

ROOFING SPEC

OCTOBER
1986
\$2.00



Roofers beware:
condominiums
are risky business

Ray Roth
MRCA convention
information inside.
See page 37.

Industry Leaders Recommend ARC Modified Bitumen Roofing Material



George S. Moeller
A.J. Shirk Roofing
Company, Inc.
Kansas City, Missouri

George S. Moeller

"All modified bitumens are not the same. I prefer to use ARC material because it is the best all-weather product we have applied."

George Moeller



William E. Kugler
United Roofing &
Waterproofing, Inc.
Denver, Colorado

Wm. E. Kugler

"In our climate, we need roofing material to withstand extremes of heat and cold. We like ARC modified bitumen."

Bill Kugler



Cy Tilsen
Tilsen Roofing Company, Inc.
Madison, Wisconsin

Cy Tilsen

"We recommend ARC modified bitumen to our customers because of its cold weather qualities."

Cy Tilsen

All Modified Bitumens
are not alike—
just as
all Roofing Contractors
are not alike.
The best
Roofing Contractors use
the best
Modified Bitumen.



Mike Alcock
M.W. Powell Company
Chicago, Illinois

Mike Alcock

"We use ARC modified bitumen. The M.W. Powell Company was founded in 1847. A very important reason that we have endured all these years is our commitment to use only the best roofing material available. ARC is unquestionably the finest modified product on the market. I liked the product so much that I bought stock in the company."

Mike Alcock



James L. Dahill
F. J. Dahill Company, Inc.
New Haven, Connecticut

James L. Dahill

"I recommend ARC modified bitumen because the management and officers of the American Roofing Corporation are all contractors with a combined total of over 250 years of roofing experience. They know what is required for a good, sound roof, and they are delivering a great product."

James L. Dahill



American Roofing Corporation
3100 S. California
Chicago, Illinois 60608
(312) 376-1110



Leigh Haight
Haight Roofing Company, Inc.
Seattle, Washington

Leigh Haight

"We have completed several jobs with ARC modified bitumen, and our customers are very pleased with the results. We are pleased with the ease of installation."

Leigh Haight

**BUY
AMERICAN!**

ROOFING SPEC

Vol. 14, No. 10 October 1986

ADVERTISERS

- 2 American Roofing Corp.
- 79 American Roofing Corp.
- 22 Associated Foam Manufacturers
- 80 Bond Cote Systems
- 60 Carlisle SynTec Systems
- 63 Consolidated Fiber Glass
- 61 Construction Fasteners
- 10 Cooley Roofing Systems
- 7 Duro Last Roofing
- 59 Evanite Permaglass
- 64 Envirospec Inc.
- 53 Evergreen Slate
- 71 Flame Engineering
- 13 GAF Corp.
- 12 Garlock Equipment
- 26 Giuffre Brothers
- 65 Goodyear
- 59 Goss Ready Flame
- 6 Guardian Fasteners
- 24 Gulf States Asphalt
- 15 Hanover Prest Paving
- 68 Index Spa
- 53 Insul Mark
- 14 JBD Supply
- 16,17 Koppers
- 77 Monsey Products
- 49,50 NRCA Centennial Convention
- 28 Nord Bitumi
- 56,57 Owens-Corning Fiberglas
- 21 Petersen Aluminum
- 18 Rawl Plug
- 11 Reeves Roofing Equipment
- 70 Reimann & Georger
- 55 Rohm & Haas
- 73 Roofing Spec
- 52 Roofmaster Products
- 75 Sarnafil
- 8 Siplast
- 54 Software Shop
- 19 Sulmac
- 5 Topcoat, Inc.
- 67 Trocal
- 27 TSI
- 72 U-Flow, Inc.
- 20 U.S. Intec
- 61 U.S. Intec
- 58 UC Industries
- 66 UIP Engineered Products
- 74 United Construction Products
- 27 Wausau Tile
- 25 Weathergard Roofing
- 19 Brian R. White



COVER

More than one contractor has stopped doing condominium roofing after being trapped in a long and costly lawsuit.



**NATIONAL
ROOFING
CONTRACTORS
ASSOCIATION**

8600 Bryn Mawr Avenue
Chicago, Illinois 60631
(312) 693-0700



**SOCIETY OF
NATIONAL
ASSOCIATION
PUBLICATIONS**

FEATURES

- 29 Roofers beware: condominiums are risky business
by David Impey
- 33 Coal tar study valid for typical shingle-style BUR
by The Koppers Co. & NRCA's Task Group
- 37 Renovated city hosts MRCA's practical convention
- 43 NRCA's Convention worth a century of waiting
- 47 NRCA contractors can be insured through CNA

DEPARTMENTS

- | | |
|--------------------|-------------------|
| 4 Letters | 61 Affiliate News |
| 9 National News | 62 Coming Events |
| 19 NRCA Update | 64 On The Roof |
| 23 Risk Management | 69 New Ideas |
| 51 Associate News | 76 Classified Ads |
| | 78 Tech Talk |

ROOFING SPEC (ISSN 01997742) is published monthly for an annual price of \$20 for NRCA members, \$15 for additional copies for member firms and \$20 for non-members, \$65 outside United States (excluding Canada) by the NATIONAL ROOFING CONTRACTORS ASSOCIATION, 8600 Bryn Mawr Ave., Chicago, Ill. 60631. Second-class postage paid at Chicago, Ill., with additional mailing offices. POSTMASTER: Send address changes to ROOFING SPEC, 8600 Bryn Mawr Ave., Chicago, Ill. 60631.

Statements of fact and opinion are made on the responsibility of author alone and do not imply an opinion on the part of the officers, or the membership of NRCA. Material may be reproduced by any member or affiliate organization only. Appropriate credit line is requested. Copies to members include a supplement.

NRCA's Academy merits another chance

Dear Editor:

I read with interest the article about NRCA President Don McNamara in the June issue of *Roofing Spec* (page 40), and his remarks concerning the Academy of Roofing Contractors (ARC).

I have only worked in the roofing business for the last six years, but I shared many of the worries and ups and downs of the roofing company through my husband David Groh for 15 years.

David felt that he had accomplished something by trying to train his men to be better at their trade. He grew up in a time when roofers were sometimes called tar babies, and he felt that the Academy was a good start in trying to change that image.

We plan to purchase films this fall for use in our winter meetings. We can afford to purchase some that we were not able to have before. The better workmanship and attitude of our men has helped bring us out of a slump in a time of an economic slowdown. We doubled our volume in sales last year and cut down on employee turnover. We also feel that better trained employees have added to our stature in our community as a professional roofing contractor.

When employees received their certificates from the Academy, they expressed their gratitude to us that they had been given the chance to earn the membership for our company in ARC. We probably are the smallest company that has attained a membership so far.

I realize that there are flaws in any new organization. In the beginning of the training, the cost of the films seemed staggering to us, but we now feel that it was money well spent. And it has paid off in better safety records and a better attitude among our employees. The men now look forward to our training meetings, and they give input during the meetings and discuss the meetings afterwards. We do feel that the meetings are worth having even if we cannot hold as many as we would like to.

Please do not throw this baby out with the bathwater yet, as it will take time to see if there is a follow-through among the members belonging now.

Jeanne Groh
George Groh & Sons, Inc.
Emporia, Kan.

Donald G. McNamara, NRCA president, replies:

You and your company are to be congratulated for your efforts in achieving ARC status. As you know, the program was enacted to increase the level of professionalism in the industry and it's obviously been successful in doing just that for George Groh and Sons, Inc.

It's very difficult for a new NRCA president to suggest changes in any of our programs. Yet, I feel it is my responsibility to our members to challenge all of the services we offer for their basic need, quality and competitive cost. The ARC program was the subject of a fair amount of controversy from the outset. No one quarreled with the objective (education and training to establish a higher level of professionalism); however, the methods used in implementing the program created divisiveness among contractors.

From a practical standpoint we find that less than 2 percent of our members actually achieved ARC status, and yet a large number of our Education Department dollars were being expended on a program not sought after by 98 percent of our members.

As I said in my Roofing Spec interview, I totally support the objectives of the program. You did something special to improve your status and should be complimented for that achievement.

As a final comment, let me assure you that the babies are not going out with the bathwater. The Executive Committee of NRCA at its meeting of May 22, 1986, adopted changes to the ARC program recommended by the Educational Operating Committee. I sincerely hope you find these changes acceptable.

Article ignored problem of rusting decks

Dear Editor:

The article "Fastener Coatings: Which Ones Are Best?" by S. Riaz Hasan (July *Roofing Spec*, page 17) was very interesting. However, the roofing industry is not addressing a major potential problem arising from the use of fasteners that pass through all of the materials that comprise a roofing/insulation system installed over a steel decking system.

Although the problems with fasteners creating a thermal bridge are recognized, no one seems to be addressing the secondary problem caused by steel decking. The same factors that corrode the fastener will corrode the decking. Thus, in many instances, even if a totally non-corrosive fastener is used, the decking will likely corrode away from the fastener in time and leave the roofing/insulation system unattached to the structure.

For years it has been recognized by many that the proper method for insulation installation is to secure the first layer to the steel decking with mechanical fasteners and then mop a second layer of insulation over the first with the joints staggered in both directions between layers. Yet the manufacturers of roofing systems seem totally reluctant to require such a system to assure the positive securement to the structure for the life of the roofing system. The fear of cost seems to interfere with logic.

It would seem appropriate that a second article should be written on the potential problem of metal decking corrosion from fasteners that penetrate the whole insulation system.

Paul Tente
Paul Tente Associates
Colorado Springs, Colo.

REDUCE OVERHEAD COSTS.

The last time we checked, successful roofing contractors were all in business to make money. Well, the TOPCOAT® Roofing System can help you make a lot more.

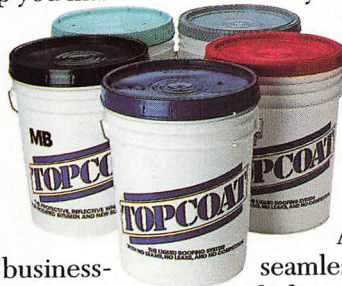
Why? Because compared to other roofing alternatives, you can apply TOPCOAT in a fraction of the time, at a fraction of the cost. Which gives you a bigger profit margin to work with. And more time to do more jobs.

Introduced in 1982, TOPCOAT has solved roofing problems for all kinds of businesses, including Fortune 500 companies. It's a proven system that has grown into a broad line of water-based,

one-component products.

The TOPCOAT System has excellent adhesion to a variety of roofing surfaces: metal (including copper), smooth-surface built-up roofing, asphalt shingles, foam insulation, wood, and structural concrete. For coating modified bitumens, there's new TOPCOAT MB.

And with TOPCOAT, you're putting on a better roof. It stays flexible down to -30°F to expand and contract with roof movement. And because a TOPCOAT roof is completely seamless, it doesn't leak. For more information, including the name of your nearest TOPCOAT distributor, write us. Or call 1-800-323-0009.



**THE LIQUID ROOFING SYSTEM
WITH NO SEAMS, NO LEAKS, AND NO COMPETITION.**

TOPCOAT, Inc. A subsidiary of The Major Group, 24 Industrial Road, Walpole, MA 02081-1305. (617) 668-4128.

Check #41 on Reader Service Card

Asbestos dilemma could use NRCA's help

Dear Editor:

We read the Monsey Products Co. ad on page 57 of June's *Roofing Spec* with some interest and a great deal of concern. The roofing industry has used asbestos flashing materials for many years. These products—specifically, reinforced flashing and roofing cement—have performed well. Recently, insurance companies have withdrawn all coverage relating to asbestos products (even defense of suits) from our professional liability policies, and probably from contractors' liability policies as well.

Although we are now barred from using asbestos products at SGH, we have not yet found a completely satisfactory substitute for them.

We think this may be an industry-wide problem covering all asbestos materials, including old shingles, built-up roofing and siding.

We think it is a problem NRCA could well address with its insurance committee.

David L. Adler
Simpson Gumpertz & Heger, Inc.
Arlington, Mass.

Carl Good, director of membership development, replies:

The use of asbestos in the roofing industry is a topic of concern to NRCA. Currently, the NRCA Health and Safety Committee and Insurance Committee are addressing various asbestos-related issues.

We have seen and heard of many insurance companies' policies that specifically exclude claims related to asbestos. Insurers tend to stay

away from underwriting businesses in which workers risk gradual accidental exposure to environmental hazards. To counter this, some contractors with enough investment capital are going the self-insured route.

As you are aware, the EPA has suggested a five-year phase-out of all asbestos-related products. Unfortunately, little is known about some of the products that are to be used as substitutes or their potential health hazards.

I think, in general, additional research is needed to determine asbestos' true health risk, particularly in industries such as roofing, where friable asbestos is just not prevalent. It is hoped, as more investigation takes place, factual information will help resolve many of these problems.

ARE THESE YOURS?

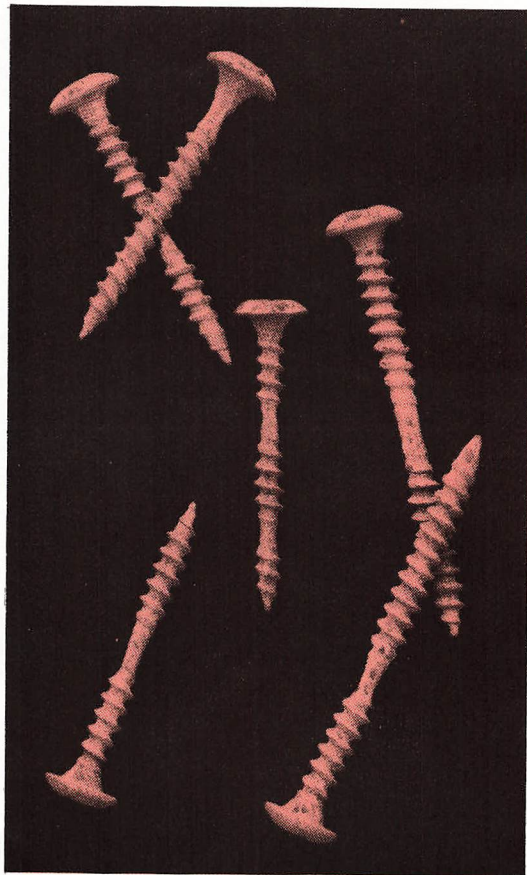
Insul-Tite fasteners with our exclusive Maxi-Gard II long life corrosion resistance coating offers you unbeatable protection against red rust.

In tests conducted in strict accordance with SFW 2.0 DIN 50018 our fasteners proved to be *far superior* than others on the market.

In fact, even in this harsh acidic environment which corrodes ordinary zinc & yellow fasteners in less than 7 cycles, our Insul-Tite fasteners did not show *any significant* corrosion even after 30 cycles.

Our Insul-Tite system is also Factory Mutual approved and has been specified by architects and engineers for many years.

If you would like more information on our Maxi-Gard II coating or have any questions about our Insul-Tite product line, please call or write.

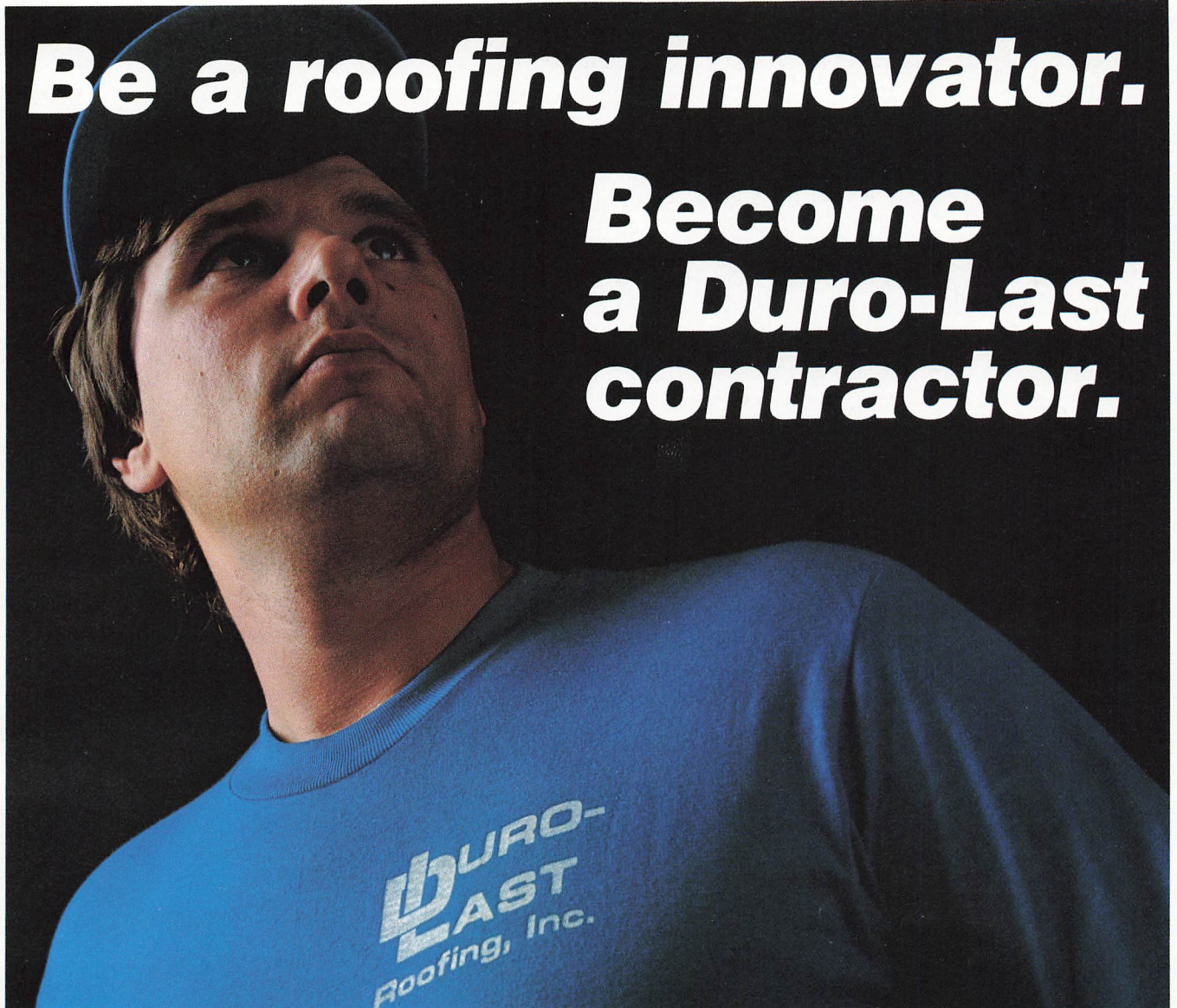


GUARDIAN FASTENERS AND CLOSURE SYSTEMS
P.O. BOX 391 • 920 2ND AVE. • CORAOPOLIS, PA 15108
AREA CODE 412-269-0890 • TOLL FREE 800-633-GFCS

Check # 18 on Reader Service Card

Be a roofing innovator.

Become a Duro-Last contractor.



Duro-Last, the innovator in single-ply roofing, is looking for a few good contractors to install its custom-fabricated roofing system. Contractors across the country have discovered they can cut labor and installation costs by 50 percent using the Duro-Last system.

Custom fabrication means 80 percent fewer field seams. No waste. And installation is fast and easy.

The Duro-Last system is a complete roofing package. All materials arrive on-site, pre-measured, pre-cut, and welded into 2500-sq ft sheets maximum, with fasteners and roof acces-

sories. There are no parts or material to inventory. Everything you need is supplied. All you have to do is put the roof in place.

Duro-Last offers an extensive training program that will teach you the quick and easy steps to installing a custom-fabricated roof.

Examine Duro-Last. We think you'll agree, it's the logical roofing system.

**Call
Rick Mika today!
within Michigan
(800) 752-8815
outside Michigan
(800) 248-0280**

**DURO-
LAST Roofing, Inc.**

525 Morley Drive
Saginaw, Michigan
48601

The custom-fabricated, common-sense approach to roofing.

Check #8 on Reader Service Card

For over 25 years, Siplast has provided quality roofing systems developed for the varied design and field requirements of modern construction. The performance of our systems has been proven by successful applications over all types of deck constructions in more than forty countries with widely varying climates.

In 1968, we pioneered a major development in the manufacture of modified asphalt and foil-faced roofing systems, becoming the first manufacturer to use SBS as a modifier of asphalt roofing products. Time has proven this Siplast elastomeric blend retains its exceptional elasticity, flexibility and weatherability through extreme climatic variations. This ensures dependable, long-term protection against the elements.

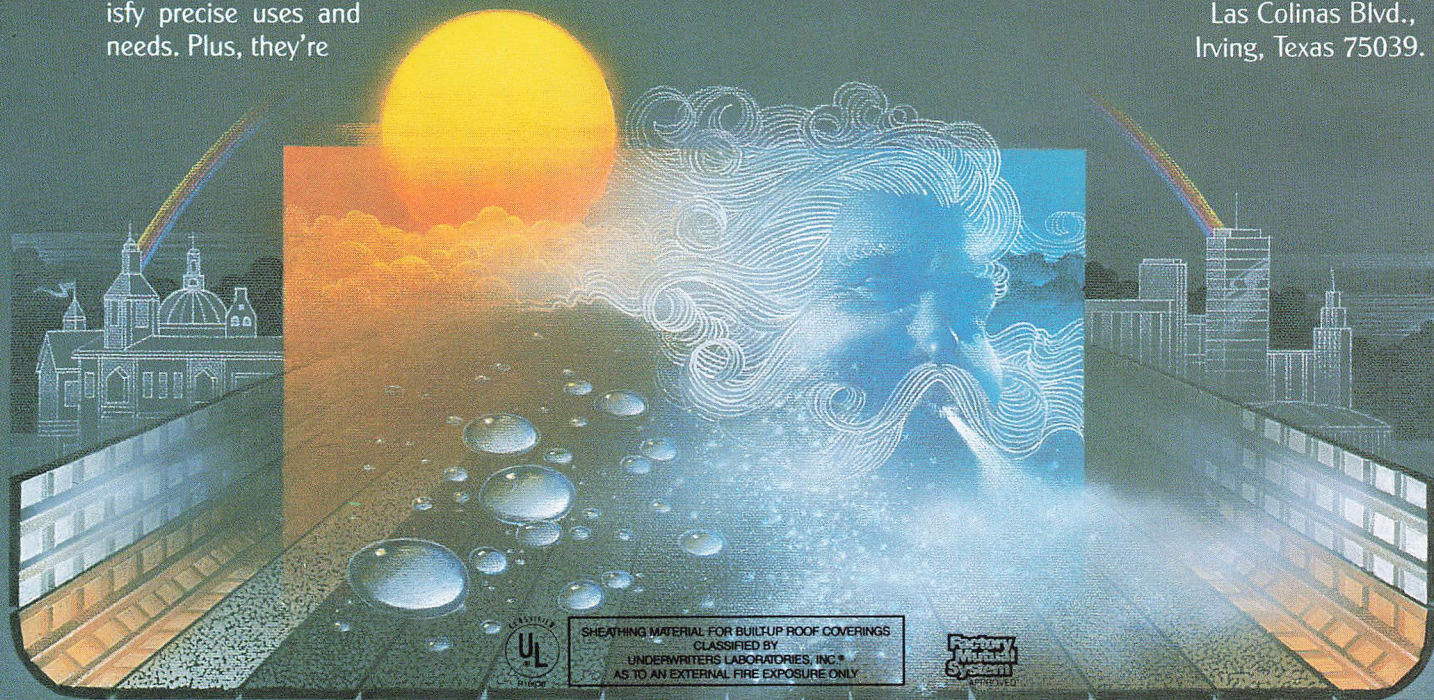
Fully tested and guaranteed, our systems are available in a variety of colors, finishes and reinforcements, and are engineered to satisfy precise uses and needs. Plus, they're

designed for the application method best suited for individual projects, whether it's hot asphalt, cold adhesive or torching. Providing the right product for each specific application has been our objective for nearly three decades.

Siplast has assumed its leadership role in the roofing industry with proven-quality products such as Veral, Paradiene and Parafor. And we'll remain at the forefront of our field, providing systems that deliver the performance today's standards demand.

Time-proven performance — just one of the many elements that sets us apart in high performance roofing.

For more information on any of our roofing systems, call 1-800-922-8800. In Texas, call collect, 214/869-0070. Siplast, Xerox Centre, Suite 1840, 222 West Las Colinas Blvd., Irving, Texas 75039.



Most manufacturers don't offer 25 years of experience in high performance roofing. We do.

 **siplast**[®]
Roofing Systems

Check #38 on Reader Service Card

Small businesses present wish list to Washington at conference

On Aug. 17, 1,800 delegates representing nearly every sector of the economy converged on Washington, D.C., for the National White House Conference on Small Business.

Sponsored by the Small Business Legislative Council (SBLC), the Conference was the culmination of several months of issue identification, state meetings, delegate elections and caucuses.

SBLC is an independent, permanent coalition of trade and professional associations whose members are predominantly small businesses. SBLC's goal is to maximize the influence and strength of small business on legislative and federal policy issues pertaining to the nation's small business community.

The delegates came armed with 400 recommendations to the president, Congress and the population at large covering economic policy, education and training, finance, the future of the Small Business Administration, innovation, international

trade, liability insurance, payroll costs, procurement, regulation and paperwork, and taxation.

By the second morning, the delegates had reduced the number of recommendations to 200. By the end of the day, the list had been whittled down to 100. On the last day of deliberations, the delegates prioritized the final 60 recommendations, enumerating the top 25 in order of importance. The remaining 35 were listed without reference to priority.

The following is an itemized summary of the major concerns and recommendations listed among the first 25 priorities.

The Liability Crisis. SBLC believes that civil justice reform is critical in combating the problems plaguing the insurance industry.

A return to a fault-based standard of liability, the elimination of joint and several liability where defendants have acted independently of each other, and caps on punitive damages and attorneys' contingency fees are among the Council's key recommendations for managing the liability crisis.

SBLC would also like to see the establishment of a uniform standard for fault-based product, commercial and professional liability insurance.

To improve the affordability and availability of liability insurance, SBLC is urging Congress to legislate a self-insurance system allowing small businesses to pay premiums into a fund with pre-tax dollars exclusively for claim payments.

Employee benefits. SBLC is asking Congress to prohibit state legislatures from mandating employee benefits, reject parental and disability leave legislation and reject proposals to mandate medical coverage.

Unfair competition. SBLC believes government at all levels has failed to protect small businesses from damaging levels of unfair competition. The Council is recommending that federal, state and local governments take steps to prohibit unfair competition in which non-profit organizations use their tax-exempt status and other advantages to sell products and serv-

ices also offered by small businesses. Government-created competition in which government organizations perform commercial services is also seen as a threat to small business.

The deficit and budget. The White House Conference on Small Business is urging the government to:

- correct the constitutional defect in the Gramm/Rudman/Hollings Balanced Budget and Emergency Deficit Control Act;
- add a balanced budget amendment to the Constitution; and
- grant the president a budgetary line-item veto.

International trade. SBLC believes that the international trade crisis mandates the creation of a Cabinet-level department of international trade to coordinate the existing trade activities of federal agencies.

Education. Entrepreneurial appreciation programs should be established by the federal government at all educational levels to encourage an awareness of the free enterprise system.

Wage regulation. Congress should repeal the Davis-Bacon Act and the Service Contract Act in their entireties.

Social Security. SBLC has also recommended a complex Social Security reform package that includes the categorization of all government and private workers under the Social Security system, the freezing of the employer FICA contribution wage base and tax rates at the 1986 rate, and the development of a broad-based presidential commission to create long-range alternatives to the present Social Security system.

continued on page 11

ROOFING SPEC

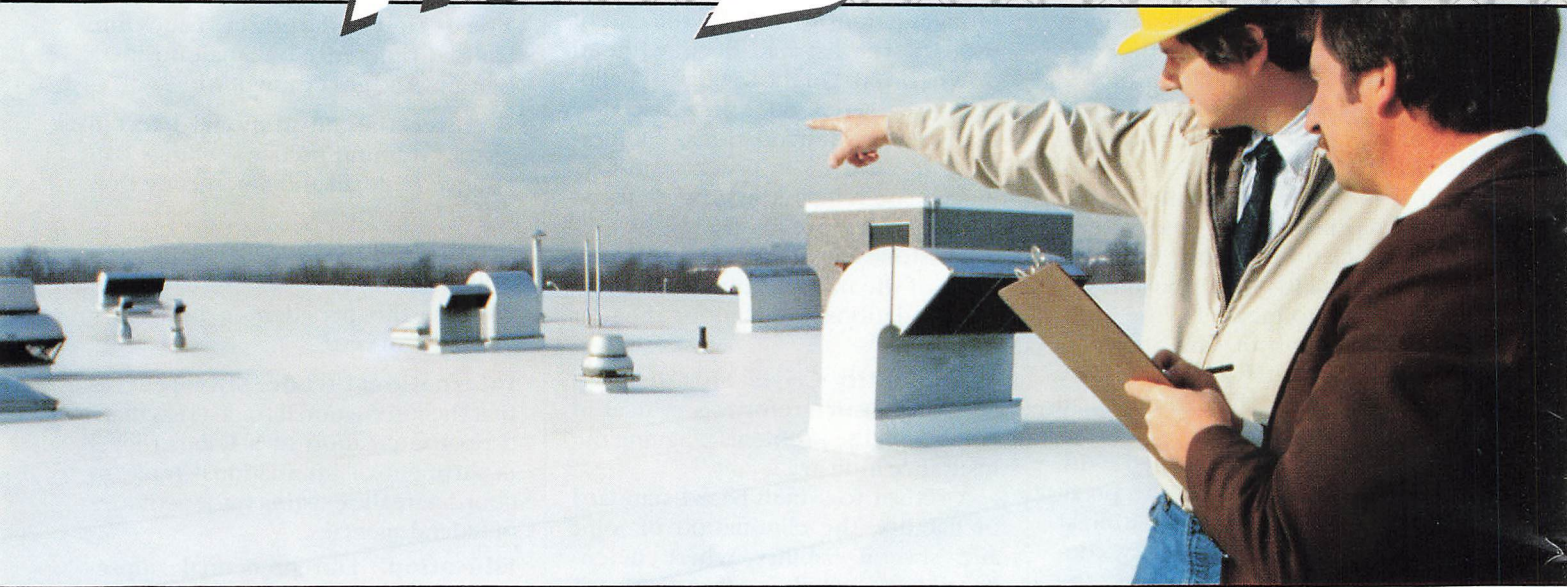
**Publisher and
editor in chief**
Martin Eastman

Associate Editor
David Impey
Contributing Editors
Kathleen Aharoni
Sara Anderson
Amy Anson
Melody Beckman

Technical Advisors
Robert LaCosse, CAE
Jeff Lowinski

**Senior Advertising Sales
Representative**
Joan Kriete

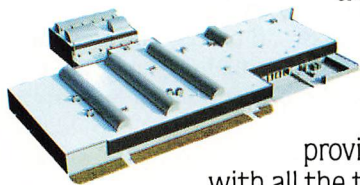
The System



SUPPORT

When you install the *CoolTop 40 Roofing System*, you don't do it alone, because we care as much about proper installation as you do.

That's why we involve ourselves in every aspect of our roofing system's production, so we can control the quality of all materials.



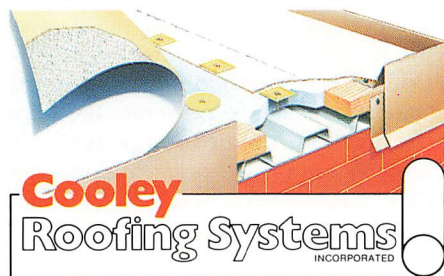
We also provide you with all the technical and engineering support you need to ensure the integrity of the entire *CoolTop 40 Roofing System*.

In fact, over the years, we've perfected our original system (complete with a CPE membrane) by adding a variety of complementary components. These include: coated plates and screws, CPE coated metal, vent pipe boots, and pre-molded

corners... Interdependent components working together to eliminate the need for any material substitutions.

To make things easier, our *CoolTop 40 Roofing System* utilizes mechanical fasteners and heat-welded seams for quick installation. Non-labor intensive, the System is ideal for retrofit or new construction. Plus, it's easy to install over metal, wood, and concrete decks... Even existing built-up roofs without a tear off.

As for support, from start to finish, our technical support staff is ready to assist you with their exper-



tise to solve problems should they occur.

Once your roof is installed, our field technicians conduct a critical inspection to make sure all standards and specifications meet your customer's expectations. To top things off, we cover the entire system with our edge-to-edge warranty.



