704/327-9141



KMM[®] Membrane has weathered the storm.

Two storms, actually.

The storm of controversy that once surrounded "single-ply" roofing systems.

And the natural ravages of time and weather.

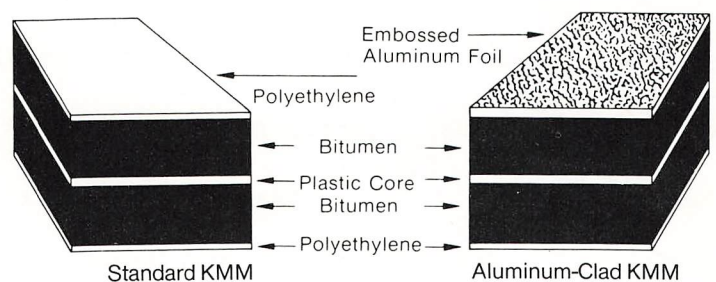
Which explains why Koppers, a company traditionally conservative about making claims, is making *this* claim: KMM Membrane is the most effective new roofing system on the market today. For economy, long life, and clean and quick application, it can't be beat.

As an industry leader in

production and sales of "built-up" roofing systems, Koppers couldn't introduce just any "single-ply" system. Ours had to work.

Proven success.

For 19 years the KMM system has been used successfully in Europe. Before we introduced it in America, we tested it in our own Research



Center and in the field for five years. With applications throughout the country, we are convinced of its quality and performance. Just as our customers are convinced.



"The Storm", an original painting by Tom Ruddy.

KMM Membrane comes in two versatile grades—Standard and Aluminum. So whether you have a flat roof, a sloped roof or even one with an unusual configuration, we have the grade to match your requirements. Both are excellent waterproofing materials. And Aluminum grade KMM Membrane can be used as flashing.

Koppers also offers a renewable guarantee program. So you can use KMM Membrane with confidence.

One more thing: you might

ask why, after twenty years of successful applications, is Koppers giving its "single-ply" system a big build-up?

Because we're sure it's the best "single-ply" system available. And we thought you should know.

Koppers, the roofing people.

KOPPERS
Architectural and
Construction Materials

A 24½ x 11¼ reprint of this painting is available by writing to Koppers Company, Inc. on your letterhead.

Koppers Company, Inc.
1900 Koppers Building
Pittsburgh, PA 15219

I would like to know more about KMM Membrane.

- Have a sales representative call on me.
 Send me KMM Product Information.

Name _____

Company _____

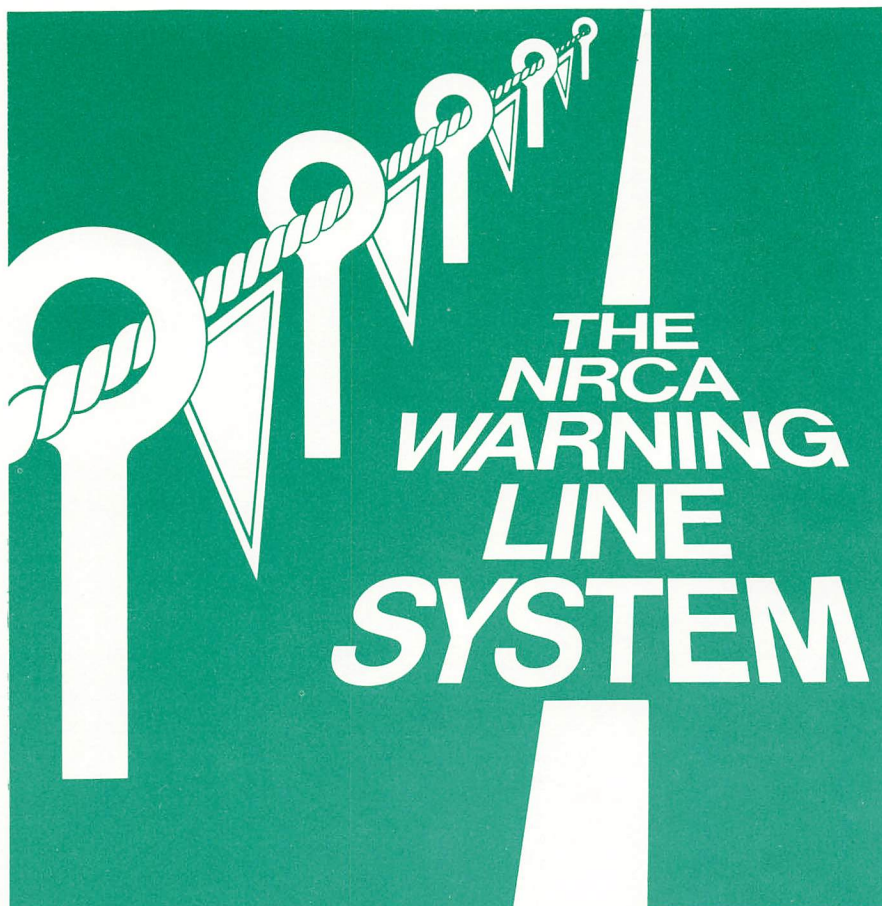
Address _____

City _____

State _____

Zip _____

Phone _____



an idea whose time has come

When the Occupational Safety and Health Administration was first established, it was burdened with coming up with safety and health standards for nearly every work practice in nearly all occupations. Standards exist, as we all know too painfully, for the proper size and shape of toilet seats, for the height at which fire extinguishers are to be mounted, for the proper design and use of file cabinets, etc., etc., etc.

Happily, in a sense, OSHA didn't create all of these standards, but rather adopted "consensus" standards from each industry—a fairly logical approach that led, unfortunately, to a number of

complications, as we shall see. (One obvious complication was—and is—that many industries did not have "consensus" standards for some areas that OSHA wanted to regulate. In particular, this was the case with guarding the perimeters of flat roofs.)

Unhappily, OSHA also selected five Target Industries, one of which was the roofing and sheet metal industry. This meant that special attention was given our industry, and that attention was based on regulations that may or may not have been adopted with the benefit of studying their merits.

The net result of this, of course, was

that roofing contractors were being visited by new and barely-trained OSHA inspectors in a flurry of activity, and were being cited for a whole range of violations. Initially, most inspectors visited the contractors' shops, but as time went on they got smarter and began inspecting job sites.

Given this framework, it is not surprising to learn that these inspectors perceived a danger when they saw flat roofs with no method of perimeter guarding. And it is not surprising that many felt obligated to issue citations when they perceived a danger.

However, there was no "consensus" standard in the industry for protecting against falls off the edge of a flat roof. Consequently, there was no OSHA standard that dealt with the problem. Instead, there was a standard specifically for sloped roofs (which created its own problems, that won't be dealt with here), and there was a standard dealing with protection from falls from "open-sided floors," a standard that had been a "consensus" in the ironworking trade. That standard provides:

"Every open-sided floor or platform 6 feet or more above adjacent floor or ground level shall be guarded by a standard railing, or the equivalent...on all open sides, except where there is entrance to a ramp, stairway, or fixed ladder."

As we all know, OSHA began using this standard as the basis for citations against roofing contractors who had no form of perimeter protection in use. Those contractors who appealed their citations were, for the most part, successful: most courts held that roofs are not "open-sided floors," and the intent of that standard was being ignored for the sake of expediency.

Undaunted, OSHA inspectors began issuing citations under different standards—most notably the "standard duty" clause, which requires employers to provide a workplace free from recognized hazard. That standard, of course, could be used to issue citations for any conceivable shortcoming, and again, most courts held that the standard was so vague as to be meaningless. OSHA now was in a quandry, but it was clear that they weren't going to walk away and ignore us, and they set about to write a standard specifically for the roofing industry, that could be enforced, dealing with perimeter protection on flat roofs.

NRCA, meanwhile, was responding to this challenge in a variety of ways. First, it was providing assistance to members on an individual basis, coordinating the progress of the many contested citations, and preparing packets of information for contractors who received a visit from OSHA.

Also, NRCA retained the firm of Simpson, Gumpertz & Heger to prepare a feasibility report, from a structural engineering point of view, of perimeter protection using guardrails, safety nets, and safety belts and lifelines.

Concurrently, the NRCA Safety Committee, grappling with the problem of making recommendations to help members, developed the concept of the warning line system—an approach that might ultimately satisfy OSHA, but more important, was easy to use and would probably act in a positive way to prevent falls. Shortly thereafter, the Gumpertz report was published, with the conclusion that guardrails, safety nets, and safety belts and lifelines were at best structurally infeasible, and at worst created more safety dangers than they could ever solve. Gumpertz went on to say that the warning line was probably the most effective available alternative.

ADVANTAGES OF THE WARNING LINE SYSTEM

The great advantage of the Warning Line System is its simplicity. The system consists of stanchion bases, uprights, and the line itself. Stanchion bases may be old brake drums, metal plates, or 5 gallon pails partially filled with concrete. The uprights may be sections of small diameter pipe, conduit, or reinforcing rods. The line itself may be wire, rope, or pennants, as displayed at gas stations. Some warning line systems are now commercially available—such as those made of plastic cones and pennants.

The warning line is erected six to eight feet from the roof edge in the work area. The line is either moved along with the work, or is erected with sufficient line to provide continuous protection.

The roof area inside the warning line thus becomes the normal work area for all employees. The job-site supervisor is responsible for assuring that employees stay in the normal work area except when actual work must be performed at the roof edge. Work at the edge should be closely supervised, to reduce exposure to falls to an absolute minimum. In no event should mechanical application equipment be used for edge finishing operations, when such equipment must be operated in a direction toward the edge.

The real advantage of the Warning Line System, of course, is that it will work in preventing accidents when used properly. Many falls off the edge can be traced to inattention or carelessness—for one reason or another, the employee approaches the edge without realizing

how close he is. The Warning Line System, while it cannot absolutely prevent a fall, will give notice to a worker that he is approaching the edge.

So far, the results are encouraging. The System is being used by many contractors in different parts of the country, and most notably in Illinois, where its use is required for participants in the NRCA/CNA Insurance program. To date, we know of no falls from the edge where a warning line was being used.

THE WARNING LINE AND OSHA

Regulations move slowly through the bureaucracy at OSHA, and the warning line proposal is no exception. The proposal for a warning line regulation has gone through all the necessary channels—most important, it was recommended to OSHA by the Construction Industry Advisory Committee to OSHA, thanks in no small way to the efforts of NRCA past President Bob Linck, who served on the Committee. NRCA has been assured that it is only a matter of time and priority before the proposal is adopted as a regulation.

Naturally, NRCA is not especially fond of the concept of sponsoring new federal regulations that may be the basis for citations against member contractors. Still, we believe it's the best solution to the two problems it addressed: the problem of protecting workers from injury, and the problem of OSHA enforcing a realistic standard of practical value to the industry.

In recent months, OSHA's enforcement patterns for perimeter guarding protection have been confused, at best. Some contractors continue to be cited under the old "open-sided floor" standard, despite the precedents that have been established in court. Others have been cited under the vague and broad terms of the general duty clause, and most contractor challenges have been successful.

In general, though, the level of citation activity has declined markedly. Clearly we are in a period of transition—from a standard not intended for our industry to one endorsed by our industry. OSHA's adoption of that standard seems to be imminent, and we should be grateful to have a standard that is both effective and affordable. The alternatives were a whole lot worse.

And while we must not expect the Warning Line System to be the answer to all of our falls problems, we can and should encourage its use—as an effective means of preventing serious injury.

Intensive sessions on law, insurance and EDP....

NRCA management conference set for January

Litigation, insurance, and electronic data processing are the featured topics of NRCA's Management Conference to be held at the Boca Raton Hotel & Club, Boca Raton, Florida, January 7-11, 1979, according to Harry Esbenschade, Management Education Committee Chairman. The conference, one of several new activities in the management education area, will feature these subjects in three half-day sessions.

"The committee felt that these topics were areas of urgent concern to roofing contractors throughout the country," said Esbenschade. "There are plenty of management seminars, but very few deal with the special problems of roofing contractors. And, of those conferences that do address themselves specifically to the needs of roofing contractors, none have ever gotten as in-depth into these subjects areas as the committee plans."

Esbenschade noted that as of this moment four speakers have been selected as conference speakers. Stephen Phillips of NRCA legal counsel Stokes & Shapiro, Atlanta, Georgia, will cover legal problems of roofing contractors; Dick Lietz,

Assistant Vice President of Fred S. James, Inc., Chicago, will be joined by Dr. E. J. Leverett, Jr., professor at the University of Georgia's School of Business Administration in an extensive discussion on managing insurance problems and costs. Computer consultant Bill O'Brien will present the final day's program.

Burt Karp, NRCA Vice-President and coordinator of the association's educational programs, noted that the three conference subjects were chosen because they tend to give contractors their biggest cost problems in managing their companies. "All NRCA members are aware of what an untimely law suit can mean to their business," said Karp. "It not only costs you money but it takes time and distracts you from running your business." He added that similar problems can occur with insurance.

"This conference, in my opinion, helps to fulfill NRCA's obligation not only to help our members avoid problems, but to manage them properly when they do occur," said Karp.

Among the topics to be discussed in the legal session are: the anatomy of the roofing law suit, choosing an attorney for your firm, NRCA's new Litigation Center, and protecting a roofing contracting firm in its day-to-day operations. Phillips, known to many in NRCA through his extensive case experience, will also cover the role of insurance companies during litigation, detailing the help contractors should anticipate from their insurance carriers.

Dealing with the ever-increasing costs of insurance will be the theme of the three-hour long presentation of Lietz and Dr. Leverett. Special emphasis will be given to cost control, and conference participants will also learn how to specify insurance coverage and methods of obtaining competitive bids.


A special presentation on electronic data processing will feature consultant O'Brien, who will discuss possible methods of automating billings, job costing, and estimating. While the program will deal with in-house computers, attention will be paid to service bureau applications. The presentation is also designed to show participants if they should consider computers at all for their operations.

