

# ROOFING SPEC

FEBRUARY  
1986  
\$2.00



NRCA's 99th Annual  
Convention and Trade Show



# HERE'S A GREAT ANGLE.

**NOW YOU CAN INSTALL A PRE-ENGINEERED, PRECUT TAPERED ROOF SYSTEM THAT HAS ALL THE BENEFITS OF OWENS-CORNING FIBERGLAS® ROOF INSULATION.**

The Siborooftm system is an excellent choice for new roof, reroof and roof recover applications. It goes down easily, can be tapered to zero and requires no special equipment or training to install.

**PRE-ENGINEERED AND PRE-CUT.**

A modular system utilizing 3'x4' boards of Fiberglas roof insulation the Siborooft system is totally pre-engineered and precut at the factory to insure a precision fit. Each job is custom designed and tapered to fit the exacting requirements of any roof. The Siborooft system is available in slopes of 1/8," 3/16" and 1/4" per foot. All corners, regardless of angle, are precut. Crickets and saddles are simply mopped into place.

**PRECISION DESIGNED.**

Complete design and layout services are provided by Sibo, Inc. In a typical installation, a Sibo technician will render an accurate drawing of the roof including all drain locations. From these drawings cost estimates are made, and working shop drawings are drafted showing precise tapering detail.

**READY TO INSTALL.**

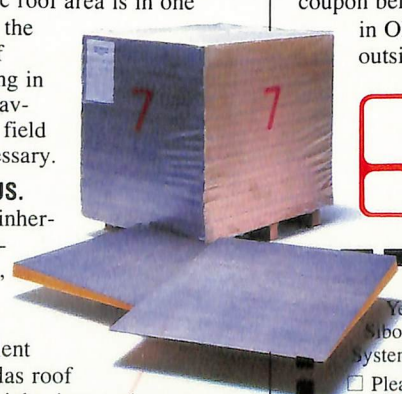
The system arrives at the job site poly-wrapped, palletized and identified by number to correspond to roof area installation diagrams. All material necessary to complete a specific roof area is in one place, eliminating the constant shuffle of pallets and resulting in substantial labor savings. Virtually no field fabrication is necessary.

**THE ADDED PLUS.**

In addition to the inherent value of the tapered roof system, Siborooft goes one step farther, offering the excellent features of Fiberglas roof insulation: lightweight, inorganic composition, dimensional stability, porous construction, impact resistance and the best base for any built-up roof.

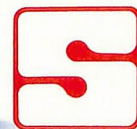
**CODE COMPLIANCE.**

The Fiberglas insulation components of a Siborooft comply with Underwriters Laboratories regulations and meet with Factory Mutual approval.



**FOR FURTHER INFORMATION.**

To learn more about the Siborooft system and why you should use it for your next tapered roof job, write for our new brochure by filling out and sending in the coupon below. Or call Sibo, Inc. collect in Ohio at 614-761-3333 or toll free outside Ohio at 1-800-USA-SIBO.



**SIBO, INC.**

525 Metro Place North  
Suite 450, P.O. Box 7170  
Dublin, Ohio 43017

Yes, I'm interested in learning more about the Siborooftm Tapered Fiberglas® Roof Insulation System.

- Please have a sales representative call.
- Please send me the Siborooft brochure.

Name \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone \_\_\_\_\_

® Fiberglas is a registered trademark of the Owens-Corning Fiberglas Corporation.  
 ™ Siborooft is a trademark of Sibo, Inc.