Now, isn't it time you received the support you deserve? Then, discover the *CoolTop 40 Roofing System*. It's backed by a company that knows exactly what you need... Cooley Roofing Systems, Inc. Write, or call today for your *free* brochure.

The System Holds True

Chlorinated polyethylene from the Dow Chemical Company. Fortrel® is a registered trademark of Fiber Industries, Inc., a subsidiary of Celanese Corporation. CoolTop® is a trademark of Cooley, Inc.

Cooley Roofing Systems, 50 Esten Ave., Pawtucket, RI 02860 Tel: (401) 724-0490

Check # 7 on Reader Service Card

Contractors in some states finding tight labor market a problem

Although there is plenty of work for subcontractors in regions where construction is booming, there aren't enough workers to fill the jobs.

According to a survey published in the Sept. 19, 1985, issue of *Engineering-News Record*, a majority of the contractors responding said that they are having trouble finding qualified workers. This is a significant increase from the 20 percent who reported shortages the preceding February.

Jobsite demographics—workers not always living where jobs are available—and decreasing numbers of baby boomers entering the labor market are cited as sources of the shortage.

"Almost all of the trades have manpower problems in today's market," said Sam Fromkin of Fromkin Brothers Co. in South Plainfield, N.J., one of this year's most active construction markets. Fromkin says the greatest labor shortages are in the finishing trades.

Declining productivity is a serious side effect of the labor shortage. Workers are feeling a greater loyalty to their unions than to the company and the project, says Fromkin.

Floyd Warkol of Warkol Mechanical Corp. in New York City claims this attitude leads to greater absenteeism. Not only does the worker not worry about finding another job, he can actually afford to take days off because subcontractors are paying above-scale wages to compete for workers.

In a labor-tight market, contractors are forced to hire less-than-desirable workers, contributing further to productivity and absenteeism problems. The Immigration and Naturalization Service (INS) also notes that there has been a rise in the number of illegal aliens at construction sites. Many of these illegal aliens are working as carpenters, electricians and cement finishers. Some INS raids that have been staged at construction sites were prompted by complaints that the illegal aliens were hired at wages considerably lower than those acceptable to Americans.

While certain regions are facing labor shortages, other places such as Texas are dealing with surpluses, says the study. But contractors in these regions say that the larger labor pool is much better for employers. "One year ago you'd hire anyone," said

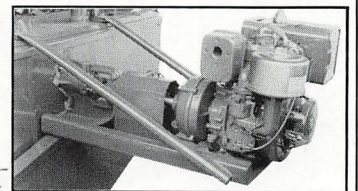
Bob Tingle of R.B. Camp Erection Service in Grand Prairie, Texas. "With a greater labor pool you don't have labor dictating to management." Tingle added that the effect of union power is not really felt in Texas.

Fire up production with REEVES higher standards.

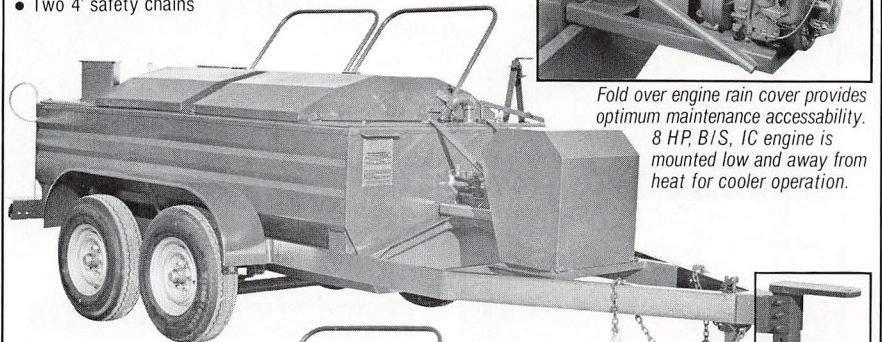
650 Gallon Double Burner Pump Kettle

- 8 HP, B/S—IC series engine with **New 2+5 Warranty**
- 6 to 1 reduction gear
- 60 GPM Vicam pump
- Tandem axle running gear
- Two big No. 3 casted LP burners
- Combo screw jack
- Heavy duty adjustable hitch
- Two 4' safety chains
- 25' LPG hose and regulator
- Stop, tail and turn lights
- 2½ inch draincock
- Loading height 45"
- 7.00 x 15" 8 ply tires
- 6" stem thermometer
- Fold over rain cover
- Weight 3100 lbs.

60 GPM Vicam submerged pump is mounted independent of kettle frame to insure engine/pump alignment in the event that the kettle jackknifed.



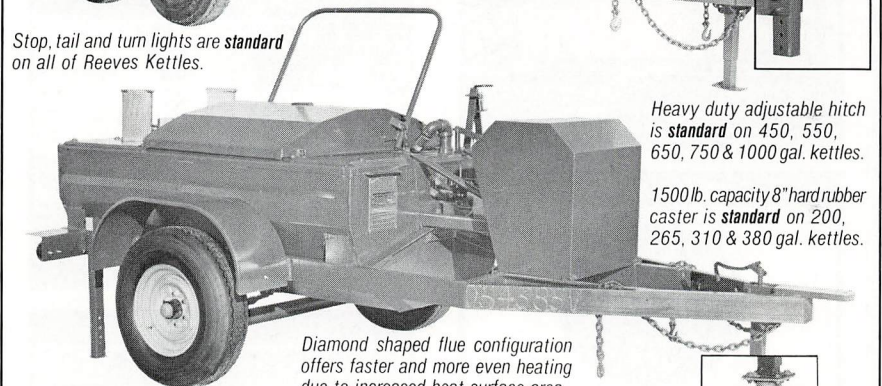
Fold over engine rain cover provides optimum maintenance accessibility. 8 HP, B/S, IC engine is mounted low and away from heat for cooler operation.



Stop, tail and turn lights are **standard** on all of Reeves Kettles.

Heavy duty adjustable hitch is **standard** on 450, 550, 650, 750 & 1000 gal. kettles.

1500 lb. capacity 8" hard rubber caster is **standard** on 200, 265, 310 & 380 gal. kettles.



Diamond shaped flue configuration offers faster and more even heating due to increased heat surface area.

265 Gallon Single Burner Pump Kettle

- 8 HP, B/S—IC series engine with **New 2+5 Warranty**
- 6 to 1 reduction gear
- 60 GPM Vicam pump
- Rear drop leg for leveling
- Combo screw jack with 8" caster
- Two 4' safety chains
- Heavy duty channel iron frame
- 25' LPG hose and regulator
- Stop, tail and turn lights
- 2½ inch draincock
- Loading height 40"
- 7.00 x 15" 6 ply tires
- 4" stem thermometer
- Fold over rain cover
- Weight 1500 lbs.

12 High Performance Models are available to fit your exact needs.

For a complete catalog, see your local distributor or call Reeves toll free TX 1-800-292-5104 - NAT'L 1-800-531-5606

REEVES ROOFING EQUIPMENT CO., INC.

Rt. 17, Box 300, San Antonio, Texas 78238 • (512) 695-3567



Check #31 on Reader Service Card

Sheet metal industry launches war on drug and alcohol abuse

Attendees of the Sheet Metal and Air Conditioning Contractors National Association's (SMACNA) Council of Chapter Representatives meeting unanimously recommended to the Board of Directors that SMACNA

establish a drug and alcohol abuse program for the sheet metal industry.

The Council, which met June 9 and 10 in Santa Clara, Calif., also addressed the growing problem of insurance coverage for contractors and chapters,

with recommendations to be submitted to the Group/Business Insurance Trustees for future action.

Other recommendations included a new Board-appointed committee to update the *SMACNA Air Handling Specification Manual*, used by local chapters at their discretion to promote separate air handling bids; limiting national meetings and seminars to two business days to make them more accessible to members; maintaining the Council as a "grass roots think tank" to encourage more direct input from individual members; and establishing an ad hoc committee to discuss ways to foster better communication between contractors and vendors.

The Council narrowly approved a motion recommending that "special meetings of the Council may be called by the chairman or on petition of 25 percent of the chapters."

Council activities began with an open forum on current issues led by President Clinton O. Gowan Jr., President-Elect James E. Roth and Executive Vice President Donald Clark. A review of the membership survey, the status of the integrity clause, the joint SMACNA-SMWIA asbestos project, the crisis in liability insurance and SMACNA's dues structure were among the topics covered.

Other highlights of the meeting were the election of Robert Greenblatt of Rockford, Ill., as vice chairman; a preview of SMACNA's new financial management video series; an update on plans for the Nashville convention, to be held Oct. 25-30; and a wine tasting event.

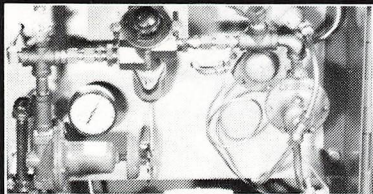
continued on page 14

GO FOR THE PACKAGE DEAL!

GARLOCK Kettles 380 gallon and larger equipped with automatic control, LP carburetor, electric brakes and tail lights are now available at a special package price.

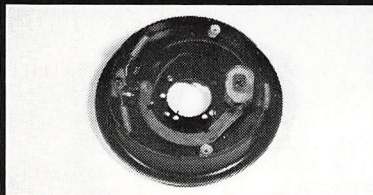


Automatic Control



- * maintains hot stuff at selected temperature
- * helps kettle heat evenly
- * conserves fuel
- * provides consistent application temperatures

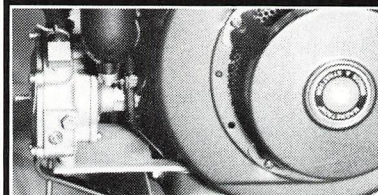
Electric Brakes



- * required by law in many states
- * includes controller

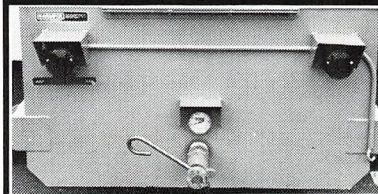
Ask your Garlock dealer for details.

LP Carburetor



- * makes LP your single source fuel
- * eliminates downtime for refueling with gasoline

Tail Lights



- * license bracket installed
- * welded shields to protect lenses
- * heavy conduit to protect wiring

GARLOCK
EQUIPMENT COMPANY
2601 NIAGARA LANE • MINNEAPOLIS • MN 55441 U.S.A.

Check # 14 on Reader Service Card

1,078,074,900

of these pages equals the area efficiently covered by easy-to-apply **GAFGLAS[®]** Built-Up Roofing Systems without a single product-related failure.

**GAF[®] SUPER
system**
THE BEST OF
THE BEST

GAF Corporation, Building Materials Division, 1361 Alps Road, Wayne, New Jersey 07470.
For details, see Sweet's Catalog Reference Numbers 71 Gaf and 715 Gaf.

EBUR

Check # 13 on Reader Service Card

Women in Construction hold 31st annual meeting in Little Rock

The National Association of Women in Construction (NAWIC) has scheduled its 31st annual convention for Sept. 17-20 at the Statehouse Convention Center in Little Rock, Ark. In conjunction with the state's sesquicentennial celebration, NAWIC has selected "Celebrate NAWIC... Catch the Spirit in

Little Rock" as the official convention theme.

Arkansas Governor Bill Clinton, State Treasurer Jimmie Lou Fisher and state Sen. Knox Nelson will welcome approximately 1,000 NAWIC members and guests to Little Rock when NAWIC President Jean J. Morrow officially

calls the convention to order on Sept. 18. NBC News correspondent Andrea Mitchell will give the keynote address.

Other convention speakers include: Ed Foreman, president of Executive Development Systems, Dallas; Robert H. Miller, DuPont De Nemours & Co., Wilmington, Del., and chairman of the Construction Industry Institute; Pat Evans, director of community, government and media relations for American Medical International, Kenner, La.; and Jane Krutz, owner of Jane Krutz Property Management and Leasing, Little Rock.

A construction industry luncheon co-sponsored by Arthur Young & Co., and a legislative briefing from Sen. Dale Bumpers, D-Ark., and Rep. Tommy F. Robinson, D-Ark., during the Saturday breakfast are among the events planned for the convention.

Arbitration, communications in the construction environment, integrated computer estimating, specialized construction accounting, and contract disputes are issues that will be covered in seminars. Personal growth seminars include "How To Get Money... How To Keep It" and "Handling Speaker's Stress."

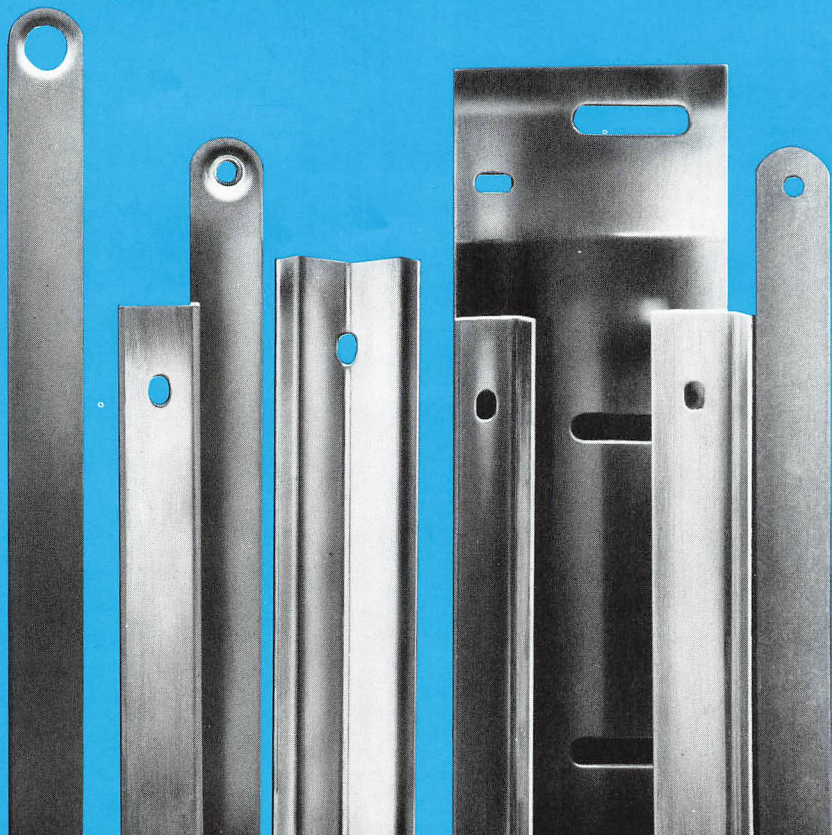
A panel discussion on drugs and alcohol abuse in the workplace will be featured along with a discussion with NAWIC members who are business owners.

Association workshops and committee meetings to familiarize members with the interworkings of NAWIC, and tours of the local and surrounding areas are also scheduled.

NAWIC is a professional construction association with membership open to any woman who is actively employed in construction or construction-related industries. For further convention or membership information contact Betty Kornegay, executive director, 327 S. Adams St., Ft. Worth, Texas 76104; 817/877-5551.

Protect your reputation... with Detail Products from JBD Supply.

Make sure the system you install today, will last into the next century. JBD Supply insures this by designing their products with performance in mind. Made from superior Aluminum or Corrosion-Resistant Steel, our products are engineered to stand the test of time!



When Detailing your next Roof System, insist on JBD Supply, for lasting results.

Stickney Shepherd Inc.

National Sales Managers

1-800-992-1505

(816) 753-5022 (Missouri)

JBD Supply

Technical and General Info

1-800-233-7605

(216) 453-3108

Check #23 on Reader Service Card

Roofing Institute elects three to Board of Regents

The Roofing Industry Educational Institute (RIEI) has expanded and improved its Hall of Fame program, the proceeds from which enable RIEI to develop new programs and educational materials for the roofing industry.

The new Hall of Fame establishes four categories, each with special membership benefits. At the Sustaining Associate level annual dues are \$250 and members receive a yearly subscription to the *Information Letter*; a 25 percent discount on tuition at any RIEI seminar and a 10 percent discount on the purchase of educational materials from the RIEI educational materials catalog.

Senior Associates, with \$1,000 annual dues, will receive multiple copies of the *Information Letter*; a 50 percent discount on three seminar seats and a 10 percent discount on all other seminar seats and educational materials purchased. Senior Associates also receive permission to use a special RIEI logo on company literature and advertising that indicates their Hall of Fame membership.

Honor Associate members contribute \$2,500 in exchange for multiple copies of the *Information Letter*; a 75 percent discount on five seminar seats and a 10 percent discount on all other seminar seats and educational materials purchased.

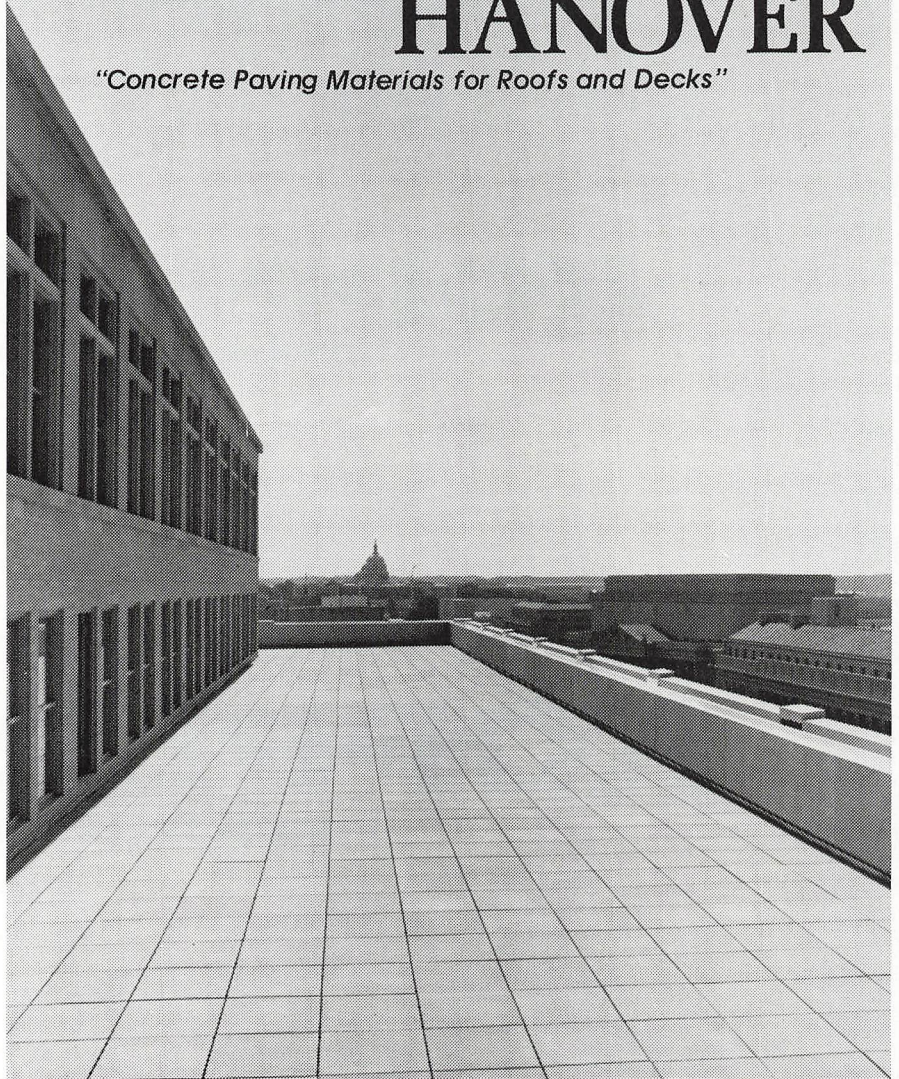
For those patrons contributing \$5,000, the benefits include a 75 percent discount on seven seminar seats, 10 percent discount on all other seminar seats and educational materials, and a one-day, in-house discussion led by Dick Fricklas, director of RIEI, on roofing subjects of the company's choice.

RIEI is a non-profit educational corporation serving all segments of the roofing industry. Copies of their six year report, detailing activities since 1979, and information on joining the new Hall of Fame are available from Frank Parrish, 303/770-0613, or from RIEI, 7006 S. Alton Way, #B, Englewood, Colo. 80112-2003.

TOP IT OFF WITH . . .

HANOVER
PREST-PAVING® CO.
HANOVER
HANOVER

"Concrete Paving Materials for Roofs and Decks"



1001 Pennsylvania Avenue • Washington, DC

Architect and Planner • Smith, Segreti, Tepper, McMahon, Harned
Architect • Hartman-Cox

General Contractor • George Hyman Construction
Roofing Contractor • Peter Gordon Company

CONCRETE UNIT PAVING SPECIALISTS

Whatever your roofing application, HANOVER has a concrete paver that will fit the requirement.

There's more to a paver than what meets the eye. Compressive strength, low water absorption, density, flexural strength, uniformity . . . it all has to be there to make the system work.

In addition, we offer a range of textured surfaces to ensure non-slip qualities. Check our specs against any competitor. For the highest quality use Hanover Pavers. Call or write us for details.

HANOVER
PREST-PAVING® CO.

240 Bender Road • Hanover, Pennsylvania 17331
(717) 637-0500

KOPPERS

insulating sheathing

R[™]X

*Most "R"
per inch*

R-Value* $1" = 8.3$ $\frac{3}{4}" = 6.3$ $\frac{1}{2}" = 4.2$

KOPPERS COMPANY, INC. • KOPPERS BUILDING • PITTSBURGH, PA 15219

KOPPERS

insulating sheathing

R[™]X

*Most "R"
per inch*

R-Value* $1" = 8.3$ $\frac{3}{4}" = 6.3$ $\frac{1}{2}" = 4.2$

KOPPERS COMPANY, INC. • KOPPERS BUILDING • PITTSBURGH, PA 15219

KOPPERS

insulating sheathing

R[™]X

*Most "R"
per inch*

R-Value* $1" = 8.3$ $\frac{3}{4}" = 6.3$ $\frac{1}{2}" = 4.2$

*At 75°F. R value measures resistance to heat flow. The higher the R value, the greater the insulating power.

WARNING: Do not breathe vapors. Avoid contact with eyes. Wash thoroughly after handling. Do not use in areas where fire, electrical, heating, or air conditioning equipment is used. Call a professional for proper installation. For more information, call 1-800-441-4411. © 1998 Koppers Company, Inc. All rights reserved. Koppers is a registered trademark of Koppers Company, Inc.

KOPPERS COMPANY, INC. • KOPPERS BUILDING • PITTSBURGH, PA 15219

Now the best insulation available to you and your customers comes with the best guarantee.

Koppers Rx[®] All-Purpose Insulation is guaranteed to retain its "R" value for 20 years. Our 8.3 "aged" "R" value per inch is the best in the industry.

Koppers Rx Roof Insulation will not lose "R" value over time. Koppers Rx is a rigid, thermally efficient phenolic foam board insulation, providing superior long-lasting energy efficiency.

Rx Insulation is the best value in flat and sloped roof insulation today. . . tomorrow. . . and into the 21st century. Koppers Guarantees it!

The Koppers Guarantee

If the "R" value of Koppers Rx Insulation fails to meet our published specifications — anytime within 20 years of installation — Koppers will pay the resulting difference in heating and cooling costs! See warranty for conditions and details.

Are you giving your customers the long-term "R" value they expect and deserve?

The standards of the Roof Insulation Committee of the Thermal Insulation Manufacturers Association (RIC/TIMA) require an evaluation period of 6 months for determination of "aged" "R" values of foam plastic insulations. The Midwest Roofing Contractors Association has sponsored recent studies which conclude that "the RIC/TIMA 6-month room temperature 'aged' 'R' values claims . . . are not realistic to use as the basis for the design of 10 to 20-year roof life." (See RSI Magazine article, July 1986, p.38.)

Koppers Rx goes much further than the standard 6-month "aged" "R" value rating, guaranteeing its high in-service "R" value into the 21st century.

Other Rx Advantages

Koppers Rx Roof Insulation gives you and your customers much more than superior, long-lasting energy efficiency. For instance:

- Rx Roof Insulation is the only plastic foam insulation product on the market which passed one, one-and-a-half, and two-hour UL fire resistive tests when the insulation was directly

applied over a protected metal deck. Also, Rx has low smoke-developed and flame-spread ratings.

- Rx Insulation is non-corrosive.
- Rx Insulation is dimensionally stable and exceeds the industry standards.
- Koppers Rx covers every roofing application: Rx All-Purpose Roof Insulation with fiberglass facings provides long-term insulation for both built-up and single ply roof applications. Rx Nail Base Insulation with waferboard facings for easy attachment of shingles provides the most efficient insulation for sloped roofs.

Value-added "R" value

Koppers stands behind the best insulation value with the best guarantee in the industry. Rx Roof Insulation is a truly "value-added" material. It adds value in terms of most "R" per inch and long-term energy savings. . . so why settle for less.



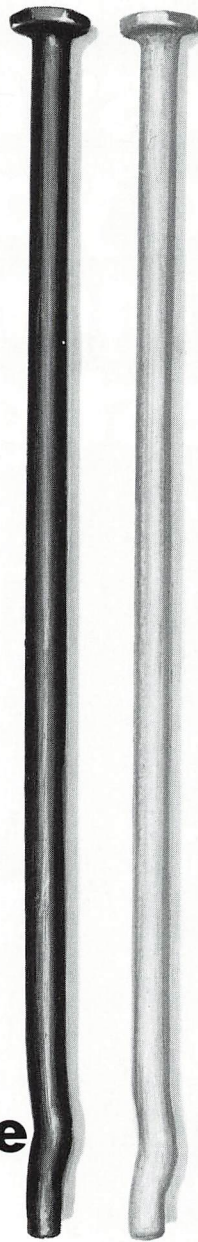
To learn more about Koppers unprecedented 20-year guarantee, call 800-558-2706 or write:

Koppers Company, Inc.
Dept. # 3H-5
Pittsburgh, PA 15219

KOPPERS

Rx[®] . . . The 21st century insulation

T35-8605



Most good ideas are **deceptively simple**

The new Rawl-Spike™ looks like a simple, crooked nail. Very deceptive. It's actually a very sophisticated one-piece expansion bolt made of Grade 8 hardened and tempered spring steel.

The characteristic S-shaped tip of the Rawl-Spike exerts pressure against the walls of the concrete hole at three different points, in three different planes, reaching the deepest level of embedment. This produces remarkable holding power and extreme and continuous resistance to pull-out loads. The Rawl-Spike holds even under extreme conditions of wind and vibration stress.

The Rawl-Spike is used to attach membrane, insulation and wood blocking to structural concrete roof decks.

It is FM approved for I-60 and I-90 ratings and comes in 3/16" and 1/4" diameters in lengths from 1-1/2" to 10".

A mechanically galvanized (Class 50) or Perma-Seal™ finish meets and exceeds Factory Mutual's proposed #4470 corrosion requirement.

The only thing that's really simple about the Rawl-Spike is the installation: you drill a hole and hammer it in.

It's that simple!

Rawl

The Rawlplug Company, Inc., Two F.B. Powers Square,
New Rochelle, NY 10802, (914) 235-6300 **1-800-243-8160**

Rawlplug Canada, Ltd., 7404 Bren Road, Mississauga, Ontario L4T 1H3, (416) 673-7295
SEE US AT BOOTHS 1010-1012

Check #30 on Reader Service Card

Simone Pucca is \$4,000 closer to realizing her goal of becoming an urban designer, thanks to NRCA's National Roofing Foundation (NRF) and the Mid-Atlantic Association of Roofing Contractors (MAARC).

Pucca, a senior at The Catholic University of America in Washington, D.C., is the first recipient of a scholarship jointly sponsored by NRF and MAARC. She was presented with her award this July at NRCA's Mid-Year Meeting, held in Chicago.

NRF will soon cosponsor a similar scholarship with the North/East Roofing Contractors Association (NERCA) and will also offer a scholarship of its own.

"We want to promote professionalism in roofing at the academic level," says Patricia Appelhans, NRCA director of association services and NRF director. "If we can help qualified students realize their educational goals now, the roofing industry will undoubtedly benefit in the future."



Pucca, a Philadelphia native, majors in architecture and hopes to attend graduate school in the fall of 1987. She is particularly interested in construction's role in urban design. "I feel that urban designing and planning involves many social issues as well as

continued on page 21

NRF scholarships brighten roofing's future

Simone Pucca, the first recipient of the NRF-MAARC scholarship award, at home in Philadelphia.

EMERGENCY Water Diverter

OVERHEAD PROTECTION FROM ROOF • PIPE • MACHINERY LEAKS!

ELIMINATE DOWN TIME!

PROTECT MACHINERY AND STOCK

PERFECT FOR OFFICES • SHOPS • WAREHOUSES

101 USES!

DIVERTS WATER TO WINDOW • DRAIN • SINK!

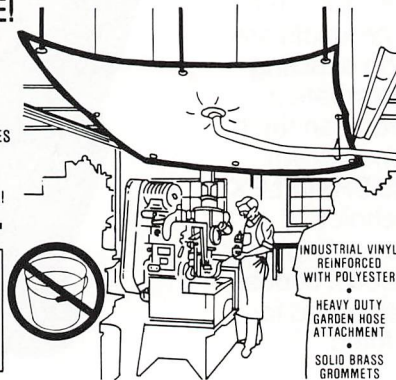
INDIVIDUALLY PACKAGED

DIVERTERS • YOUR CHOICE

Price subject to change without notice

3' x 6'	— \$42.10	6' x 6'	— \$49.25
3' x 8'	— \$43.85	6' x 8'	— \$53.35
3' x 10'	— \$45.65	6' x 10'	— \$57.50

SUSPENSION ROPE AND HOSE NOT INCLUDED
OTHER SIZES AVAILABLE UPON REQUEST



Water so essential to life and yet it can be your worst enemy when you least expect it.

At last a product has been developed to make those untimely leaks a little less frustrating.

Our Water Diverter protects those valuable areas and equipment from roof leaks until a more permanent solution can be accompanied.

It is our opinion that every building that has a fire extinguisher in case of a fire, or a first aid kit in case of an injury, should have at least one Water Diverter in case of a disastrous roof leak.

It is better to have one and not need it, than - to need it and not have it.

Water Pails in the middle of the floor are not considered Fire Protection.

Keep the buckets out of sight - liability claims are there already.

SULMAC INC.

1115 MAIN ST. HOLYOKE, MASS. 01040
(413) 533-5347

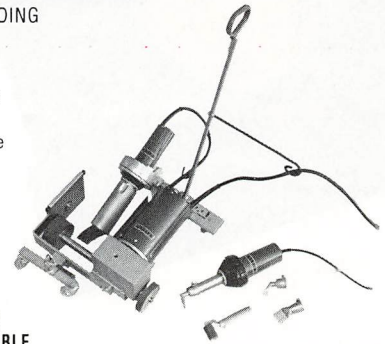
Weld it with hot air!

See Us in
St. Louis!
MRCA
Oct. 26-29th

THE SWISS MANUFACTURED LEISTER VARIANT

AUTOMATIC WELDING MACHINE HAS:

- Electronically controlled speed to 36 ft. per minute
- Infinitely adjustable heat to 600° C
- Double insulated
- Portable
- Lightweight



★ REVERSE WELD ACCESSORY FOR ROOFING AVAILABLE.

★ And for confined work areas —

LEISTER TRIAC
HAND-GUN SEALER

Contact us for a FREE BROCHURE (#12E-RS) or the AUTHORIZED DISTRIBUTOR in your area.

BW

brian r. white co., inc.

Distributor
Inquiries
Welcome

313 henry station road
ukiah, california 95482
(707) 462-9795

akron, ohio
eatontown, new jersey

LEISTER

(216) 253-4044
(201) 544-1212

Check #40 on Reader Service Card

Check #51 on Reader Service Card

BRAI OR BRAI/FLEX

THE CHOICE IS YOURS.



U.S. Intec, producer of APP modified BRAI roofing membranes, now offers SBS modified BRAI/FLEX membranes. These products are manufactured on exacting specifications to create a superior roof. You can torch down BRAI or mop down BRAI/FLEX. And BRAI/FLEX comes in your choice of colors. For your roofing preferences and needs, choose the industry's standard for quality — U.S. Intec. We're on a roll.

u.s.intec/
brai  **WE'RE ON A ROLL**
ROOFING

P.O. Box 2845
Port Arthur, Texas 77643

Regional Offices:

Fort Worth, TX • North Branch, NJ • Long Beach, CA
Texas 1-800-392-4216 National 1-800-231-4631

AND WATERPROOFING

PRODUCTS

Technical Hotline: 1-800-62INTEC

Check #45 on Reader Service Card

architectural issues," she says. "And I believe that it is the construction industry that determines the final success of a building.