"Because the committee wished to have these topics covered intensively, the enrollment is limited to the first 100 applicants on a first-come first-serve basis," said Esbenschade. "Also, each session speaker will be on hand after the sessions adjourn at noon to answer private questions."

Each of the three sessions will run from 9:00 am to 12:00 noon. This arrangement will allow conference participants to meet and exchange ideas in the afternoons, as well as to take advantage of the outstanding recreational facilities available at the Boca Raton Hotel & Club.

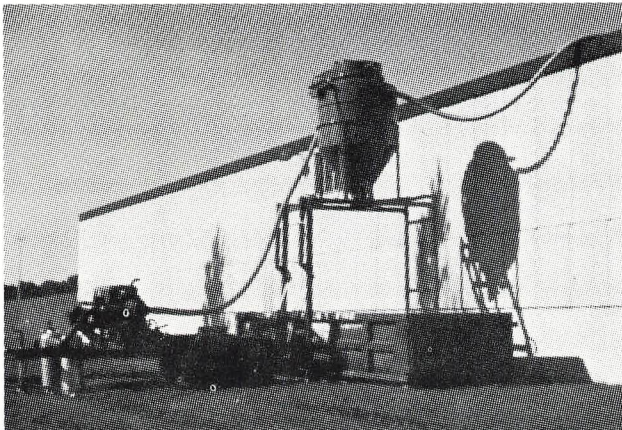
Three 18-hole golf courses and 20 all-weather tennis courts plus a wide variety of water sports will be available to conference attendees.

Reservation forms and further conference details are available from the NRCA office. The Management Education Committee hopes that you'll hurry and guarantee yourself a place at this new and exciting idea in management skills conference.



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PO BOX 1059 COMMERCE CITY, CO. 80022 PHONE 303-287-3424



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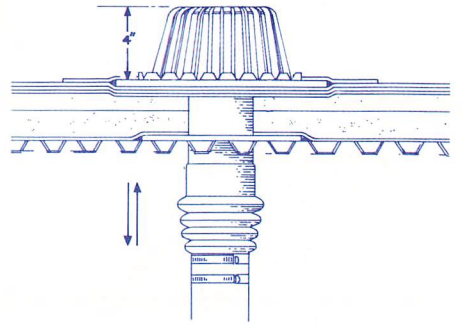
The only roof drainage system that adjusts in all directions to deck and pipe movement.



Deflection caused by loadings on roof decks often leave roof drains used with traditional rigid drain stacks high and dry.

Unique Flex-I-Drain, the new, patented, *flexible* drain system from Johns-Manville, solves this problem.

Flex-I-Drain has a bellows-type neoprene body that *flexes* to automatically compensate for most deck and pipe motion — both laterally and vertically. So the proper slope to the drain is maintained. And the drain and the roofing system remain functional under those conditions.



Flex-I-Drain offers installation versatility, too. Consisting of two parts, installation of the first part with its no-hub sleeve connection, in conjunction with vapor seal or fire barrier membrane, results in a waterproof installation. With installation of the second part, the Flex-I-Drain sleeve adapts to any thickness of insulation up to 3-1/4" plus normal roofing membrane, and firmly locks the roof membrane flashing against the roof membrane.

Flex-I-Drain is available in several sizes to fit 3," 4," 5" and 6" stacks.

Flex-I-Drain is also priced competitively with traditional systems. And with Flex-I-Drain, you're covered under the Johns-Manville Guaranteed Roof Program.

For more information about this unique new roof drainage system, consult Sweet's, write for brochure BU-319A, Johns-Manville, Ken-Caryl Ranch, Denver, Colorado 80217, or call Dave Lucy, 303/979-1000. RS-11

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



Johns-Manville

New Members

The following have been approved for membership in NRCA
between August 15 and October 13:

AMV Inc.
Dallas, TX

Building Restoration of St. Louis
St. Louis, MO

C-C Roofing Co., Inc.
Morris, IL

DSP Roofing
Islip, NY

ESMAC Inc.
Enterprise, AL

G. R. D. Co., Inc.
Los Angeles, CA

Ibos Roofing Co., Inc.
Covington, LA

Imperial Roofing & S/M
Petersburg, MI

Moyer Roofing
Richmond, IN

Palmer Roofing Co.
Pendleton, OR

Porter Roofing Co., Inc.
Belton, MO

Posi-Flex Roofing Inc.
Middletown, OH

Powers Custom Roofing
Sacramento, CA

Henson Robinson Co.
Springfield, IL

Roof Top Engineers
Phoenix, AZ

Ross Roofing Inc.
Ft. Lauderdale, FL

St. Cloud Roofing Co.
St. Cloud, MN

Scott Roofing Co., Inc.
Oceanside, CA

Max C. Smith Co.
Gibsonia, PA

H. R. Vickers Roofing Co., Inc.
Plainfield, NJ

INDUSTRIAL/INSTITUTIONAL

The Waterloo County Board
of Education
Kitchener, Ontario, Canada

ASSOCIATE

Penn General Agencies
of Michigan
Southfield, MI



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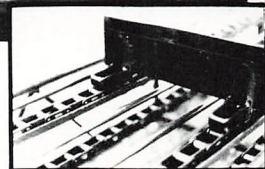
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NRCA Rooftop Equipment Program



NEW PROGRESS IN ROOFTOP EQUIPMENT PROGRAM

More than a decade ago NRCA's Technical and Research Committee began work to stop a growing problem for roofing contractors. That problem was a direct result of new architectural demands and was an area over which contractors had little influence — rooftop equipment.

The post-World War II trend to equip new buildings with central air conditioning was especially apparent in office and retail buildings. Squeezed by cost and aesthetic pressures, architects and engineers found what they considered an ideal location for new HVAC equipment — the roof.

And, over the years, roofing contractors were forced to deal with the curbing and flashing of more and more rooftop equipment. Unfortunately for many contractors, building owners, and designers, these curbings and flashings represented the roof's most vulnerable point. Without proper design of the mountings for this equipment, serious damage could result, at times leading to complete roof failure.

The state of the art in the late 1950's and early 1960's varied tremendously. HVAC equipment curbing was installed with as little as 2 and 3 inches of clearance above the field of the roof. Some large units were mounted on deck frames so close to the roof's surface that inspection was difficult and repair impossible.

In response to this situation the Technical and Research Committee decided to act. Preparing a document in 1966 entitled "Criteria for NRCA Roof Curb Approval," the committee contacted all manufacturers of HVAC equipment.

The committee requested that the manufacturers send them copies of their brochures, and more important, blueprints or drawings of their equipment. These drawings were then circulated among committee members. Several manufacturers certified that their equipment met the criteria, the first manufacturer being ITT's Nesbitt Operations.

The program has grown over the years with three complete recertification drives. The result of the latest effort is reprinted here in full. But the program has not been entirely without problems.

Some manufacturers still do not respond to NRCA's effort to insure the compatibility between roofing and HVAC systems, while others take exception to the requirements for roof curb approval.

Originally the Technical and Research Committee individually reviewed each application for certification. Drawings were sent out and committee members were given the task of review and comment. This proved not only to be awkward and slow-moving but at times created work well beyond the original scope of the program. Dr. Ed Mertz, NRCA Technical Services Manager, noted these problems in a 1972 letter to the Technical and Research Committee:

- “1. The vast majority of the correspondence ... has been centered on a very few design points (heights above the roof surface, accessibility under equipment, etc.).
2. When the original submission for approval contains one or more of these errors, it generally produces 5 or 6 exchanges of correspondence.
3. As times goes by, ... members of the T & R Committee are being asked to do basic engineering work for equipment suppliers.”

Because of these and other questions, the responsibility for certifying the equipment as meeting NRCA standards was shifted to the manufacturers. Procedures have remained this way since that time.

This is not to say the program is a staid, static one. Quite the contrary: architects and engineers continue to find new equipment which can be mounted on the roof.

Solar collectors, for example, with their immense piping systems and needs for extensive mounting supports, are the latest equipment to find their way to the nation's rooftops. Because of this, your association is presently discussing a possible extension of the present criteria for roof curb approval to solar collectors with the Department of Energy. In the meantime, efforts are still underway to insure that every roof curb produced or specified by manufacturers meets the established criteria.

The following listing is in no way intended as a recommendation or endorsement of the products. It is a listing of those manufacturers who have certified that their equipment meets the criteria reprinted on page . If you know of any manufacturers who might wish to participate, please let NRCA know. Dates shown represent date of revision or updating of information in our files.

NRCA ROOF CURB CRITERIA

1. The curb and equipment are so designed that there is no penetration of the curb proper for drains, power lines, etc, the curb extending completely around the perimeter of the unit.
2. The curb is furnished by the manufacturer with a 2" wood nailer mounted at the top of the curb to permit secure attachment of the flashing material.
3. The metal frame should be of heavy construction (16 gauge minimum).
4. The curb, as furnished, is of sufficient height to provide a vertical clearance of 8" minimum between the top of the finished roof surface and the top of the wood nailer. This requirement is clearly indicated in the detail drawings. The curb is furnished with adequate supports on all sides.
5. The design of the curb is such that it will accomodate the installation of metal cap flashing by the sheet metal contractor.
6. Installation instructions require the supplier of the roof-top unit to provide a weather-tight seal between the unit and the top of the curb.
7. Detail drawings clearly indicate who is responsible for furnishing each element of the curb and flashing system. (See #2)
8. The drawings indicate a requirement for a 45° cant at the base of the curb to permit the proper application of composition flashing. (The cant to be provided by the roofing contractor.)
9. Where drawings call for support of part or all of a unit on legs or piers instead of a curb, so that a roofing membrane is required beneath the unit, the height of the unit above the finished roof meets the requirements of NRCA Detail N (1). The flashing of the unit supports as called for in our instructions meet the requirements of NRCA N(2) and N(3).
10. The installation instruction where pipes and electrical conduits extend through the roof, require flashing procedures conforming to NRCA Detail M. All piping and plumbing is flashed with a sleeve and roof flange and extends a minimum of 8" above the roof surface.
11. The installation instructions call attention to the desirability of roof walkways where they are required for servicing of the roof top equipment.

EQUIPMENT MANUFACTURERS

The following have certified that their equipment meets the NRCA criteria:

AMERICAN AIR FILTER COMPANY, INC.

1824 Third Avenue
Moline, IL 61265

Catalogue Number(s):
(5/9/78)

MCCA-3001-04
MCCA-3001-19
MCCA-4001-04
MCCA-4001-19

(1978)
12" high curbing:

MCCA-3001-3	MCCA-3500-04
MCCA-3001-28	MCCA-4001-03
MCCA-3001-30	MCCA-4001-09
MCCA-3001-33	MCCA-4001-38
MCCA-3500-01	MCCA-4001-40

16" high curbing:

MCCA-3001-18	MCCA-3500-05
MCCA-3001-26	MCCA-4001-18
MCCA-3001-31	MCCA-4001-07
MCCA-3001-34	MCCA-4001-39
MCCA-3500-02	MCCA-4001-41

ANDRO CORPORATION

Janitrol Division
400 Dublin Avenue
Columbus, OH 43216

Catalogue Number(s):
(1973)

73F86	A73F86	C73F86
B73F86	D73F86	E73F86

BORG-WARNER CORPORATION

York Division
P.O. Box 1592
York, PA 17405

Catalogue Number(s):
(1973)

463-56057	463-57276
463-56335	463-56941

(1976)

463-59613A for Model SS182 Year-Round Air Conditioning Unit
363-59614A for Model SS242 Year-Round Air Conditioning Unit

BORG-WARNER CORPORATION (cont.)

(1977)

463-69033A & 463-69035A for "Sunpath" Shingle Packaged Heat Pump Models 2½ thru 5 tons

(5/26/78)

463-69033A & 463-690535A for "Sunpath" Shingle Packaged Heat Pump Models 2½ thru 5 tons

(8/28/78)

463-68715A for Models SHP090 & SHP120 "Sunpath" single Package Heat Pump Units

(1977)

463-68394A for models SS092 and SS122 Year-Round Air Conditioning Units

(1978)

463-56057	463-57276	463-56335
463-56941	463-59613	463-59614
463-65195	463-68394	

BRYANT AIR CONDITIONING**

7310 West Morris
Indianapolis, IN 46231

Catalogue Number(s):
(2/21/73)

70849DO1	70849DO3	70849DO2
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(4/18/74)

70849DO04	70849DO05
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**NOTE: 1978 update catalogue numbers/70849DO1 through DO05 (same numbers but "A" instead of "O").

Also company name has changed to BDP Company/Division of Carrier Corporation — same address as Bryant.

CARRIER AIR CONDITIONING COMPANY**

Carrier Parkway
Syracuse, NY 13201

Catalogue Number(s):
(11/2/73)

48MA900111	48MA900121
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**NOTE: Changed name to BDP Company/Division of Carrier Corporation

BDP COMPANY**
 Division of Carrier Corporation
 P.O. Box 1234
 City of Industry, CA 91749

Catalogue Number(s):
 (9/7/76)

301585-301	301585-302
301585-303	301585-304

**NOTE: Company is a consolidation of Bryant, Day & Night, and Payne.

AMANA REFRIGERATION, INC.
CENTRAL AIR CONDITIONING
& HEATING PRODUCTS
 Amana, IA 52204

Catalogue Number(s):
 (5/9/78)

D55964-1	D55964-2
D55964-3	D55964-4

CHILDERS MANUFACTURING COMPANY
 P.O. Box 7467
 Houston, TX 77008
 attn: Carl LaBorde

(1973)

drawing #E-871

CON-FAB PRODUCTS INC.
 (no address reported)

Catalogue Number(s):
 (1973 & 1978)

1000	2000	3000
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DAY & NIGHT AIR CONDITIONING COMPANY
 855 Anaheim-Puente Road
 LaPuente, CA 91749

Catalogue Number(s):
 (1973)

YPD	CY	CP
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**NOTE: Company is now part of BDP Company/division of Carrier Corporation

DUNHAM-BUSH INC.**
 Harrisonburg Division
 Harrisonburg, VA 22801

Catalogue Number(s):
 (1975)

D483032

(1975)

TDC 25/30

**NOTE: Dunham-Bush no longer manufactures roof top units utilizing roof curbs.

ENVIRONMENTAL CONTROL SYSTEMS, INC.
 13310 Industrial Park Blvd.
 Minneapolis, MN 55441

(1973)

no catalogue numbers—drawings on standard construction for pre-fab curbing.