**A Supersource Exclusive:**

# UNA-CLAD STEEL

The Tough Competitor

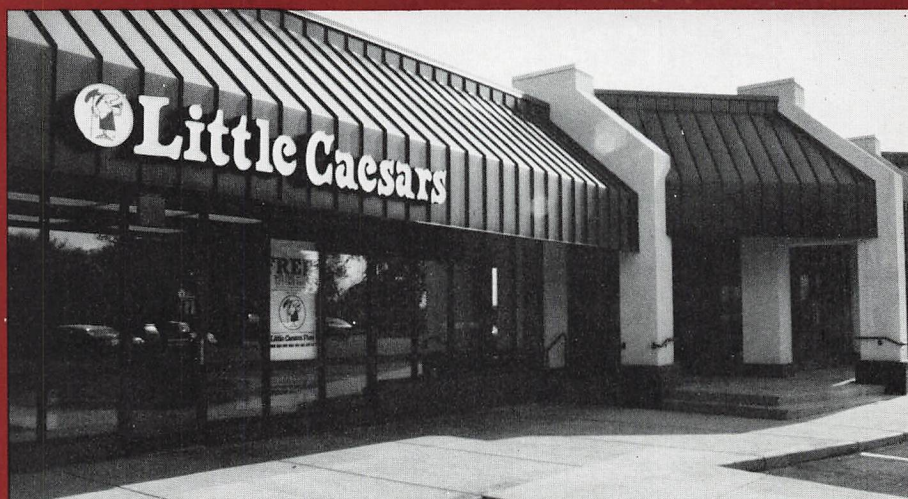
# UNA-CLAD ALUMINUM

The Tough Competitor

COIL



SHEET



Bloomington Shoppes

Contractor — Specialty Systems, Inc., Savage, MN

The most advanced pre-finished architectural roofing and flashing metal in the industry. **Una-Clad is 24 gauge, G-90 hot dipped galvanized steel, or aluminum conforming to ASTM standards, in a range of gauges, in H14 or H34 tempers, armored with roll coated Glidden NUBELAR® KYNAR 500® fluorocarbon coating, the ultimate technology for durability and color retention.** The flexibility offered by Una-Clad is greatly appreciated by Architects, because it puts no limits on their design creativity. Sheet metal contractors like Una-Clad because of its easy formability for batten seam, standing seam, flat lock seam, and all types of metal roofing and flashing applications.

It's a tough competitor and a premium product for fascia panels, metal roofing, gravel stops, coping, and flashing. When you build with Una-Clad you're giving your customers lasting durability, low maintenance and beauty for years, through all kinds of weather.

**Guaranteed to be the best.**

A full 20 year warranty is available on request. Copper Sales protects you and your investment with an optional PVC coating that is easily strippable when the job is done.

**Una-Clad is available from stock in standard sheet sizes, sheets cut to order, or coils in the following colors:**

- Dark Bronze
- Roman Bronze
- Stone White
- Matt Black
- Mansard Brown
- Terra Cotta
- Almond

Kynar 500® is a registered trade name of the Pennwalt Corporation  
Nubelar® is a registered trade name of the SCM Corporation

**For up-to-the minute price and delivery information on your sheet metal, roofing and plumbing needs. Call Copper Sales. Anything else is second best.**

**Distributor & Representative inquiries invited.**



**COPPER SALES, INC.**

2220 Florida Avenue South, Minneapolis, MN 55426  
(612) 545-1604

Or Call 1-800-4-COPPER (426-7737)  
In Minnesota call 1-800-742-0578

**Be sure to visit us at Booth No. 1914 at the  
1986 National Roofing Contractors Convention**

Check # 18 on Reader Service Card

# NOW YOU CAN FIND ALL YOUR ROOF FASTENING SYSTEMS UNDER ONE ROOF.

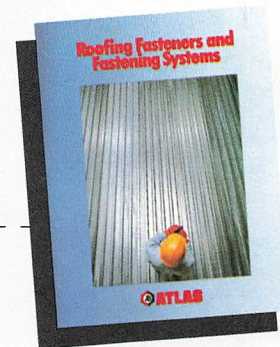


You work with many kinds of roofs. Many types of construction materials. And many kinds of fasteners.

Isn't it nice to know you need only one supplier of roofing fasteners and systems? That's Atlas.

There's Kwik-Deck®, a rigid insulation fastening system for wood and metal. Kwik-Con® and At-Con fasteners for masonry. A variety of self-tapping and self-drilling tapping screws – with or without nylon heads. And time-saving fastening tools.

They're all covered in our new roofing products brochure. It's yours for the asking. Simply return the coupon or call us toll-free at 1-800-321-6846. In Canada, call 1-800-268-3718.



Please send your new roofing products brochure.

Please have a salesman call.

Name \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_

Mail to: Atlas Bolt & Screw, 1628 Troy Road,  
Ashland, Ohio 44805

Kwik-Deck and Kwik-Con are registered trademarks of Mage, Inc.