"It is the function of a building that makes it work," she continues. "A certain quality and safety standard must be demanded of the construction industry by the designer, and every effort must be made to see that it is carried out."

The NRF-MAARC scholarship was made possible through a sizable contribution granted to NRF's education fund by MAARC and its affiliate groups: the Associated Roofing Contractors of Maryland; the Roofing & Sheet Metal Contractors Association of Philadelphia & Vicinity; the Roofing Contractors Association of Eastern Pennsylvania; the Virginia Association of Roofing Contractors; and the Washington Area Roofing Contractors Association.

To be eligible for the NRF/MAARC scholarship, candidates must be high school sen-

iors planning to attend college or full-time undergraduate or graduate students in architecture, engineering or any field related to the roofing industry at an accredited college or university in Maryland, Pennsylvania, Virginia or Washington, D.C. Candidates must also be U.S. citizens.

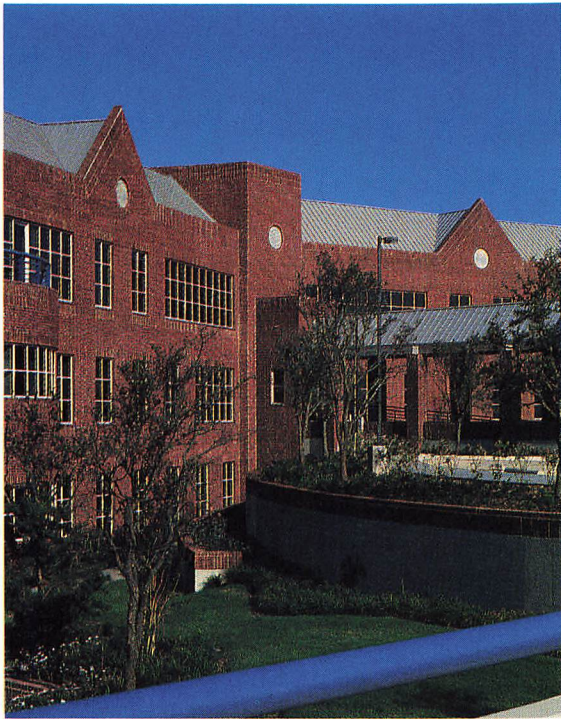
To qualify for the NRF-NERCA scholarship, candidates must reside in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island or Vermont. The NRF scholarship is available nationwide.

The NRF-NERCA and NRF-MAARC \$4,000 scholarship awards will be available to one or more students annually for five years. NRF's \$4,000 scholarship will be available indefinitely.

Interested individuals seeking an application should contact: Patricia Appelhans, National Roofing Contractors Association, One O'Hare Centre, 6250 River Road, Rosemont, Ill., 60018.

Applications for the 1987-88 school year must be received by July 1, 1987.

The NRF-MAARC scholarship was made possible through a sizable contribution by MAARC and its affiliate groups.



PAC-CLAD

prefinished galvanized steel and aluminum

PAC-CLAD is a full Kynar 500® product available from stock in 12 colors on aluminum and G-90 galvanized steel.

For more information regarding the entire Petersen product line, please refer to Sweet's Catalog File #7.2/Pe and 7.3b/Pet, or contact us at 1-800-PAC-CLAD.

Petersen Aluminum Corporation

955 Estes Ave. • Elk Grove Village, IL 60007 • 1-312-228-7150
1-800-PAC-CLAD • In Illinois 1-800-942-8203

Project: The Overlook Building
Las Colinas, Texas
Tramell Crow Residential Companies
Product: PAC-CLAD Panels
Profile: 12" O.C. Snap-on Standing Seam
Finish: 24 gauge Galvanized PAC-CLAD
Slate Gray
Owner: Chasewood Company
Architect: F&S Partners Inc.
General Contractor: The Chaser Company

Check #29 on Reader Service Card

AFM Perform™ roof insulations save now, last later.

EPS roof insulations cut costs.

How? — Perform reduces installation time by eliminating material application on the job. Factory-applied facings mean consistent product quality. And cost-effective Expanded Polystyrene, EPS, is the main ingredient in Perform roof insulations.

Perform 1

unfaced EPS board.
Compatible with all
roof membranes...

100%
R value
warranty

Perform 2

EPS with a factory
laminated 1/2" hard-
board face for high
panel integrity.

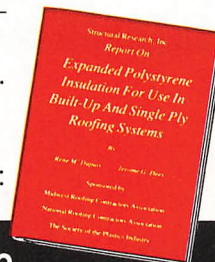
Perform 3

EPS laminated to a
foil/kraft face to
separate membrane
and insulation.

EPS has lasting R value.

A comprehensive study by the National and Midwest Roofing Contractors Associations and the SPI was just completed. It showed EPS insulation, taken from 10-year-old built-up and single-ply roofs retained R value — with no significant change. EPS also maintained all structural characteristics.

Get the facts of the roof study and our new brochure on Perform EPS. Call toll free 1-800-255-0176, or write:



**Visit MRCA
Booth #609
or contact
AFM for details.**



**Associated Foam
Manufacturers**

PO Box 246, Excelsior, MN 55331 • Phone 612-474-0809
CALL TOLL FREE 1-800-255-0176

Check #3 on Reader Service Card

OSHA's Hazard Communication Standard has been called the most significant rule ever developed by the agency. But even though the standard went fully into effect May 25, estimates are that most employers and manufacturers covered under the standard are not yet complying with its regulations.

The Standard requires all employers in SIC codes 20-39 (Division D, *Standard Industrial Classification Manual*) to inform their employees of the chemical hazards the companies produce or import. This information is to be provided through training, labeling and material safety data sheets (MSDS). The standard's goal is to reduce the incidence of illness and injury caused by contact with hazardous chemicals in the workplace. To accomplish this goal, the Standard establishes uniform requirements for evaluating chemicals and communicating this hazard information to the employers and employees who must work with the substances.

According to the standard, chemicals that are listed in one of the following sources are to be considered hazardous in all cases:

- 29 CFR 1910, Subpart Z, *Toxic and Hazardous Substances*, OSHA; and
- *Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment*, American Conference of Governmental Industrial Hygienists (ACGIH).

Workers are also to be informed if chemicals are listed as suspected or confirmed carcinogens in one of the following sources:

- "Annual Report on Carcinogens," National Toxicology Program;
- monographs from the International Agency for Research on Cancer; or
- 29 CFR 1910, Subpart Z, *Toxic and Hazardous Substances*, OSHA.

Currently, the federal OSHA standard applies only to the manufacturing sector, it does not yet regulate contractors. But many states have proposed standards that go beyond the federal standard and cover the entire workforce. Also legislative and OSHA efforts across the country foretell a broader standard on the federal level. Because the intent of the standard is to protect workers, it seems likely its regulations may be applied to businesses beyond the manufacturing sector in the future. Just how this expansion will take place remains to be seen.

Even in the business sectors already covered by the standard, compliance has been sketchy and inconsistent. Because the standard is performance-oriented, it leaves room for individual interpretation of its regulations. This has led to some confusion about the proper way to label products, report hazards, and train and retrain workers.

Managers attempting to find some direction in such a vague standard would do well to remember that its regulations apply to "foreseeable" circumstances as well as present conditions. If it is possible for workers under certain foreseeable circumstances to be exposed to potential health hazards, MSDSs should be kept on hand for these products, and workers should be trained accordingly.

Because of the likelihood that roofing contractors will be covered under some type of right-to-know law, it is essential that they pay close attention to the quality of the MSDSs they receive. These documents should be accurate, complete and contain at least the following information:

- the chemical's name and any common names;
- the hazards or risks associated with the substance, including the potential for fire, explosion, corrosivity and reactivity; the acute and chronic health effects resulting from exposure, including any medical conditions that might be aggravated by exposure; the potential route of entry (skin, ingestion, inhalation, etc.) and symptoms of overexposure; and the OSHA permissible exposure limit, the ACGIH threshold limit value and any known exposure limit;
- a statement indicating if the chemical is listed as a potential carcinogen by one of the recognized sources;

continued on page 25

Contractors should be aware of OSHA's standard

by Carl Good, NRCA
director of membership
development

26

Good Reasons to Specify GULF-SEAL Roofing Products

The first 25 reasons are the individual professional grade roofing materials manufactured by Gulf States Asphalt Company and marketed under the GULF-SEAL name. Products that range from roofing asphalts to liquid and semi-mastic roof coatings to VITALASTIC Flashing Cement to asphaltic aluminum coatings. And the number keeps growing as our research and development staff continues to tailor-make new products for the roofing industry.

Plus the 26th reason: Gulf States Asphalt Company, already the largest asphalt specialties manufacturer in the U.S., just got even larger by acquiring the Chicago asphalt coatings plant of the Midwest Products Company of Illinois. That means faster and cheaper deliveries to customers throughout Middle America.

Write for more information on what GULF-SEAL products can do for your business, or call 713-651-1507.



GULF STATES ASPHALT COMPANY
601 Jefferson, Suite 535, Houston, Texas 77002

"A COMPANY ON THE MOVE"

Check # 19 on Reader Service Card

- the proper precautions, handling practices, necessary personal protective equipment and other safety precautions associated with the use of, or exposure to, the substances, including the appropriate emergency treatment in the case of overexposure at hazardous levels;
- the emergency procedures for spills, fire, disposal and first aid; and
- the month and year that the information was compiled, and the name, address and emergency telephone number of the manufacturer responsible for preparing the information.

Other information, which may not be included on the MSDS should also be sought. This includes:

Comprehensive physical data. Many physical data sections are made out only for the most hazardous component of the product. However, the mixture of chemicals in the product may present a different hazard to the worker. For this reason, a comprehensive listing of hazard information is needed.

Reactivity. Worst-case conditions involving both the chemical and its container should be considered when listing the chemical's hazardous reactions to other substances. The possible consequences of a container leak, for example, should be taken into account.

Note to physicians. Here, emergency first aid procedures should be given in greater detail, not necessarily in lay language.


Disposal information. This information should include several options for disposing of the product in non-emergency situations. These choices are usually listed in order of preference. Users must also be warned of any unacceptable disposal options. When using this information, contractors must realize that disposal laws may vary from state to state.

Transportation data. This should include the proper shipping name; the Department of Transportation classifica-

continued on page 27

Because the standard is performance-oriented, it leaves room for individual interpretations of its regulations.

in case of **FIRE** it's too late

Think about your roof now!
Use **UL Class A White EPDM**
or **Black EPDM**
WeatherGard FireGard 
smooth surface - not coated
Mechanically fastened
Fully adhered
Call 1-800-USA-EPDM

WeatherGard

ROOFING SYSTEMS, INC.
P.O. BOX 11187, MEMPHIS, TN 38111

Check #50 on Reader Service Card

AT LAST!
A ROOFERS CRANE AT A PRICE THAT MAKES SENSE!

10 Ton Capacity 101 Foot Hook Immediate Delivery Only \$62,500.00 1987 GMC Truck

Designed Specifically for the Roofer

- ★ Full 10 Ton Capacity
- ★ Greater Reach - 101 Foot Hook
- ★ Fully Equipped - all hook-ups for roofing attachments
- ★ Complete With Hose and Reel
- ★ Totally New 1987 Truck
- ★ 5 Year, 100,000 mile warranty on diesel engine
- ★ Over 75 Service Centers Nationwide

Buy Wholesale
and Save!

CALL US
COLLECT!
414-761-2303

Dealer Inquiries Invited

Bringing more to the roofer . . .
because we know how!

"I shopped the usual dealers and got a different story every place I went. I could have saved a lot of time by calling Wholesale Crane in the first place - they had the best value and the lowest price by far. I saved thousands of dollars."

ED ZIB
President,
Elite Roofing Co.



WHOLESALE CRANE
DISTRIBUTORS OF AMERICA

Division of
Giuffre Brothers, Inc.

9770 South Ridgeway Drive
Oak Creek, WI 53134
414-761-2300

Check # 15 on Reader Service Card

RISK MANAGEMENT

tion, labels, markings and placards; the UN/NA numbers; the hazardous substances RQ; and the EPA hazardous waste number. All of this information is currently required when transporting hazardous materials or waste, and, when displayed on an MSDS, it is a great way to check shipments in receiving.

Additional regulatory concerns. This category might contain, for example, a warning about the reuse of drum containers before proper recycling has been done.

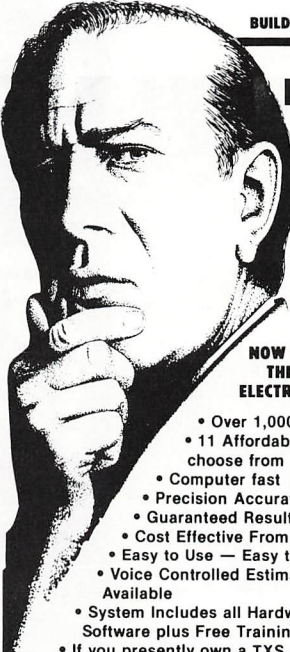
A second language. Many states with large immigrant populations are also requiring an MSDS in the native language of the immigrants to be kept on site.

Contractors shouldn't be afraid to write letters to their suppliers demanding complete information. Any effort such as this should be documented to prove that an honest effort was made to obtain all the information necessary for the education and protection of the employees.

An employer's concern for hazard communication should go beyond simple compliance with OSHA regulations. When a company receives detailed product information such as warning labels and MSDSs, there is a duty to provide this information to the employees who handle these hazardous chemicals. Failure to do so, regardless of OSHA compliance, may result in civil or criminal negligence. A recent Illinois court decision confirms this obligation. In this case, a judge convicted three company officials of murder when it was found that they had not warned their employees that they were exposing themselves to dangerous cyanide. Management had, in fact, removed warning labels from chemical containers. After one employee died, the officials were brought to trial under the second section of the Illinois murder statute, which allows prosecution if the defendant "knowingly created a strong probability of death and great bodily harm." The three officials were sentenced to 25 years in prison and fined \$10,000.

Many states have proposed standards that go beyond the federal standard and cover the entire workforce.

BUILDERS - SUBCONTRACTORS - SUPPLIERS - ESTIMATORS



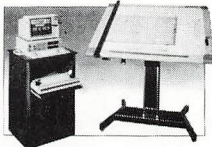
HOW MUCH MONEY DID YOU LOSE LAST YEAR?

BECAUSE OF:

- Inaccurate Estimates
- Inability to Complete Bids on Time
- Overestimating
- Underestimating
- Overpaying
- Over Buying
- Forgetting Items During Takeoff & Estimating

NOW YOU CAN AVOID THESE LOSSES BY OWNING THE REVOLUTIONARY NEW 1986 TECHSONIX ELECTROMAGNETIC TAKEOFF & ESTIMATING SYSTEM!

- Over 1,000 Happy Users
- 11 Affordable models to choose from
- Computer fast
- Precision Accurate
- Guaranteed Results
- Cost Effective From First Takeoff
- Easy to Use — Easy to Learn
- Voice Controlled Estimating Now Available
- System Includes all Hardware & Software plus Free Training
- If you presently own a TXS sonic digitizer, ask about our liberal trade to electromagnetic offer!



TECHSONIX

T81
10000 Watson Road, Suite 2-L12,
St. Louis, MO 63128
(314) 822-8767

*The Techsonix concept is protected by U.S. Patent #4,578,768, other patents pending.

Check #43 on Reader Service Card

ONE SOURCE • COMPLETE ROOF DECK SYSTEMS




- CONCRETE PAVERS
- TERRINGS® by WEGU Canada Inc.
- TERR-ADJUST PATENTED 4,570,397

Transforms Roofs Into "High" Appeal Areas. Fast, Stable, Drains, Conceals... With Easy Access. Innovative And Architecturally Pleasing... From The

"things that last" people

Write Or Call For Complete "Terra System One" Details



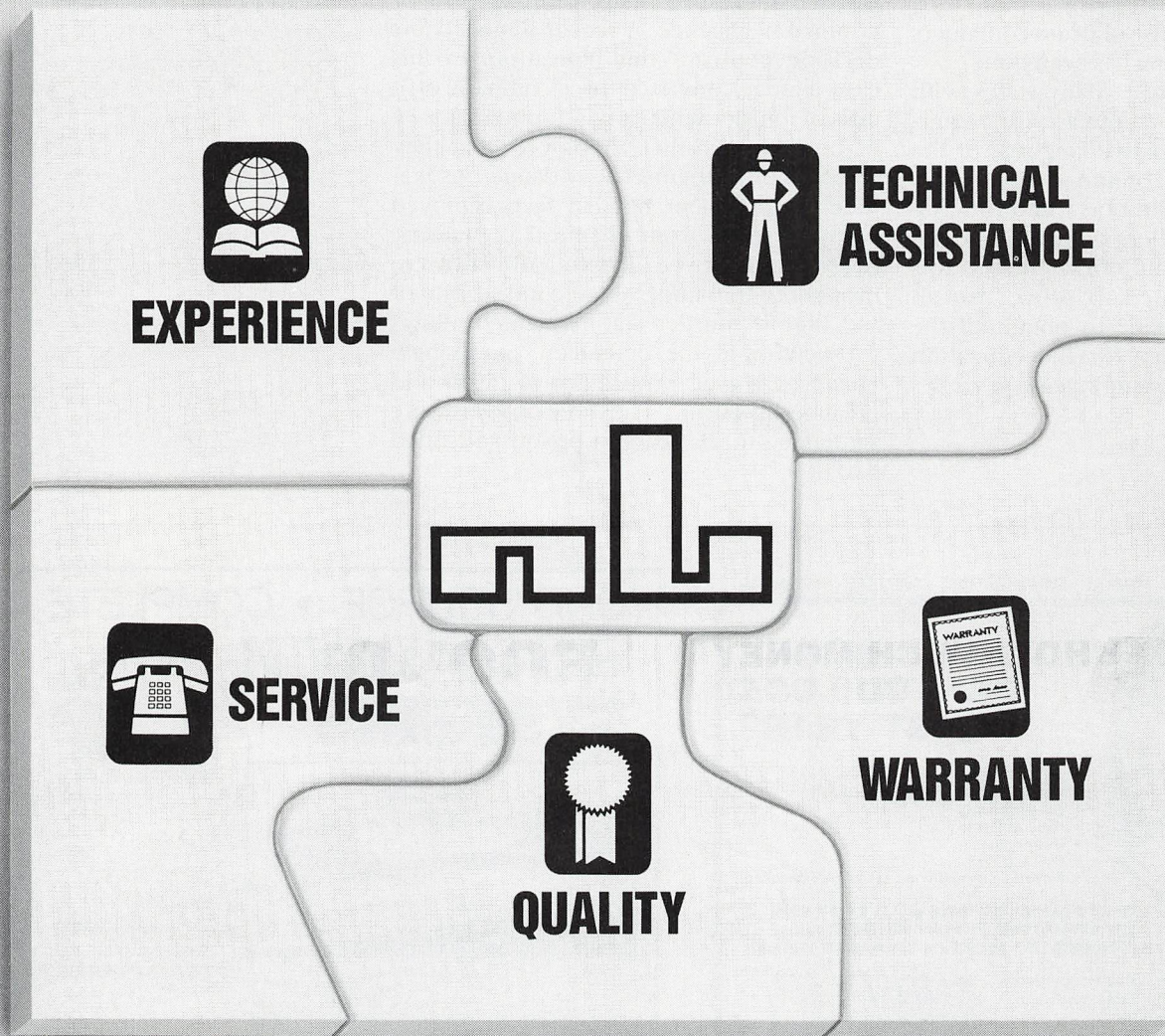
WAUSAU TILE

P. O. BOX 1520 • WAUSAU, WI 54402-1520 • 715/359-3121
P. O. BOX 967 • BANNING, CA 92220-0905 • 714/849-5695
P. O. BOX 2357 • WINTER HAVEN, FL 33883-2357 • 813/324-1778

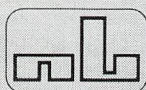
Check #49 on Reader Service Card

Only Nord Bitumi Puts All The Pieces Together

Nord Bitumi U.S., Inc.



Modified asphalts can be a real puzzle. Only Nord Bitumi can complete the puzzle using all the pieces. No other modified manufacturer can do that. What you get is a total commitment to provide the best product with the best service — solving the puzzle.



Nord Bitumi U.S., Inc.

966 South Springfield Ave. • Springfield, NJ 07081 • (201) 467-8669

Booth #812 & 814 at MRCA Show

Check #27 on Reader Service Card

Roofers beware: condominiums are risky business

Alex Cost will never roof a condominium again. Nearly 10 years of litigation and \$56,000 in legal fees have soured Cost on condos. And the CEO of the Ohio-based Warren Roofing and Insulating Co. won the case that cost him so much time and money!

The scenario has become practically cliché. A condominium owner detects a water leak somewhere in the unit and contacts the developer/owner who, often without an inspection, automatically blames the roof. A long and costly lawsuit ensues from which nobody emerges victorious.

Keeping the lawyers busy

While there are no statistics available to determine just how many condo cases are filed annually, roofing contractors appear to be hit often enough to make it a common problem. Many contractors have at least one condo horror story to tell that involves an owner all too ready to blame everything on the contractor and a team of lawyers eager to exploit the owner's dissatisfaction. Not surprisingly, the lawyers emerge as the bad guys most often in these anecdotes.

"They're vicious," says Miami roofer John Carruth Jr. of Carruth Roofing Co., Inc., of one law firm he's faced in court. "They do nothing else but prosecute contractors. They retain a team of specialized consultants who can be called upon to testify in any case at any time."

Robert Crane is one such consultant. His Coral Springs firm, Crane Engineering, employs dozens of designers, architects and engineers who are often called upon to testify as expert witnesses. I spoke to Crane on a day when he had spent the entire morning testifying for the plaintiffs in a suit against a roofing contractor, and he expected to spend most of the following week in court as well.

"It seems I spend most of my time in court these days," Crane says. "And if I'm not available, someone on my staff usually is."

Pros scared by threats of lawsuits

by David Impey,
associate editor

Why do Crane and his staff spend so much time in court? Because they're good and they win cases, he says.

The real problem

Many in the roofing industry, however, believe that roofing contractors are being singled out as litigation targets. They say that hasty construction and poor design are really the major obstacles to quality condo construction; because developers want to build and fill units as quickly as possible, proper design and building techniques are often sacrificed.

"The problem definitely lies in the overall construction," says Stephen Phillips of the Atlanta-based law firm of Hendrick, Spanos and Phillips. "However," he adds, "this is to be expected in today's development wars, where the name of the game is turnover—build 'em and fill 'em as quickly as possible.

"Obviously, there are a lot of shady developers and contractors in the business, and they deserve to be prosecuted, but far too often, the roofing contractor is used as a convenient scapegoat. More often than not, waterleaks come from any number of sources other than the roof, like windows or masonry."

Cost agrees. "It's ridiculous," he says. "And it's usually not the roofing contractor's fault. It's invariably a design problem. Architects need to become better educated in roofing."

In Cost's case, which involved the Fairmont Condominiums in Cleveland, Ohio, "the leak was a structural flaw," he says. According to Cost, the Fairmont units were quickly slapped together using 1/2-inch plywood over bad insulation. "The joints were never stripped or flushed," he added, "so there was a lot of ponding on the roof."

Test cuts later revealed that Cost's company had installed the three-ply BUR over polyurethane insulation and precast concrete deck in accordance with the designer's specifications. While Cost won the case, the time and money involved made it hard to savor the victory.

Many contractors have at least one condo horror story to tell.

Pete Lancaster, president and general manager of Metalcrafts, Inc., in Savannah, Ga., has also been the victim of poor design. On a Hilton Head, N.C., project, his crews followed the designer's specifications and used staples to install wood shingles to the condominium's roof. Within a few years, the staples had rusted through. Consequently, the shingles began to fall and the roof began to leak. The case was settled out of court.

"The designer was aware of rust-proof nails, but he still specified the staples," maintains Lancaster. "I guess he thought staples were more efficient than nails. They're definitely easier and less time-consuming to install, but obviously, they failed."

Sometimes, the problems are caused by what the designer puts on top of the roof. Cost claims that the roof of the Fairmont project was cluttered with HVAC units and service lines, making it almost impossible to waterproof. And the garage unit's roof had to support tennis courts and some heavy landscaping while keeping the cars out of the weather. "It looked nice," he said, "but of course, it leaked."

Jeff Lowinski, NRCA's technical services manager, calls the tendency to load down a roof "a simple answer to a complex problem. An architect decides he wants 'x' amount of space in each unit, so he puts the HVAC on the roof. The electrical contractor slices a hole in the roof, drops in the HVAC and does nothing to prevent water leakage."

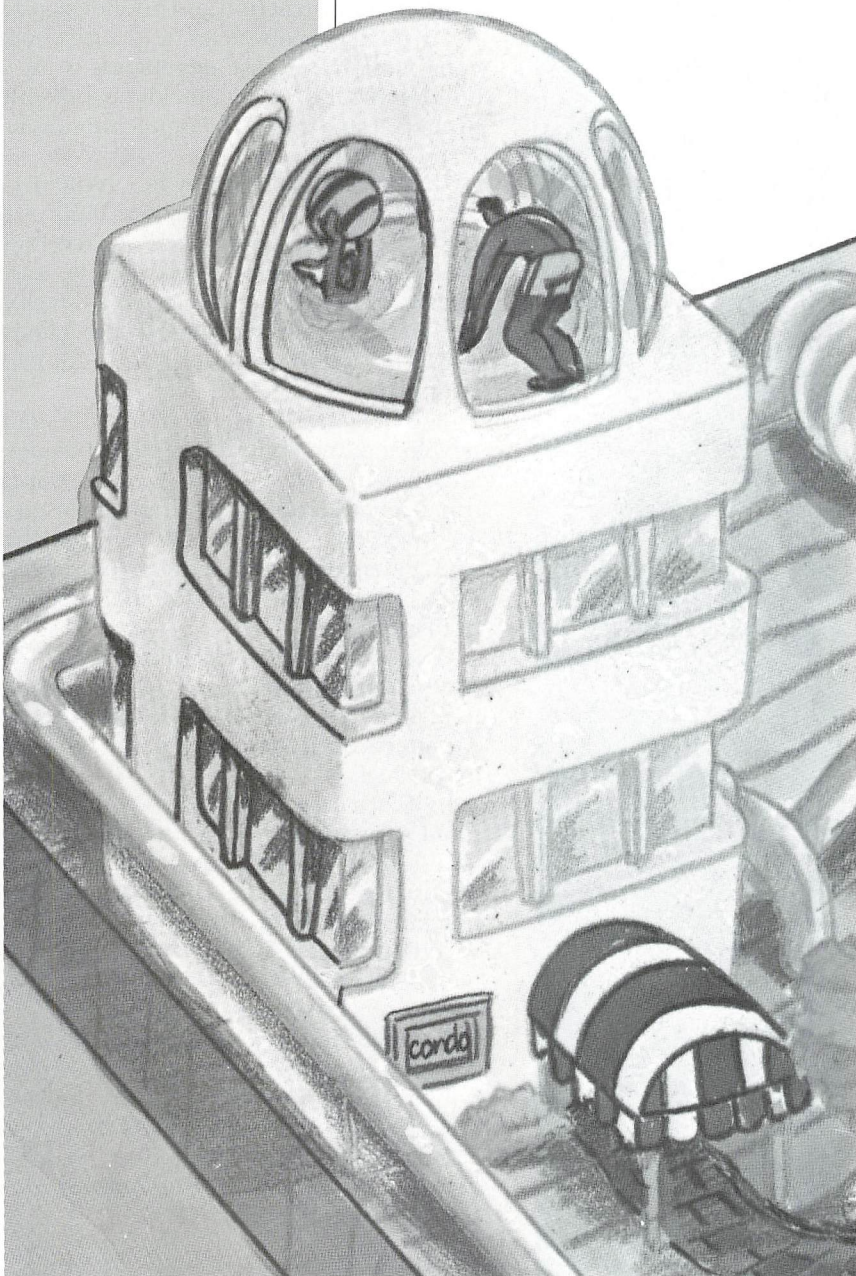
Unfortunately, contractors may still be liable for failures even if the roofs are poorly designed. States such as South Carolina have enacted laws that hold contractors liable who knowingly follow improper specifications, according to Charles Mays, an attorney with Hendrick, Spanos and Phillips.

"A roofing contractor should sign an affidavit stating that, even though he knew the specifications to be faulty, he was under an obligation to follow them," explains Mays. "This ought to relieve the roofer of any liability should the roof fail prematurely."

Owners guilty of roof neglect

Architects aren't the only ones who create roof problems, however. The owners themselves also share some of the blame. "The condo owners themselves are often guilty of neglect in maintaining their units," says Phillips. "But they'll sue anyway."

One maintenance problem common throughout the South and especially in Florida is the occurrence of green mildew in an apartment or condominium. Joe Rutkoski, president of Tampa's Roofing Southeast, Inc., (who refers to condominium projects as "a thorn in every roofing contractor's side") says, "People go back up North for the summer without taking proper precautions to prevent mildew growth. They don't realize that if they seal their doors and close the drapes for the three hottest months of the year without allowing for proper ventilation, mold will grow. They blame the roofer, of course, thinking there must be water leaking in somewhere."



"You'll be hearing from my lawyer!"

Sometimes pointing out a condo's design and maintenance problems can help a contractor avoid a long and costly court battle. But when the owner's emotions are involved, reasoned arguments do little good.

"We spent good money for this condo, and when the roof started to leak, you're damn right we're gonna sue," said a condo owner on Hilton Head Island who asked not to be identified because his case has not yet been filed. "We've only lived here three years, the roof is practically brand new. So, why do we need an army of buckets each time it rains? Because the construction was done poorly."

"These units are expensive and people expect quality," says Phillips. "When it's not there, when the construction is marginal, the roofer is easy to blame."

Condo owners tend to become very impatient when their investments spring a leak. Their concern is a legitimate one, but far too often, in their haste to sue the roofer, owners overlook other causes and solutions to their problems.

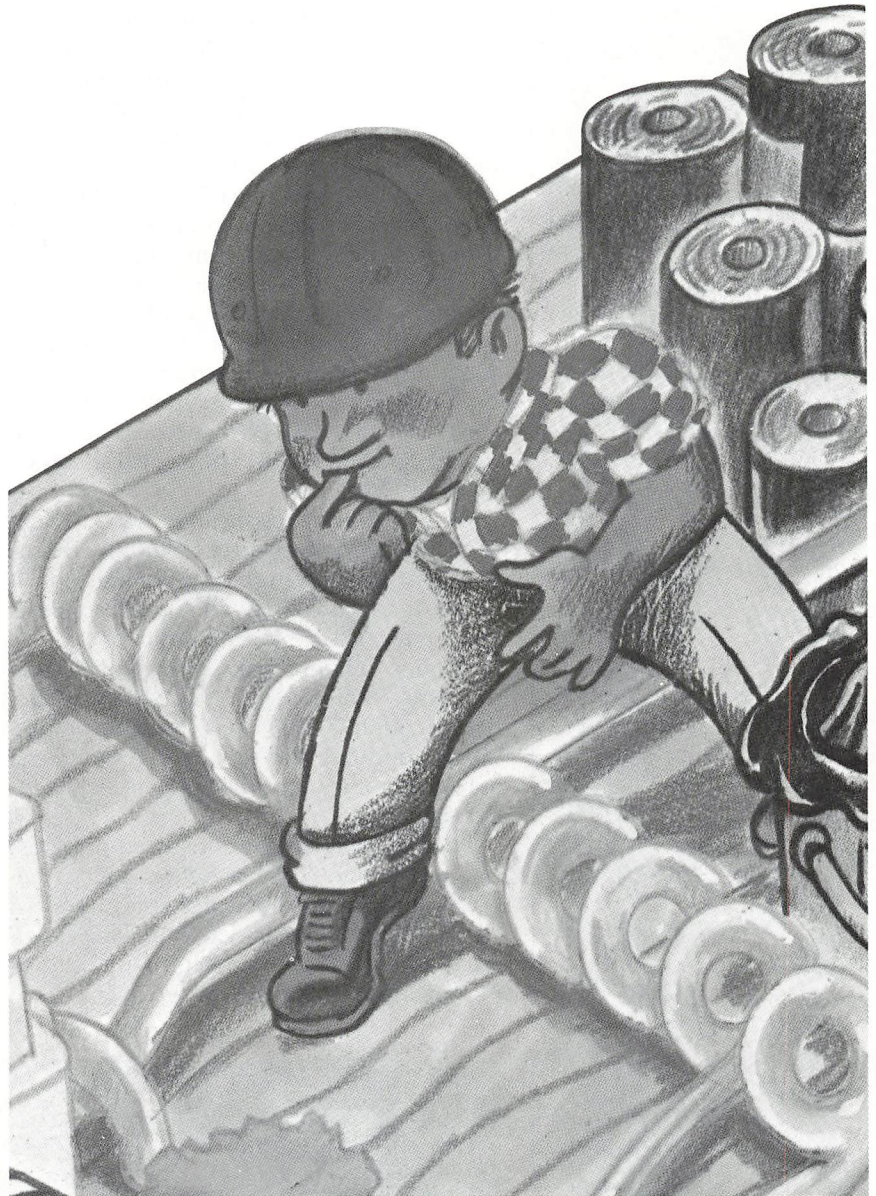
"We were taken to court without ever having been called to examine the roof," says Lancaster of a case entering its third year of litigation.