(1978)

CT, CZ CV-15 thru 160 Roof Top Units

FEEDERS CORPORATION
 Edison, N.J. 08817

Catalogue Number(s):
 (1973)

Fedders Model	Climatrol Model
<u>Plenum Curb</u>	

CTX072COB	CUR-1-10004
CTX120COB	CUR-1-10000
CTX240COB	CUR-1-10002
CTX360COB	CUR-1-10002
CTX360COB	CUR-0-10014
CTX600COA	CUR-0-10006

Full unitized Curb-One Section

CTX072CIB	CUR-0-10011
CTX150CIB	CUR-0-10012

Full unitized Curb-One Section w/support rail

CTX240CIB	not offered
CTX420CIB	not offered
CTX600CIB	not offered

Full unitized Curb-Two Section field attached

CTX240CIC	CUR-0-10017
CTX420CIA	CUR-0-10018
CTX600CIA	CUR-0-10019

(1978)

Airtemp Models	Equivalent Fedders Models
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3852392ACC	CTX072COB
3852525ACC	CTX120COB
3852526ACC	CTX240COB
3852393ACC	CTX072CIB
3852523ACC	CTX150CIB
3852524ACC	CTX240CIB

GENERAL ELECTRIC COMPANY
 Central Air Conditioning Prod. Dept.
 Troup Highway
 Tyler, TX 75701

Catalogue Number(s):
 (1973)

AY90X021

(1978)

AY9OXO17	BGTC090A
BGTC080B	BGTC120A
BGTC090A	BGWC120A
BGYC090A	BGYC090B
BGYC120A	BGYC120B

I.T.T.
 Nesbitt Operation
 Environmental Products Division
 Slate Road & Rhawn Street
 Philadelphia, PA 19136

Catalogue Number(s):
 (1973)

95A3 95A2 91A2

(1974)

for Models: RA 300, RC300, RA360 & RC360

KLO METAL COMPANY

613 South Armstrong
 Denison, TX 75020

Catalogue Number(s):
 (1973)

GL-73 DL-TOA RI-10-3-R

LEAR SIGLER, INC.

Mammoth Division
 12120-B County Road 6
 Minneapolis, MN 55441

Catalogue Number(s):
 (11/26/75)

Group 7: 50-80 Adapt Aire—24" high, 12 gauge galvanized

67387501 through 67387599

Group 8: 50-80 Adapt Aire—14" high, 12 gauge galvanized

67387701 through 67387799

Group 9: 34" Adapt-Aire—16" curb height, 14 gauge galvanized

993337, 994576, 994983, 995175, 995492

Group 10: Medium Frame Adapt-Aire, 16" curb height, 14 gauge galvanized with condenser on rails: 901123, 991201, 991801

perimeter curb:

900945	901136	991309
991345	991800	992934
993149	993076	993266
993620	993805	994827

Group 11: Medium frame Adapt-Aire Multi-Zone 16" curb height, 14 gauge galvanized:

with condenser on rails:

900886	900961	901170
901174		

LEAR SIGLER, INC. (cont.)

perimeter curb:

900948	901107	901123
991283	992023	992520
993244	993630	995163

Group 12: Large frame Adapt-Aire, 16" curb height, 14 gauge galvanized

with condenser on rails:

901063	901065	901069
901103	901104	901110
992024		

perimeter curb:

900920	901072	901077
901106	901137	991727
991912	992517	992598
992928		

(1978)

ADAPT-Aire Modular Packaged System:

ADAPT-AIRE 310 Series
 1025 Series & 2060 Series

LENNOX INDUSTRIES INC.

General Division
 P.O. Box 877
 Carrollton, TX 75006

Catalogue Number(s):

RMF3 & MF3 Series

MC QUAY-PERFEX INC.

McQuay Group
 P.O. Box 1551
 Minneapolis, MN 55440

Catalogue Number(s):
 (1973)

curb for 15 through 40 ton Roof pak Multi-Zone Heating and Cooling Units (#202-2)

(1978)

RPM	RFP	RWM
RDS-800B	RBS-800B	RDS-802B
RBS-802B	RDS-804B	RBS-804B
RDS-806B	RBS-806B	RFS-018B
RFS-306B	RFS-041B	thru 030B
thru 040B	thru 070B	RHS-802B
RFS-071B	RHS-800B	RPS-018B
thru 100B	RHS-806B,	thru 030B
RHS-804B	808B	RWS-802B
RPS-036B	RPS-041B	RPS-012B,
thru 040B	thru 070B	015B
RPS-071B	RWS-800B	
thru 100B	RWS-806B-808D	
RWS-804B		
RPS-012B, 015B		

MODINE MANUFACTURING COMPANY

400 College Avenue
Pemberville, OH 43450

Catalogue Number(s):
(1973)

11M-100	11M-101	11S-150
11M-400	11M-401	11M-431
11M-432	11M-441	11M-443
11S-451		11M-505

THE PATE COMPANY**

2625 South 21st Avenue
Broadview, IL 60153

Catalogue Number(s):
(1974)

7.8/Pa

(1978)

**NOTE: Catalogue number same as above (1974)

PAYNE AIR CONDITIONING COMPANY**

(no address)

**NOTE: Company is now part of BDP Company/division of Carrier Corporation

PENN VENTILATOR COMPANY, INC.

Eleventh Street & Allegheny Avenue
Philadelphia, PA 19140

Catalogue Number(s):
(1973)

Unibeam, USC

(1976)

UNI-8	UNI-8RC	UB-75
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RHEEM MANUFACTURING COMPANY

Commercial/Industrial
Heating & Cooling Division
Hard Scramble Road
Greenville, AL 36037

Catalogue Number(s):
(1974)

623-36	624-36
--------	--------

S & L MANUFACTURING COMPANY

Foot of Pacific Street — Building 27
Newark, N.J. 07114

Catalogue Number(s):
(1977)

SL-10	SL-20	SL-30-1	SL-30-2	SL-40-1
SL-40-2	SL-50			

(1978)

same numbers above

STERLING RADIATOR COMPANY, INC.

775 Frederick Street
Hagerstown, MD 21740

Catalogue Number(s):
(1973)

B90326

STILES CORPORATION

P.O. Box 338
Irving, TX 75060

Catalogue Number(s):
(1975)

SC-1	SC-5	ES-1
ES-5	EJ-1	EJ-5

(1978)

same as 1975 with some exceptions to criteria requirements

TAPPAN AIR CONDITIONING DIVISION

206 Woodford Avenue
Elyria, OH 44035

Catalogue Number(s):
(1973)

RCP-1 thru RCP-12

(1975)

TRCP-5/9-CRB	TRC6-CRB	TRCP-10-CRB
RTCP-11-CRB	TRCP-12-CRB	

(1978)

submitted spec sheets

THYBAR CORPORATION

ThyCurb Division
913 South Kay Avenue
Addison, IL 60101

Catalogue Number(s):
(1973)

TC-1, TC-2, TC-3, TC-4, TC-5
TEMS-1, TEMS-2, TEMS-3

(1978)

TXJ1, TXJ-2, TXJ-3, TXJ-4, TXJ-5 expansion joint curbing

THE TRANE COMPANY

LaCrosse, WI 54601

Catalogue Number(s):
(1973)

268-141-1	268-141-2	268-0211-1
208-0211-2	268-0211-3	

THE TRANE COMPANY (cont.)

(1975)

368-0256	368-0257	368-0258
368-0260	368-0261	368-0266
368-0267	368-0268	368-0269

(1978)

168-216-1	268-336-1	368-272-2
386-272-1	268-211-1	268-211-2
268-211-3	368-257-2	368-258-3
368-258-4	368-261-2	368-257-1
368-258-1	368-258-2	268-261-1
368-0256-1	368-0256-2	368-0260-1
368-0266-02	368-0267-02	368-0268-01
368-0269-01	368-0266-03	368-0267-03

(1978)

166-201-1 (SPCA 50) 266-19-1 (SPCA 100)
368-273-1 (SPCA 200 & 250)

VENT PRODUCT COMPANY

2550 West Lexington Street
Chicago, IL 60612

Catalogue Number(s):

(1974)

8000A

(1978)

VEX 100 Series	VES 200 Series
VEX 200 Series	VES 100 Series
VEX 300 Series	VES 400 Series

VC 100 Series	VEC Series
VC 200 Series	
VC 300 Series	
VC 400 Series	
VC 500 Series	
VC 600 Series	
VC 700 Series	

WEATHER KING INC.

4501 East Colonial Drive
Orlando, FL 32814

Catalogue Number(s):

(1973)

851-503A	851-504A	851-505A
851-506	851-507	851-508

(1975)

851-509	851-510	851-511
---------	---------	---------

(1978)

851-512	851-513	851-514
---------	---------	---------

WESTINGHOUSE ELECTRIC CORPORATION

Box 2510
Staunton, VA 24401

Catalogue Number(s):

(1973)

IK200C9 thru 21

(1978)

IK200C9 thru 22

Safety movie breakthrough

"Personal" Film-Vuer Shows to Individuals, Anywhere

One of the best methods of injury-prevention instruction has always been the Safety movie. And it's never been too hard to make good safety movies. The big trick, hitherto impractical, has been to **get them to the eyes of the at-risk worker**...not only those extra-vulnerable new hires, but the old hands whose familiarity with the work may be breeding carelessness.

Recently a way has been developed to realize this goal. In fact, the new **Right-On Roofer** series is the "pilot" introduction of the **Vidi-Vuer** one-on-one "Movieloop" film system to the whole safety-instruction field.

The latest development is the unique new hand-held, hand cranked Vidi-Vuer for **individual** use. There's no skilled thread-up; the films come in snap-in cartridges, like the new Instamatic cameras.

It can be used anywhere—no darkened room or power cord is necessary. Still, the worker sees **real action color movies**, the same as he'd see on a regular screen. He simply cranks the film forward, at whatever speed he wishes, regular or slow motion. To read a caption or study a scene at leisure, he just stops cranking. When he wants an "instant replay" he simply cranks backwards and repeats. And when the "loop" cartridge comes to an end, it's ready to start over again without re-winding.

The conventional 16mm film moves continuously—if something gets past before it's fully understood, it's gone, unless you run the whole film again. But the Vidi-Vuer trainee can **stop** the film at will and study a situation as long as he needs to—back up and repeat it a couple or three times if he wishes—before he goes on to the next item. The result is that the Vidi-Vuer format is free from having to twist and pad its materials into a smooth "story" continuity—simply lay in the specific injury hazards in a series of related "chunks", with a reading frame at the end of each hazard chunk to make our trainee pause momentarily to sink the item into his understanding and memory. It sounds

ridiculously simple, but actually it is an entirely new learning process for the movie medium.

The films are silent, with the boiled-down "verbals" presented in short letter captions—which the worker reads **at his own pace**, fast or slow, without embarrassment. (Remember, the movies did just fine for a third of a century without sound—in fact, since our eyes remember what our ears forget, these visualized captions are actually better remembered.) And the films show **real** roofers in **real** action on **real** roofing jobs—covering the full range of work from "hot" built-up jobs to steep-roof re-covers; with special segments on Edges and Openings, Handling Hot, Ladders (a beauty), Tearoff and Debris Disposal, Shakes and Tile, Safe Lifting, good Housekeeping, Hoists and Forklifts, and so on. And, perhaps its most practical feature, the Vidi-Vuer system permits breaking up extended safety instruction into a series of short **Single-phase** cartridges (how many of **Right-On's** 200 specific injury hazards would you remember from a conventional half-hour film?), so that the new hire not only learns in concentrated short bursts but sees only those phases on which he will be **working** right away. For example, if he is going out on a commercial hot job, his mind doesn't get cluttered up with cautions about shakes and tile and vice versa.

And finally, from the Contractor's point of view, this safety instruction can be given with an absolute minimum of office or supervisory bother. The whole package comes in a neat storage box, with all necessary instructions printed on the cover, and the super or foreman can simply hand the Vidi-Vuer to the new guy, along with the appropriate two or three cartridges, show him how to crank forward and back, send him into an empty office or out in his car—and forget him until he comes back in with whatever questions may have popped up. Or he can do his viewing right out on the job, such as on his first day's lunch break.

The action in the films shows work all over the country—Texas, Florida, the Midwest,

Canada, California—so that although "a roof is a roof," the action will be familiar to everyone. And during the more than two years in production, the films underwent review from a variety of points of view—Safety Committee members, mostly working contractors with a special interest in safety—JAC Coordinators, concerned with apprenticeship—working foremen—Comp Insurance experts—Union officials—Directors of regional Contractors' Associations who fight the battle with OSHA citations—and so on. An official letter from the National Roofing Contractors Association offers its own testimony to the expected effectiveness of the films in reducing roofer injuries: Executive Vice President Fred Good... "our Executive Committee viewed the films, after the Safety Committee had endorsed them, and unanimously endorsed the series on behalf of NRCA. We look forward to seeing to it that they are in the hands of as many industry people as possible."

So this Vidi-Vuer "Movieloop" system promises to be effective...simple to use...and, for the first time in safety-movie usage, cheap enough for the smallest contractor to own and keep on hand for instant use (the 12 cartridges and the included color Vidi-Vuer, ready to use, costs only \$225, and he'll probably save more than that on paperwork for the first injury which the safety instruction averts). For in-house crew meetings, the materials are also available on a set of 4 Super-8 reels for an owned or borrowed Home-Movie projector—particularly useful, by the way, with non-English reading crews, where a bilingual foreman can translate the captions as the film runs, stopping for discussion and backing up for repeats.