**We make more sheeting screws than anybody else in the world.**

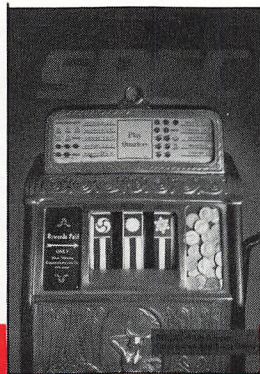
Check #9 on Reader Service Card

# ROOFING SPEC

Vol. 14, No. 2 February 1986

## ADVERTISERS

- 16 Alliance Metals
- 10 Alumax Building Specialties Division
- 104 American Hydrotech
- 13,16,18,29 American Roofing Corp.
- 64 Associated Foam Manufacturers
- 6 Atlas Bolt & Screw
- 87 Boato Tecsystem
- 112 Bond Cote Systems
- 86 Cant Products
- 91 Carlisle SynTec Systems
- 30,31 - Celotex
- 75 Clearfield Conveyors
- 84 Conglas
- 12 Continental Materials
- 22 Cooley Roofing Systems
- 4,5 Copper Sales
- 76 Dibiten
- 83 Dow Chemical
- 8,9 Dynamit Nobel
- 36 Evanite Permaglas, Inc.
- 103 Flame Engineering, Inc.
- 11 H.B. Fuller
- 87 Garlock Equipment Co.
- 14 Giuffre Brothers
- 28 Goss, Inc.
- 26 Greenstreak Plastic
- 32,81 - GAF
- 15 Hanover Prest-Paving Co.
- 11 Humane Equipment Co.
- 79 JBD Supply
- 35 Koppers Co.
- 90 Lifetile Corp.
- 34 MacLean-Fogg
- 92 Manning Paper Co.
- 24 Modi-Systems
- 96 Monsey Products Co.
- 78 NRCA Education
- 58 NRCA Workers Training Program
- 70 NTB Fastening Systems
- 89 Petersen Aluminum Corp.
- 20,21 Rawlplug Co., Inc.
- 98 Reeves Roofing Equipment Co.
- 19 Reichel & Drews
- 50 Reimann & Georger, Inc.
- 12 *Roofing Spec*
- 25,27 Roofmaster Products Co.
- 67 Seal Dry
- 2 Sibio
- 72 Siplast
- 17 Software Shop Systems
- 57 J.P. Stevens & Co.
- 23 Sunglo Skylight Products
- 106 - Tamko Asphalt Products
- 108 Thermo Materials, Inc.
- 99 Trinity Group Fastening Systems
- 62 Tri-Ply
- 88 UIP Engineered Products
- 101 U-Flow
- 33 United Construction Products
- 52 UFCA
- 111 - U.S. Intec, Inc.
- 105 WeatherGard Roofing



## COVER

NRCA's 99th Annual Convention and Trade Show in Las Vegas will offer participants a winning combination of educational workshops and exciting activities.



**NATIONAL  
ROOFING  
CONTRACTORS  
ASSOCIATION**

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

## FEATURES

- 37 **Steady future ahead for roofing industry**  
by Kathleen Aharoni
- 41 **Phase II of coal tar study finds mechanical application EVT**  
by The Koppers Co. and NRCA's Task Group
- 53 **Fine food, lovely scenery, lots to do—in Las Vegas?**
- 59 **1986 exhibitor list for NRCA's Convention and Trade Show**

## DEPARTMENTS

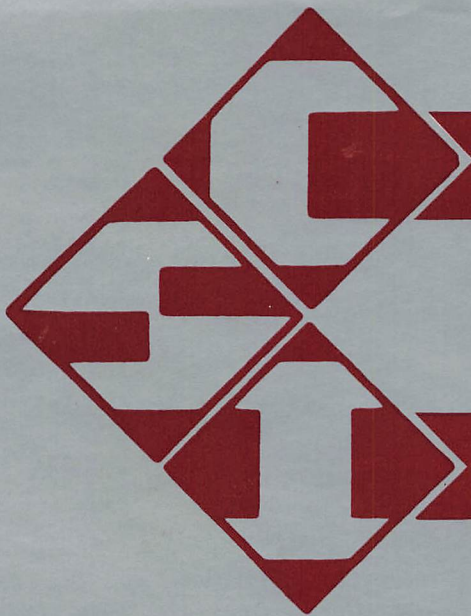
- 7 Government Relations
- 11 National News
- 23 Associate News
- 33 Affiliate News
- 85 NRCA Update
- 87 On The Roof
- 93 Risk Management
- 94 Coming Events
- 97 New Ideas
- 107 Classified Ads
- 109 Tech Talk



SOCIETY OF  
NATIONAL  
ASSOCIATION  
PUBLICATIONS

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 authors 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.