The project involved a condominium project on Fripp Island, N.C. The plans called for coated felts, which have since been taken off the market because they tend to crack and split easier than heavier felts. The first inclination Lancaster had that the roof was failing was when he learned of the suit.

"We never heard anything about it," says Lancaster. "The manufacturer would have been glad to help out with the situation, but he was never contacted either."

Resolutions don't come quickly

A typical condo lawsuit can keep nearly everyone on the building team tied up in legal proceeding for years. "We'll start out by suing the developer," says Crane. "He usually brings a countersuit against his subcontractors—the roofers, electricians, plumbers—whoever it takes to get the money.



"Usually, though, the problem lies with the roof," Crane continues. "Most of our success has been against flat roofs where ponding, flashings and other tiny flaws can be used as evidence."

Crane estimates that the average suit involves roofs between five and 15 years old. If the problem was discovered relatively soon after construction, Crane tends to blame the contractors. If the problem takes several years to surface, he points the finger at the designers.

Contractors can be blamed for problems detected years after construction, however. In many states, the statute of limitations depends on when the defect was discovered and whether it is a latent (hidden) problem, or a patent (detected) problem.

Unfortunately, contractors may still be liable for failures even if the roofs are poorly designed.

Crane estimates that the average suit involves roofs between five and 15 years old.

In South Carolina and Florida, for instance, the statute of limitations begins when a defect is discovered. In South Carolina, subsequent purchasers of a unit can sue the original designer if flaws have been determined to originate with construction.

Once a case goes to trial, it can take years to sort out the facts and render a verdict. It took 10 years from the time the work was completed for Cost's case to be resolved. His company installed the roof on the Fairmont Condominiums in 1974. The leaks were discovered shortly thereafter. A suit was brought against the developer and Cost, but it was 1981 before the case reached a courtroom. The appeals dragged on until 1984.

Because a court case can be such a drain on a contractor's resources, Phillips advises contractors to attempt a settlement out of court. If a trial is unavoidable, he suggests contractors ask for a bench trial.

"Condo owners make very sympathetic plaintiffs," Phillips says. "Nice, little white-haired couples who've sunk their life savings into a condominium can easily convince a jury that they were the victims negligent construction."

Phillips says that the construction industry's reputation does not help in a jury trial. To the jury, the stereotypical contractor is a fly-by-night operator out to make a quick buck, Phillips believes. That's why Phillips prefers a knowledgeable judge over a jury.

Staying out of court

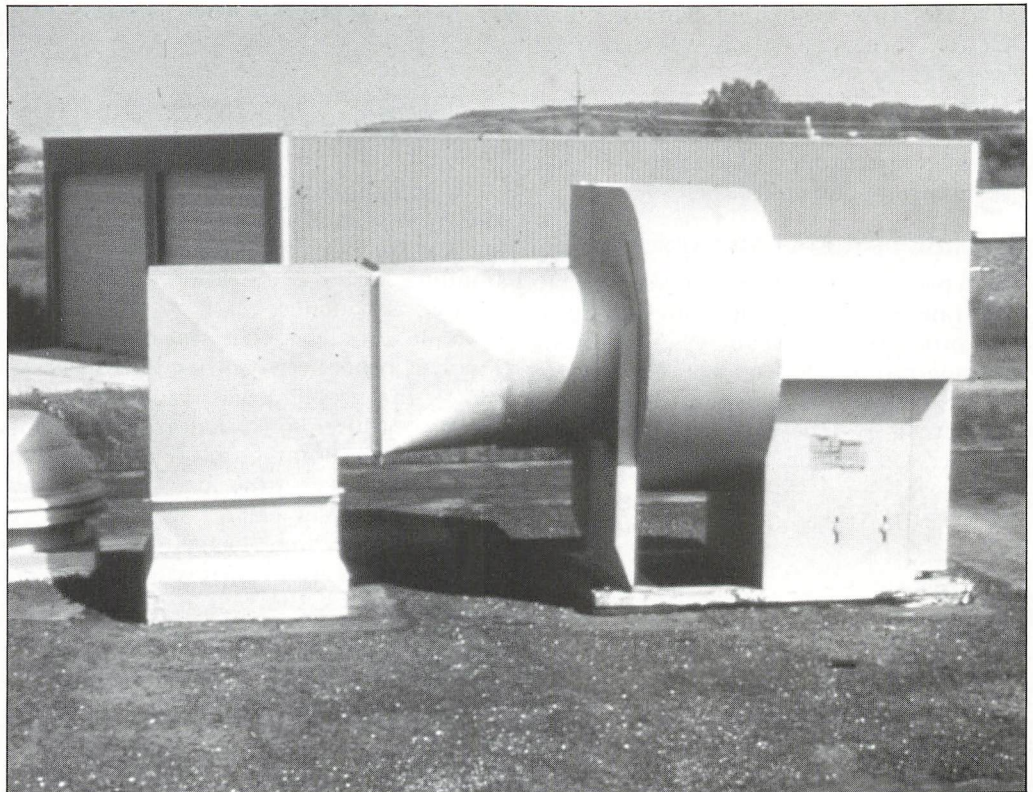
For many contractors, avoiding condo lawsuits means avoiding condos altogether. "This is a high-risk industry," says Cost. "As far as condominium construction is concerned, the risks do not outweigh the benefits."

But if the seasoned professionals drop out of the condo business, who will be left to roof the units that continue to sprout up throughout the country? "Young, rookie roofers who need the work and perhaps aren't aware of the dangers involved," answers Lancaster. "As far as I'm concerned, I try to stay away from condos."

This is a sentiment echoed by roofing contractors in every corner of the country. Joe Rutkoski has been offered a job on Marcos Island, but he won't touch it. John Carruth would rather turn down a condominium job, unless it involves reroofing, and even then he's wary of the legal risks involved.

Litigation has become a way of life in America. Condominium construction seems to have been hit hard by the litigation explosion that is crippling America's judiciary system. It is clear that until Americans learn to live without litigation, roofing contractors will continue to spend almost as much time in court as they spend on the roof. Not until tort reform becomes an even bigger issue for politicians throughout the country will it be safe for roofers to accept condominium jobs.

HVAC units, when clustered on a condo's roof, present roofing contractors with obstacles that are often the source of water leaks.



Coal tar study valid for typical shingle-style BUR

This report is the third part of a three-phase program to study the relationship between temperature-viscosity and interply weights achieved during mopping and mechanical application of hot coal tar roofing membranes. The test procedures used during the first two phases involved the ply-on-ply application of the tarred felts. This method was based upon the procedures described in NBS BSS 92, "The Viscosities of Roofing Asphalts at Application Temperatures" (December 1978).

Phase III was conducted to develop a correlation between the ply-on-ply technique and the shingle method of built-up roofing application.

Four test roof sections were constructed using a mechanical spreader and four test roof sections were mopped.

A total of 43 coupons, each measuring 16 inches by 9 inches (1 square foot), were taken. Eight additional coupons were forwarded to NRCA.

The examination of these coupons included calculating interply quantities of coal tar materials.

Objective

The objective of Phase III was to determine if a correlation exists between the amounts of interply coal tar products applied during a shingle-fashion installation and the amounts applied during a ply-on-ply installation using both mechanical and mopping procedures.

Study parameters

Three important variables affect the interply mopping weights of hot-applied coal tar roofing products. They are:

- the physical and rheological properties of the materials;

The Task Group consisted of Koppers representatives George Adomshick, Donald Waltz Jr. and James Weideman, and NRCA representatives William Cullen, Robert LaCrosse and Marlin Potteiger.

**Established
EVT
can be
used,
say
researchers**

Report prepared jointly by
representatives of The
Koppers Co. and NRCA's
Task Group

- the point-of-application temperature; and
- the method of application.

It is recognized that several factors occur at the jobsite that influence the amount of coal tar actually used in addition to the variables that affect the amount used for interply application. However, a study of these factors and their contribution to the total amount of coal tar used was not a part of this study.

Variety of factors tested

Materials—two coal tar products were included in the study: coal tar roofing pitch, ASTM D-450 Type I, and coal tar bitumen, ASTM D-450 Type III. Type I is the traditional coal tar pitch in use for decades, while Type III's formulation has been modified for low fume evolution to improve environmental and working conditions during application. The materials used were taken from stock inventory and are representative of those available in the market.

Temperature—tests were conducted at three application temperatures: 300F, 350F and 400F.

Application methods—built-up roof membranes were constructed using two methods: by mechanical spreader and by direct mopping application. The felt was rolled in manually and broomed in for both methods. The felts were installed shingle fashion, with each sheet offset approximately 8½ inches from the previous sheet. This simulates the procedure used in the field for constructing a four-ply built-up roof membrane.

Site—the tests were conducted in Building 37 at Verona, Pa., an auxiliary unit of Koppers Science & Technology Center, Monroeville, Pa., near Pittsburgh. The test site is an enclosed area capable of maintaining inside air temperature between 60F and 80F.

Test equipment

Kettle—a 125-gallon kettle was selected for its ability to supply adequate quantities of bitumen for each test. It was capable of raising and maintaining bitumen to preselected temperatures, and it was convenient to maneuver and empty when changing from one type of material to the other.

Mechanical spreader—one mechanical spreader, corresponding with Unit A as described in Phase II, was used. This unit was a hot dispenser without felt layer. It was 36 inches wide, of steel construction, with a hand-controlled flow and a 36-inch brass chain mop. It weighed 120 pounds.

Mopping equipment—mopping equipment corresponded to that described in Phase I. The aluminum mop handle was 10 feet long. A 2½-pound, single-ply cotton mop head was used. The mop cart was a round insulated steel unit.

Broom—the broom used was a spring-metal type, measuring 35 inches wide.

Template for cutting coupons—to obtain the coupons, a 16-inch-by-9-inch (1-square-foot), flat, steel template with handle was positioned flat on the membrane such that all four plies plus the head lap of the shingle-fashion construction would be included within the specimen. The coupon was carefully cut to the template shape with utility knives.

Scale—a Metler 15,000-gram balance with 2-decimal accuracy was used to weigh the samples.

Test surface—the deck was 22-gauge steel with a 2½-inch-wide flute on wood framing. Flake board 1⅝ inches thick was laid over the steel decking and nailed to the wood framing through the steel ribs. No. 15 coal tar-saturated felt was rolled out and stapled at each end to serve as a separator sheet. Each test section was approximately 6 feet wide. Test sections constructed by hand-mopping were 18 feet long. Those constructed using mechanical spreaders were 50 feet long.

Roofing personnel—the roofing crew, which consisted of a spreader operator, roll man and kettle operator, is employed by Pennsylvania Roofing Systems, Inc., a contractor member of NRCA. Crew members were experienced in mechanically spreading and mopping built-up felts and coal tar products. They are members of the United Union of Roofers, Waterproofers and Allied Workers Association, Local No. 37 (AFL-CIO).

FIGURE 1 Test Coupon Placement—Hand-Mopped Samples

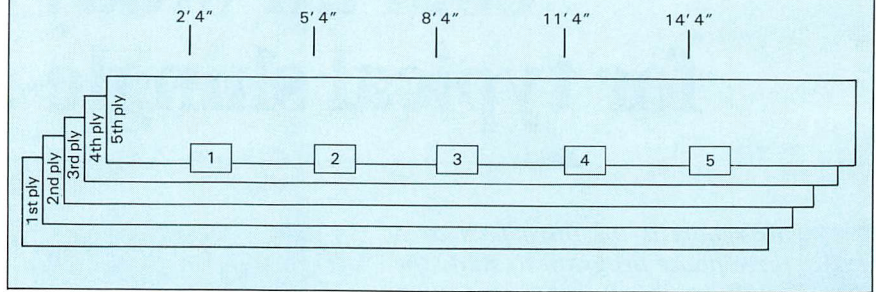
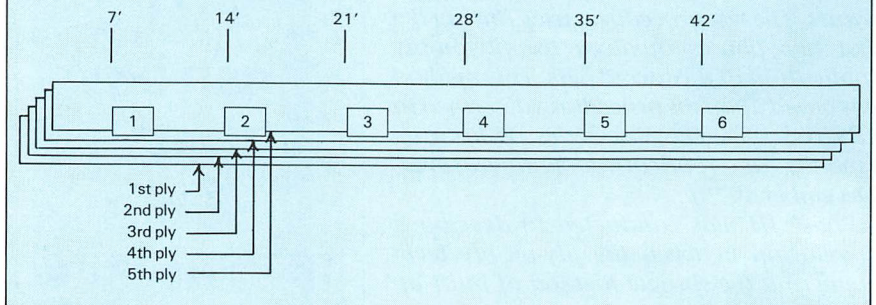


FIGURE 2 Test Coupon Placement—Mechanical Spreader Samples



Test procedures

Twenty rolls of tarred felt were prepared by discarding the first 10 feet of each roll. Ten 12-inch-by-12-inch specimens were removed from the next 15 feet of each roll. The specimens were then weighed, labeled, packaged and retained. The actual felt weights were used in calculating interply quantities.

The test applications were started at the low temperature and progressed to the high temperature in 50-degree increments. The kettle temperature was raised to approximately 25 degrees above the selected point-of-application temperature. The hot material was then transferred to the appropriate container and allowed to cool to about 5 degrees above the preselected point-of-application temperature.

Meanwhile, the first layer of felt was rolled on the deck and stapled into place. When the bitumen reached the desired temperature, four additional plies of felt with interply applications of bitumen or pitch were applied. Each ply was offset approximately 8½ inches from the previous ply to simulate shingle-fashion constructions.

The materials used were taken from stock inventory and are representative of those available in the market.

A similar series of tests is being considered using asphalt and glass, and organic-based felts.

When the membrane cooled, coupons were cut from it at preselected locations, labeled and weighed. Figures 1 and 2 identify the location of the various coupons taken. These coupons were packaged and retained for laboratory evaluation. The average interply quantity in pounds per square feet per ply was calculated by subtracting the actual felt weight in the coupon from the total coupon weight. Figure 3 illustrates the placement of the 9-inch-by-16-inch template.

Test results

Application rates of interply material—Table 1 gives the interply weights of bitumen and pitch for each of the 43 coupons. The weights are expressed in pounds per 100 square feet per ply. A general correlation exists between the interply application

Application temperatures of 300F to 400F resulted in average interply weights ranging from 17.4 to 44 pounds per 100 square feet per ply. The quantities varied with material, temperature and application method used. Table 1 shows the average interply mopping weight for each test section and the average of all coupons.

Table 2 compares the average interply weights at corresponding point-of-application temperatures obtained from Phase III tests to those obtained from Phases I and II.

There appears to be a good correlation of interply weights to temperature at the higher point-of-application temperature range. For example, at 350F, the coal tar bitumen interply mopping weights for Phase I and Phase III were 23.1 pounds per square and 22.2 pounds per square respectively. At 400F, the interply application weights for Phase II and Phase III were 22.9 pounds per square and 25.1 pounds per square. However, there was a lack of correlation at the low end point-of-application temperature of 300F. A good correlation was also observed for pitch application at 400F.

Summary and conclusion

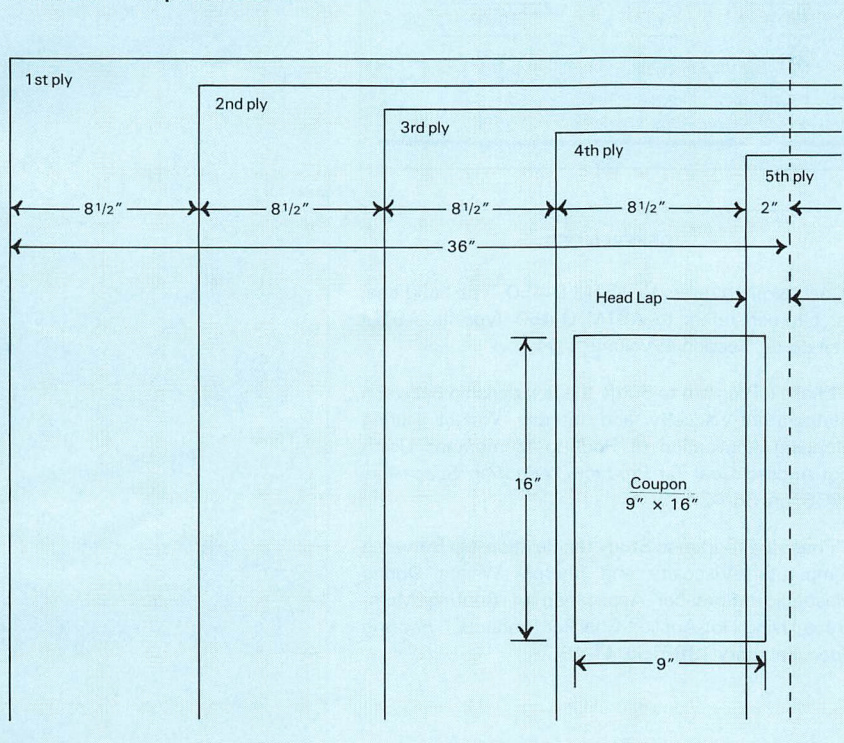
On an overall basis there was an excellent correlation between ply-on-ply and shingle-fashion application techniques for both coal tar products, considering the limited program that was conducted.

The conclusions drawn from Phase I and Phase II can thus be considered valid. Briefly stated, they are as follows:

- The application of coal tar bitumen and pitch should be in a viscosity range of 15 to 40 centipoise (12 to 32 centistokes).
- The suggested EVT for both Type I and Type III coal tar products is that temperature at which the viscosity of the material is 25 centipoise (approximately 20 centistokes).
- For the specific coal tar products used in this study the EVT is 375F ± 25 degrees for coal tar bitumen (Type III) and 360F ± 25 degrees for coal tar pitch (Type I).
- For the coal tar products used in this study, point-of-application temperatures between 335F and 400F appear to be appropriate for both mechanical spreader and mopping application techniques.

In general, the lower the point-of-application temperature, the greater the quantity of interply material applied.

FIGURE 3 Template Placement



weight and the point-of-application temperature, with larger quantities of the coal tar products being applied as the point-of-application temperature decreased. However, there was not a straight line relationship between the average interply quantity and the point-of-application temperature.

TABLE 1: Coal Tar Bitumen/Coal Tar Organic Felt Interply Weights: 4 Plies — 3 Interply Applications

test no.	B1	B2	B3	B4	B5	B6	P7	P8
temperature at point of application (°F)	300	300	350	350	400	400	400	400
method (2)	M	S	M	S	M	S	S	M
interply #/100 ft. ²								
Cut #								
1	28.0	47.6	20.1	24.2	17.1	20.9	22.5	19.0
2	28.6	46.6	24.5	30.8	18.1	24.2	24.3	18.7
3	23.9	43.9	19.1	30.2	17.6	27.4	21.1	17.7
4	24.2	45.9	22.1	24.0	16.2	28.4	23.1	14.3
5	22.7	38.9	20.3	25.4	—	21.1	20.5	22.1
6	—	40.8	—	30.0	—	28.7	22.9	—
Average	25.5	44.0	21.2	27.4	17.3	25.1	22.4	18.4
Standard Deviation	2.6	3.5	2.1	3.2	0.8	3.6	1.4	2.8
Variance	7.0	11.9	4.5	10.4	0.7	12.7	1.9	7.9

(1) B — Coal Tar Bitumen
P — Coal Tar Pitch

(2) M — Mopped
S — Mechanical Spreader

TABLE 2 — Comparison of Interply Applied Weight Per Square of Phase III to Phase I and Phase II

Phase #	Application Method	coal tar bitumen temperature			coal tar pitch temperature
		300 F	350 F	400 F	400 F
I	hand-mopped	34.5	23.1	21.3	17.5
III	hand-mopped	25.5	21.2	17.3	18.4
II	mechanical spreader	29.6	23.0	22.9	21.5
III	mechanical spreader	44.0	27.4	25.1	22.4

A summary report is being prepared comparing the results from all three phases of this program along with recommendations for implementing the findings of the program into realistic construction practices.

A similar series of tests is being considered, to study the relationship between application temperature, viscosity and interply mopping weights using asphalt and glass, and organic-based felts.

Acknowledgments

There were many people who helped in the various phases of this project and we thank them all.

Special acknowledgements should be made to:

Koppers Laboratory Evaluations:

David Kennedy
Richard Nagy

Roofing Contractor:

Pennsylvania Roofing Systems, Inc.
Frank Funovits Jr., co-owner

Roofing Crew:

James Ashton
Robert Zengreth
Eric Zengreth

(All are members of Local No. 37 [AFL-CIO] of the United Union of Roofers, Waterproofers and Allied Workers Association.)

REFERENCES

¹Coal tar pitch refers to ASTM D-450 Type I and coal tar bitumen refers to ASTM D-450 Type III. ASTM Standards, Section 4, Volume 4.04.

²"Phase I: Program to Study the Relationship Between Temperature-Viscosity and Interply Weight During Mopping Application of Roofing Membranes Using Hot-Applied Coal Tar Products," *Roofing Spec* April 1985, pp. 35-42.

³"Phase II: Program to Study the Relationship Between Temperature-Viscosity and Interply Weight During Mechanical Spreader Application of Roofing Membrane Using Hot-Applied Coal Tar Products," *Roofing Spec*, February 1986, pp. 41-49.

There was an excellent correlation between ply-on-ply and shingle-fashion application techniques for both coal tar products.

Renovated city hosts MRCA's practical convention

Pierre Laclède would be proud. In 1764, the intrepid fur trapper traveled up the Mississippi River from New Orleans and established a tiny trading center on the river's west bank. He reverently named the godforsaken outpost for his king, Louis XIV. The town quickly became the "Gateway to the West," an image confirmed at the turn of the 18th century when Lewis and Clark decided to make it the starting point for their famed expedition.

In recent years, St. Louis has successfully overcome the problems inherent in an aging Midwestern city. The renovation of its 200-year-old riverfront, appropriately called Laclède's Landing, serves as a vivid example to other metropolises struggling with decaying warehouse districts. A total of 82 Fortune 100 companies have chosen St. Louis as the site for manufacturing or office complexes. Hoping to reach the more than 90 million people who live within a 500-mile radius, the city's convention bureau continues to pump millions of dollars into advertising campaigns to attract meetings and boost tourism.

Midwest
group
will
meet
you
in
St. Louis

St. Louis will host MRCA's
37th Annual Convention.

One group successfully wooed by these efforts is the Midwest Roofing Contractors Association, which will meet you in St. Louis Oct. 26-29 for its 37th Annual Convention.

Practical sessions planned

The Cervantes Convention Center will be the site of the MRCA Trade Show and the general sessions. The Sheraton St. Louis has been named headquarters hotel. The Adam's Mark, Radisson and Marriott Pavilion will also house conventioners.

The general sessions are scheduled for Monday, Oct. 27, from 2 to 6 p.m.; Tuesday from 8:15 a.m. to 12:15; and Wednesday from 10:30 a.m. to 12:30. The session topics, which were selected for their timeliness and level of practical application, include:

Computer use. The emphasis in this presentation will be on the software packages available for the roofing industry and the opportunities for interfacing.

Asphalt characteristics. MRCA and Tamko Asphalt Products engaged in a joint study on slippage, coking and frothing. This session will feature the results.

EPDM adhesives. Adhesive effectiveness, handling procedures and safety questions are explored in this review of an increasingly popular product.

Management. Presenters will talk to participants about surviving (and even prospering) in today's fast-paced, challenging contracting industry.

Insurance costs. An insurance expert will share industry findings to better equip contractors for purchasing coverage.

Certification. A certification procedure for the application of heatwelded roofing systems will be revealed.

Contractor experience—steep roofing. From initial estimate to evaluation of the profit, steep roofing projects will be discussed in detail by an experienced contractor.



A total of 82 Fortune 100 companies have chosen St. Louis as the site for manufacturing or office complexes.

Contractor experience—BUR, modified bitumens, elastoplastics. Each step of each type of project will be reviewed, from inception to bottom line. Information on estimating, planning, ordering materials, logistics, installation, cost and profit will be included.

Speak to me

James J. Kilpatrick, whose political column "A Conservative's View" appears in 530 newspapers nationwide, is one of the featured speakers at the MRCA meeting. Kilpatrick is most widely known for his nine-year stint defending conservative values on CBS' "60 Minutes." He has served for 15 years as a regular panelist on "Agronsky & Company," the most popular of the Washington television programs devoted to political discussion. Kilpatrick devotes some of his columns to the use and

abuse of the English language; his recent books *The Writer's Art* and *The Ear is Human* address the topic with wit and style.

MRCA will also host Al McGuire, the former professional basketball player and coach who now provides commentary for NBC sports and is vice chairman of the board of Medalist Industries, a \$130 million company. Associated with basketball most of his life, McGuire played for the New York Knicks before coaching at Dartmouth and Marquette, and eventually moving to NBC. McGuire was chairman of the board of the President's Council on Physical Fitness under Jimmy Carter; in his home state of Wisconsin, rumors persist about the possibility of a run for the senate or the governor's post.

Patricia Neal, the third guest speaker for MRCA's meeting, has been among the 10 most admired women in America for more than a decade. Her presentation, which has

MRCA exhibitors list

AC Products, Inc.
Booth 119

Aeroil Products Co., Inc.
Booths 519, 521, 523, 618, 620, 622

Alkor, Division of Hedwin Corp.
Booths 913, 915, 917

Allied Corp.
Booth 429

Allroof International
Booths 320, 322

American Associated Cos.
Booth 617

American Builders & Contractors
Booth 638

American Hydrotech, Inc.
Booth 111

American Roofing Corp.
Booths 304, 306

Apache Building Products Co.
Booth 117

APC Corp.
Booth 828

The Aro Corp.
Booths 1314, 1316

Asphalt Products Oil Corp.
Booth 927

Associated Foam Manufacturers, Inc.
Booth 609

Atlas Bolt and Screw Co.
Booth 325

Barra Corp. of America, Inc.
Booths 1429, 1431

Berridge Manufacturing Co.
Booths 1224, 1226

The Bilco Co.
Booth 818

Blackwell Burner Co.
Booths 525, 527, 624, 626

Bond Cote Systems/Westpoint Pepperell
Booths 305, 307

Burner's, Inc.
Booth 934

Cant Products, Inc.
Booths 515, 517

Carlisle SynTec Systems
Booths 1111, 1113, 1115, 1117,
1210, 1212, 1214, 1216

Carpenter Insulation Co.
Booths 623, 634

The Celotex Corp.
Booths 619, 621, 623, 718, 720, 722

Certainteed Corp.
Booths 608, 610

Clearfield Conveyors Corp.
Booths 708, 710, 712, 714, 716

Cleasby Manufacturing Co., Inc.
Booths 1209, 1211, 1213, 1308, 1310, 1312

Columbine International, Ltd.
Booths 629, 728

Construction Fasteners, Inc.
Booths 1025, 1027, 1124, 1126

Contractors Guide
Booth 1217

Cooley Roofing Systems
Booths 1229, 1231

Copper Sales, Inc.
Booth 223

Cornell Corp.
Booth 827

Daly Industrial Coatings, Inc.
Booth 1028

Design Products & Building
Materials & Associates
Booth 630

Dibiten USA
Booths 219, 221

Diversifoam Products
Booth 207

Diversitech General
Booths 419, 421, 423, 518, 520, 522

Duro Last Roofing, Inc.
Booth 1410

Dynamit Nobel of America, Inc.
Booths 837, 838, 936

Elco Industries, Inc.
Booth 120

Elk Corp. of America
Booths 214, 216

ENFO Insulation Products (EFP Corp.)
Booths 612, 614

The Enterprise Cos.
Booth 829

Evonite Permaglas, Inc.
Booths 418, 420

Fabco Fastening Systems
Booth 816

Firestone Building Products Co.
Booths 1219, 1221, 1223, 1318, 1320, 1322

Flame Engineering, Inc.
Booths 312, 314

Follansbee Steel Corp.
Booth 1227

Foremost Manufacturing Co., Inc.
Booth 830

been termed "an inspirational tour de force," describes her dramatic comeback from a series of massive strokes she suffered in 1966 at the height of her film career. Her recovery remains an epic in the annals of stroke rehabilitation. The methods she employed, devised by her husband, have become a model for clinics throughout the world.

A site for your eyes

St. Louis' remarkable emergence in the last 10 years as one of America's most desirable cities to visit is not hard to understand once you've made the trek to this river town. Its vitality, thanks largely to a surge of renovation work in the downtown area, is apparent; the warmth and openness of the natives is no small contributing factor. The combination of attractions, restaurants, shopping, and nightlife (including great jazz), all served with a smile, is irresistible.

If you have any spare moments, the following places should be on your "don't miss" list.

The Arch. The famous "catenary curve," or the form a chain assumes when it is suspended freely between two points, is located on the riverfront. The structure is a tribute to the pioneers who settled the West. It is 630 feet wide and 630 feet tall at its highest point; the view is great if you can take the nerve-racking tram ride. The Arch is open from 9 a.m. to 6 p.m. daily; tours are \$1.50. The Museum of Westward Expansion lies beneath it; the Museum outlines the development of the land defined by the Louisiana Purchase.

The Arch was designed by Eero Saarinen, who should be familiar to roofing contractors. Saarinen was instrumental in the design of one of the first single-ply roofs, for Yale University's Ingalls Ice Arena.

The combination of attractions, restaurants, shopping, and nightlife, all served with a smile, is irresistible.

Fox Plastics Corp.
Booth 1338

H.B. Fuller
Booth 118

Gaco Western, Inc.
Booths 938, 1036

GAF Corp.
Booths 919, 921, 923, 1018, 1020, 1022

Garlock Equipment Co.
Booths 1009, 1011, 1013, 1015, 1017,
1108, 1110, 1112, 1114, 1116

Genstar Roofing Products Co.
Booths 1315, 1317

Georgia-Pacific
Booths 101, 102

Globe Industries, Inc.
Booths 1024, 1026

The Goodyear Tire & Rubber Co.
Booths 329, 331, 333, 335, 428, 430, 432, 434

Goss, Inc.
Booths 319, 321

W.R. Grace & Co.
Booths 1010, 1012

Greesnstreak
Booth 229

Guiana Corp. of America
Booths, 402, 403

W.P. Hickman Co.
Booth 911

Humane Equipment Co.
Booth 422

Hyload, Inc.
Booth 1123

Insta-Foam Products, Inc.
Booth 328

Insul-Mark Midwest, Inc.
Booth 124

International Permalite, Inc.
Booths 625, 627, 724, 726

International Roofing Products
Booth 323

ITW Buildex
Booths 1119, 1121

Karnak Chemical Corp.
Booth 206

Kirby Fiberglass, Inc.
Booth 425

E.F. Kirchner, Inc.
Booth 1311

Knudson Manufacturing Co.
Booths 631, 633, 635

Kold King, Inc.
Booth 308

Koppers Co., Inc.
Booths 924, 926

Liquid Asphalt Systems, Inc.
Booths 1019, 1021, 1023, 1118, 1120, 1122

R. M. Lucas Co.
Booth 1425

Lucas Sales Co., Inc.
Booths 509, 511

MacLean-Fogg Co.
Booths 125, 127, 224, 226

Manville Corp.
Booths 819, 821, 823, 918, 920, 922

Marathon Roofing Products, Inc.
Booths 715, 717

W.R. Meadows, Inc.
Booth 825

Midwest Infrared Scanning Services
Booth 427

Midwest Sales Co.
Booths 529, 628

Milliken & Co.
Booths 729, 731

Mineral Fiber Manufacturing Corp.
Booth 1215

MM Systems Corp.
Booth 616

Modi-Systems, Inc.
Booth 721

Monier Roof Tile, Inc.
Booth 727

Morgen Manufacturing Co.
Booths 404, 406

Mule-Hide Products Co., Inc.
Booth 1137

Multi-Flashing Co.
Booth 925

National Nail Corp.
Booth 107

National Roofing Contractors Association
Registration Area

Nord Bitumi US, Inc.
Booths 812, 814

N.T.B. Fastening Systems, Inc.
Booths 528, 530, 532

Olympic Fasteners
Booths 303, 401

Omega Tile
Booth 929

continued on page 40

The MRCA session topics were selected for their timeliness and level of practical application.