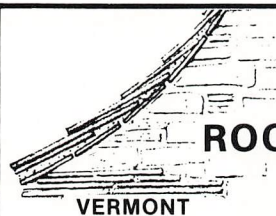
Now that the barrier has finally been broken to provide the long-needed **individual** access to safety movies, other trades will develop their own packages. But the credit for the innovative pioneering will always belong to the roofing industry.



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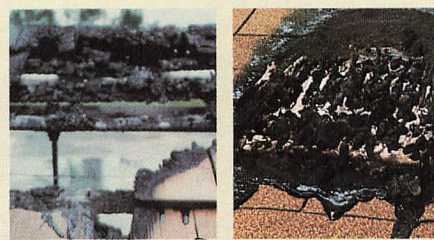
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(Right) Glassguard only scorched. Time: (before burning itself out) 25 minutes.

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You can install Glassguard without worrying about callbacks.

For example, Glassguard comes with a super-fast sealing strip—assuring quality, weather-tight protection.

Not only is it going to last longer than conventional asphalt shingles, but it won't blister, curl, split, warp, expand, shrink or absorb moisture. And it's U.L. rated for wind resistance.

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We engineered Glassguard to save you man-hours. Materials. And effort.

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And since Glassguard shingles are lighter, they'll make those trips up the ladder and on the roof a lot easier.

With our capacity to produce, you won't be kept waiting. Or wanting.

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Start moving up now. With one of the fastest growing roofing manufacturers in the business.

Dealing with a leader has its advantages.

For instance, we've gone all

out to help you sell CertainTeed fiber glass roofing.

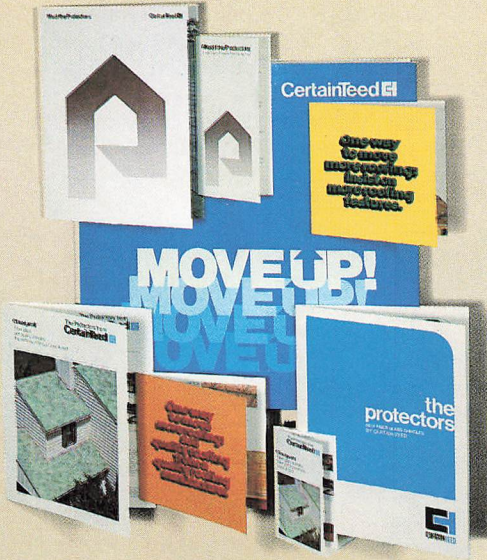
We've pre-sold CertainTeed roofing by advertising nationally.

And we've created a powerhouse of brochures, samples, ad mats, doorknob hangers—and much more.

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specialists to serve you. Wherever you are. Check the Yellow Pages for the CertainTeed dealer or distributor near you. Or write us direct. CertainTeed Corporation, Shelter Materials Group, Valley Forge, Pennsylvania 19482.



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ARMA EXECUTIVE EDGAR V. HALL DIES AT 60

Edgar V. Hall, executive vice president and general manager of the Asphalt Roofing Manufacturers Association (ARMA), died of a heart attack Saturday, August 26, while visiting with friends in Avalon, N.J. He was 60 years old and lived at 425 Riverside Drive in New York City.



Mr. Hall joined ARMA in February 1976, succeeding Harold H. Whitmore, who retired in May of that year. For 15 years prior to that Mr. Hall was executive vice president of the National Home Improvement Council (NHIC) and was instrumental in building the Council into a national organization to promote home improvement business. Both associations are headquartered in New York City.

A native of Pittsburgh, Mr. Hall attended Pennsylvania State and New York Universities. He worked at McGraw-Hill and at an advertising

agency in New York City before embarking on a career as a trade association executive. From 1973 to 1975, he served as chairman of a White House Ad Hoc Committee on Fuel Conservation, advising the President on energy conservation matters. He served with the United States Army during World War II, attaining the rank of sergeant, and was assigned to the European Theater of Operations.

Joseph G. Hall (no relation), president of the Asphalt Roofing Manufacturers Association and senior vice president of GAF Corporation, stated: "Edgar Hall had many friends in the asphalt roofing and the home im-

provement industries who will mourn his loss. The Asphalt Roofing Manufacturers Association, in particular, has lost an able leader. In little more than two years, Edgar Hall left his mark on this industry with new programs and plans for many more. He pointed the way to future additional growth for the association and the industry."

Edgar V. Hall is survived by his wife, Ruth; a daughter, Susan, a drama student; and a sister, Miss Roberta Hall, all in New York City. The funeral was held in Hanover, PA.

ARE EEO REPORTS CONFIDENTIAL?

If you submit confidential information to an agency of government, be sure to mark it "confidential." Then, should the agency contemplate Freedom of Information Act disclosures, it will have to give you advance notice of its intent to disclose.

In a recent ruling (Westinghouse Electric Corporation et al. versus Schlesinger, 542 F3d 1190; the court agreed that the manufacturers who asked the court to enjoin a federal agency from disclosing information marked "confidential."

In the case, the manufacturers had complied with the Office of Federal Contract Compliance Programs in filing EEO reports and Affirmative Action programs by documenting pay scales, promotions, actual and expected shifts in employment, future employment projections, and timetables for minorities and women. The court agreed that not only was the material supplied by the manufacturers exempt from disclosure under FOIA but that unauthorized disclosure by a federal employee of

confidential trade and financial information is subject to criminal penalty. Thus, the court enjoined the agency from releasing the material.

ARMA NAMES PLANT SAFETY AWARD WINNERS

The Asphalt Roofing Manufacturers Association has named recipients of its 1977 plant safety awards.

Newly-created President's Safety Award flags for the most outstanding plant safety records based on total man hours of production were awarded in four categories. Plant winners were Masonite Corporation, Meridian, Mississippi; The Flintkote Company, Ennis, Texas; The Celotex Corporation,

Memphis, Tennessee, and The Flintkote Company, St. Paul, Minnesota.

Winners Award plaques were presented to plants having the lowest lost workday injury rates, according to man hours of production. Winning plants in this category were Masonite Corporation, Meridian; GAF Corporation, Kansas City, Missouri; The Flintkote Company, Ennis; Masonite Corporation, Little Rock, Arkansas; The Celotex Corporation, Memphis; GAF Corporation, Denver, Colorado; The Flintkote Company, St. Paul, and Koppers Company, Inc. Wickliffe, Ohio.

Plants showing the most improvement in safety over previous years, and better than group average performance during the contest year, received Certificates of Achievement. Winning plants were CertainTeed Corporation, York, Pennsylvania; GAF Corporation, South Bound Brook, New Jersey; GAF Corporation, Dallas, Texas; Johns-Manville Corporation, Savannah, Georgia; The Celotex Corporation, Los Angeles, California; The Flintkote Company, Vernon, California.

Other Certificate of Achievement winners were GAF Corporation, Savannah; The Celotex Corporation, Houston, Texas; The Celotex Corporation, Chicago, Illinois; CertainTeed Corporation, Chicago Heights, Illinois; GAF Corporation, Minneapolis, Minnesota, and CertainTeed Corporation, Shakopee, Minnesota.

Additional winners in this category include Owens-Corning Fiberglas Corporation, Kansas City, Missouri; Tamko Asphalt Products, Inc., Phillipsburg, Kansas; The Celotex Corporation, Wilmington, Illinois; The Flintkote Company, Mt. Carmel, Illinois;

Tamko Asphalt Products, Inc., Tuscaloosa, Alabama, and CertainTeed Corporation, East St. Louis, Illinois.

SOLAR COLLECTOR TEST RESULTS: DOES WEATHER MAKE THE DIFFERENCE?

When solar collectors are tested to see how well they perform, does it matter whether they are located in Phoenix, Arizona or Cleveland, Ohio?

This was one of the questions the National Bureau of Standards (NBS) set out to answer for the U.S. Department of Energy in a series of round robin tests on solar collectors at 21 testing laboratories around the United States.

The question is an important one for consumers and solar equipment manufacturers and designers who need accurate information about the relative efficiency of different types and brands of collectors. A number of factors—such as weather and other environmental differences at testing facilities in different areas of the country—can affect performance test results. The NBS test program was designed to help pinpoint and assess those potential differences so that data from testing laboratories will be more consistent and meaningful to solar users in the future.

In a report on the round robin tests, NBS concludes that most of the differences in measured collector efficiency that turned up could be attributed to “experimental error or systematic differences” among the facilities rather than to differences in the outdoor environments in which the tests were run.

Still, the report asserts that the outdoor environment can have “a significant effect on the measured collector efficiency even when prescribed current standards are met.” To deal with this problem, researchers involved with the round robin tests developed an analytical technique to minimize the differences in collector performance data from the various laboratories. Test data were adjusted to “reference” conditions. This technique is described in the NBS report

along with the overall test results.

The report was authored by Elmer R. Streed and James E. Hill of the NBS Center for Building Technology, William C. Thomas and Aaron G. Dawson of Virginia Polytechnic Institute and State University, and Byard D. Wood of Arizona State University. The technique for minimizing outdoor environmental differences in analyzing test data was developed by Thomas and Dawson. Wood performed an analysis of the effect of random and systematic errors.

NBS conducted the round robin test program for the Department of Energy's Conservation and Solar Applications Office. Two types of liquid-heating flat plate collectors were tested.

The NBS report, *Results and Analysis of a Round Robin Test Program for Liquid-Heating Flat Plate Solar Collectors* (NBS Technical Note 975), is available for \$3.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Stock No. SN 003-003-001-959-3.

CONSERVING ENERGY IN BUILDINGS

An eminently reliable guide on the procedures to use for keeping down energy costs, *Energy Conservation Standards: For Building Design, Construction, and Operation* by Fred S.

Dubin and Chalmers G. Long, Jr. offers detailed coverage on the basic philosophy underlying the conservation of energy (McGraw-Hill, 432 pages, illustrated, \$22.50).

This comprehensive work presents tested and proven techniques for lowering costs in existing buildings and for designing new buildings that will be energy savers instead of energy wasters.

Writing specifically for architects, construction engineers, building designers, and heating, ventilating, and air conditioning engineers, the authors show how to convert inefficient systems—such as heating, lighting, air conditioning, and power—into effective, controlled units. They focus on the requirements of total energy management, giving in-depth information on all the major conservation methods.

Thorough discussions are provided on such subjects as the best equipment and techniques to use, central control systems, building economics, and alternative energy sources.

Fred S. Dubin, one of the foremost authorities in the U.S. on energy conservation in buildings, is a partner in the firm of Dubin-Bloome Associates, New York City. Chalmers G. Long, Jr. is an architect and Professor of Environmental Design at the University of Colorado, Denver.



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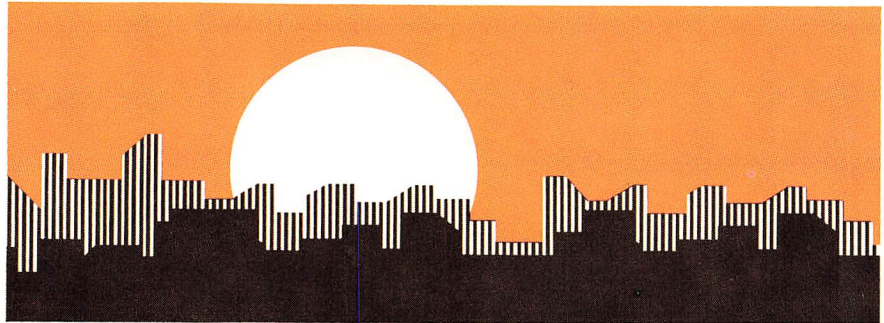
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Mobile - Roofing Constructors, Inc.
Muscle Shoals - Lookout Rtg. & Heating
Tuscaloosa - Chappel Roofing Co.
- CONN** Derby - Richards & Son
E. Hartford - Acme Roofing Co.
Meriden - G. R. Cummings
New Haven - F. J. Dahill Company (2 Hoists)
- FLA** Brandon - Jenkins Roofing
Clearwater - Dean Roofing & Sheet Metal Inc.
Deland - Boulterice Roofing
Fort Myers - Albritton Roofing Co.
Gainesville - Poole Roofing & Sheet Metal Co.
Hollywood - B & B Industrial Co.
Jacksonville - P. M. Hess Rtg & Sheet Metal
Jupiter - Jupiter Roofing Co.
Ormond Beach - H & H Roofing & Sheet Metal
Pensacola - Edwards Roofing Company
St. Petersburg - Krause Roofing
Tallahassee - Dove Street Metal
Tampa - Cement Roofing Industries
- GA** Albany - Albany Sheet Metal
Atlanta - Kelco Roofing
L. F. Still
Tip Top Roofing — (5 Hoists)
Augusta - Southern Roofing & Insulation Co.
Bainbridge - Bainbridge Rtg. & Sheet Metal
Macon - Dunlap Roofing
Marietta - C. J. Hansby
Riverdale - C & W Roofing Co.
Savannah - Bonner Roofing & Sheet Metal Co.
- ILL** Belleville - Geissler Roofing Company
Chicago - Palisade Roofing
Lockport - Cargle Roofing Company
Rivergrove - Krumwied Roofing Company
Wheeling - Maco Coating
- IND** Evansville - Industrial Contractors
Gary - Charles Gluth & Sons (2 Hoists)
Terre Haute - Guarantee Roofing Co.
- KEN** Covington - H. C. Truitt
Louisville - Fall City Roofing
Mayfield - Klapp Roofing Company
- ME** August - Dow Roofing
Berwick - Donald Hall Roofing
Lewiston - Bill's Roofing Co.
So. Portland - James McBrady Inc.
- MD** Brentwood - A. Cestone Co.
- MASS** Boston - Gilbert & Becker Co., Inc.
Framingham - Millis Roofing
Halifax - Merrick Engineering Co., Inc.
Hull - Stillman Roofing
Lowell - Bureau Brothers, Inc.
Monument Beach - Dave's Htg & S. M. Co.
South Boston - South Roofing Co.
Springfield - Tech Roofing
- MICH** Bay City - Kowkolin Roofing Co.
Grand Haven - Grabman Roofing
Grand Rapids - J & L Roofing
Lansing - Grunwell-Cashero
Three Rivers - Knapp Roofing
Traverse - Bloxson Roofing
- MINN** Alexandria - Buttewillers - Do-All
Eden Prairie - Hal Baker Company
Lindstrom - M. H. Johnson Roofing
Rochester - Alpek Sheet Metal & Roofing
St. Cloud - McDowell Rtg.
- MISS** Columbia - Robertson Sheet Metal Works
Columbus - Graham Roofing Co.
Jackson - Alton Sheet Metal Co. (3 Hoists)
- NH** Hudson - Quality Roofing
Nashua - Dionnes Roofing
Salem - ABC Roofing
- NJ** Hawthorne - United Simpson Roofing Co.
Menlo Park - Universal General Sheet Metal
Union - Sanders Roofing
Wallington - Adiva Roofing
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Buffalo - Weaver Roofing
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Jamesburg - Edison Roofing
Jamestown - Jamestown Roofing
Kingston - Colonial Rtg.
Middletown - Musbach Roofing Co., Inc.
Monticello - County Roofing
Olean - Mazza Roofing Co., Inc.
Oyster Bay - Oyster Bay Roofing
Pittsburgh - G. & G. Roofing Co., Inc.
Port Jervis - Biccuro Roofing
Poughkeepsie - Vanguard Org. Inc.
Rome - Dor Mar Roofing Co.
Schenectady - Mid State Roofing Co.
Spring Valley - Martin Roofing
Syracuse - D. J. Heaphy & Son
Utica - Pulver Roofing Company
- NC** Moorehead City - Leonard's Metal Shop
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- OHIO** Cleveland - P.S.I. Equipment International
Lima - Clevenger Roofing & Sheet Metal Co.
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Norfolk - Eastern Roofing Corp.
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Manitowoc - Wm. Schaus & Sons Inc.