The Old Courthouse. The site of the first two trials of the historic Dred Scott slavery case were held in the west wing of this structure, located at Fourth and Market streets near the riverfront. William Rumbo's 1861 iron dome, a year older than the U.S. Capitol dome, was an engineering innovation at the time. Visit the historical exhibits in the first-floor rooms.

The Fabulous Fox. The Fox Theatre, 527 N. Grand Blvd., was a premier structure even in a time when Marcus Loew, the theater mogul, was fond of saying, "We don't sell tickets to movies; we sell tickets to theaters." Built in 1928, lovingly restored in 1982, it has been placed on the National Register of Historic Places. Its stunningly opulent decor, blithely termed "Siamese Byzantine" by the original designer, has to be seen to be believed. The former movie house now features live entertainment.

Biebel Bros., Inc., Roofing Contractors, long-time members of MRCA and NRCA, have made roofing the Fox a family tradition. The company applied the original roof in 1928, reroofed it in 1963 and was called in again four years ago during its massive rehabilitation. The Biebels used modified bitumen for the 1982 roofing project.

Anheuser-Busch Brewery. The world's largest brewer runs a tight ship that's well worth a visit. Located at 610 Pestalozzi St., the Brewery offers complimentary tours and tastings Monday through Friday, 9:30 a.m. to 3:30 p.m. The Clydesdale stables are included on the tour. Ever since Lilly Anheuser married Adolphus Busch in 1861, this company has enjoyed astonishing growth. During Prohibition, an undaunted August Busch Sr. developed and sold baker's yeast to keep the company afloat; the product became hugely successful in its own right.

Owens-Corning Fiberglas Corp.
Booths 809, 811, 813, 815, 817,
908, 910, 912, 914

Petersen Aluminum Corp.
Booths 424, 426

Phillips Fibers Corp.
Booth 822

Pittsburgh Corning Corp.
Booth 719

Polyscal
Booth 126

Portals Plus, Inc.
Booths 213, 215

Posi-Slope Enterprises, Inc.
Booth 1313

Publishers for Conventions, Inc.
Booth 615

Reeves Roofing Equipment Co., Inc.
Booths 413, 415, 417, 512, 514, 516

Reimann & Georger, Inc.
Booths 409, 411, 508, 510

Republic Powdered Metals, Inc.
Booth 725

Rmax, Inc.
Booths 824, 826

Rohm and Haas
Booth 1128

Roofing Magazine/D & H Publishing
Booth 108

Roofing Products International, Inc.
Booths 636, 637

Roofing, Siding & Insulation Magazine
Booth 1228

Roofmaster Products Co., Inc.
Booths 711, 810

Rubber & Plastics Compound Co., Inc.
Booth 713

Sarnafil, Inc.
Booth 318

Seal-Dry/USA, Inc.
Booths 218, 220, 222

Shell Chemical Co.
Booths 1225, 1324

Sibo, Inc.
Booth 513

Siplast
Booths 209, 211

Sky Distributors
Booth 1423

Smith Hoist Manufacturing, Inc.
Booths 225, 227, 324, 326

Spec Roofers Wholesale Supply
Booths 1014, 1016

Sprak Water Blasting Equipment
Booths 210, 212

Stanley-Bostitch
Booth 1029

J.P. Stevens & Co., Inc.
Booths 1432, 1434

Tamko Asphalt Products, Inc.
Booths 311, 313, 315, 317, 410, 412, 414, 416

Teltex, Inc.
Booths 1218, 1220, 1222

Thermal Industries, Inc.
Booths 611, 613

Thermo Materials, Inc.
Booth 327

Topcoat, Inc.
Booth 820

Tri-Ply, Inc.
Booths 1129, 1131

The Tru-Fast Corp.
Booth 310

Trumbull Division of Owens-Corning
Fiberglas Corp.
Booths 738, 836

TS Industries, Inc.
Booths 611, 613

UC Industries, Inc.
Booths 1125, 1127

United Construction Products, Inc.
Booths 1319, 1321, 1323

U.S. Intec, Inc.
Booths 203, 301, 302

Villas Roofing Systems, Inc.
Booths 110, 112

Weathergard Roofing Systems, Inc.
Booths 437, 438

Westile, Inc.
Booth 723

Brian R. White Co., Inc.
Booths 217, 316

Win-Tec, Inc.
Booth 928

W-W Sales, Inc.
Booths 524, 526

The President. This grand old show-boat, America's largest, operated out of New Orleans from 1933 to 1985. It is the world's first all-steel river excursion boat. Three-hour cruises are offered daily at noon; moonlight cruises begin at 8 p.m. Wednesday through Sunday. Casual or fine dining is available. The President is centrally located at the riverfront.

Laclede's Landing. There are few places other than Laclede's Landing in St. Louis where a visitor can find delightful art and architecture, unique specialty shops and services, captivating nightspots that are famous nationwide, a variety of restaurants, music for any mood, fresh flowers and balloons. This 19th century warehouse district, revitalized in 1975, is listed on the National Register of Historic Places. You'll spot the original, granite-paved levee slope that signals the district's beginning near the riverfront.

A loaf of bread, a jug of wine

If you're looking for a place to relax and enjoy a great dining experience, one of the following restaurants might just offer your bill of fare.

Agostino's Colosseum, 12949 Olive Blvd., 434-2959. The atmosphere is elegant and the menu diverse at this Mobil Four-Star establishment. Owner Agostino Gabriele makes his presence felt amid the candlelight and crystal. Jackets, please.

Dierdorf & Hart's, 18th and Market streets (in St. Louis Station), 421-1772. High-quality beef and seafood will be broiled to order at this first-class restaurant built by former Cardinal football players Dan Dierdorf and Jim Hart. You can select from more than 200 wines in their excellent cellar.

2nd Street Diner, 721 2nd St., 436-2222. The illusion is 1930s diner, but the reality is fine dining in a sophisticated atmosphere. The seafood is fresh, flown in daily. The 250-foot oyster bar and distinctive clam chowder are two reasons *Esquire* rates them one of America's top new restaurants.

Cafe de France, 410 Olive, 231-2204. Marcel Keraval offers both nouvelle and classical cuisine here, complemented by a variety of domestic and French wines. The blue and gold dining room is ornate and reminiscent of a classic French eatery.

Tony's, 826 N. Broadway, 231-7007. Tony's has been honored as one of only 12 restaurants nationwide to receive Mobil's Five-Star rating. The Italian specialties and great steaks are the reason. Another exceptional wine cellar.

Silk Road, 510 N. Euclid, 367-9370. The Road leads to Mongolian selections, with meats and veggies prepared to order. Queue up to the crescent-shaped grill and add your own spices and sauces at the end of the line. The tri-level dining room is tastefully decorated in black, green and taupe.

Mike and Min's, 10th St. and Geyer, 421-1655. Located in the historic Soulard district of the city, this pub is a thoroughly comfortable place to go. A good selection of bottle beer, great rhythm and blues, and terrific chicken wings add up to a delightful evening spot. Dinner entrees are no less enjoyable—try the ham-and-artichoke pasta.

A little night music

St. Louis' nightlife deserves its own category. Music—whether it's jazz, blues, or rock 'n roll—is the great equalizer for this diverse population, and the late-night clubs and taverns do a brisk business every night of the week. Of course, we know pub-crawling isn't high on your list of priorities (!), but if you get a chance, quaff a cold one at these lively spots.

Muddy Waters, 724 N. First St. Undoubtedly the noisiest, most raucous, most touristy stop on the tour, Muddy Waters was voted St. Louis' most popular nightspot by the readers of the *St. Louis Post-Dispatch*. Casual lunches and dinners are available—the charbroiled catfish is the house specialty—but the place is best known for its occasionally blue, always uproarious entertainers. The action starts at 9 p.m.

Lucius Boomer, 707 Clamorgan Alley. More of a nightclub atmosphere makes this place a favorite for yuppie natives. *Playboy* magazine rates it highly; exotic drinks and decent rock 'n roll are the rule.

The renovation of the 200-year-old riverfront serves as a vivid example to other metropoli struggling with decaying warehouse districts.

St. Louis' remarkable emergence as one of America's most desirable cities to visit is not hard to understand once you've made the trek to this river town.

Laff Track, 721 Rear No. 2nd St. (behind the 2nd St. Diner). Showtime is 9 p.m. Tuesday through Thursday, and 8:30 and 11 p.m. on Friday and Saturday. Reservations are suggested. This is a legitimate comedy club and the laughs vary depending on who's up at bat, but it's always fun. Admission is \$5 during the week.

Lt. Robert E. Lee, riverfront. This grand old showboat features some of the best singing and chuckles in town if you hit the right evening. The Natchez River Revue performs Sunday through Wednesday, but the real draw is a schoolteacher-by-day, saloon-singer-by-night sensation named Jeannie Kittrell. She performs Thursday through Saturday. Reservations are suggested. (The Lt. Robert E. Lee also has a great dining room, if you'd like to stick to one venue for the evening.)

Unlike most restaurants in operation today, the majority of popular St. Louis eateries have some form of entertainment during the dinner hour. No matter what restaurant you choose, chances are good that you will be enjoying tunes from the piano or a small band to accompany your victuals.

Born to shop

St. Louis offers several other sites that are most accurately classified as "shopping centers," although after visiting them you'll agree that this term is grossly inadequate for describing these wondrous structures.

St. Louis Union Station. When a consortium of 22 railroads constructed a terminal in St. Louis in 1894, no expense was spared to make the Union Station one of the most breathtaking in the world. Over the years, the station languished when rail traffic declined. In 1979, its restoration began as a joint venture of The Rouse Co. (the same firm that developed Faneuil Hall Marketplace in Boston) and Omni International Hotels.

Now the station takes its place once again as the focal point of Market Street, where it commands two city blocks. The 230-foot clock tower is visible from most of downtown St. Louis, and bronze sculpture and fountains lie at its entrance.

The Headhouse is now the lobby of the Omni Hotel, and the Train Shed behind it is an airy pavilion of steel and glass that houses more than 11 acres of boutiques and eateries. The structure is second only to the Gateway Arch as the city's most significant architectural landmark.

St. Louis Centre. The Centre links St. Louis' two major department stores, Famous Barr and Dillard's Stix, Baer & Fuller, and covers four blocks. It is a four-level, enclosed mall, home to many new-to-St. Louis retailers and restaurateurs.

Plaza Frontenac, Lindbergh and Clayton roads. St. Louis' answer to Rodeo Drive will delight designer-conscious shoppers. European and American stores and restaurants housed here include Neiman-Marcus, Saks Fifth Avenue, Montaldo's, Gucci, and many more.

Hoffman House. If even thinking about another suburban-type mall makes you green around the gills, stop at Hoffman House. One block south of Kirkwood Road on Monroe, this charming century-old home houses six shops specializing in antiques and homemade items.

Eads Bridge Flea Market, 720 N. First St. It's difficult to determine which is more interesting, Ead's Bridge or the Flea Market. The combination is seductive. Ead's Bridge, constructed in 1874, is the oldest operating structure of its kind and the first steel-truss bridge in the United States. The flea market that is located near this landmark will give you the chance to browse through the collectibles and enjoy some of the factory-fresh licorice available from the candy shop.

Learning and loving it

Between the business sessions and special events of MRCA's Convention, and the wining, dining and dancing of St. Louis, your biggest problem may be finding enough hours in the day to sample everything. But St. Louisians have the answer.

Y'all come back.

NRCA's Convention worth a century of waiting

Will Rogers summed it up best when he described San Francisco as "the city that was never a town." Born overnight in the blinding flash of the Gold Rush, San Francisco was a land of infinite opportunity for the freebooters, buccaneers and adventurers who came from around the world, searching for the gold that was first discovered in 1848 at Sutter's Fort.

Today, cable cars still traverse the hilly terrain, quaint cafes dot the narrow cobblestone streets, and fine wooden mansions peek out above the hilltops. But in addition, the "City by the Bay" is a focal point of a metropolitan area that's home to nearly 4 million people. The major industry now is tourism; the favorite pastime: pursuing fine cuisine; and on Feb. 22-25, 1987, San Francisco's main event will be the National Roofing Contractors Association's 100th Annual Convention and Exhibit.

It's appropriate that NRCA should choose a brash young city like San Francisco for its Centennial celebration. Both Association and city were born during a time when industries and communities could profit from an individual's spirit and vision. In Chicago, it was Moses Powell who founded the organization that would bring order to a fledgling roofing industry fraught with cutthroat competition and ineffective quality control. While across the continent, in a California boom town, inventor Andrew Smith Hallidie's charmingly dangerous cable cars were making transportation in his hilly home more efficient. NRCA's Centennial is dedicated to people like Powell and Hallidie whose dedication and innovation have helped build and sustain a great association and a great nation.

Largest trade show ever

The Centennial Convention will be chock full of seminars, workshops, special events and most of all—people. Nearly 10,000 contractors, manufacturers, designers and specifiers are expected to pass through San Francisco's Moscone Center over the five-day Convention period. The

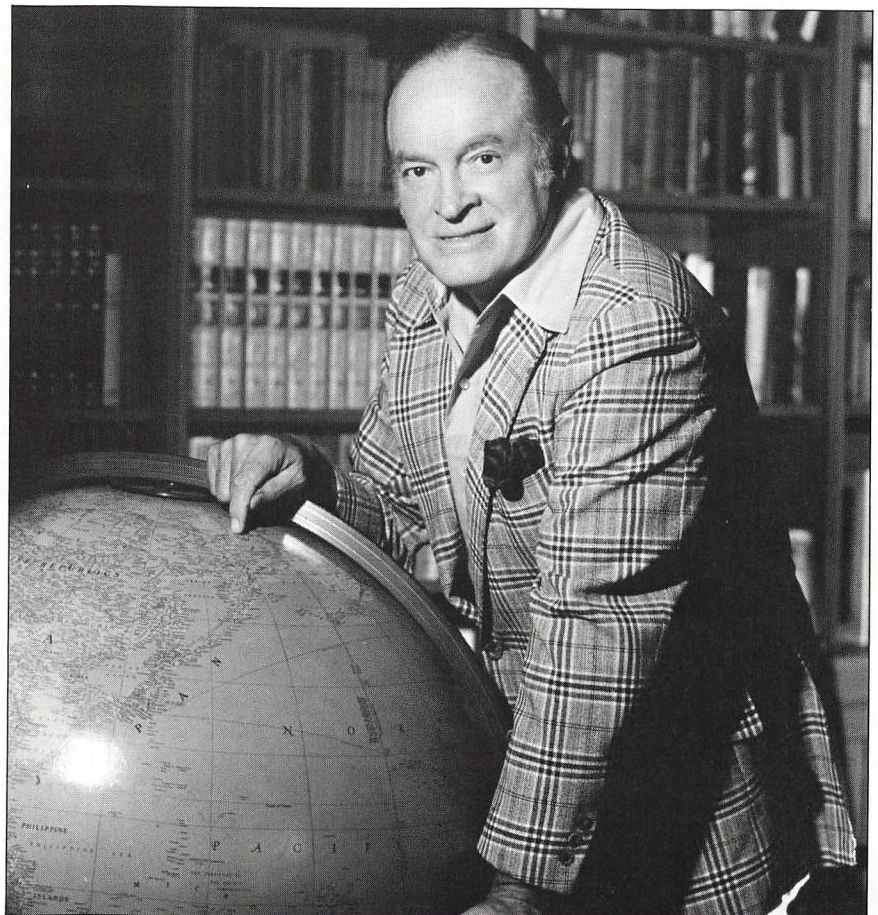
**Association
celebrates
100 years
of
roofing
excellence**

Bob Hope will be the featured performer at the Centennial Convention's dinner dance.

1987 Trade Show promises to be the largest roofing exhibit in the United States, featuring 811 booths of roofing products and services. Attendees from all 50 states, Europe and Japan, will compare notes on the latest products showcased by more than 350 exhibiting companies.

"Many past and first-time exhibitors will be on hand for this year's show," Gale Kiesel, director of meetings and conventions, says. "Traditionally, NRCA's Trade Show has been a great place for manufacturers to roll out their new products and services. With the increased number of booths and exhibitors, this year's show will top anything we've had in the past."

NRCA president Don McNamara will preside over the Centennial ribbon-cutting ceremony on Sunday evening, Feb. 22, welcoming attendees and officially open-



Both Association and city were born during a time when industries and communities could profit from an individual's spirit and vision.

ing the Trade Show and Convention. California wines and delicacies will be the bill of fare for the opening event.

A Trade Show with a past

This year's Trade Show also features NRCA's Centennial Museum. The exhibit will give attendees an opportunity to step back in time and glimpse a turn-of-the-century roofing company. The Museum, located in the center of the Trade Show, will feature authentic office furniture, and hundreds of documents, photos and pieces of roofing equipment to illustrate a century of the industry's history. A 1916 Model T Ford roofing truck, complete with kettles and hoists, will be parked outside the Museum entrance.

NRCA members are also invited to stop by the Centennial commemorative item booth, which will be located in the registration foyer of the Moscone Center. There, they will be able to pick up their complimentary edition of *One Hundred Years of Roofing in America*, NRCA's definitive document on the history of roofing in the United States.

Order in the court!

For those who can't wait for the official opening, NRCA will offer two early bird workshops, beginning Sunday, Feb. 22, at 1:30 p.m. "Litigating Circumstances: the Trying Experience of a Roofing Contractor" will take participants into a courtroom setting for a methodical recreation of a post-construction trial. This unique workshop format will feature characters playing the roles of attorney, architect, consultant, contractor, manufacturer and the all-important witnesses. Each participant will help demonstrate how facts can be distorted through the legal process. For those who will not be able to attend NRCA's version of "The Peoples' Court," the presentation will be videotaped and highlighted on the Monday morning edition of *Roofing Today*, NRCA's daily Convention television program.

The other early bird session, "'87 Outlook: Raising the Roof," will attempt to explain the complicated subject of economics as it impacts directly and indirectly upon the roofing industry. Dr. Barry Asmus returns with his rapid-fire delivery to examine trends such as privatization, deregulation, rising birth rates and falling interest rates, and their effects on economic growth and prosperity.

"100 years of roofing excellence"

Attendees will first be treated to a special opening luncheon, featuring Baseball Commissioner Peter Ueberroth as guest speaker. Then, NRCA's Centennial theme will come alive at the Convention's general session, when the Association kicks off its salute to the roofing industry's past and future. The Convention's premier event will be held in the Masonic Auditorium theater, located on San Francisco's Nob Hill. The Centennial general session will feature a 20-minute film chronicling the major events that led to the emergence of the multi-billion-dollar roofing industry. Two years in the making, this unique combination of video and 16mm film captures the spirit and the courage of the pioneers who forged a professional discipline from an inconsistent craft.

Designing roofing's future

The remainder of the general session will focus on the future, as attendees examine in depth the top entries from NRCA's "Roof of the Future" student design competition.

One of the many special projects scheduled during the Centennial year, the "Roof of the Future" competition is being featured in more than 90 architecture schools around the United States to educate students in the basics of sound roof design. Preeminent individuals in the fields of architecture, engineering and contracting will be on hand to judge the final entries and to share their observations about the structural and aesthetic merits of each entry. Student contestants will also relate their own design experiences through videotaped interviews conducted prior to the final judging.

Following the judges' presentations, session attendees will be encouraged to ask questions and comment on the critiques as well as the entries themselves. Winning entries from the competition will also be exhibited during the Convention. A special awards ceremony will take place at the Centennial dinner dance on the final evening.

Exercise your mind

NRCA's Convention educational programs have always covered both practical and theoretical issues concerning the contractor and the roofing industry. This year, that tradition continues with top-notch speakers addressing sometimes controversial, often dynamic and always thought-provoking issues.

On the practical side, workshop attendees will have a chance to review the specification, set-up and installation of one of the largest reroofing projects in the United States. "An Unconventional Approach: Reroofing Chicago's McCormick Place" will use this large-scale retrofit project as a textbook example of roofing practices. The McCormick Place convention center retrofit project, on Chicago's windy lakefront, was awarded to the E.J.A. Christiansen Roofing Co. just over a year ago. The project size mandated a large work crew and a great amount of on-site equipment. High winds required a closely monitored tear-off procedure. The workshop featuring this project will include discussions on all aspects of the application.

The problem of interply bitumen weight variances will be addressed in a session reviewing a joint study recently completed by NRCA and the Trumbull Asphalt Co. The study included experiments with both glass and organic fiber felts. The findings deal with the relationship between heating and application temperature, application viscosity, and the amount of interply asphalt applied. The session, titled "The Final Analysis: Results of the NRCA/Trumbull Asphalt Study," will include specific suggestions for on-the-roof application procedures. Future development of application guidelines for the use of asphalt will be reported and discussed.

Quality control, as it relates to modified bitumen application will be the subject of "Quality Control, Take Two: the Application of Modified Bitumen." Attendees will have an opportunity to critique the second in a series of NRCA publications designed to define application variances that can be allowed in a high-performance roof system.

"Potential: Productivity and Profits" presents some practical ideas for managers and owners by addressing the intangibles that may have a very real effect on their companies' bottom lines.

Other workshops include "Meet Your Maker: Manufacturers' Views on Claims and Disputes," a rare opportunity for contractors to talk to manufacturer representatives directly about this major industry concern, and "Controlling Your Vapor Drive: a Condensed Version," which addresses the problems related to moisture trapped during new and reroofing applications.



Rapping it up at Convention

NRCA's rap sessions take a less formal, but no less serious approach to important industry issues. The Wednesday afternoon sessions give participants a chance to air their views on a variety of topics.

Back by popular demand, this year's marketing program, "Taking Stock of Your Market," will give participants a full two hours to break into groups and compare notes on the marketing techniques they have found to be most effective. Attendees are encouraged to bring any print or audio-visual materials they have used in their own programs. It's kind of like a marketing version of show and tell.

One of the most unique programs offered at this year's Convention features a panel consisting of the boss' sons. "Calling all SOBs: Sons of Bosses Share Their Stories" will bring to light the special circumstances surrounding a family-owned company. Participants will share personal experiences and discuss the positives and negatives of accepting this extraordinary position.

Other rap sessions include a "how-to" program on using NRCA's *Commercial, Industrial and Institutional Roofing Materials Guide*, with particular emphasis on the new warranty/guarantee section of this contractor resource. "Applied Logic: a Discussion of Single-Ply Installation Guidelines" will review the Single Ply Roofing Institute's recently released application guidelines for elastomeric, plastomeric and modified bitumen membrane systems; and "Compensating for Success" will show how commission, salary, profit percentages and other remuneration programs can be used to compensate your sales personnel.

The San Francisco everyone knows: a mist-enshrouded Golden Gate bridge and a soaring skyline dominated by the Trans America pyramid.

One of the most unique programs offered at this year's Convention features a panel consisting of the boss' sons.

All the news that fits

Once again, you will have two methods of keeping abreast of the many events and educational activities going on throughout the Centennial.

NRCA's hour-long morning program, *Roofing Today*, provides attendees with a complete overview of the day's activities, including interviews with featured speakers and industry leaders, tours of the sites and scenes of San Francisco, and panel discussions on many of the issues confronting the roofing industry today. The unique program will be broadcast over closed-circuit lines each day at 6, 7 and 8 a.m., and can be seen in most of the designated Convention hotels.

Convention Spec, NRCA's official Convention newspaper, provides you with up-to-the-minute information on all aspects of the Centennial. Each daily edition includes a detailed map of the Trade Show floor, as well as information on all of the Centennial events and programs. *Convention Spec* will be delivered to your hotel room door each morning and in the registration area.

arch that signifies the entrance to Chinatown, where you'll sample Far Eastern culinary delights, and on to Fisherman's Wharf, with its sidewalk seafood stalls, steaming crab pots, curios and carnival-like atmosphere. NRCA's "Scenes of San Francisco" theme party will begin at 7 p.m. on Monday evening.

Thanks for the memories

Highlighting this year's Convention Dinner Dance will be the man for whom the Dessert Classic was named—Bob Hope. As an entertainer and a humanitarian, Hope has been hailed as a "diplomat of comedy whose credo is the lifting of the human spirit." The comedian has graced both stage and screen on every continent in the world. Under the USO banner, he has spent each Christmas since 1950 touring U.S. military installations in the Pacific, Southeast Asia, Europe and Cuba. His invaluable service to America's GIs has earned him the Distinguished Public Service Medal from the U.S. Department of Defense—the highest award the military can bestow upon a civilian. On Feb. 25, he will add one more credit to his list: featured performer at NRCA's Centennial dinner dance.

In addition to the dinner dance entertainment, the presentation of NRCA's most coveted honor, the J.A. Piper Award, will be featured. Dining, dancing, and formal recognition of NRCA members and student design competition winners will round out the evening's activities.

The headquarters hotel for this year's Centennial will be the Westin St. Francis. Attendees will also be staying at the Fairmont Hotel and Tower, the Mark Hopkins Inter-Continental, the Hotel Meridien San Francisco, the Hyatt on Union Square, The Ramada Renaissance, the San Francisco Hilton and Tower and the Stanford Court. All hotels are from one to 12 blocks from the Moscone Center, the center of NRCA's Centennial activities. Shuttle service will be provided Sunday through Wednesday between all hotels, the Moscone Center and the Masonic Auditorium.

Hotel reservations must be received by Jan. 23, 1987. Mark the Convention dates on your calendar, and contact NRCA's Meetings and Conventions Department for more information



The "City by the Bay" will be the location of NRCA's 100th Convention and Exhibit.

San Francisco here we come!

When you walk into to the St. Francis Hotel for the theme party on Monday evening, be prepared for a whirlwind tour of Northern California. You won't need a bus for this special sightseeing trip, however, just a little imagination as NRCA brings the region's best to you.

The first stop on this make-believe tour is California's Napa Valley, where you'll have an opportunity to taste some of the country's best wines. From there it's on to the famous Barbary Coast and its wonderful Italian-style cuisine. You'll also be able to walk beneath the dragon-ornamented

NRCA contractors can be insured through CNA

The term "insurance crisis" is really too narrow to describe the emergency American business is presently facing. It doesn't explain why one in nine obstetricians has stopped delivering babies; why three in four obstetricians face malpractice claims; why playgrounds are being closed; why fireworks displays have been discontinued; why day-care centers find it so difficult to remain open; or why defensive testing has added so much to the cost of providing medical care. These are the results of a much larger problem, one that could be more accurately described as a lawsuit crisis.

The present state of our civil court system has affected the insurance business as well, forcing changes in the availability and cost of liability insurance that go beyond the industry's usual cyclical fluctuations. Things are different this time, because foreign insurers have turned their backs on North American liability risks, even where the exposure represents but a fraction of their otherwise profitable global operations. Many believe that the chances of making a profit in the current U.S. legal climate are too slim even at today's inflated premiums.

Clearly, our lawsuit-happy ways have made us a less competitive market than nations that are not burdened with legal battles at every turn. The dollars we spend on litigation have increased our overhead and, in some cases, made insurance unavailable.

Major insurers on the home front have also turned their backs on broad segments of business. Instead, they have sought only relatively safe risks. One of the segments forsaken by many insurers is construction, our nation's largest industry. Roofing contractors, as members of the construction industry, were abandoned with the rest.

Association program available to qualifying firms

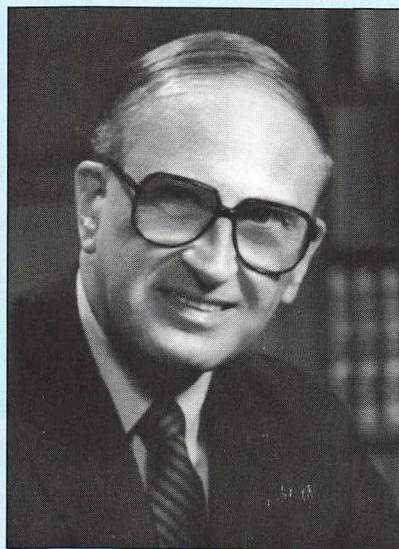
by Walter Derk

For the past 15 years, however, one insurance program has remained open to the roofing industry for both new and renewal policies. CNA's NRCA-endorsed program has continued to cover roofing contractors throughout the insurance industry's fluctuations. Even during the present crisis, individual contractors that show they are concerned about loss control, have the work experience, and possess a claim record that meets objective underwriting criteria can qualify for quotations after CNA makes a physical safety engineering inspection.

These days, the inspection process can take up to 60 days, so it is necessary for companies that are hoping to join the program to apply early. We suggest to contractors not in the program that if they find their insurance will not be renewed, they should ask for a pro-rata extension to allow CNA time to inspect the contractor's operation and carefully consider the application. It should be remembered that CNA cannot complete this work on short notice.

The specific underwriting requirements CNA has established for the NRCA program include:

- a minimum of three years, management experience in the roofing business;

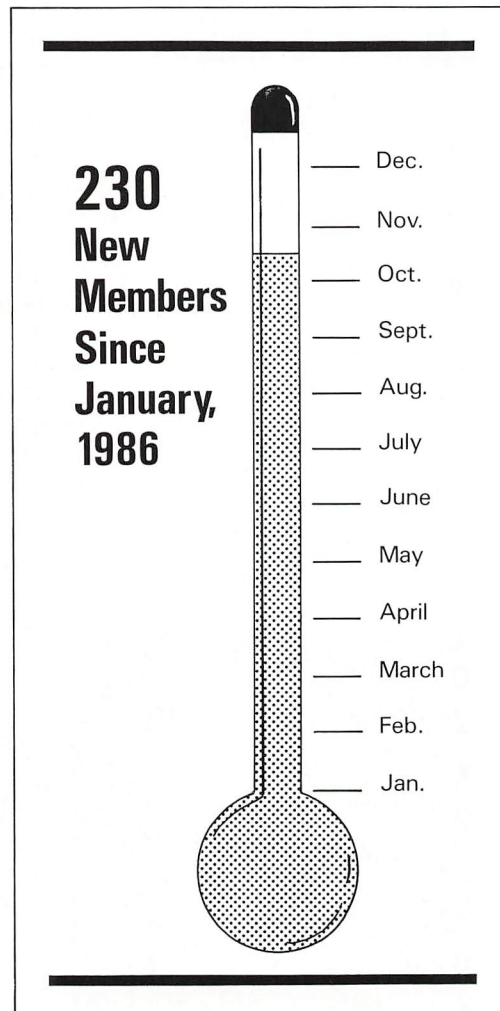


Walter Derk is executive vice president of Fred S. James & Co., advisors for the NRCA/CNA insurance program.

For the past 15 years, one insurance program has remained open to the roofing industry.

- a business mix that is composed of primarily commercial flat roofing work, with less than 25 percent of the business on slopes greater than 4 in 12; more than 50 percent of the company's payroll should be derived from roofing, including allied sheet metal, insulation and waterproofing work;
- a \$100,000 minimum payroll in the roofing classification;
- a satisfactory financial condition as demonstrated by such documents as a Dun & Bradstreet report, an audited financial statement or a 10-K; and
- acceptable prior loss experience as documented by previous carriers.

As I have stated before, the time required for CNA to inspect a contractor's operation and confirm the company's positive attitude and actions toward safety is about 60 days.



Satisfied customers

CNA program manager Jim Cicero reports that more than 600 roofing contractors currently participate in the NRCA program. He projects an annual premium volume of \$44 million, up from \$28 million for the previous year. "CNA will continue to be a viable market for good roofing contractors in the future," he said.

One contractor who has found the relationship between NRCA and CNA to be satisfying is Bill Steinmetz Sr., chairman of Midland Engineering Co., Inc., in South Bend, Ind. "I've had the privilege of serving on the Insurance Committee since its inception," he says. "CNA has been a marketplace for our industry when others have pulled out, or at least have been in and out of the marketplace. CNA has been there to represent us. We literally taught CNA the roofing industry. There is a lot of expertise out there in loss control, and I would encourage all of you to use their good offices."

That sentiment is shared by Sam Piper, chairman of J.A. Piper Roofing Co. in Greenville, N.C. Piper is also a long-time member of the NRCA Insurance Committee and has served as its knowledgeable chairman for a good number of those years. "CNA's greatest value is that it is consistent. This is the second insurance crisis during which CNA has remained a market for us. In creating a market for the roofing business, CNA has also made it easier on other members who, for whatever reason, insure elsewhere."

New enrollments in the program continue to be strong, averaging more than \$200,000 in new premiums monthly. Those NRCA members who meet the CNA eligibility criteria listed may contact any agent of the company for a quotation or make arrangements by phoning NRCA's Bob McAdam at 312/693-0700. At the contractor's request, McAdam will arrange a local agent contact for the contractor.

Your Presence is Requested at

NRCA'S CENTENNIAL CONVENTION

CONVENTION HIGHLIGHTS

Educational opportunities galore—early bird programs, general sessions, workshops and rap sessions
NRCA's largest Trade Show ever—811 booths, showcasing the newest roofing products and equipment
NRCA Roofing Today and NRCA Convention Spec—current Convention happenings in the convenience of your hotel room
Outstanding entertainment, specially designed spouse programs, and a one-of-a-kind Centennial theme party
San Francisco, Everybody's Favorite City—cable cars, Chinatown, Fisherman's Wharf

CENTENNIAL HIGHLIGHTS

A museum, featuring a collection of historical roofing items dating back to the early 1800s
A full-length feature film on the accomplishments of the roofing industry
Commemorative items designed to capture the spirit of commitment, longevity and professionalism
A display of the winning entries from the "Design a Roof of the Future" contest
A celebration of 100 years in the roofing industry—a celebration you won't want to miss!



FEBRUARY 22-25, 1987 • SAN FRANCISCO

See other side for registration form.

**National Roofing Contractors Association
100th Annual Convention & Exhibit
San Francisco, Calif. — Feb. 22-25, 1987**

Send form to:
NRCA Convention Department
P.O. Box 3129
Oak Park, Ill. 60303

--	--	--	--	--

Information:

- One registrant and spouse per form. You may duplicate this form for additional registrants.
- Reservations must be received by Jan. 23, 1987 or we cannot guarantee you a room.
- Notify NRCA directly in writing of all changes and cancellations by Feb. 9, 1987.
- No phone reservations will be accepted.

Convention registration:

Name		Nickname for badge	
Company		Phone #	
Address			
City	State	Country	Zip code

Job classification: one category must be checked.

- | | | | |
|--|--|--|-------------------------------------|
| (01) <input type="checkbox"/> Contractor | (03) <input type="checkbox"/> Architect/engineer | (05) <input type="checkbox"/> Foreman/superintendent | (17) <input type="checkbox"/> Media |
| (02) <input type="checkbox"/> Jobber/distributor | (04) <input type="checkbox"/> Manufacturer | (06) <input type="checkbox"/> Consultant | (07) <input type="checkbox"/> Other |

Status: please check all that apply—at least one category must be checked. Member Non-member First Convention

Register spouse below:

Spouse's name		Nickname for badge	
Home address			
City	State	Country	Zip code

On Tuesday, Feb. 24, spouse will be attending 100 Years of San Francisco tour or Historic Sonoma tour

Registration fees:

- The registration price entitles you to a badge, entry to the exhibit hall, Opening Welcome Reception, early bird workshops, educational workshops, general session, rap sessions, and all ticketed meal and social functions. The spouse registration price includes these items, plus a spouse program ticket.
- No refunds will be given at Convention.
- 90 percent refunds on advance registration will be made until Jan. 23, 1987 upon written request to the NRCA headquarters.
- After Jan. 23, 1987 only people unable to attend the Convention will receive refunds provided requests for refunds are received in writing before March 20, 1987. Refunds in such cases will be made for 80 percent of the advance registration purchase price.
- The advance registration price is discounted.

Fees: check appropriate box:	Category	Before Nov. 28	After Nov. 28
<input type="checkbox"/>	NRCA member	\$325	\$345
<input type="checkbox"/>	Non-member	\$365	\$385
<input type="checkbox"/>	Spouse	\$310	\$330

Contractor dues: you may wish to pay your 1987 dues at this time. 1987 dues are \$420 for contractors who belong to local, state, or regional roofing contractor associations, and \$445 for those who do not. (Current members: Please include a copy of your 1987 dues invoice.)

<p>Amount:</p> <p>Registrant fee \$ _____</p> <p>Spouse fee \$ _____</p> <p>Dues \$ _____</p> <p>Total amount owed \$ _____</p>	<p>check appropriate box</p> <p><input type="checkbox"/> Check enclosed <input type="checkbox"/> MasterCard</p> <p><input type="checkbox"/> VISA <input type="checkbox"/> American Express</p> <p>Account # _____</p> <p>Expir. date _____</p> <p>Signature _____</p> <p>(Name as it appears exactly on card)</p> <p>Total amount owed \$ _____</p> <p>(Charge cards will not apply towards hotel deposit)</p>	<p>FOR NRCA USE ONLY</p> <p>NRCA I.D. number _____</p> <p>Date _____</p> <p>Check number _____</p> <p>By _____</p>
--	--	--

Housing:

- You will receive a confirmation directly from the hotel to the above address. Hotel placement will be made in the order of forms received. If your first choice is not available, you will be assigned to your second or third choice. Please number the hotels in order of your preference.
- You may reserve a hotel room without advance registering.

Accommodations:

- | | | |
|---|---|---|
| St. Francis: _____ standard/single \$100 _____ double \$120
_____ medium/single \$125 _____ double \$145
_____ deluxe/single \$145 _____ double \$165 | Mark Hopkins: _____ single \$140 _____ double \$160
Meridien: _____ single \$115 _____ double \$135
Hyatt Union Square: _____ single \$130 _____ double \$160
Ramada Renaissance: _____ single \$95 _____ double \$110 | Hilton: _____ single \$70 _____ double \$82
_____ tower/single \$80 _____ double \$92
Stanford Court:
_____ standard/single \$145 _____ double \$175
_____ superior/single \$170 _____ double \$200 |
| Fairmont: _____ courtview/single \$125 _____ double \$155
_____ outside view/single \$135 _____ double \$165
_____ towers/single \$170 _____ double \$200 | | |

Arrival date	Departure date
--------------	----------------

Please note: The St. Francis and Ramada require a one-night deposit to guarantee your reservation after 6 p.m.; Stanford Court after 4 p.m.; The Fairmont, Hopkins, Meridien, Hilton and Hyatt require a one-night deposit before Feb. 15, 1987 for all room reservations. **Please make all hotel payments and deposits directly to the hotel.**

Initials/Date Entered	Hotel Confirmation	Badge
-----------------------	--------------------	-------

Attempted takeover leaves O-C juggling

After almost a month of unfriendly bantering, the Wickes Cos. of Santa Monica, Calif., withdrew its hostile \$2.1 billion tender offer for the Owens-Corning Fiberglas Corp. of Toledo, Ohio. According to the *Wall Street Journal*, Wickes' interest in Owens-Corning was centered on the company's roofing and insulation businesses, which correspond with Wickes' building materials retailing operations.

Although the withdrawal has earned Wickes a handsome \$30 million net gain, Burt Elliot, vice president of Owens-Corning's Roofing Products Operating Division, told *Roofing Spec* that his company is left facing some serious decisions. He declined to comment further.

Wickes dropped its \$74-a-share tender offer when Owens-Corning countered with a recapitalization plan it said had a higher value than the Wickes bid. This plan envisages the sale of Owens-Corning's recently acquired Aerospace and Strategic Materials Group, among other measures.

However, *The Wall Street Journal* reports, even after selling its 8.5 percent share in Owens-Corning, Wickes has suggested that it might bid again for the company if Owens-Corning shares fall sharply or the recapitalization plan proves to have a low market value.

This is the second time this year that Wickes has canceled a hostile bid for a building-products concern. In April, Wickes ended a \$1.23 billion bid for the National Gypsum Co. Analysts expect that Wickes will try to acquire another building-products concern in the future and suggest that some possibilities are Chicago's USG Corp. and Tampa's Jim Walter Corp., according to *The Wall Street Journal*.



(left to right): Hugh C. Kenney, senior vice president, marketing and sales, Carlisle SynTec Systems; W. Kent Nielsen, president, Curran V. Nielsen Co., Minneapolis; John D. Kavanagh, director, marketing and customer services, Carlisle SynTec Systems; Warren Edwards, president, Roof-Tek, Inc., Marshville, N.C.; Don Largent, president, Don Largent Roofing, Inc., Harrisonburg, Va.; and Kem W. Scott, vice president, marketing and sales, Carlisle SynTec Systems.

Carlisle introduces Roofing Hall of Fame

Carlisle SynTec Systems has named its first roofing applicators to the Carlisle Applicators Hall of Fame. Those chosen for the Hall of Fame were Don Largent, president of Don Largent Roofing, Inc., of Harrisonburg, Va.; Warren Edwards, president of Roof-Tek, Inc., of Marshville, N.C.; and W. Kent Nielsen, president of Curran V. Nielsen Co. of Minneapolis. The Hall of Fame is housed at the company's Tech Center in Carlisle, Pa.

To qualify for the Hall of Fame, roofing contractors must complete 250 Perfect 10 applications. Qualifying contractors receive special awards

and a plaque that is displayed in the Hall of Fame.

The Carlisle Applicators Hall of Fame is part of Carlisle's national roofing and inspection program. To receive the company's Perfect 10 or Centurion awards, or to be elected to the Hall of Fame, roofers must participate in Carlisle's intensive training program, and each of their installations must be inspected and graded by a Carlisle field technical representative.

Roofing applicators who receive 50 Perfect 10 grades qualify for the company's Perfect 10 award, 100 Perfect 10 grades qualify applicators for a Centurion award and 250 Perfect 10 grades takes an applicator to the Hall of Fame.

Reichel & Drews forms exclusive agreement

Reichel & Drews, Inc., has become the exclusive marketing agent for Heatec, Inc., and Astec, Inc. This relationship makes the company the only single-source U.S. supplier of complete production lines and their support equipment for the asphalt roofing industry, according to the company.

Heatec and Astec, both based in Chattanooga, Tenn., supply thermal fluid heating systems and bulk material handling systems to Reichel & Drews for adaptation to the roofing industry. Heatec's thermal fluid heaters are used in roofing manufacturing to heat por-

tions of the production line, and to provide heat for asphalt and filler heaters. Astec's bulk handling systems store and transfer sand, limestone, talc and granules for shingles, conventional roll roofing and modified bitumen membrane manufacturing.

According to Reichel & Drews, the marketing agreement will expand the company's capabilities and scope of supply in the roofing industry, and give customers the opportunity to go to one source for everything they need.

GAF announces fire extinguisher offer

Roofing contractors who purchase 100 rolls of Ruberoid® MB modified bitumen by Oct. 31 are eligible to receive a free Kidde 10-pound fire extinguisher from the GAF Corp.

To qualify for the promotion, contractors must mail a copy of the invoice from the wholesaler, together with a completed coupon, to GAF

Building Materials Corp.

For further information, contact Jason Gladfelter, GAF Building Materials Corp., 1361 Alps Rd., Wayne, N.J. 07470.

CRSI retains sales representatives

To increase business and provide additional opportunities for its customers, Cooley Roofing Systems, Inc., (CRSI)

has retained three independent sales representatives.

Jack Kuchinski, president of Northeast A-R, Inc., and a long-time advocate of single-ply roofing, will be CRSI's sales representative in Maine, New Hampshire and in parts of Eastern Massachusetts.

Clair Steck, president of Consolidated Specialists, Inc., in Wheatridge, Colo., will represent CRSI in Colorado and Eastern Wyoming.

Robin and Warner Hobart of Hobart Brothers, Inc., a manufacturer's representative firm that specializes in roofing systems and waterproofing materials, will provide sales support for CRSI in Northern California and Northern Nevada.

Seaman Corp. appoints national sales manager

The Seaman Corp. of Millersburg, Ohio, has appointed James Tasso as national sales manager for the company's FiberTite™ Single-Ply Roof Product Group. Tasso's headquarters will be at the corporation's FiberTite division in Sarasota, Fla.

Tasso is a 14-year roofing industry veteran. He has spent the majority of his career with Tremco in various sales management positions throughout the country.

Guaina names director, opens Western office

The Guaina Corp. of America has named Franz Kolb regional marketing director. Kolb's primary responsibility will be marketing the company's products in the Western United States. According to Guaina, Kolb is an expert on marketing modified bitumen roofing.

In addition, Guaina has opened a Western sales office. This new office is located at 4565 Jarrah St., Salt Lake City, Utah 84119; 801/265-1300.

How Roofmaster Equipment Works Better Than Aspirin

When dealing with roofing equipment headaches, reaching for aspirin isn't the only cure. In fact, reaching for your nearest phone and calling the Roofmaster experts can get you feeling better — a whole lot faster!

That's because at Roofmaster we understand the things that can slow you down on the roof. Like equipment that doesn't work when you need it most. Or tools that aren't right for your application. For over thirty years we've kept ourselves at the forefront of roofing trends — so that we can assist contractors like you in choosing equipment that

will help you get the job done — on time.

Whether your application is BUR or Cold Process, Single Ply or Tile, we have the equipment, tools and accessories — and we usually ship them out the same day you place your order. It's because of this kind of service that contractors all over North America put Roofmaster Products to work on their crews.

So call our toll-free number today for the Roofmaster Supplier near you. And see how fast we send relief!



1-800-372-6409

California, except 213 & 818 Area Code

1-213-261-5122

1-800-421-6174

Nationwide except CA & AK

Plant: 750 Monterey Pass Road, Monterey Park, CA 91754-3668

Mailing Address: P.O. Box 63309, Los Angeles, CA 90063-0309 Telex: 298940 Roof ur

ROOFMASTER
PRODUCTS COMPANY

Helping Contractors Build America Since 1952

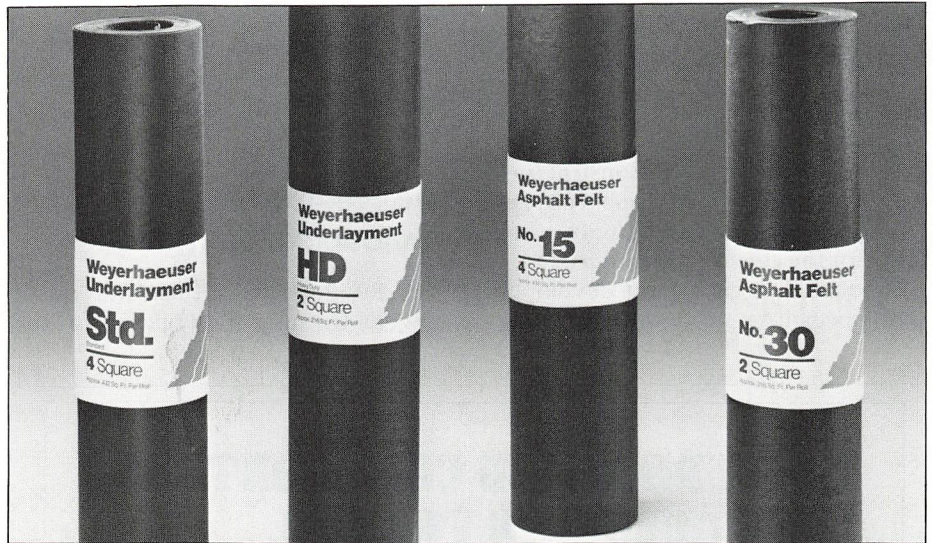
Check #36 on Reader Service Card

Weyerhaeuser to market top-grade asphalt felt

The Weyerhaeuser Co. has announced plans to begin national distribution of a high quality asphalt roofing felt. This top-grade felt, produced to third party specifications, will be marketed exclusively through Weyerhaeuser's customer service centers to lumberyards, home centers and roofing suppliers.

The asphalt felt is scheduled to be distributed in the Southeast and South Central regions, and will be available in other parts of the United States later this year.

"The asphalt felt is part of the company's continuous expansion of private label products designed for residential contractors as well as the do-it-yourself market segment," explained Kerry Brown, national account marketing manager for Weyerhaeuser. Brown will oversee the distribution



Weyerhaeuser's asphalt roofing felts.

and marketing of the new asphalt felt product.

The felt is available in 2-square, 3-square and 4-square measurements.

The product will be covered by Weyerhaeuser's bright new packaging that features an orange and red growth ring pattern.

VERMONT ROOFING SLATE

*All Colors
and
Thicknesses*

Semi-Weathering Gray and Green		Mottled Green and Purple		Bangor Blue-Black		Unfading Green	
Royal Purple	Vermont Black	Mottled Gray	Rustic	Red	Flagstone Tile		

Full Architectural Service

*Also -
Slate Cutters, Hammers,
Rippers and Slate Hooks.*

"Since 1916"
**EVERGREEN
SLATE CO. Inc.**
Granville, New York, 12832

Quarries: Wells, Vt. • Shipping Station: Granville, N.Y.
Office: 68 Potter Ave. • Telephone: 518-642-2530

Check #11 on Reader Service Card

insul-mark ^{T.M.} ROOF FASTENING SYSTEMS

Insul-Mark's Unique Technology--

Unlike most other brands, Insul-Mark requires no slash point, cut point or drill flutes to accomplish the drilling action. With our strong "S" point, penetration of steel roof decking is fast. Our screw has a super sharp point that pierces a fine hole. As the screw is installed, an extrusion is formed on the deck's underside thereby creating a binding effect for maximum pull-out strength.

m-guard Coating survives 30 or more Kesternich Test cycles--

Acid rain and corrosion present no problems for the Insul-Mark screw as all are coated with M-Guard at no extra cost. The coating has proven its quality in Salt Spray Tests and Kesternich Tests.



APPROVED

For more information, contact:
Insul-Mark Midwest, Inc.
P.O. Box 1541
LaPorte, IN 46350
(219) 324-2244

Check #22 on Reader Service Card

Software Shop awards Reidhal, Inc., \$2,000

Software Shop Systems has awarded Reidhal, Inc., \$2,000 for being the 2,000th purchaser of the Construction System, a computerized job cost accounting system designed by Software Shop for the construction industry.

Riedhal, Inc., is a land developer who specializes in modular housing

in Central New Jersey. According to the company's assistant controller, Carol Maye, the system enables one person to do the work of three or four people.

Owens-Corning announces promotion

The Residential Roofing Division of Owens-Corning Fiberglas and the

National Football League have teamed up again to offer residential roofing contractors a competitive edge on shingle sales.

The Division's fall consumer premium promotion, "Score with Great Protection," will run from Sept. 26 through Nov. 2. Residential customers who purchase 10 or more squares of any Owens-Corning shingle will receive a Wilson NFL football, a \$29.95 value.

The promotion is easy for contractors to use. After closing the sale, the contractor gives the homeowner a coupon that explains how to get the football. Owens-Corning handles all processing for the redemption.

Owens-Corning will run roofing commercials on television one month before the promotion as part of its 1986 network multi-product advertising campaign. The commercials will reach the estimated 70 million people who watch at least one NFL game each week on network TV.

WITH POOR JOB COST CONTROL, YOU COULD WIN THE BID BUT LOSE YOUR SHIRT.

Cost control is the key to profitability.

The Software Shop Construction System gives you the job-in-progress cost information you need to keep close control of your costs, your cash and your company's profits.

- **Fully integrated...** Job Cost, Accounts Payable, General Ledger, Payroll, Accounts Receivable... designed specifically to handle construction accounting.
- **Easy to use...** built-in learning tools and in-office training materials designed for first-time computer users.
- **Powerful IBM® PC hardware...** runs on the popular IBM Personal Computer XT or AT.
- **Proven performance...** installed and working successfully in over 2,000 construction companies nationwide.

Call 1-800-554-9865 (in New Jersey call (201) 938-3200) for the name of your local Software Shop Construction System dealer or send in this coupon today.

IBM® is a registered trademark of International Business Machines Corp.

Route 34, P.O. Box 728, Farmingdale, NJ 07727 RS 10/86

Software Shop

- Please send me information on the Software Shop Construction System.
- Please have a Software Shop dealer contact me directly.

SYSTEMS

NAME _____

COMPANY _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

PHONE(_____) _____

Check #39 on Reader Service Card

UC processing line to double production

UC Industries, Inc., (UCI) has begun producing its extruded polystyrene product, Foamular™, on the company's newest processing line. The addition of the line will eventually double the production capacity of the Tallmadge, Ohio, plant.

The Tallmadge expansion represents the first phase of a major UCI program to increase Foamular production by expanding and adding operating facilities nationwide.

The new production line incorporates state-of-the-art, high-rate production technology as well as the most modern, computer-controlled systems.

continued on page 59



Why roofers should hate EC acrylic coatings.

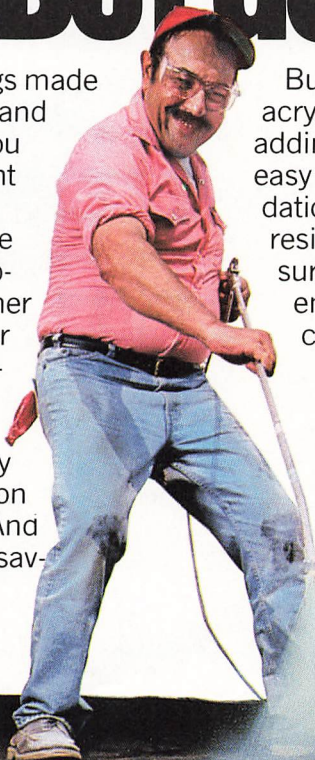
But don't.

Considering all the ways coatings made with Rhoplex® EC acrylics protect and prolong the life of existing roofs, you would think that roofers would want nothing to do with them.

Yet in reality, roofers actually like EC acrylics. Why? For one, they provide added profits. When a customer calls for roof repairs, the contractor can increase his business by offering a full maintenance coating in addition to patching the roof.

Plus, EC-based coatings are easy to apply. They simply spray or roll on to a properly prepared substrate. And equipment washes off with water, saving time, manpower, and money.

EC acrylics are only a raw material in roof coatings. Successful performance of final roof coating products depends upon proper formulation, manufacture and application.



But most important, coatings made with EC acrylics keep customers satisfied. They do it by adding durability to existing roofs for years of easy maintenance. By withstanding UV degradation that deteriorates asphalt roofs. And by resisting dirt pickup, so that the smooth white surface retains its reflectivity for increased energy savings. Which all adds up to fewer contractor callbacks.

So the next time you're faced with roof repairs, do yourself and your customer a favor. Finish the job with EC acrylics from Rohm and Haas. To learn more, call your local manufacturer. Or call Carol Chin toll-free at 800-858-3814.



FINISH THE JOB WITH AN EC ACRYLIC.

Check local building codes or proper authorities before applying any roofing system. Rhoplex is a registered trademark of Rohm and Haas Company.

*1986 Rohm and Haas Company.

Check #33 on Reader Service Card

Derbigum has know
for years. But



n how to retard aging only for roofing.

Ultraviolet light is one reason we all age the way we do.

People have known this for a long time, but short of locking ourselves up in a dark room forever, there's not much we can do about it. Sad but true.

Ultraviolet light is also one of the downfalls of roofing. But here, we're happy to say, Owens-Corning has been able to resist nature by designing our Derbigum® roof system so that it actually filters out ultraviolet light.

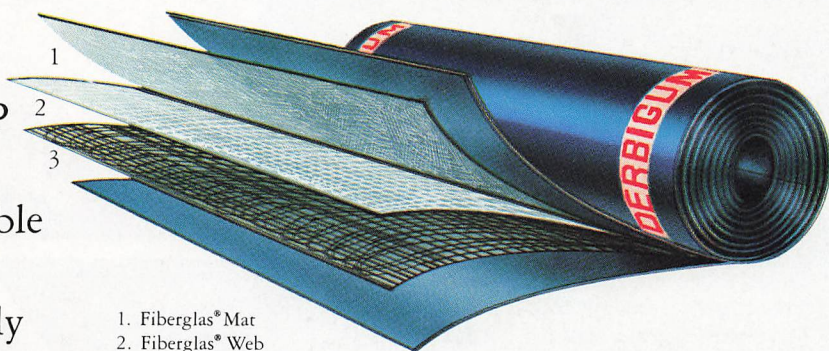
Take a look at our diagram. The construction of Derbigum HPS and SP roofing is unique — unlike that of any other modified bitumen roofing available in America.

While most competitors have only one reinforcing mat, Derbigum SP has *two* and Derbigum HPS has *three*. And while others have their reinforcement in the middle of the membrane, Derbigum's are near the upper surface. This positioning at the top enables Derbigum's Fiberglas® mat to deflect ultraviolet light as soon as it arrives. So the maximum amount of modified asphalt waterproofing material is protected from the sun.

Derbigum's *multiple* mats — polyester

and Fiberglas — serve different purposes. One provides puncture and tear resistance. The other combines tensile strength of 200 lbs. per sq. inch with dimensional stability across a wide temperature range.

No wonder Derbigum can boast an 18-year record of proven performance to date, both in Europe and at home. And no wonder Derbigum comes complete with what we think you'll agree is the best overall warranty in the roofing industry.



1. Fiberglas® Mat
2. Fiberglas® Web
3. Polyester Reinforcement

Derbigum HPS is shown

Isn't life too short to spend a lot of time worrying about roofs? For additional reasons to specify Derbigum for your next commercial building, just talk to your representative from Owens-Corning, the world's largest roofing manufacturer.

Or write for a spec sheet. The address: B.W.M. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

OWENS/CORNING
FIBERGLAS

Extruded Polystyrene Insulation FOAMULAR®

Aren't these the benefits you're really looking for in a roofing insulation?

1. HIGH INSULATING VALUE.

Foamular® gives an R-value of 5 per inch of thickness — higher than many commonly used rigid foam insulations. And it's an R-value that won't significantly diminish over time.

2. OUTSTANDING MOISTURE RESISTANCE.

Because Foamular is an extruded polystyrene insulation, produced by means of our patented process technology, it's highly resistant to moisture. So, year after year, it keeps its superior level of insulating performance even after exposure to moisture of all kinds.

3. LABOR-SAVING INSTALLATION.

Foamular comes in lightweight, yet tough, rigid foam panels that are extremely easy to hoist, handle, cut and install for labor-saving efficiency in roofing applications.

4. ECONOMICAL CHOICE OF STRENGTHS.

Foamular's "Family of Products" concept lets you select Foamular in compressive strengths ranging from 15 psi to 60 psi. That means you get the Foamular product that's right for your roofing application — without overbuying.

5. WIDE APPLICATION USE.

Foamular is ideally suited for use in single-ply roofing applications where the insulation is placed beneath the roof membrane, or in PRMA systems, where the insulation is placed above the membrane to protect it from abuse. And there's a specific Foamular product designed to meet these applications.

Write or call for complete technical and application literature.



2 Sylvan Way • Parsippany, N.J. • 07054 • (201) 267-1605

Check #47 on Reader Service Card



Higher R-values mean greater insulating power. Savings vary. Find out why in the seller's fact sheet on R-values.

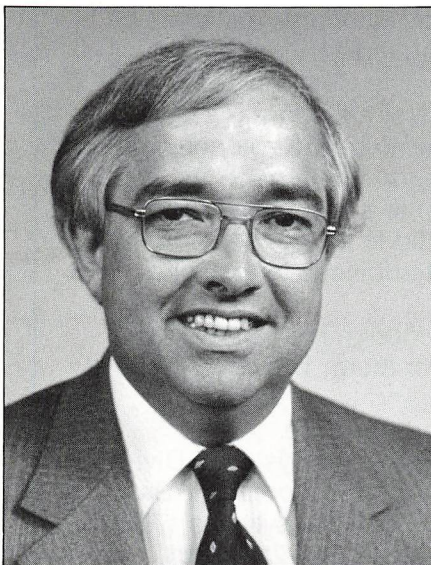
WARNING: COMBUSTIBLE. This product will ignite if exposed to fire or sufficient heat and intensity.

puttin' on the pink

Armco names new personnel

Armco Atlantic, Inc., has named Martin D. Densmore vice president of operating services, Britt E. Skirvanek sales manager of the central profit center, Lawrence J. Loblillo supervisor of sales North and Dennis M. Barber supervisor of sales South.

Densmore will be responsible for information resources management, purchasing, quality assurance, manufacturing, industrial engineering and the Atlantic Transportation Co. Prior to receiving this promotion, Densmore was general manager of manufacturing services.



Martin Densmore

Skirvanek, who has worked for Atlantic Building Systems since 1978, was previously regional sales manager.

Loblillo will continue as district manager in Oregon, Wis., while assuming responsibilities for Armco and Atlantic builders in the Indianapolis, Chicago and Minneapolis areas. Loblillo joined Armco in 1985 after 10 years of experience in the construction and pre-engineered metal buildings industries.

Barber will continue as district manager in Shreveport, La., and will also be responsible for Armco and Atlantic builders in the Little Rock and San Antonio areas. Barber has been with the company since 1977.



WHY DO THE MOST DEMANDING DESIGNERS, ARCHITECTS AND CONTRACTORS SPECIFY EVANITE PERMAGLAS® ROOFING SYSTEMS?



QUALITY

Evanite Permglas Roofing Systems are manufactured to meet or exceed ASTM, Federal and Military standards . . . AND WE GUARANTEE IT!



FIRE PROTECTION

Naillable, Non-Naillable, or Insulated Deck, Evanite Permglas has a U.L. Class "A" system for you . . . AND WE GUARANTEE IT!



GUARANTEES

Evanite Permglas offers a variety of roofing guarantees including our Permglas Unlimited Guarantee. Built-Up, FLEX CAP™, or EPDM, we have you covered . . . AND WE GUARANTEE IT!



EXPERIENCED TECHNICAL ASSISTANCE

Our technical staff is experienced in all roofing applications. Evanite Permglas inspectors carefully monitor every step to assure you the best roof possible . . . AND WE GUARANTEE IT!

"Your worries are over when you specify PERMAGLAS."



EVANITE PERMAGLAS, INC.

P.O. Box "E" Corvallis, Oregon 97339 (503) 753-1211

For additional information call

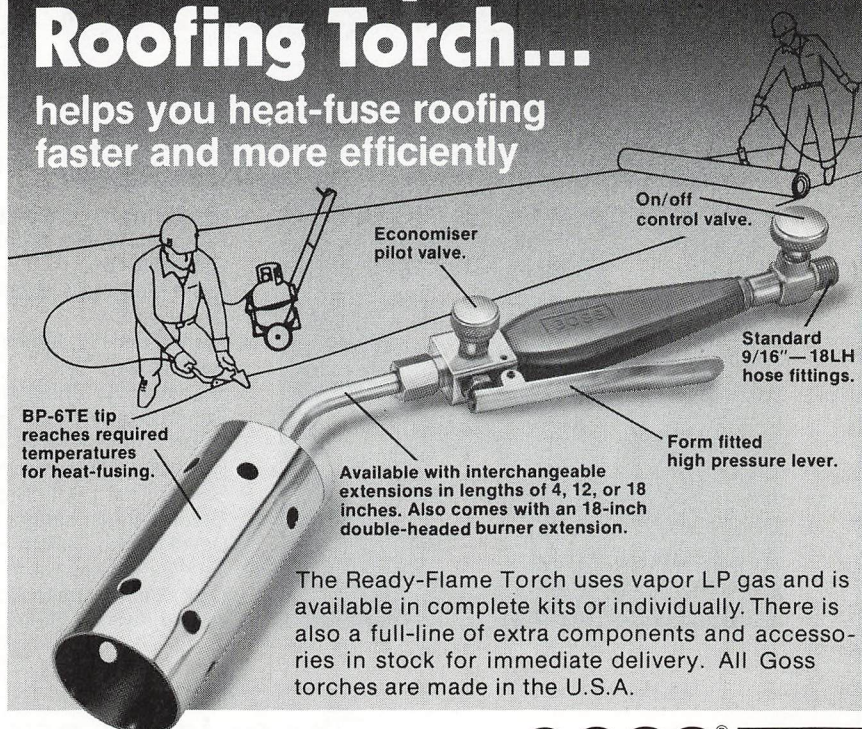
1-800-541-6230

Visit us at the Midwest Roofing Contractors Association Convention Booth #418-420

Check #9 on Reader Service Card

Goss Ready-Flame Roofing Torch...

helps you heat-fuse roofing faster and more efficiently



The Ready-Flame Torch uses vapor LP gas and is available in complete kits or individually. There is also a full-line of extra components and accessories in stock for immediate delivery. All Goss torches are made in the U.S.A.

For more information, call toll-free:

1-800-FOR GOSS In Pennsylvania **1-800-GET GOSS**
1-800-367-4677 1-800-438-4677



1511 Wm. Flynn Highway (Route 8)
Glenshaw, PA 15116-2301
Telephone: 412/486-6100 • Telex: 81-2437

Check #17 on Reader Service Card

The Carlisle Centurions:

“Good enough just isn’t good enough for us.”