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(See Back Cover)



Built up roofing design seminars set for Phoenix and Boston

Avoiding roof design errors and solving existing roof problems are the themes of the two Built-Up Roofing Conferences planned by NRCA's Built-Up Roofing Conference Task Force. The Task Force, headed by Fred Christen, Fred Christen and Sons, Toledo, Ohio, has arranged the conferences for January 18, 1979, in Phoenix, Arizona, and January 25, 1979, in Boston, Massachusetts.

The conferences are part of NRCA's continuing effort to educate architects, engineers and others involved in the design of built-up roofing systems. The Boston conference is being planned with the cooperation of the Boston and New England Roofing Contractors Associations.

The intensive one-day conferences will include presentations on: roof decks, vapor retarders and insulation, roofing membranes, and surfacing materials. There will also be a session on flashings and details, examining common design problems. A panel discussion by several roofing contractors will cover pre-job conferences, job conditions, the effects of weather, difficulties with other trades and dealing with owners.

Conference participants can question the speakers at length during a question and answer session at the conference's close. The seminar will present "state-of-the-art" information giving designers the best data available in the roofing industry.

NRCA President, Mel Kruger, L. E. Schwartz & Son, Macon, Georgia will act as moderator of the conferences and will also appear as part of the discussion panel during the afternoon of each conference. NRCA Past-President Robert Linck, Warren-Ehret-Linck Co., Philadelphia, will discuss design considerations in roof decks and will also be on hand during the afternoon for a question and answer session featuring all session speakers.

Roof insulation and vapor retardants will be the subject of Arnie Schmutz's presentation. Schmutz, Buckaroo-Thermoseal, Portland, Oregon, is also a member of the Conference Committee and is responsible for developing some of the conference presentations.

NRCA Vice President John Bradford, Bradford Roofing and Insulation Co., Billings, Montana, will be on hand at the two conferences to explain the proper design of roof details. Bradford is currently in charge of reviewing the Detail Section of NRCA's Roofing Manual.

Roof membranes is the topic to be handled by Bob "Country" Harrison, Greenville Roofing Co., Greenville, South Carolina. Harrison is a BUR Task Force member.

Appearing along with Mel Kruger on the discussion panel will be: Bill Steinmetz, Midland Engineering, South Bend, Indiana, Jack Williams, Twin City Roofing, Wahpeton, North Dakota, and Don McNamara, F.J.A. Christiansen Roofing Co., Milwaukee, Wisconsin.

While the conferences are intended for architects, engineers, and general contractors, NRCA members are also invited to attend. Further details and registration materials will be sent out shortly.





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SPECIFICATIONS

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Belt speed400 fpm
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Overall length63 ft., 6 in.
Hydraulic oil	Automatic transmission fluid
Wt.6,000 pounds
Engine25 H.P. Onan



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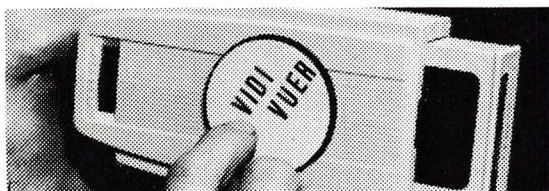
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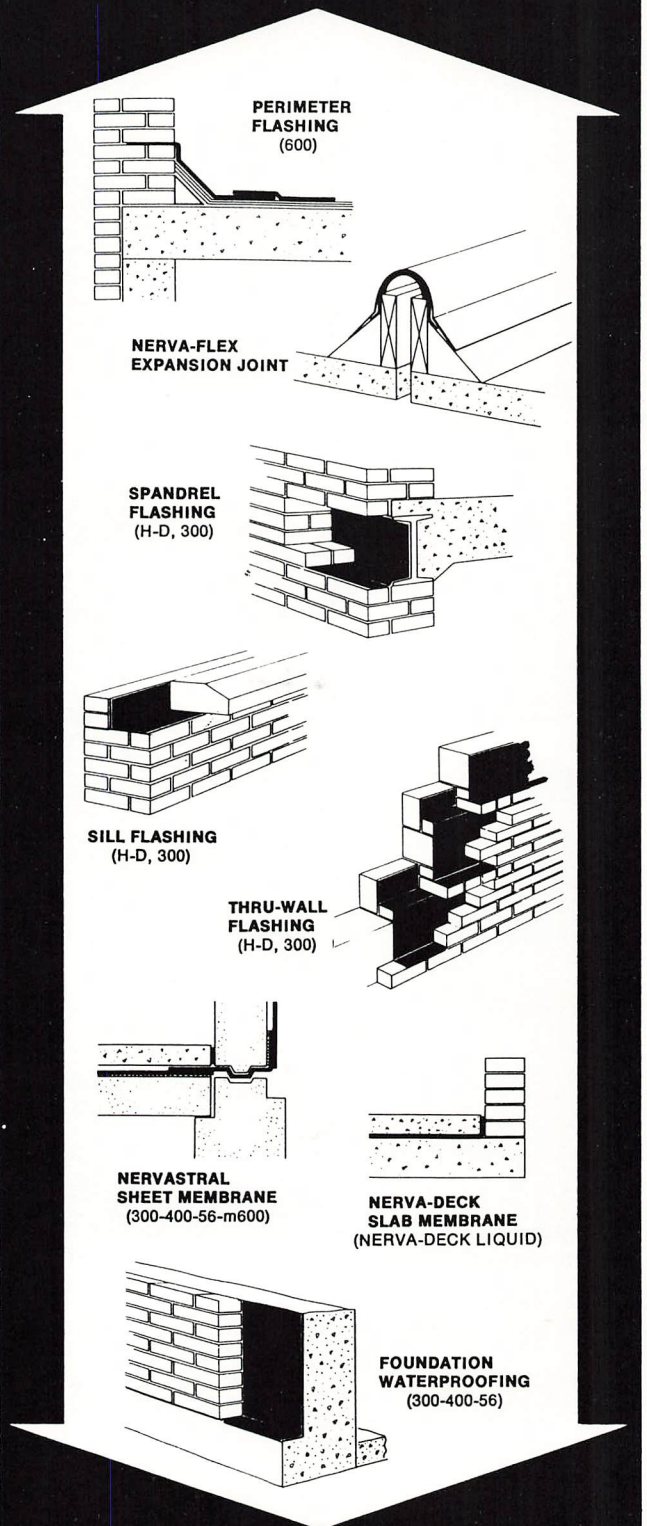
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PERIODIC PROJECT LOGS

On many construction projects, changes modifying and departing from the original plans and specifications are the rule rather than the exception. Some of these changes are implemented through the formal contractual change order process and are well documented whereas others are really more in the nature of "field adjustments" necessitated by circumstance. All of these changes, of course, may have substantial positive or negative impact on a particular contractor's performance. However, it is often long after the actual occurrence of a "change" that its full impact on cost or performance is realized. By that time it may be too late to assert a claim for additional compensation or time for performance, and, even if it were not too late to assert such a claim, the individuals involved often cannot clearly recall the necessary details.

The practical solution for this oft-encountered dilemma is for a contractor performing work at a project site to require its field supervisor to make and maintain a regular periodic project log or diary, preferably on a daily or even shift basis. Copies of each log entry should then be transmitted to the main office for substantive review by the project manager and maintenance in the permanent files.

Such a diary or project log should include for each periodic report at least the following information:

- (1) the author (presumably the highest level field supervisor);
- (2) the date and time;
- (3) the prevailing weather condition;
- (4) the relative stage of completion of the contract performance;
- (5) the employees occupied on the job and the nature and location of that occupation;
- (6) the equipment being employed on the job;
- (7) the materials delivered to the project site and their disposition;
- (8) any visitors or observers out of the ordinary;
- (9) any "problems" encountered during that reporting period.

The "problem" entry is perhaps the most significant, because it is this category which will hopefully permit early identification of individual occurrences or a series of occurrences which will have a serious effect upon the contractor's ability to perform within the contract price and

time allowances. Accordingly, the description of "problems" encountered should include any and all problems, no matter how apparently inconsequential they seem at the time, because it is often not until weeks, months or years later that the ultimate impact of such a problem, individually or collectively, may be realized. Of course, if the immediate impact can be accurately estimated by the field supervisor in terms of the extra cost or time for performance required as a result of a particular occurrence, then such estimate should also be included under the description of "problems" encountered.

Such a continually maintained project or log diary would serve at least several purposes. First, it would serve to discipline the field supervisor to observe and evaluate more carefully situations in the field that might otherwise be ignored or overlooked. Second, it provides a ready and regular vehicle for full and accurate communication between the field and the main office at which many of the critical decisions concerning the contract relationships will ultimately be determined. Finally, a well-kept project log or diary will supplement or perhaps even totally supplant the vague independent recollections of persons involved when a dispute arises sometime later after their memories have faded.

If routinely made and maintained in the regular and ordinary course of business, such logs or diaries would be considered "evidence" in themselves as business records and therefore admissible in any subsequent legal proceedings. It almost goes without saying, however, that maintaining a complete job record can be a two-edged sword that cannot only support but may also potentially undermine a legal position that is later assumed by a contractor. Hopefully, however, diligent maintenance of such a log or diary will enable the contractor to make accurate and timely evaluations of the circumstances encountered in the field and more effective decisions in response to such circumstances.

NEW SBA SURETY BOND GUARANTEE ASSISTANCE STANDARD

A new Small Business Administration rule of interest to construction contractors became effective on August 31, 1978. This rule establishes a new size standard

for all general and special trade construction contractors as well as service contractors who wish to receive the Small Business Administration's surety bond guarantee assistance. Prior to the new rule there were separate size standards for general and special trade construction contractors. The new rule establishes one eligibility criterion for all small construction firms and service industry concerns seeking SBA's surety bond guarantee assistance.

Under the new rule any construction concern (general or special trade) or service contractor is "small" for surety bond guarantee assistance purposes if its annual receipts for its preceding fiscal year or its average annual receipts for its preceding three fiscal years do not exceed \$3.5 million. Those special trade contractors now receiving surety bond guarantee assistance and having annual receipts in excess of \$3.5 million will be permitted to continue receiving surety bond guarantee assistance until such time as their annual receipts (or as averaged over the last three fiscal years) exceed \$5 million.

For further information see Federal Register, Vol. 43, No. 158, p. 36052-53 (August 15, 1978) or contact Danny J. Gibb, Chief Underwriter, Surety Bond Guarantee, (202) 653-6117.

GUIDELINE FOR REJECTING MINORITY JOB APPLICANTS

When devising hiring practices, employers should remember the following guideline with regard to minority job applicants: if there is a legitimate, non-discriminating reason for not hiring a minority applicant, there is no violation of Title VII of the 1964 Civil Rights Act.

Case Example: A black woman applied for a position with a telephone company. A routine reference check revealed that the applicant had had an unsatisfactory attendance record during previous employment with an affiliate telephone company. Because of her prior absentee record, the woman was not hired. The woman sued on the ground that whites with similar attendance records had not been rejected; she made no attempt to contradict the unsatisfactory attendance report. The company contended that the job in question required reliable attendance.

The Court found that the information gained in the reference check had

established a "legitimate, job-related, nondiscriminatory justification for the refusal to hire" the woman.

VACATION AND TRAVEL EXPENSES

Many businessmen combine vacations with business travel, and others may find it necessary to keep in touch with their offices, or transact some business while on vacation. The personal expenses of a taxpayer incurred in connection with a combined business-vacation trip are, of course, not deductible as business expenses. However, a question does arise as to the deductibility of the traveling expenses (such as airfare, mileage and other transportation costs) incurred in making such a trip.