Carlisle applicators have one objective. To make every roof they apply a *perfect 10*.

To earn a perfect 10, a roof undergoes a rigorous inspection. Including hundreds of details. And it is then judged to be totally in conformity with Carlisle’s specifications and details by the Carlisle inspector.

Carlisle’s standards are some of the roofing industry’s toughest. But a Carlisle Centurion’s standards are just as tough.

You see, to be a Centurion, you have to earn 100 perfect 10s. A Centurion is a rare breed. And we’re proud to honor these 14—the latest additions to this elite group.

Good enough just isn’t good enough for them. They want to be the best. And as far as we’re concerned, they are.

Carlisle SynTec Systems, Division of Carlisle Corporation, Box 7000, Carlisle, Pennsylvania 17013. Phone toll-free **800-233-0551**. In PA, 800-932-4626. In Canada, 416-673-5557.

1. Ken Farragut, United States Roofing Corporation, Norristown, PA
2. Doug McDonald, Richland Company & Associates, Defiance, OH
3. Kevin McDonald, Richland Company & Associates, Defiance, OH
4. Frank Funovitz, Pennsylvania Roofing Systems, Inc., Bakerstown, PA
5. J.C. Lee, B&L Sheet Metal & Roofing, Inc., Bloomington, IN
6. Robert Herbert, R.D. Herbert & Sons Company, Nashville, TN
7. Robert Conway, W.S. Aiken, Inc., Salem, MA
8. Raymond Clausen, Great Lakes Systems, Inc., Jennison, MI
9. Sam D. Roth, Roth Bros, Inc., Youngstown, OH
10. Glenn Langer, Langer Roofing & Sheet Metal, Milwaukee, WI
11. David Rafoth, Rafoth Furnace & Sheet Metal, Inc., Dubuque, IA
12. Jary Gaudineer, Barrick Roofers, Inc., Des Moines, IA
13. Dick Groom, Drake Roofing Company, Des Moines, IA
14. Arnold Kwikkel, Sioux Roofing Company, Inc., Rock Rapids, IA

Carlisle is a registered trademark of Carlisle Corporation.
©1986 Carlisle Corporation

There is no equal.

CARLISLE
Carlisle SynTec Systems

Coalition forms to stop unfair competition

The Sheet Metal, Air Conditioning & Roofing Contractors Association of Minnesota, Inc., (SMARCA) has banded together with the Minnesota Electrical Association, the Minnesota Association of Plumbing, Heating & Cooling Contractors and the Association of Building Contractors to fight purported unfair utility competition.

Although this coalition, the Minnesota Alliance for Fair Utility Competition, has already hired a lobbyist, documentation of actual instances of unfair competition is still needed before a request for a change of law can be made to the legislature. Consequently, the coalition asks that any-

one who has experienced unfair competition from utilities submit documentation to SMARCA.

Documentation forms are available from the SMARCA office. It is also possible for contractors to send copies of bids, advertisements and other proof of unfair competition along with the following information to the Minnesota Alliance for Fair Utility Competition, c/o SMARCA, Inc., 111 Douglas Drive North #102, Minneapolis, Minn. 55422. The information may include:

- a complete description of the incident;
- when the incident occurred;
- the name of company and specific employee names, if possible;
- how the contractor's company has been affected by the incident; and
- other comments.

EMPLOYEES APPRECIATE THE PAYROLL SAVINGS PLAN.

JUST ASK THE PEOPLE AT E-SYSTEMS.

"Bonds are paying for the education of my sons. I don't miss the money because of my payroll deduction."

—Lloyd Ham



U.S. Savings Bonds now offer higher, variable interest rates and a guaranteed return. Your employees will appreciate that. They'll also appreciate your giving them the easiest, surest way to save.

For more information, write to: Steven R. Mead, Executive Director, U.S. Savings Bonds Division, Department of the Treasury, Washington, DC 20226.

U.S. SAVINGS BONDS
Paying Better Than Ever

A public service of this publication.

INTRODUCING THE SUPERIOR SBS MODIFIED BITUMEN MEMBRANE BRAI/FLEX BY U.S. INTEC

SEE IT AT THE MRCA CONVENTION BOOTHS 203, 301 & 302 

Check # 46 on Reader Service Card

DEKFAST™

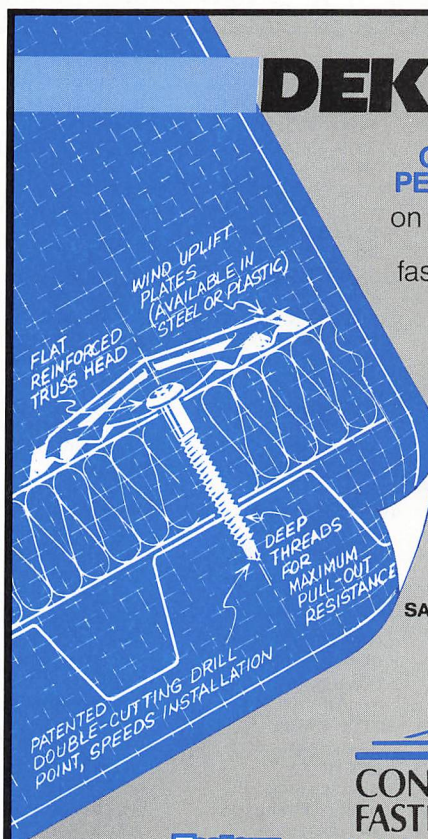
GUARANTEED PERFORMANCE

on membrane and roof insulation fastening systems for steel, wood and concrete decks.

AVAILABLE WITH:

SENTRI™
LONG-LIFE FINISH

FOR TECHNICAL PACKET AND SAMPLES, CONTACT:



Factory Mutual System

Approved


CONSTRUCTION FASTENERS, INC.
Dekfast Product Group
P.O. Box 6326
Wyomissing, PA 19610
215/376-5751

Check # 6 on Reader Service Card

COMING EVENTS

(For inclusion of events, address all correspondence to:
Roofing Spec "Coming Events"
8600 Bryn Mawr Ave.,
Chicago, Ill. 60631).

Oct. 22-24

The Third Annual Buildings Show
Buildings magazine
Chicago, Ill.

Oct. 26-29

Annual Convention and Trade Show
Midwest Roofing Contractors
Association
St. Louis, Mo.

Nov. 3

Asbestos Abatement and Removal:
Legal Considerations and Planning
Construction Education
Management Corp.
Washington, D.C.

Nov. 4-5

Single-Ply Roofing Systems
Roofing Industry Educational
Institute
Chicago, Ill.

Nov. 6-7

Roof Inspection, Diagnosis & Repair
Roofing Industry Educational
Institute
Chicago, Ill.

Nov. 6-7

Concentrated Course on
Government Construction
Contracting
Construction Education
Management Corp.
Washington, D.C.

Nov. 10-11

Construction Claims and Disputes
for Owners, Contractors,
Developers, Architects and
Engineers

Construction Education
Management Corp.
Lake Buena Vista, Fla.

Nov. 10-13

CMC '86 Conference and Exposition
The Computer and Management
Show for Contractors
San Francisco, Calif.

Nov. 11-14

Basic Roofing Technology
Roofing Industry Educational
Institute
Sacramento, Calif.

Nov. 17-20

Basic Roofing Technology
Roofing Industry Educational
Institute
Vancouver, B.C., Canada

NRCA OFFICERS & DIRECTORS

NRCA OFFICERS

President
DONALD McNAMARA
Milwaukee, Wis.

Senior Vice President
MICHAEL BELDON
San Antonio, Tex.

Vice Presidents—Two Years
JOSEPH ADLER
Joliet, Ill.

DUDLEY MILES
Chesapeake, Va.

MARLIN POTTEIGER
York, Pa.

Vice Presidents—One Year
RICHARD BAXTER
Monroe, N.C.

WILLIAM T. FORT JR.
Sumter, S.C.

RICHARD ROSENOW
Chicago, Ill.

Immediate Past President
ROBERT T. HARRISON
Greenville, S.C.

BOARD OF DIRECTORS

Three Year Term
CHARLES BECHTEL
Dayton, Ohio

WILLIAM BOYLAND
Cohoes, N.Y.

JOSEPH BUECHE
Phoenix, Ariz.

MARK CONNELLY
Valley Park, Mo.

JAMES DAHILL
New Haven, Conn.

JAMES DIETZ
Davenport, Iowa

JAMES FOLEY
Philadelphia, Pa.

WILLIAM GREENE
Jacksonville, Fla.

ROBERT D. HERBERT III
Nashville, Tenn.

STEVEN KRUGER
Macon, Ga.

FRANK LAWSON
San Francisco, Calif.

WILLIAM MAHONE
Roanoke, Va.

DONALD McCROY
Mobile, Ala.

JAY REFIEUNA
Lyons, Ill.

Two Year Term

JOHN CARRUTH JR.
Miami, Fla.

ZACH L. ELLIS
Kenner, La.

HARRY ESBENSHADE JR.
Davisville, W.Va.

RALPH HINSHAW
Frankfort, Ind.

DOUGLASS JONES
St. Louis, Mo.

CONRAD KAWULOK
Boulder, Colo.

STEPHEN KRUPNIK
Glen Burnie, Md.

MITCH MAULDIN
Laurel, Miss.

ALAN MEIER
Chicago Ridge, Ill.

CHARLES PETERSON
Berkeley, Calif.

JOHN PROBST
Butler, Wis.

MICHAEL PROMEN
Broadview, Ill.

WILLIAM (GENE) REYNOLDS
Enterprise, Ala.

JOE RUTKOSKI
Tampa, Fla.

ROBERT F. SHEA JR.
Mattapan, Mass.

ALAN WOLF
Cincinnati, Ohio

One Year Term

ROBERT BELLITT
Broomfield, Colo.

MICHAEL BOWLING
Louisville, Ky.

JOHN L. BROWN JR.
Delray Beach, Fla.

RANDY DENCHFIELD
Washington, D.C.

JIM GENTRY
St. Louis, Mo.

WILLIAM HAMLIN JR.
Garner, N.C.

BENNETT HUTCHISON
Atlanta, Ga.

PHILLIP LaDUKE
Detroit, Mich.

VERNON LARSON
St. Paul, Minn.

JOHN LLOYD
Uniontown, Pa.

BRUCE MARTIN
Woodinville, Wash.

JERRY STEED
Huntsville, Ala.

ANTHONY TARESCO
Baltimore, Md.

ROBERT THERRIEN
Keene, N.H.

JOHN VAN WAGONER
Sterling, Va.

JOHN WRIGHT
Albuquerque, N.M.

STAFF

Executive Vice President
FRED GOOD, CAE

Associate Executive Directors
PATRICIA APPELHANS
ALAN GRAYSON
ROBERT LaCOSSE, CAE
CHRISTINE NOLEN TAYLOR, CAE

Executive Secretary
CONNIE LESSNER

Finance
ROLAND PAPINI
Manager
SANDY HOSHELL
Finance Secretary

Technical Services
ROBERT LaCOSSE, CAE
Director

JEFF LOWINSKI
Manager

WILLIAM CULLEN
Research Associate

JOANNE WAWRZYNIAK
Secretary

Information Management

SUE BUCZKIEWICZ
Manager

LUANNE KOENIG
Administrative Assistant

Meetings and Conventions

GALE KIESEL
Director

BENNETT BROWN
Manager

LINDA METHLING
Administrative Assistant

BEA McSHEFFREY
Coordinator

Education
ALAN GRAYSON
Director

JAN THOMPSON
Assistant Manager

MARIA DEMES
Secretary

Administration
ROBERT McADAM
Director

ROBYN BISKEY
Administrative Assistant

RAY HOSHELL
Service Center Assistant

PATTY KAZEOS
Receptionist

General Operations
JUDY INCARDONE
Clerk

Association Services
PATRICIA APPELHANS
Director

CONCHITA ALVAREZ
Administrative Assistant/
Legal Resource Center Manager

LYNN KEEFE
Administrative Assistant

Membership Development
CARL GOOD
Director

LENORA KANE
Administrative Assistant

SARA ANDERSON
Secretary

Communications
CHRISTINE NOLEN TAYLOR, CAE
Director

MARTIN EASTMAN
Director of Publications

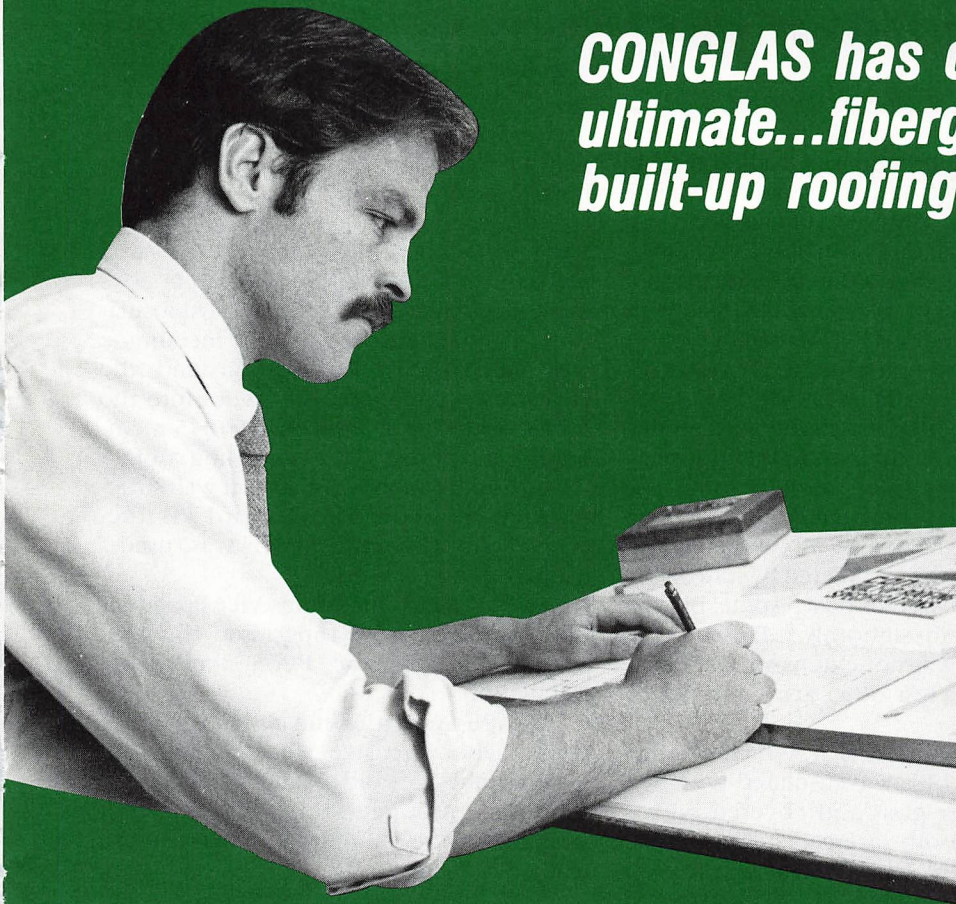
DAVID IMPEY
Associate Editor

ROB EISEMAN
Public Relations Manager

JOAN KRIETE
Senior Ad Sales Representative

JOANNE JAMESON
Secretary

CONGLAS has combined the ultimate...fiberglass Modified Bitumen built-up roofing systems!



THE COMBINATION OF HIGH TENSILE STRENGTH, DIMENSIONALLY STABLE FIBERGLASS AND HIGH PERFORMANCE SBS MODIFIED BITUMEN INSTALLED WITH A 100 YEAR PROVEN METHOD OF APPLICATION.

NO OTHER FORM OF LOW SLOPE ROOFING HAS BEEN IN USE AS LONG AS BUILT-UP ROOFING.

NOW THE ADDITION OF SBS MODIFIED BITUMEN ALLOWS THIS PROVEN APPLICATION METHOD TO BE COM-

BINED WITH THE FINEST IN NEW TECHNOLOGY MATERIALS.

HIGHER TENSILE STRENGTH, IMPROVED MATERIAL STABILITY AND SUPERIOR ELONGATION EQUALS A SYSTEM PERFORMANCE ENGINEERED FOR LONGER LIFE.

NO ONE BEATS THE COMBINATION OF OVER A CENTURY OF EXPERIENCE COMBINED WITH TODAY'S TECHNOLOGY!

***call the professionals!
don't go on your roof without us!***

EBUR
Built-Up Roofing. A System Above The Rest.

CONGLAS®
Eye on Performance

CONSOLIDATED FIBER GLASS PRODUCTS CO., INC.
3801 STANDARD STREET/BAKERSFIELD, CALIFORNIA 93308/PH. (805)323-6026
Check #5 on Reader Service Card

Goodyear's Versigard helps lower huge roof's costs

"We wish we had 10 more just like it lined up; same size roof and same roofing system," said T. Wayne Eidson, president of Lan-Way Contractors, Raleigh, N.C. The job Eidson is so enthusiastic about is a 230,000-square-foot warehouse roof his company reroofed with Goodyear's Versigard EPDM membrane.

The warehouse, located in an industrial complex outside of Greenville, N.C., contains materials that are highly susceptible to water damage. To avoid rain and moisture, Eidson had to carefully time the removal of the protective cover. But even with weather delays, the job, which began in December, was completed by June.

"Weather slowed us down some, but the system went in smoothly," Eidson said. "The tear-off was not extensive; only base flashings and a few other areas, but timing was critical."

The original metal deck, which was less than 10 years old, was insulated with 5 1/8 inches of fiber glass and covered with a three-ply, smooth-surface, asphalt membrane, said Frank Davis, Lan-Way vice president, estimating/sales.

Goodyear field sales engineer Joe Lappan worked with Lan-Way and the warehouse owner.

"To save money, a combination of .060- and .045-mil EPDM membrane was mechanically fastened to the warehouse's metal deck over 3/4-inch fiberboard insulation," Lappan said. The heavier membrane was mechanically fastened around the edges of the building, 144 inches into the roof's field. The less expensive .045 membrane was applied to the remaining roof.

"At the edge of the roof and on wall structures on the roof, our Versigard PE (pre-engineered) flashing system was used," Lappan said.

Lan-Way Field Operations Vice President Billy Aldridge, who supervised the project, appreciated the PE System's easy installation.

"The PE System eliminates most of the costly, labor-intensive steps of applying primer, adhesives and making lap seams for flashings," Aldridge said. "It is a simple, straightforward system with easy-to-use features."

Outstanding Advantages:

- 1 Paver stones elevated for perfect drainage
- 2 Spacer ribs ensure even joint spacing of pavers
- 3 Pedestals easily sub-divided for corner and edge support of pavers
- 4 Through drainage and aeration eliminates freeze-thaw damage to pavers
- 5 1/8" plates enable perfect levelling of paver

Turn a plain roof into a pedestrian plaza the easiest, most efficient way:

The PAVE-EL[®] PEDESTAL SYSTEM

Now you can easily transform a roof into a patio, terrace, balcony, walk-way, plaza, podium, promenade, or just plain roof-deck, using the unique Pave-El Pedestal System. Designed to elevate, level, and uniformly space paver stones for positive drainage in any weather, Pave-El reliably *protects both roof and paver stone, both membrane and insulation*. Ease of installation makes it highly profitable. Superb weatherability and elimination of maintenance make it the ultimate way to lay paver stones. Request detailed specification brochure.

PAVE-EL[®]

ENVIROSPEC INCORPORATED

Ellicott Station Box 119, Buffalo, NY 14205 Phone (416) 252-2090

Check #10 on Reader Service Card



1
ROLL OUT
VERSIGARD[®]
MEMBRANE



2
INSTALL
BATTEN
STRIP



3
HEAT
SEAL
INSTA-SEAM[™]

INSTA-SEAM[™]...A Major Improvement In Roofing

Goodyear proudly announces a way to increase seam strength and lower roofing costs. New Insta-Seam factory-applied heat-sealable adhesives. Provided on 72" x .045 or .060 Versigard membranes. For more information call toll-free 1-800-321-1692. Ohio 1-800-321-1688.

25 Reasons to Buy Versigard With Insta-Seam Adhesive

① FM-160/90 approved. ② Non-penetrating. ③ Small crews to install. ④ No heavy handling equipment required. ⑤ No ballast to purchase, spread or blow off. ⑥ No seam adhesives to purchase or apply. ⑦ No caulking of seams required. ⑧ Strongest seams in the industry. ⑨ No substrate

adhesive required. ⑩ No plate bonding necessary. ⑪ No white gas necessary. ⑫ No talc to clean off. ⑬ No need for large tear-off exposures. ⑭ Install when cold or damp. ⑮ No primers or washes needed. ⑯ Easier material estimating. ⑰ Insta-Seam adhesive for use by Goodyear-approved applicators only. ⑱ No wrinkling created by installation method. ⑲ No stretching or forcing of the membrane necessary. ⑳ No water damming caused by protruding anchoring hardware. ㉑ No expensive or unproven anchoring hardware. ㉒ Safety tread surface on membrane. ㉓ No chalking of roof for placement of bars or fasteners. ㉔ In stock exclusively from local full-service Versigard distributor. ㉕ Goodyear leakproof warranty.

GOODYEAR
Check # 16 on Reader Service Card

Inverted roof tames Wyoming winters

Weathercraft, Inc.'s reroofing of the Rock Springs, Wyo., high school and junior high buildings was one of American Hydrotech's largest single-ply projects in the state.

By the end of the 1983-84 season, Wyoming winters could claim at least two more victims—the roofs on Rock Springs' East Junior High and high school. The deaths of these two relatively young gravel-surfaced, asphalt built-up roofs had been hastened by the winters' severe freeze/thaw cycles, which caused extensive splitting and cracking.

To protect the replacement roofs from these harsh conditions, the architectural firm of Banner Associates, Inc., of Gering, Nev., specified an Insulated Roof Membrane Assembly (IRMA) from American

Hydrotech, Inc. Banner also chose the system because it would reduce heating costs and stand up to foot traffic.

The Weathercraft Co., also from Gering, installed the IRMA assembly with American Hydrotech's Hydro-Seal EPDM single-ply rubber membrane. On one building the membrane was insulated and ballasted by 3-inch-thick boards of Dow Chemical's concrete-surfaced Styrofoam LG™. A combination of 2-inch RM board and 3-inch LG board was used on the other building.

The roof's numerous expansion joints and levels enabled the crew to tear off and replace the system in sections. Weathercraft used a crew of 15 to 20 workers to tear off the old surface and had no trouble finishing the two roofs on schedule.

Both buildings are protected by American Hydrotech's 10-year Single-Source Warranty. The warranty ensures watertightness, at least 80 percent of the roof's stated R-value, and wind resistance in gusts up to 70 miles per hour. The Hydrotech Single-Source Warranty is available with IRMA assemblies using Hydro-Seal EPDM and Styrofoam insulation board.



has the machinery for manufacturing any type of asphalt roofing.

- ASPHALT SHINGLES
- ROLL ROOFING
- MODIFIED BITUMEN
- LAMINATED SHINGLES
- ASPHALTS

UIP, the world's largest fabricator of roofing manufacturing machinery, can supply you with all the machinery you need to produce any type of asphalt roofing.

Besides complete new roofing lines, UIP also provides individual components, such as: Mixers, Coaters, Saturators, Asphalt Heaters, Thermal Fluid Heaters, Winders, Blow Stills, Shingle Cutters, Pumps, Wrappers, Palletizers, Blenders, Laminators, Loopers, Shingle Catchers, Perforators, Embossing Units, Fume Incinerators, Knives and Chains.

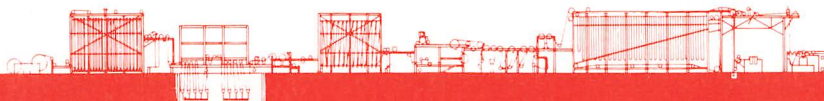
UIP ENGINEERED PRODUCTS CORPORATION has been serving the roofing industry since 1910.

For further information, please write or call Sam Marks, Sales Manager



UIP ENGINEERED PRODUCTS CORPORATION

143 North Swift Road,
Addison, Illinois 60101
Telephone: 312/629-8400.
Telex: 280572



10 Link Drive, Rockleigh, NJ 07647

The key to
Trocal quality over
the years is the
quality of the Trocal
contractor.
Thanks to each of you.

TROCAL[®]
ROOFING SYSTEMS | Innovative
Building Products
by Dynamit Nobel

Known by the
companies we
keep dry.



it takes high technology to stop the smallest leak



Planners and builders demand the most advanced and reliable waterproofing systems.

They also demand perfect watertightness, easy application, light weight, minimum volume, full integration with

the insulation, resistance to thermal aging, tear resistance, puncture resistance and above all long life.

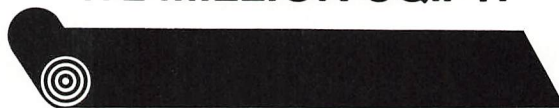
Index are proud of their advanced knowledge of bitumen technology and, strong technical back up is an important part of their approach to the market. Index is the largest producer of polymer modified bitumen membranes in the world and in 1985 the production exceeded 16 million sqmt.

Index products Helasta, Testudo and Thermobase produce excellent waterproofing systems and ther-

mal insulation, for large or small jobs, flat or sloping roofs, garages, tunnels and subways, viaducts and bridges, and all hydraulic works.

Index systems are particularly suitable for foundations in earthquake areas as the waterproofing membranes in addition to their tear resistance can also reduce the affect of seismic movement on a building.

172 MILLION SQ.FT.



IN 1986

index 

the largest in the world for the production
of APP polymer bitumen membranes

Index S.p.A. - 37060 Castel d'Azzano - Verona - Italy - Tel. 045/512233 - Telex 341146 INDEX I

member of



association

Check #21 on Reader Service Card

Grace introduces Re-Ply roofing

W.R. Grace Construction Products has developed a new roofing system that can be used on new applications or applied directly over existing roofs without tear-offs.

The GRM Re-Ply system's membrane is constructed of a rubberized asphalt layer and a cross-laminated polyethylene film. The rubberized asphalt is self-adhesive, so open flames, hot asphalt and chemical bonding are not necessary for seaming.

Four different GRM membranes are available for use in a variety of applications. GRM-120 and GRM-500 are designed for smooth-surface adhered or mechanically fastened applications. GRM-230 can be either adhered or mechanically attached to gravel surfaces. GRM-350 is recommended where a protected roof membrane assembly is desired.

All membranes are 50 mils thick except for GRM-500, which is 40 mils thick.

GRM-500 features a factory-applied white polyvinyl flouride film of Du Pont Tedlar®. Both GRM-500 and GRM-120 have a layer of aluminum foil under the polyethylene film to provide smooth-surface fire ratings.

Check #52 on Reader Service Card

Barra expands line of roofing products

The Barra Corp. has added a number of new products to its line of roofing systems and materials.

Rubber-Shield® is one of several new single-ply membranes being marketed by the company. An elastomeric EPDM that comes in two thicknesses, Rubber-Shield can be either loose-laid or fully adhered.

Modi Shield® is a modified bitumen single-ply available in three grades and designed for application over smooth surfaces.

Hy Shield™ is a reinforced synthetic rubber membrane especially suitable for difficult roof shapes and flashing conditions.

Braas Rhenofol® is a mechanically fastened PVC membrane designed for use on flat, sloped or curved roofs. It features a high tensile strength and dimensional stability, making it suitable for structures with high thermal movement and low load-bearing capacity. A new fastening system, the SFS-IF-160, is being marketed by Barra for rapid installation of all the single-ply membranes.

Barra has also introduced a new insulated roofing system. The Aluma Shield system consists of prefabricated panels of foamed-in-place insulation with a white PVC membrane, laminated to an exterior skin of 26-gauge, coated galvanized steel.

Check #53 on Reader Service Card



Flame Engineering introduces Hooker

Flame Engineering, Inc., has introduced a tool that allows hand torching of modified bitumens without walking on the freshly laid membrane.

The Red Dragon Hooker features an extension that rests on the worker's hips, transferring the strain of pulling the membrane roll from the back and shoulders to the legs. The worker uses one hand to stabilize the roll while the other is free for the hand-held torch. The Hooker can also be used to control the roll when applying modified bitumens to sloped roofs.

The company has also announced that its Red Dragon torch kits are now available from the manufacturer packed for display. The torch and components are arranged on a cardboard backing and sealed with clear plastic. The new packaging eliminates the problem of missing parts, since all parts of the kit are visible at the time of purchase.

Check #54 on Reader Service Card



Gravel sweeper uses hydraulics

Troup Industries has developed a hydraulic gravel sweeper and loader for removing gravel from roof surfaces.

The Gravel Gobbler works in conjunction with the Roof Boss Power Pak. Its hydraulic system is powered by a 10-horsepower engine.

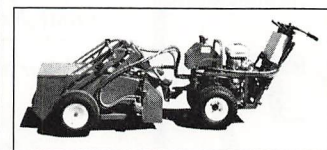
The unit uses a separate hydraulic motor, allowing broom speed to be adjusted independently of the drive speed and providing continuous full power to the 30-inch broom.

The Gravel Gobbler features a variable-speed handgrip that also serves as a deadman control by stopping forward or reverse motion when hand pressure is released. Drive speed, sweep and dump controls are all hydraulically operated and accessible from the operator station.

The unit's containment bin holds 6½ cubic feet of gravel, or the equivalent of one to three squares of gravel, depending on roof surface gravel depth. Full-cycle loading and unloading is accomplished in 30 to 60 seconds, allowing production levels of 300 to 500 squares per day.

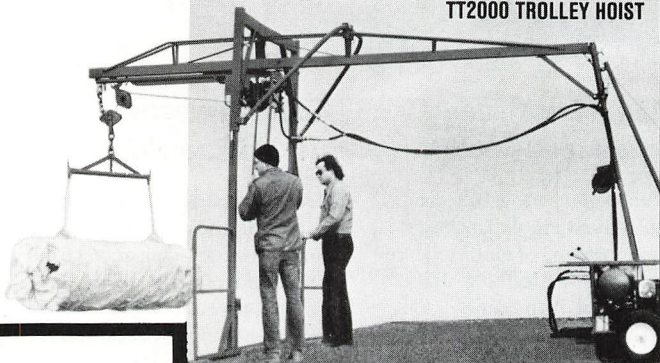
Fully articulated, the Gravel Gobbler turns within a 15-foot diameter while allowing the operator full control and maneuverability around roof obstructions. The Gravel Gobbler may be separated from the power pak by disconnecting three hoses and a hitch pin at the articulated joint. The unit may be lifted to the roof as a single piece or disconnected.

Check #55 on Reader Service Card



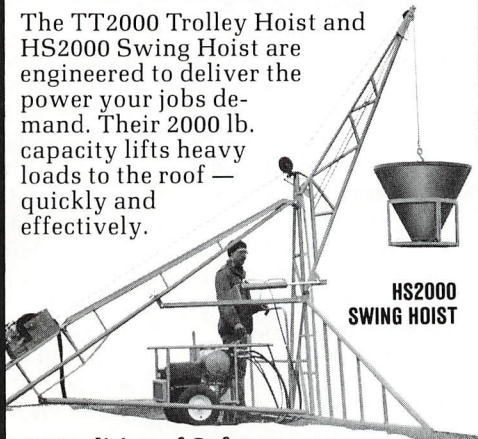
HOIST IT BY THE TON

TT2000 TROLLEY HOIST



Two New Powerful Performers

The TT2000 Trolley Hoist and HS2000 Swing Hoist are engineered to deliver the power your jobs demand. Their 2000 lb. capacity lifts heavy loads to the roof — quickly and effectively.



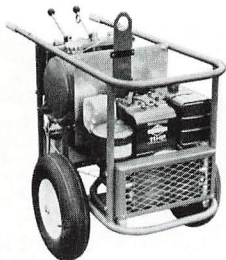
HS2000 SWING HOIST

A Tradition of Safety

Braced for strength the TT2000 and HS2000 both include protective operator fences. Payloads are delivered well back from the roof's edge — for safe removal to the work area.

HydraPak

Both units use the versatile R&G HydraPak. This single hydraulic power source operates a wide range of hoists and hydraulic tools.



Hoist it by the ton. Hoist it with equipment from Reimann & Georger. Call or write today.

See us at the MRCA Show
Booth No. 409 & 411, 508 & 510

The leader today... The leader tomorrow.



P.O. Box 681, Dept L
Buffalo, NY 14240 (716) 895-1156

Check #32 on Reader Service Card

NEW IDEAS

White Versigard meets Insta-Seam

Goodyear has announced that its Insta-Seam adhesive edge has now been incorporated into a white, heat-reflective Versigard rubber single-ply membrane.

Insta-Seam adhesive edging, which was previously introduced on the company's black Versigard membrane, is factory-applied, eliminating the need for jobsite cleaning, priming or caulking. The adhesive, which is designed for mechanically fastened and fully adhered rubber roofing, is sealed with a specialized heat gun that forms the welded seam.

White Versigard with Insta-Seam will be available in 600-square-foot rolls that are 70 inches wide and .050 mils thick.

The Insta-Seam roofing system is detailed in a new 21-page booklet that includes architectural specifications on all of Goodyear's roofing systems, components and equipment. Goodyear has also released another publication that explains single-ply reroofing details for metal roof decks. The booklet, *Versigard PE Systems for Metal Roofs*, describes attachment methods, flashings for walls and edges, insulation, and technical specifications.

Check #56 on Reader Service Card

Screws penetrate high-strength steel

Construction Fasteners, Inc., has developed a new line of drill screws designed to penetrate high-strength steel and nested purlins.

Impax drill screws are manufactured using a cold-forging process that retains the inherent strength of the steel's original grain structure. The screws feature an elliptical point that drills a smaller starting area and reduces drilling time. The same feature coupled with a longer flute length allows for fast chip removal during the drilling process.

Impax fasteners are manufactured in sizes ranging from 1 to 2 inches. A 7/8-inch lap self-driller for stitching applications is also available.

Check #57 on Reader Service Card

Booklet promotes conveyor safety

Clearfield Conveyors, Inc., has printed an eight-page booklet to remind conveyor operators of important safety precautions when working near electrical lines.

The booklet, *Conveyors and Electricity Don't Mix*, contains information on conductive materials and how electrical accidents can be prevented. The publication also includes descriptions of procedures that should be followed in case an accident involving live electrical wires does occur. The booklet is available at no charge and is recommended for operators of all conveyors.

Check #58 on Reader Service Card



Velux markets modular flashing

Velux-America, Inc., has developed an in-stock modular gang flashing system for grouped roof windows and skylights.

The new modular system features prefabricated gang flashings that snap together and allow windows to be spaced 4 inches apart. The windows may be joined side-by-side, above and below each other, or both. The flashings are compatible with all models in the Velux line of roof windows and skylights. They are also available in standard versions for roofing materials that are above or below 3/4 inch in thickness.

Check #59 on Reader Service Card

U.S. Intec announces new modified bitumens

U.S. Intec, Inc., has announced the distribution of two new SBS-modified bitumen roofing products ideal for contractors equipped for hot asphalt application.

BRAI/FLEX M and BRAI/FLEX 170 offer flexibility combined with high resistance to extreme temperatures, according to the company. Both products are constructed of straight asphaltic bitumen modified by SBS polymers. BRAI/FLEX M is reinforced with a non-woven Trevira polyester fabric. BRAI/FLEX 170 has a thinner polyester reinforcement and a thinner capping membrane that retains BRAI/FLEX qualities.

Both BRAI/FLEX membranes have a mineral surface available in white, tan, slate, black, chocolate brown and terra cotta as well as other colors.

U.S. Intec will distribute BRAI/FLEX products coast to coast through its nationwide manufacturing facilities in New Jersey, Texas and California, and its nationwide distribution facilities. The company is based in Port Arthur, Texas.

Check #60 on Reader Service Card

Pressure cleaner offers 4,000 psi

Affordable Equipment has announced a new addition to its line of Power Plus pressure cleaners.

The Model KG-5-4000 pumps 5 gallons per minute at 4,000 psi. The unit is powered by a 20-horsepower, electric start, twin-cylinder Kohler Magnum engine that carries a two-year factory warranty. The triplex ceramic plunger-type pump is manufactured by General Pump.

The Model KG-5-4000 is mounted on a heavy-gauge aluminum cart for mobility. If additional power is needed, the cleaner may be used in conjunction with Affordable Equipment's standard line of chemical injectors, sand injectors and water heaters.

Check #61 on Reader Service Card

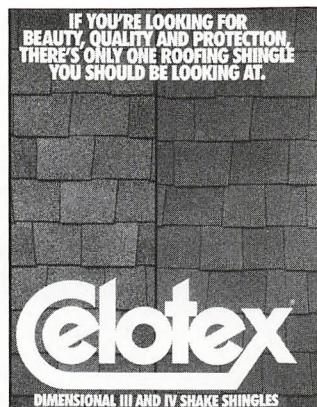
Brochure features Dimensional shakes

The Roofing Products Division of the Celotex Corp. has published a new brochure featuring Dimensional® III and Dimensional IV shake shingles.

The publication contains full-color photographs illustrating available colors of the Dimensional III and IV shingles, which are designed to present a wood shake-like appearance.

The booklet contains a basic description of the product specifications, including a suggested short-form architectural shingle specification. Information on limited warranties, and a complete directory of manufacturing plants and sales offices is also included in the booklet.

Check #62 on Reader Service Card



M.I.S.S. offers AeroScan service

The Midwest Infrared Scanning Service (M.I.S.S.) has announced the availability of the new AeroScan™ infrared moisture detection service.

AeroScan uses an infrared imaging device mounted on the wing of an aircraft and controlled by an operator inside the plane. The dual detector device is capable of resolving a spot 6 inches by 6 inches from a distance of 1,000 feet; six times the resolution capability of the company's former equipment. A computer-enhanced videogram of the infrared image shows the areas of suspect roof moisture.

Check #63 on Reader Service Card

QUALITY Torches For The PROFESSIONAL Roofer

Red Dragon RT 2 1/2 -20 C



RED DRAGON torches give you the durability and dependability you need to get the job done right.

- Complete kits
- Stand-up and detail torches
- Available in carton or new blister pack

NOW AVAILABLE FOR PURCHASE

"On The Roof Safety With Propane Torches"

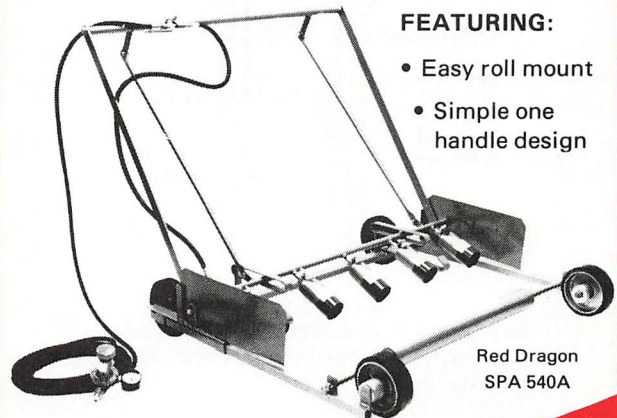
©1985

35mm Slides \$99.95
Video (VHS or Beta) \$149.95

RED DRAGON Modified Bitumen Applicators

FEATURING:

- Easy roll mount
- Simple one handle design



Red Dragon SPA 540A



Made in the U.S.A.

CONTACT YOUR LOCAL DISTRIBUTOR OR:

FLAME ENGINEERING, INC.

P.O. Box 577
LaCrosse, KS 67548

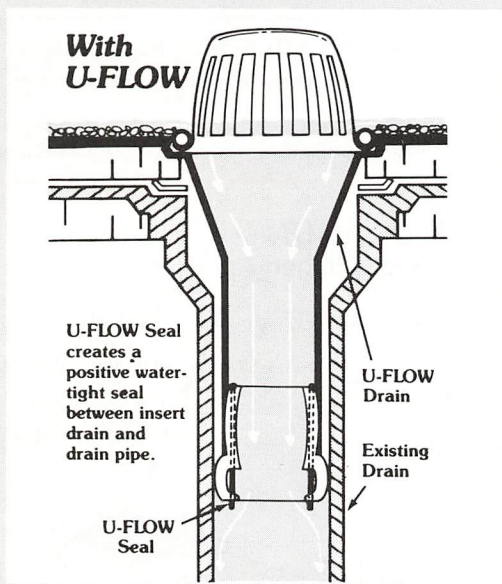
913-222-2873 (KS)
800-255-2469 (USA)

THE ONLY ROOF DRAIN SYSTEM INSTALLED COMPLETELY FROM THE ROOF TOP!

U-flowTM SYSTEM

You No Longer Need To:

- Remove Existing Drains
- Destroy the Interior Ceiling
- Use an Under Deck Clamp
- Disturb the Work Area beneath the new drain installation



Installs in minutes, automatically adjusts to any installation height. The Internal Connection Seal locks drain in place.

For complete technical information, including details and specifications, write or call

U-flowTM
SEAL

P.O. BOX 1470
BUFFALO, N.Y. 14240-1470
(716) 854-1521

VISIT US AT BOOTH NO. 204 AT THE MRCA CONVENTION IN ST. LOUIS

U.S. PATENT NO. 4,505,499

Check #44 on Reader Service Card

NEW IDEAS

System weights hoists safely

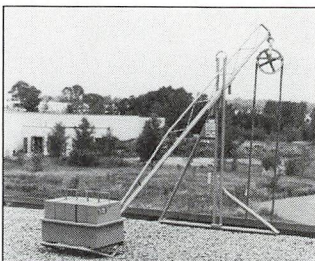
The Garlock Equipment Co. has introduced a new counterweight system for use with the company's hand-powered hoists.

The system consists of a tray and five weights. When filled with cement, the weights provide 400 pounds of counterweight.

The system has been designed to eliminate accidents that can occur when roofing materials are used as ballast. If these materials are removed for use on the job, the hoist is left with inadequate counterweight.

The counterweight system will fit all Garlock hand-powered models and is recommended as part of a package with new hoists. Garlock will also provide safety stickers for display on both sides of the unit's A-frame, reminding roofers to use only permanent counterweights on hoists. The decals are available at no charge.

Check #64 on Reader Service Card



Davlin markets water-base coating

A new water-base liquid roof coating is being marketed by Davlin Paint.

Acrylastic is a single-component coating that offers excellent adhesion and a permeability of .05, according to the company. It features a tensile strength of up to 2,400 psi and elongation of up to 1,100 percent.

The quick-drying coating may be sprayed or rolled cold on dry or damp surfaces.

Check #65 on Reader Service Card

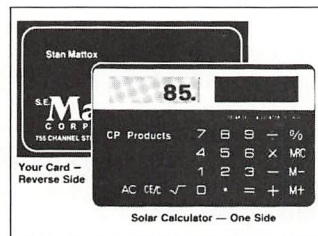
Business card really counts

CP Products has developed a "business card with a brain" for sales professionals who want to express their appreciation to special customers or impress new prospects.

The company has developed a method of impregnating a customer-supplied standard business card with clear plastic and bonding it to the back of a wafer-thin electronic calculator. The solar-powered calculator features six functions, including memory, and weighs less than an ounce.

Cost for converting cards ranges from \$10 per unit for orders for 25 or more to \$15 per unit for orders of less than 10.

Check #66 on Reader Service Card



Carroll's offers new cement tile line

Carroll's Building Materials, Inc., has announced the availability of a new cement roofing tile.

The Double Roman Ceetile is a slurry-glazed cement tile designed to give the appearance of kiln-fired tile. It is one of five new roof tiles that are available in a variety of colors.

Carroll's is manufacturing the tile in a newly built facility in St. Petersburg. The plant uses high-speed Columbia Abece machinery to produce 21,000 roof tiles per day.

Check #67 on Reader Service Card



*Looking for that perfect gift idea
for your colleagues or co-workers?*



Send them Roofing Spec for Christmas!

For just \$1.25 a month, the architects, specifiers, building owners or employees with whom you work will be kept abreast of the latest technology and most recent roofing industry trends.

A yearly subscription to **Roofing Spec**, at only \$15 for all 12 issues, might be the best invest-

ment you'll make all year.

Return the order form below with your check for each gift subscription. We'll send an attractive holiday greeting card to all subscription recipients.

So start your Christmas shopping early, and return the order form today!

HAPPY HOLIDAYS FROM NRCA

Order Form

Please send _____ subscriptions at \$15 each to the following:

Name _____	Name _____
Company _____	Company _____
Address _____	Address _____
City/State/Zip _____	City/State/Zip _____
Name _____	Name _____
Company _____	Company _____
Address _____	Address _____
City/State/Zip _____	City/State/Zip _____

Total amount enclosed: \$ _____
Your name (as it should appear on gift card) _____

Return to: Roofing Spec/One O'Hare Centre/6250 River Road/Rosemont, IL 60018

Check #34 on Reader Service Card

TAKK publishes sealings dictionary

A trilingual sealings dictionary has been published by TAKK—Technischer Arbeitskreis Kunststoff und Kautschukbahnen e.V. (Technical Association for Plastic and Rubber Sheet-ing, Reg.).

The dictionary contains explanations of sealing high-polymer plastic and rubber membranes for roofing and building. Headings appear in English, French and German.

The publication also contains an appendix listing West German standards and regulations. A list of TAKK companies and their products is included.

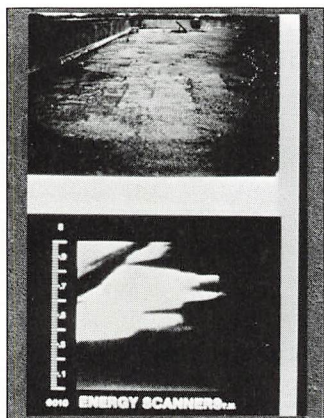
Check #68 on Reader Service Card

WeatherScan finds moisture in roofs

WeatherGard has announced a new trouble-shooting service to detect small areas of moisture in roofs before a reroof is required.

WeatherScan is a thermographic scanning process that uses infrared readings to detect and map subsurface moisture. An infrared camera detects variations in surface temperature and converts the variance into an electronic signal, which is recorded as a heat image. This reading, combined with conventional photographs taken at the same time, can pinpoint moisture-damaged areas. The process can be done either walking on the roof with a hand-held device or flying over the roof in a helicopter.

Check #69 on Reader Service Card



Dow develops ribbed insulation

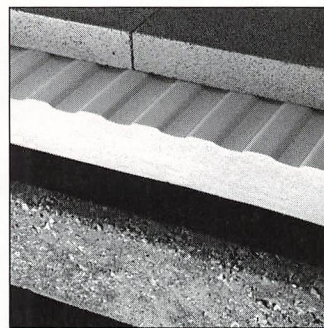
A new roofing insulation product made from Styrofoam™ eliminates the need for pedestals in roofing systems ballasted with pavers or patio stones.

The Dow Chemical Co. has developed a ribbed insulation board that supports ballast and provides drainage between the pavers and insulation. The system is designed to reduce premature paver deterioration due to freeze/thaw cycling.

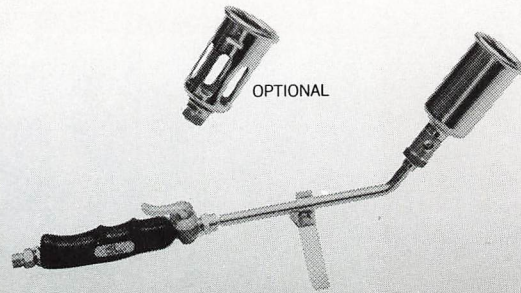
Dow has also published a new brochure about single-ply roofing membranes made of Tyrin® CPE elastomer.

The Tyrin elastomer is supplied by Dow to manufacturers who incorporate it into their membranes. The brochure offers test results to compare the performance of Tyrin CPE membranes to that of CSPE and EPDM membranes. The booklet includes information on ignition resistance, water resistance, diesel fuel kerosene immersion, and other testing.

Check #70 on Reader Service Card



hot-shot™ torch welding equipment



U.L. LISTED

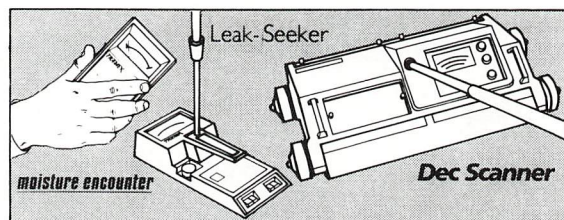
SAFE, RELIABLE, DURABLE

Proven to be the safest roofing torches on the market. All torches come with UL Listed hose assemblies. Every part, from the smallest gasket on up is easily replaced by you for years of service. Satisfaction guaranteed.

Call today (303)892-0400

See us at MRCA Booths #1319-23

Non-Destructive Moisture Detection !



- **Dec-Scanner** For continuous large roof moisture surveys.
- **Leak-Seeker** For spot testing and tracing leaks.
- **Moisture Encounterer** For detecting moisture in plaster, timber, felt-roofing, etc.
- **Moisture Mouse** Pocket Sized, economical, handy for roof testing.
- **Risk Kit** Complete Kit including Leak-Seeker, core cutter, gas torch, etc.

Manufactured by:
TRAMEX LIMITED

Available from:
United Construction Products Inc.
1300 Shoshone, P.O. Box 4246
Denver, Colorado 80204
Telephone (303) 892-0400
TWX (910) 931-0494

Some Roofs Are More Important Than Others



Sarnafil® . . . where only the best is good enough.

If the value under your roof is such that a leak is intolerable and you're willing to pay just a little more in the beginning to get the best protection possible and the lowest lifetime cost, you should insist on Sarnafil. Sarnafil gives your roof the important attention it deserves by providing an individual customized solution to your specific problem. Sarnafil seams are hot air welded for absolute integrity, and you can hot air weld new Sarnafil to the existing membrane any time to accommodate



An important Sarnafil roof protects New England Memorial Hospital, Stoneham, Massachusetts.

Sarnafil®
Because Important Roofs Deserve the Best

building alterations or changes in roof-mounted equipment. Sarnafil has been proven in actual service for over 20 years and is installed by the country's best and most technically proficient, factory-trained contractors.

If what's under the roof is important, then the roof is important enough for Sarnafil.

For complete details contact Sarnafil Inc., P.O. Box 380, Canton, Massachusetts 02021, or call toll free 1-800-451-2504, or in Massachusetts 1-800-451-2506.

Roofing Spec Classified Rates:

Standard Classified

75 cents per word. \$1.50 per bold-face word (in headline only).

Display Classified

\$55 per column inch (we will supply a border and include your logo, if requested).

Blind Box Numbers \$10

Minimum Charge \$25

For information on how to place an ad, call Joan Kriete at 312-693-0700.

Services and Equipment

ROOFER TRUCK CRANE

Available Sept. 15, 1986. 1987 Roof King. 101-foot boom; 10-ton capacity; hose reel. Mounted on a 1987 GMC diesel truck. Call Don Giuffre 414/761-2300.

ASPHALT TANKER

1973 GMC diesel. 12-ton capacity with 318 Detroit engine completely rebuilt. \$14,000. 209/295-4410.

FLASHBAND

Solar Reflective
Aluminum Self-Stick Tape

Stops Water, Mold, Rust and Leaks

Buy Direct:

3E Corp., 609-866-7600



RENT OR LEASE PURCHASE

Rent or lease from largest U.S. fleet of roofing equipment. Many unusual items—three locations to serve you—conveyors, hoists, asphalt kettles, tankers (over the road type), yard storage and job tanks, powered sweepers and tear-off machines, material movers, pumps (water and asphalt types), single-ply adhesive applicators, roll carriers and placers, etc. Phone toll-free number if you have questions for pricing. **ATLANTIC ROOFING EQUIPMENT COMPANY**; 800/543-3350 ext. 20.

FOR SALE

Blackwell 52-foot telescopic hoist with 550-pound capacity gravel bucket—\$5,000. 2,100-gallon coal tar and asphalt resaturant in 55-gallon drums—\$7,500. Call Harry Sandlin 803/242-5100.

ROOFERS CRANE FOR SALE

National Series 600 truck-mounted crane; 101-foot reach; 12 1/2-ton capacity; on 1981 GMC L800 diesel truck. \$59,500. Runion Equipment Co., 7950 W. 47th St., Lyons, Ill. 60534. Large inventory of new and used equipment available. 800/824-6704, in Illinois 312/447-3169.

PERSONNEL PLACEMENT

We specialize in placing only competent and reliable personnel for the roofing industry nationwide (contractors, manufacturers, distributors and consultants). 100 percent satisfaction and guaranteed results. All information held in strictest confidence. Call 800/752-ROOF or 404/498-1760. Lanta Enterprises, Inc.

PROCOUNSEL ROOFING PLACEMENTS NATIONWIDE

Sales, sales managers, estimators, tech reps, quality control, R&D, manufacturing engineers, general managers, presidents. I place professionals with roofers, distributors, roofing manufacturers, rep organizations and consultants. Fees paid by employer. All information handled in strictest confidence. Contact Buzz Taylor at 800/545-5900 or 214/741-3014. In Texas call 800/441-0806. Also 214/741-3014. 24-hour answering.

SUBCONTRACTORS FOR HIRE

We are an experienced and reliable subcontracting crew looking for labor-only contracts in the following areas: built-up, single-ply, roof tile, shakes and composition. Fully equipped and willing to travel. References. Call Harry Weaver 817/460-4795 or Ken Dubois 918/250-2563.

BUSINESS OPPORTUNITY

Earn \$1,000s mailing circulars. Rush self-addressed, stamped envelope to SLH Systems, P.O. Drawer 575-Q, Thorsby, Ala. 35171-0575.

MAILING LIST AVAILABLE

Mailing list of schools, government agencies, industries with leaky roofs in United States and Canada. Sulmac, manufacturer of water diverters; 413/533-5347.

Positions Available

COMPANIES WANTED

We have cash to buy roofing and sheet metal companies. They would have sales of \$1 million and some profit. Will tailor buyout to suit seller. All responses kept confidential. Send replies to Box 4A, *Roofing Spec*, 8600 W. Bryn Mawr Ave., Chicago, Ill. 60631-3502.

PROJECT ESTIMATOR

Well established 36-year-old contracting firm with expanding business seeking qualified individual for project estimator position. Duties include, but not limited to, field surveys, preparation of bid documents and project submittals. Limited travel required. Definite potential for advancement and comprehensive benefits package. Interested parties submit resumes to S.D. Carruthers Sons, Inc., Route 197, Argyle, N.Y. 12809.

SALES REPS/AGENTS WANTED

Bitufa UX International, manufacturers of a unique line of single-ply, high-elastic, SBS-modified bitumen membranes without inlay, is looking for representatives in the United States and Canada. Please call or write Bitufa International Export Management, attention: Mr. Hans Vanderchijs, LN.V. Spitsbergen 93-99, NL-7336 AR Apeldoorn, The Netherlands, Europe. Telephone: 0112X31 55 422622; Telex: 49691, The Netherlands.

GENERAL MANAGER

We are looking for a dynamic professional possessing knowledge of the general construction industry from a subcontracting perspective. Applicants must be result-oriented and have ability to motivate others. Strong managerial and organizational skills highly desirable. This is an immediate opening. Individual must reside or be willing to relocate to Dallas, Texas, area. Send resume, in confidence, with salary requirements to Box 10A, *Roofing Spec*, 8600 Bryn Mawr Ave., Chicago, Ill. 60631. Our employees know of this ad.

Asbestos... The Good News in Roofing Mastics

It's Time to Separate Fact
From Fiction . . . And
The Fact is, Nothing
Works Better or is More
Cost-Effective Than
Asbestos-Fibred Roof
Coatings and Cements.

Another fact: asbestos-fibred roofing mastics are totally safe to use. Asbestos, when used in roofing mastics, is literally locked in. The technical term is "encapsulation".

Let's look at the facts about a material found only in the finest roofing products.

Fact: Asbestos-fibred roofing mastics are unsurpassed for longevity, protection, handling and cost. In coatings and other mastics, asbestos reinforces the asphalt, preventing the asphalt from cracking from expansion and contraction. Asbestos-fibred roofing mastics provide high "slump" resistance, retard oxidation and deterioration, retard melting and running of the mastic in the event of fire, are more flexible than coatings without asbestos, are less likely to crack and leak than coatings without asbestos, provide greater protection than coatings without asbestos. Therefore, asbestos-fibred mastics need to be applied less frequently than mastics not containing asbestos.

Asbestos-fibred roofing mastics outperform by a substantial margin, roofing mastics without asbestos. **THERE IS NO REASON NOT TO USE ASBESTOS-FIBRED ROOFING MASTICS, BECAUSE THERE IS NOTHING BETTER FOR TODAY'S ROOFING NEEDS . . . AND THEY ARE ABSOLUTELY SAFE TO USE.**

Fact: Encapsulation makes it impossible for asbestos fibers to be released from roofing mastics into the ambient air. Encapsulated products are so safe that they do not require special work practices or government control. Regardless of the amount of asbestos in various types of roofing mastics, the full encapsulation of fibers renders the asbestos completely "unbreathable".

Fact: A medical expert study of 6,500 roofers failed to discover a single case of mesothelioma (cancer of the lining of the chest and abdominal cavity). The expert conclusion was that this would not have been the case if asbestos roofing mastics presented a significant hazard.

Fact: Studies done for the Environmental Protection Agency (EPA) address the safety of encapsulated asbestos fibers in roofing products. The EPA's most recent revision to its regulation, "National Emission Standard for Asbestos", makes a specific exemption for spray-on application of encapsulated mastics, further attesting to the total lack of risk associated with the use of such products.

Monsey Products Company has always been in the forefront of the fight to make our environment and the workplace as safe and clean as is humanly possible. That's why our own standards of product safety exceed those required by environmental regulatory groups. This same dedication extends to product quality. It's your assurance of the finest roofing mastics available today. Asbestos-based roofing mastics.

These are the facts. Don't let anyone tell you anything different.

For reprints of this ad, write:

Michael P. Manning
Assistant Vice President
Monsey Products Co.
Cold Stream Road
Kimberton, PA 19442

International group's performance criteria may spur U.S. efforts

By Bob LaCrosse



The first draft has been completed of a paper that will describe the state of the art for sheet-applied single-layer roofing around the world. The work, which is being prepared by a joint committee of international building organizations, is a comprehensive review of the standards, test methods and evaluation criteria that exist for elastomeric, plastomeric and modified bitumen systems. The preliminary report also analyzes the use of these products in 14 countries. The final report will include recommended performance standards developed by the group for these materials.

In April 1983, the International Joint Committee on Elastomeric, Thermoplastic and Modified Bituminous Roofing embarked on its five-year mission to prepare the paper. Its first meeting was held at the U.S. National Bureau of Standards in Gaithersburg, Md. It has held subsequent meetings in Paris, London and Washington, D.C. The first draft of the report was submitted and reviewed by the Committee at the meeting in April of this year in Zurich. The next meeting of the Committee is to be held in Milan in May 1987.

Before the first draft of the report was prepared, the Committee surveyed the countries involved to determine the technical aspects and uses of the materials under study. The Committee received 22 responses from 13 countries. According to the survey, conventional bituminous built-up membranes dominate many markets around the world. BUR was especially strong in Australia, Canada, Denmark, Finland and Israel, where it commands 80 to 90 percent of the total low-slope roofing market. In England, Japan, South Africa and the United States, about 50 percent of the roofing installed was BUR.

Some countries are reversing this trend, however. France, Switzerland and West Germany reported that modified bitumen, elastomeric and thermoplastic materials commanded 60 to 80 percent of their markets. And in Italy and Norway, the use of these newer membranes is even higher.

After reviewing this information, the Committee appointed three task groups to examine the mechanical properties, temperature effects and aging effects of sheet-applied single-layer roofing. Performance testing is presently underway to develop this data. The tests include dynamic mechanical analysis, torsion-pendulum analysis, puncture, fatigue and tensile tear. The series of round robin tests are being conducted on samples from England, France, Germany, Italy, Norway, Switzerland and the United States.

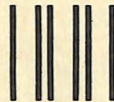
The results will be included in the revised draft of the paper, which will be discussed and possibly approved by the Committee at its meeting in 1987. The work is expected to be finalized and released in late 1987 or early 1988.

NRCA hopes that all segments of the roofing industry in this country will work together to develop performance standards for elastomeric, plastomeric and modified bitumen systems using the recommendations of the CIB/RILEM Committee. The countries in Europe have taken the lead in this area, having already developed performance criteria and standards for roofing systems performance. Because of the desperate need for such standards in the United States, our industry should follow Europe's example as soon as possible.



NRCA representatives Bob LaCrosse and Bill Cullen (from right) join with other members of the International Joint Committee in a typically European meal during a recent meeting in Zurich.

Co-sponsors of the Committee, which is chaired by NRCA Research Associate Bill Cullen, are the International Union of Testing and Research Laboratories for Materials and Structures (RILEM) and the International Council for Building Studies and Documentation (CIB). RILEM designates the Committee as Technical Committee 75-SLR and CIB calls it Working Commission W.83.



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

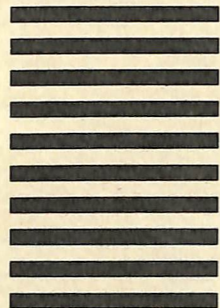
BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 13287

CHICAGO, IL

ROOFING SPEC

1807 Glenview Road
Glenview, Illinois 60025



Dear Reader:

This is your copy of **Roofing Spec**, the only monthly magazine devoted exclusively to the roofing and waterproofing industry. We hope you find it useful and interesting. If you'd like an additional subscription for this publication, simply complete and return the postpaid card provided below. If you are currently receiving **Roofing Spec** on a complimentary basis, please return the enclosed card with payment to ensure that you will continue receiving this valuable roofing resource.

In future months we have articles planned on:

- Management
- The legal side of roofing
- Alternative roofing

Recent issues have featured stories on:

- Architect-Contractor relations
- Problem survey results
- NRCA programs and meetings
- Fiber glass roofing felts
- European roofing experience
- BUR performance tests
- Sprayed-in-place urethane foam roof insulation
- Steep roofing
- Health and Safety

PLEASE ENTER MY SUBSCRIPTION TO

ROOFING SPEC

Only \$20 per year
\$65 outside US/Canada

My primary business activity:

- Roofing, Waterproofing or Roof Deck Contractor
- Manufacturer, Distributor or Supplier
- Architect, Specifier or Engineer
- General Contractor
- Government, Schools, University or Institutional employee
- Building Owner
- Other _____

Bill me

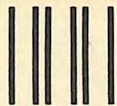
My check is enclosed

Name _____

Company Name _____

Address _____

City/State/Zip _____



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

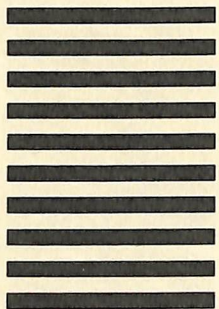
BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 13287

CHICAGO, IL

POSTAGE WILL BE PAID BY

**National Roofing
Contractors Associaton
8600 Bryn Mawr Avenue
Chicago, Illinois 60631**



FREE LITERATURE!

Use this convenient postcard to obtain additional information on the products and services appearing in this issue. Just circle the number that corresponds to the item(s) you are interested in. Inquiries will not be processed after 90 days of issue date.

October 1986

1	11	21	31	41	51	61	71	81	91	101	111	121	131	141
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

Name _____

Company _____

Address _____

City/State/Zip _____

Phone _____

Please check only one item on each question below.

• **Type of Business:**

- A. commercial/institutional/residential
- B. commercial/institutional
- C. residential

• **Estimated Annual Sales:**

- D. less than 1,000,000
- E. 1-2,000,000
- F. 2-3,000,000
- G. 3-4,000,000
- H. 4-5,000,000
- I. more than 5,000,000

• **My job responsibilities include:**

- J. specifying
- K. recommending
- L. purchasing

TRUE AMERICAN

*True American, if you buy at all,
Buy American—heed not the European's call.
If you have money to spend, spend at home;
Help this country—for it's your own.*

*We've bo't from Europe since long, long ago;
Let's buy American and make our country go.
Let's start the wheels of our factories and mills;
We have plenty of resources in our valleys and hills.*

*You tourists who have a longing to roam,
See America first—spend your money at home.
There is plenty of beauty in our own native land;
Spend at home—give America a helping hand.*

*Stand by America one and all.
Stand sturdy and staunch and she will not fall.*

Marion Stuler Farabee
"Olympus" 1933
Trinity High School
Washington, Pennsylvania

Marion Stuler Farabee is the wife of Charles Farabee, Farabee Roofing Company, St. Petersburg, Florida. Mrs. Farabee wrote this sonnet in her senior year in high school for the school year book in 1933. We believe that the spirit and feeling of this sonnet are as alive and profound today as they were over fifty years ago.

Thank you, Mrs. Farabee, for sharing the spirit of a "True American" with us all.



The American Roofing Corporation will be happy to send a copy of "True American" printed on parchment suitable for framing to those who write to the American Roofing Corporation, 3100 South California Avenue, Chicago, Illinois 60608, attention, Mr. Bud Jansen.

ROOFING SPEC

OCTOBER
1986
\$2.00



Roofers beware:
condominiums
are risky business

by Ron
MRCA convention
information inside.
See page 37.