If the travel involved is within the United States and "primarily" for business purposes, but the taxpayer engages in some incidental sightseeing or other recreation, the traveling expenses to and from his business destination are deductible. On the other hand, if the trip is motivated "primarily" for personal reasons, none of the traveling expenses to and from the taxpayer's destination are deductible.

If the taxpayer has a foreign

destination, then traveling expenses may have to be allocated between deductible business travel and non-deductible personal travel. Where the taxpayer's foreign travel exceeds one week and the taxpayer devotes 25% or more of his time to non-business activities, the traveling expenses incurred must be allocated on a business versus personal basis unless the taxpayer does not have substantial control over the arranging of the business trip, or he does not have as a major consideration in determining to make the trip, the taking of a personal vacation. An individual who travels on behalf of his employer under a reimbursement or other expense allowance arrangement will be considered not to have had substantial control over the arranging of the business trip, so long as he is not a managing executive or is not related to his employer.

When allocation is required, the total time spent in traveling away from home will be allocated on a day-by-day basis to the days of business activity and to the days of non-business activity.

Allocation of foreign travel expenses is not required where the trip is limited to one week or less or where less than 25% of the total trip time is devoted to non-business activities. In such cases, all travel

expenses are deductible, provided that the primary purpose of the trip is for business reasons. The following examples illustrate the application of the above principles governing foreign travel expenses.

Example 1: The taxpayer flies to London for the primary purpose of conducting business. He spends two days traveling to and from his destination, two days in business meetings, and one day sightseeing. The trip was less than one week. No allocation of traveling expenses is necessary.

Example 2: The taxpayer takes a ten day trip to Caracas, spending two days traveling to and from that city, five days in business meetings and three days on sightseeing (30% of the time). If the primary purpose of the trip was for business, allocation of the traveling expense would be required unless the individual did not have substantial control over arranging the business trip or did not have as a major consideration, in determining to make the trip, the obtaining of a personal vacation. Thus, if the taxpayer incurred traveling expenses of \$500.00, \$350.00 of that expense would be deductible, with the remaining \$150.00 being treated as a non-deductible personal expense. ☺ ☀ ☼

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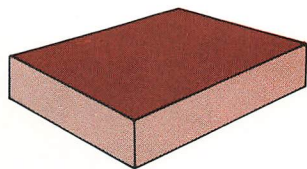
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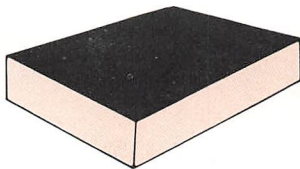


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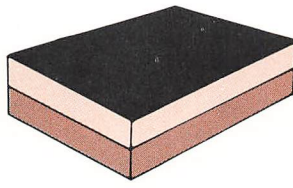
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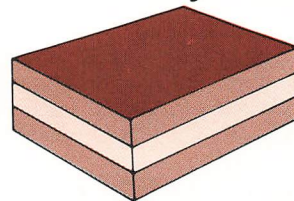
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News from associate members

Dealers from Fort Bragg, California, Santa Ana, Calif., and Kalispell, Montana, were winners in the "Great Western Bird Race" sponsored by **Bird and Son, Inc.** and *Sunset Magazine*.

The homing pigeon race was designed to let dealers know that Bird and Son is continuing to support dealer sales efforts with advertising to Western consumers. The first Bird Race was launched in 1977 to announce the company's "Architect 70" shingle.

Participation was exclusive to Bird and Son dealers who were contacted about the race. More than 100 entry forms were sent out with 49 returned for the random drawing that would determine the fifteen entrants.

The race began in a flurry of feathers as the fifteen birds left the grounds at *Sunset Magazine's* headquarters in Menlo Park for the destination in Santa Rosa, a distance of approximately 80 miles. The first three birds to reach the finish line won prizes for the dealers they represented, and for the Bird and Son salesperson that calls on that dealer.

The fastest time went to a pigeon named "Rossi's Racer" by Manager Bob Rossi of Rossi Building Materials in Fort

Bragg, Calif. The time was two hours eight minutes.

Second place went to "Homer" named and sponsored by Manager Don Timm of Kalispell Cabinet Works of Kalispell, Montana, and third place went to "Centurion" named and sponsored by Manager Martin Doctors of S. and G. Roofing Supplies in Santa Ana, California.

According to Donald Suva, western-regional manager for Bird and Son, "The Bird Race gives us publicity and stirs interest with our dealers in promoting our premium products which is 'Architect 70' shingles." The product is a heavy laminated shingle used as an alternative to wood shakes.

"It has stirred interest with dealers from Seattle to San Diego and Honolulu to Salt Lake City," Suva said.

CertainTeed Corporation announces several personnel changes:

Michael A. Hill has been named director of quality control, and will have overall responsibility for coordinating the quality control operations at CertainTeed's 11 roofing manufacturing

facilities countrywide. Hill joined CertainTeed in 1973 as a chemist in SMG's Technical Services Group. Most recently, he held the position of products development engineer for CertainTeed.

Daniel S. Burks has been named Director of Manufacturing Staff Operations, where he will have overall responsibility for planning, scheduling, general purchasing and transportation at CertainTeed's 11 roofing manufacturing facilities.

Burks joined CertainTeed in 1973 as a merchandise manager in the company's mid-Atlantic Sales Region. Shortly thereafter he was promoted to manager of marketing services for CertainTeed.

Alan R. Adelman was recently promoted to fiber glass roofing specialist, where he will promote the sale of CertainTeed fiber glass-based roofing in the south central United States, working to expand customer base in that area.

Formerly a territory manager responsible for sales in the state of New Mexico and a portion of Texas, Adelman joined the company in 1976. He is a graduate of Arizona State University in Tempe.

ASSOCIATE MEMBERS

C. Gregory Bolig has also been promoted to fiber glass roofing specialist and will be responsible for promoting the sale of fiber glass-based roofing in the midwestern United States, working to expand customer base in that section of the country.

Formerly a territory manager responsible for sales in the York, Pennsylvania territory, Bolig joined the company in 1975.

A graduate of West Chester State University in West Chester, Pennsylvania, he and his wife currently reside in Olathe, Kansas.

Dynamit Nobel of America Inc., a unit of Dynamit Nobel AG of West Germany, announced it will begin a \$20 million construction program at Stoney Point, NY.

The plant initially will manufacture roofing membranes and window sections, which have been imported from Nobel, a producer of plastics for construction that is a member of the Flick Group. Increased demand for the products required a U.S. Manufacturing plant, according to Nobel.

GAF Corporation is now marketing the Gaffite roof insulation fastener, a time and labor-saving unit which "locks" insulation down to steel roof decks. The new line of fasteners further expands GAF's line of built-up roofing products, one of the most extensive in the industry.

The new Gaffite roof insulation fastener system consists of a 3-1/4 inch wide hexagonal steel plate with a hole in the center through which a self-drilling Phillips head screw is driven to lock the insulation firmly to the roof deck. A big, deep head provides for more positive driving. Special, deep threads insure better uplift resistance. Screws are available in lengths from 1-5/8 to 6 inches to accommodate insulation thickness up to 5-5/8 inches.

The new fastener provides excellent holding power, wind resistance, and material strength. It saves materials by eliminating the need for hot mopping bitumen or other adhesives. It requires 50% less labor since the fasteners are installed quickly and easily and 50% fewer fasteners are required in comparison with most traditional nail-impaling methods.

The Gaffite system is Factory Mutual System-approved.

GAF also announces that it is expanding its line of BUR insulation materials with the addition of Gaftemp urethane and Gaftemp urethane/perlite roof insulation board. The two new products supplement GAF's existing Gaftemp perlite roof insulation board.

The expanded line will enable roofing contractors to provide specific ratings in insulation and fire resistance for the customer, giving, in effect, a roof tailored to the buyer's unique requirements.

Gaftemp urethane roof insulation board is composed of a "sandwich" of rigid urethane, foamed between asphalt saturated felts compatible with practically all built-up roofing materials. Because of its insulating efficiency, light weight, and resistance to damage and compression, Gaftemp urethane roof insulation is especially suitable for applications where high thermal value is paramount and stringent fire resistance is not crucial.

This material is designed for use over structural roof deck systems where "C" values of .04 or higher are required with minimum insulation thickness for roof edge detailing. It is particularly appropriate for masonry construction and low temperature insulation applications.

Gaftemp urethane/perlite roof insulation is recommended for applications requiring both high insulating efficiency and rated fire resistance.

This material is a composite insulation board combining 3/4 inch perlite roof insulation board and urethane foam. Its components are chemically bonded (not laminated) in a process in which the urethane is sprayed-applied to a moving substrate of perlite insulation board. Asphalt saturated felt compatible with virtually all built-up roofing materials is used for the top surface. The finished product combines the rated fire resistance, dimensional stability and water resistance of perlite board with the superlative insulating properties of urethane foam.

Gaftemp urethane/perlite roof insulation is designed for use over structural roof decks where "C" values of .05 or higher are required, along with moderate insulation thickness for roof edge detailing, and where comprehensive UL and FM approvals are necessary.

Monier Company, the nation's largest manufacturer of roofing tiles, will construct multi-million dollar production facilities in the Houston and Seattle-Tacoma areas, Richard B. Lyons, president of the Orange, California head-quartered firm, announced.

Lyons stated that the high pressure extrusion, handling and coloring equipment to be utilized will incorporate new technological advances resulting in America's most sophisticated roof tile plants.

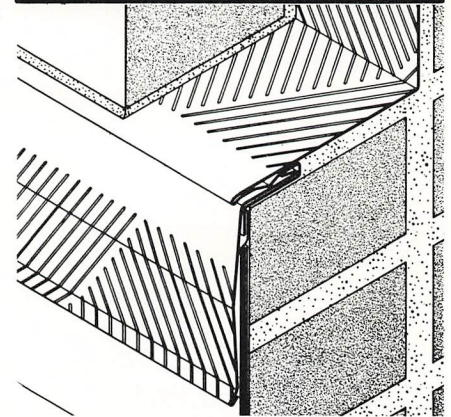
Monier, which operated a number of factories throughout the United States, will begin production of concrete roofing tiles in the new plants during the second quarter of 1979.

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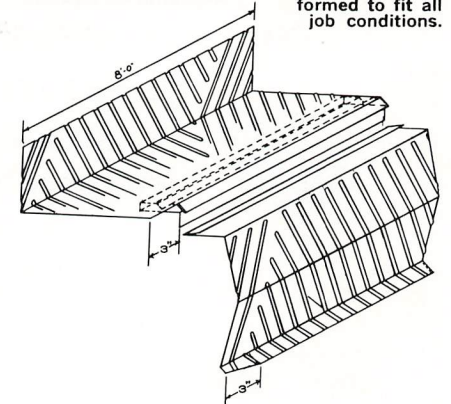
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Georgia

At its 25th Annual Convention, the Roofing and Sheet Metal Contractors Association of Georgia elected the following officers for 1979:

- President E. J. Lancaster
- 1st Vice President Ralph Newman
- 2nd Vice President William Scupine
- Secretary-Treasurer Clark Mock, Jr.

The Georgia Association of Suppliers elected the following officers:

- President James Barber

Vice President Bill Lomel
 Secretary James Young
 Also at the Convention, the Association presented its Boone Noblitt Award to Jerome Pierce, R. C. Pierce Roofing Co., East Point.

Finally, the Association announced it has selected the Ponce de Leon Lodge, St. Augustine, Florida, as the site for its 1979 Annual Convention, June 14-16.

Maryland

Bud Wolfe, President of the Associated

Roofing Contractors of Maryland, has announced the appointment of Hank Thornton as ARCM's new Executive Director. Thornton replaces George Mac Donald, who moved to Florida for family reasons.

Thornton started his career in Marine insurance in New York City. He served in the U.S. Navy, retiring with the rank of Lieutenant Commander, and returned to the insurance field in Baltimore.

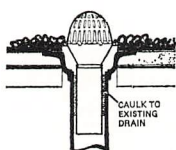
Thornton said his goal is to get to

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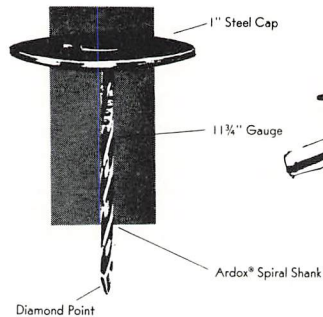
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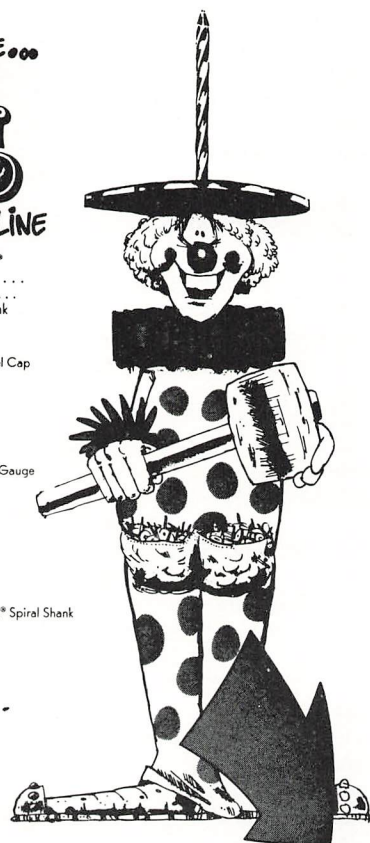
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NEWS FROM AFFILIATES

know all ARCM members personally, and to establish a stronger unity among the members.

Michigan

At the Michigan Roofing Contractors Association's Convention, held at Sugar Loaf Village, Cedar, Michigan August 3-6, the following Officers were elected to serve in 1978-79:

President Mel S. Miner
National Roofing & S/M Inc.,
Flint, Michigan
Vice President George Schena
Schena Roofing & S/M Inc.,
Mt. Clemens, Michigan
Treasurer Walter E. Duke
Duke's Roofing & Supply Co.,
Ypsilanti, Michigan

Directors: Lyle Bornor, Lansing; Ray Coppen, Saginaw; Lou DeRyckere, Detroit; Harwood Fenner, Benton Harbor; Ron Frosh, Flint; Don Hultberg, Lansing; John Gundrum, Ypsilanti; P. F. LaDuke, Detroit; Gerry Lewless, Bay

City; Ralph Maier, Lansing; and Richard Reynolds, Novi.

Gene LaFond, Owens-Corning Fiberglas Corp. and Dan O'Connell, Johns-Manville Sales Corp. were appointed as associated member representatives to the Board.

Minnesota

Jerry Ramsdell, Executive Director of the Sheet Metal, Air Conditioning, and Roofing Contractors Association of Minnesota, has been awarded the title of Certified Association Executive, the highest level of professionalism in association management.

The award was made during an impressive ceremony that was a part of the Annual Convention of the American Society of Association Executives in Boston.

Our congratulations to Jerry!

Mississippi

At its highly successful second annual

convention held in Biloxi, the Mississippi Roofing Contractors Association elected the following officers:

President Ronald Pace
Hub Sheet Metal & Roofing Inc.,
Hattiesburg, MS
Vice President J. L. Brown
Brown Roofing & Sheet Metal,
Greenville, MS
Secretary-Treasurer Hubert Hill
Pascagoula Sheet Metal Works, Inc.,
Pascagoula, MS

The Association also announced plans to begin publishing a monthly newsletter, according to Immediate Past President James A. Cooper.

Tennessee

The Tennessee Association of Roofing Contractors conducted an intensive week-long program on roofing technology in September, and the meeting, first of its kind, was rated a huge success.

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



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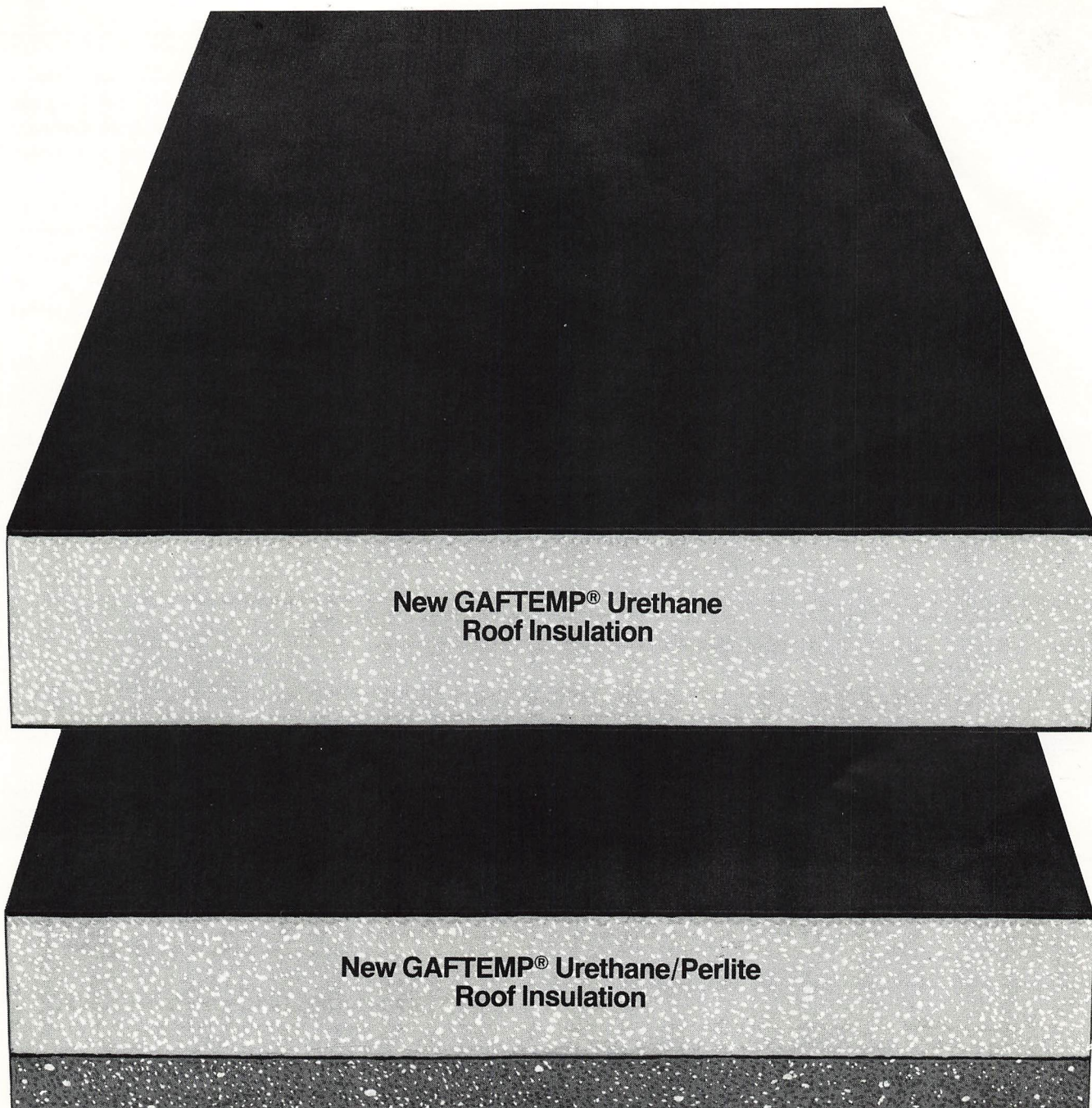
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Symposium, the meeting was held in conjunction with the Office of the State Architect and Nashville State Technical Institute. Speakers included experts from all over the country.

TARC President Benny Helton, instrumental in developing the program along with his Board of Directors, indicated that the program was so well received that others will be held in the future.

TARC also announces that its mid-winter meeting will be held in Nashville on Friday and Saturday, January 12 and 13, 1979. Business programs will be held Friday afternoon, and the annual Foreman's School will be conducted on Saturday morning.

Virginia

The Virginia Roofing and Sheet Metal Contractors Association held their Annual Convention at Bryce Mountain Resort in northwest Virginia recently.

Newly elected officers for 1978-79 are: Mac L. Dews, Fowler Roofing Co., Norfolk; 1st Vice President, James E. Holmes, Richmond Roofing Co., Ashland; 2nd Vice President, Thomas H. Price, Price Roofing & Sheet Metal Co., Springfield; Secretary-Treasurer, Jerold W. Evans, Jerold W. Evans Roofing, Richmond. Directors coming on for a two-year term are: Robert W. Johnson, Virginia Roofing Corp., Alexandria; Earl M. Martin, Jr., E. M. Martin, Inc., Charlottesville; George E. Gheen, Quality Roofing Co., Manassas and Scott P. Lau, Marcor Associates, Inc., Midlothian. Robert L. Griffing III, Cedar Roofs of Richmond will serve as the Immediate Past President for the coming year.

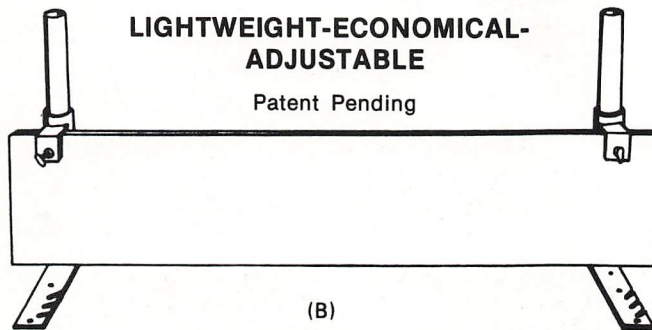
In addition to a change in dues to \$125 annually, the Association is planning on instigating a Contractor's Seminar covering such subjects as Business Management, Finances, Labor, Business Psychology in addition to the normal programs of the Winter Convention, Roofer Personnel School and the Summer Convention.

The mid-winter Convention, at the Boar's Head Inn in Charlottesville will be held January 26-27, and the Summer Convention will be held at the Cavalier Resort by the Sea, Virginia Beach on June 14-17, 1979.



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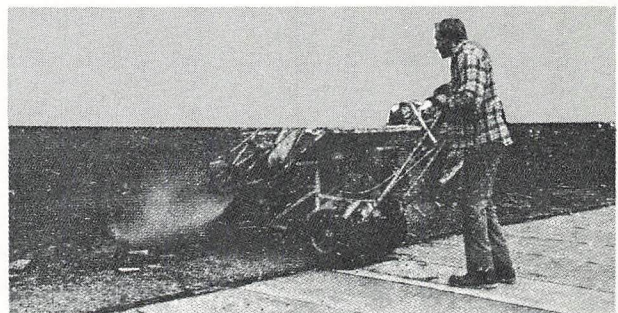


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- Hold debris on roof level.
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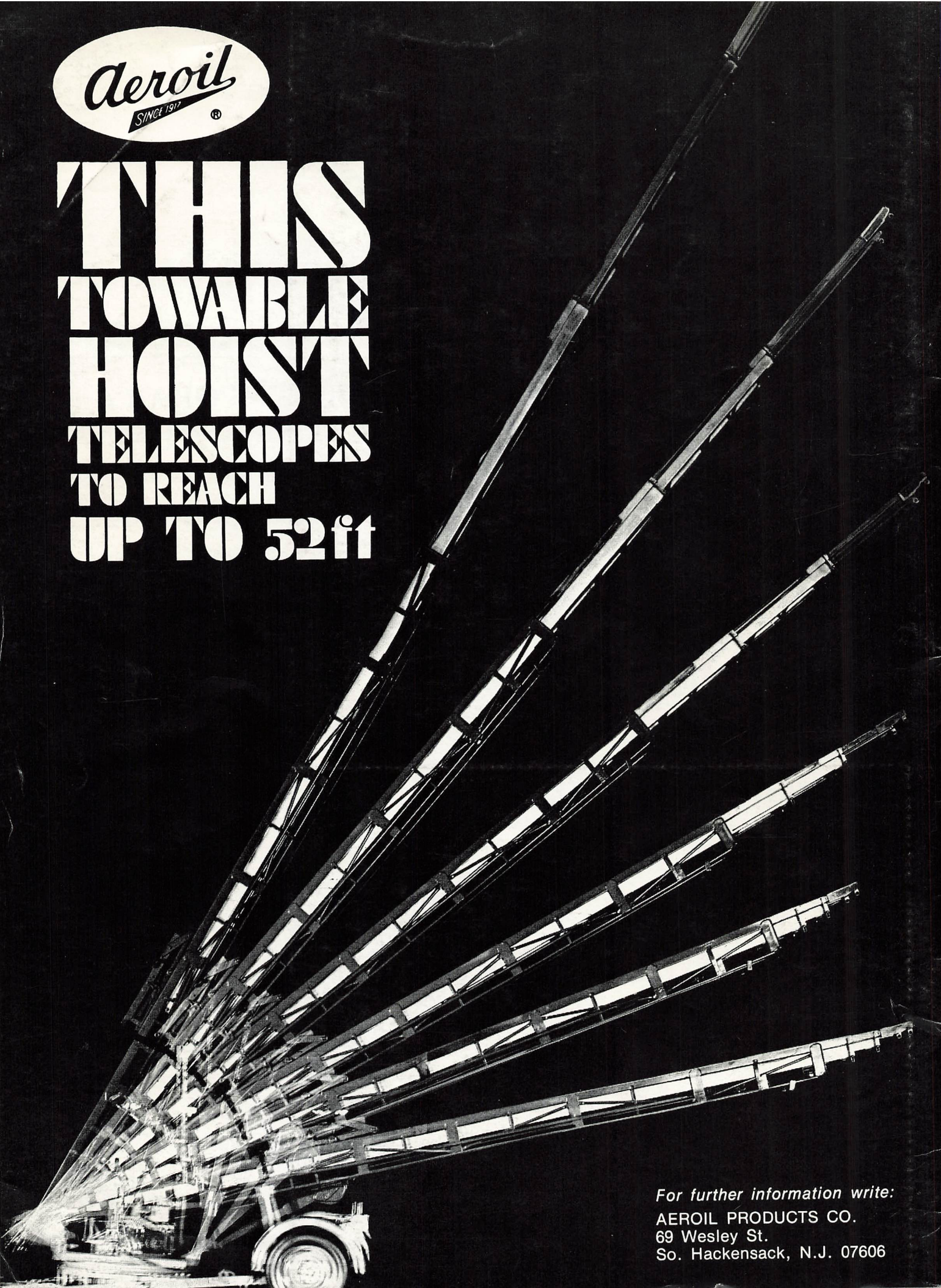
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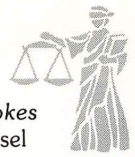
Contact any owners listed below and ask about the TL-16 Telescoping Hoist.

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Tuscaloosa - Chappel Roofing Co.
- CONN** Derby - Richards & Son
E. Hartford - Acme Roofing Co.
Meridan - G. R. Cummings
New Haven - F. J. Dahill Company (2 Hoists)
- FLA** Brandon - Jenkins Roofing
Clearwater - Dean Roofing & Sheet Metal Inc.
Deland - Boulterice Roofing
Fort Myers - Albritton Roofing Co.
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Hollywood - B & B Industrial Co.
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Jupiter - Jupiter Roofing Co.
Ormond Beach - H & H Roofing & Sheet Metal
Pensacola - Edwards Roofing Company
St. Petersburg - Krause Roofing
Tallahassee - Dove Street Metal
Tampa - Cement Roofing Industries
- GA** Albany - Albany Sheet Metal
Atlanta - Kelco Roofing
L. F. Still
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Savannah - Bonner Roofing & Sheet Metal Co.
- ILL** Bellville - Geissler Roofing Company
Chicago - Palisade Roofing
Lockport - Cargle Roofing Company
Rivergrove - Krumwidder Roofing Company
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- IND** Evansville - Industrial Contractors
Gary - Charles Gluth & Sons (2 Hoists)
Terre Haute - Guarantee Roofing Co.
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(See Back Cover)

Legal

by McNeill Stokes
NRCA Counsel



OSHA and the need for a formal company safety program

OSHA has been often criticized in past years for all the paper work that it generates, much of it needlessly. Most feel that a written safety program is just another piece of useless paper and is not really an area where an employer can be "caught."

Unfortunately, this common assumption could not be further from the truth. First of all, 29 C.F.R. §1926.21(b)(2) does require each employer to "instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment....." While this regulation does not by its terms mandate a written safety program and policies, and while no one, to our knowledge, has actually been fined for violating this regulation, its existence does render an employer subject to citation if no effort whatsoever is made to educate employees on safety, and its existence also would tend to make a judge believe an employer was acting in bad faith if it were brought to the judge's attention that the employer had no safety program addressed to the requirements of this regulation.

Further, if an employer is unlucky enough to receive a citation which he contests, for whatever reasons, the absence or the existence of a formal safety program and written policies can often have an effect on the outcome of the contest proceeding. For instance, if an employer is defending a citation on the basis that an employee disobeyed company policy when he committed an OSHA violation, or the employee acted in contravention of all known standards of conduct in the particular industry in committing an OSHA violation, the Review Commission and courts have held that in order for the employer to prove this as a defense, he must also show that this policy or standard of conduct which the employee has violated has been clearly communicated to this and all other employees, and employees are and have been subject to specific discipline for violation of company policies. Obviously, the existence of a written safety program and written policies will go a long way towards convincing the courts that an employer has effectively conveyed this information to his employees, and conversely, the lack of a written program will practically convince a judge that an employer's safety policies are inef-

fectively communicated and ineffectively enforced.

This same problem can arise in the situation where a subcontractor or even a general contractor is cited for a violation which was either caused by or is in the exclusive control of another contractor on the construction site. The Review Commission has held that the subcontractor, in those types of cases, has a good defense to the citation, only if it can also show that it did whatever else was available to protect its employees from the hazard up until the time it was abated by the responsible contractor. In these circumstances, it can be valuable to show a Commission judge a substantial safety program which is intended to guide employees in these types of circumstances as to what actions they should take to protect themselves from hazards which cannot be abated.

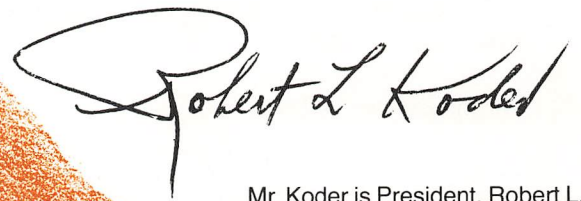
Finally, in cases in which citations are being contested on the grounds that the means of abatement specified by OSHA are not feasible, the Commission will often look to see whether the employer has an effective and all-encompassing safety program which would afford the employees some protection, even if the infeasible means of compliance were not achieved.

To be effective in all of these circumstances, a good safety program must include the naming of at least one person company-wide as a safety director, who has authority to direct actions to be taken on the job site to correct unsafe conditions, and preferably also has the authority to directly discipline, by reprimand, suspension, or termination, any employee in violation of the company safety program. The program should also include specific directions to company supervisors and foremen in implementing company safety policies and OSHA regulations. Finally, the program should include specific, written policies patterned after OSHA regulations and made directly applicable to the types of conditions that would be found in the particular employer's worksites. We would also add that it makes a very good impression on an OSHA judge if some company policies are even more stringent than OSHA regulations, since it is common knowledge that many OSHA regulations are hopelessly out of date and obsolete.



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Mr. Koder is President, Robert L. Koder Co., Des Moines, Iowa; former President, Midwest Roofing Contractors Assn. and a Board Member, National Roofing Contractors Assn.

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THE WISDOM OF BIG BROTHER, V

By

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



The man whose chef is not a chef and whose bodyguard is not a bodyguard, from the Department where goals are not quotas, now tells us that he isn't Big Brother, we are.

Health, Education and Welfare Secretary Califano explains it like this: "It's like smoking. We're not the Big Brother in smoking. The people that have to quit smoking are the people that smoke. They're the Big Brother."

Readers who are still confused are authorized to reread their copies of Orwell's *1984*.

How's Your Navy?

The Environmental Protection Agency wanted to know why the State of Iowa has no criteria for the discharge of pollutants into the ocean. A State official explained: Iowa doesn't adjoin an ocean, and hasn't for the last two million years or so.

A Sweetener It Wasn't

Last spring, the Food and Drug Administration finally got around to rejecting a petition from a Massachusetts company seeking permission to market a new low-calorie sweetener. The company has been out of business since 1975.

And Speaking of Haste . . .

When it isn't terrorizing breakfast food companies, the staff of the Federal Trade Commission toys with the idea of a rule requiring private companies to reply to consumer complaints within 30 days. They might try it out on the rest of the federal government, first.

One survey of 22 federal agencies disclosed that the average response time to a complaint varied from 15 to 49 days.

They don't pay their bills very fast, either. A General Accounting Office report found the General

Services Administration late on 73% of its bills. That compares with an overdue rate of 68% for HEW and 64% for the Department of Transportation.

Get It Right This Time

The Department of Housing and Urban Development spent \$245,000 last year on a study of new towns in the U.S. "The only trouble," observed WTVJ Miami, "is this is the 67th similar study done in recent years."

'He Wasn't There Again Today . . .'

The Interior Department is placing limitations on the economic growth of America's fastest-growing major city—Houston—because of a toad that no one has even seen in the past 10 years. Five major land areas in and around Houston have been designated as "critical habitats" solely because of the possibility that the rare and elusive Houston Toad might live there. Consequently, landowners—primarily housing developers—are severely restricted in what they can do with their own property, lest they harm the mysterious critter. Will the government compensate them for their loss? No. Under the Endangered Species Act, the government has no acquisition authority.

Rabbits Next?

Senator Proxmire complains that one county in California used some of its federal job training funds to conduct a dog and cat census. Perhaps we need a census of what that money is being spent on elsewhere.

This Little Pig Got Smart

There's a pig in Golconda, Nevada, with his own Social Security number. Name of Waterhole Ike. Likes beer. Something of a local celebrity, it seems. Why does he need a Social Security number? Because it's required to open a savings account. Yeah . . . he's got that too.



HOT READY TO GO WHEN YOU ARE



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**The Mini-Mobile Storage Tank that makes
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- It costs less to keep material hot than to heat material that has cooled
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- Material level shut-down switch for burner

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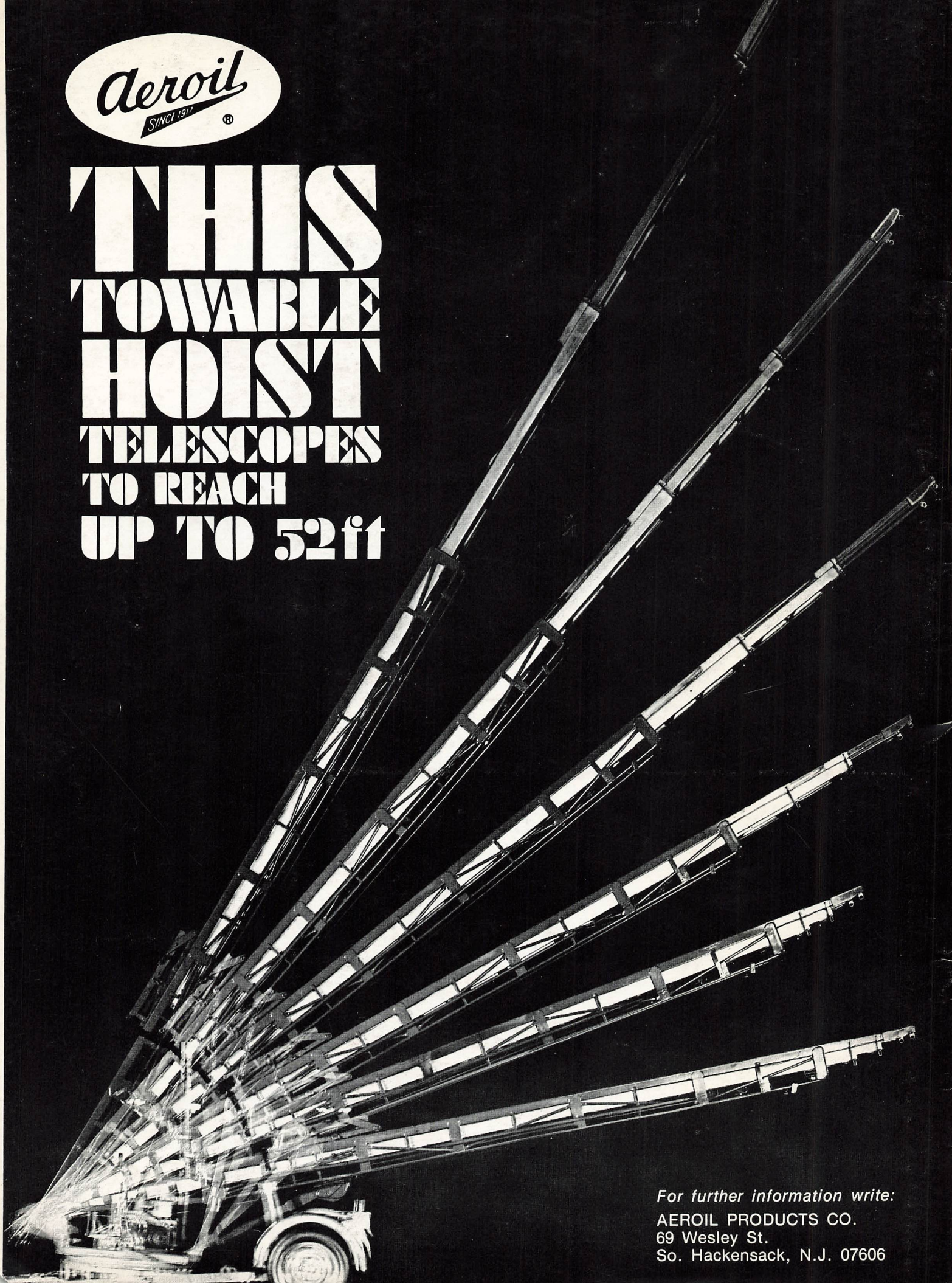
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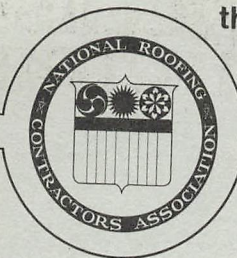
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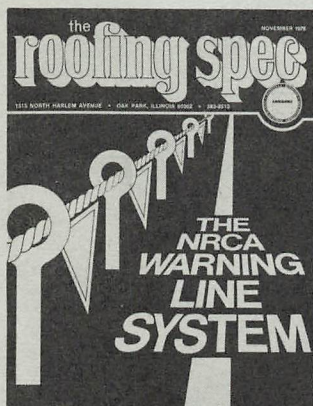
Comment: OSHA, Safety, and the Warning Line	5
Ideas, Notes & Random Thoughts	6
New Members	20
Industry Developments	24
Legal	29
News from Associate Members	32
News from Affiliates	34

Features

Convention Preview	
A look ahead to Houston	9
Warning Lines: An Idea Whose Time Has Come	
They're inexpensive, easy to use—and they work	16
NRCA Management Conference Set for January	
A three-day session in Boca Raton	18
New Progress in Rooftop Equipment Program	
More manufacturers certify their equipment	Insert
BUR Seminars Set for Phoenix and Boston	
A great program in January	26

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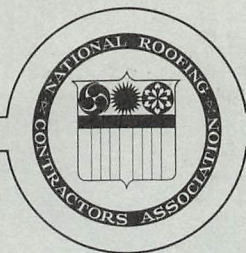
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Carlisle Tire & Rubber Co.	4	MM Systems Corp.	7
CertainTeed Products Corp.	22,23	Morgen Manufacturing Co.	38
Clearfield Conveyors, Inc.	20	National Nail Packaging Corp.	34
Datafilms	28	Nieman Manufacturing Co.	35
Evergreen Slate Co.	28	P & D Manufacturing Co.	18
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GAF Corp.	36,37	Petersen Aluminum Co.	30
Garlock Equipment Co.	27	Réeves Roofing Equipment Co.	25
Grefco, Inc.	31	Roofmaster Products Co.	35
E. L. Hilts & Co.	13	Rubber & Plastics Compound Co.	28
Johns-Manville Corporation	19	Vermont Structural Slate Co.	21



See page 16

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* signed up one or more new members since July 1.

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- MIKE PROMEN
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St. Louis, Missouri
- RICK ROSENOW
Chicago, Illinois
- ROBERT SANDERS
Smyrna, Georgia
- RICHARD SCHLESINGER
New York, New York
- JIM THEILING
Cleveland, Ohio
- MIKE WILKINSON
Charlotte, North Carolina
- * DICK WILLIS
Dayton, Ohio

Two Year Term

- CHARLES BECHTEL
Dayton, Ohio
- GEORGE BODWELL
Cleveland, Ohio
- LARRY CARLSON
Rockford, Illinois
- FRED CHRISTEN
Toledo, Ohio
- * FRANKLIN CRAFT
Memphis, Tennessee
- TOM DRAKE
Winter Park, Florida

* A. B. HALL

- Laurel, Mississippi
- ROBERT HARRISON
Greenville, South Carolina
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Charleston, South Carolina
- MARLIN POTTEIGER
York, Pennsylvania
- WILLIAM ROSE, III
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Rolling Meadows, Illinois

One Year Term

- MIKE ALCOCK
Chicago, Illinois
- MIKE BELDON
San Antonio, Texas
- TOM BOLLNOW
Westmont, Illinois
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