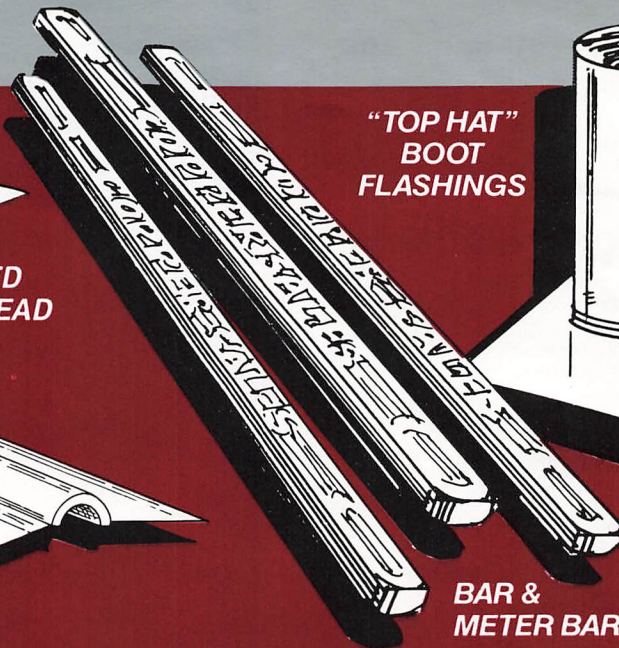
**Get to Know**

# **COPPER SALES**

*The fastest growing Metal Service Center for  
the roofing, sheet metal and plumbing trades*

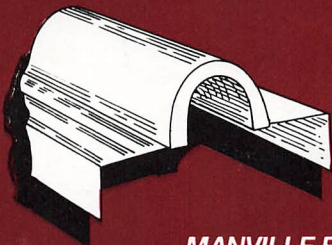
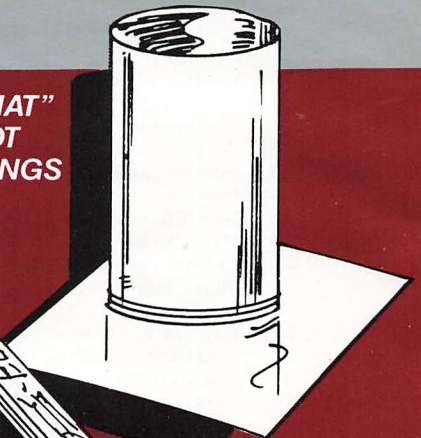


**ROLLED  
SHEET LEAD**

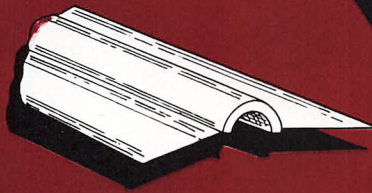


**BAR &  
METER BAR SOLDER**

**"TOP HAT"  
BOOT  
FLASHINGS**



**MANVILLE EXPAND-O-FLASH®**



## **Copper Sales are specialists in:**

- Painted steel and painted aluminum in sheet and coil (exclusive distributors of UNA-CLAD)
- Aluminum (mill finish and anodized) sheet and coil
- Copper sheet and coil
- Stainless steel sheet and coil
- Follansbee Terne metal and Terne Coated Stainless
- Thru Wall Flashings: Keystone, Afco
- Copper: raingoods, nails, pop rivets, bar stock, wire cloth

**Cut-to-length, slit,  
sheared to your specifications**

## **Make us your headquarters for:**

- **Lead Flashings**  
"Top Hat" flashings with Lead Burned Seams
- **Sheet Lead**  
Available in all standard sizes and weights  
Special sizes and weights available  
Special alloys available
- **Bar & Meter Bar Solder**  
And Solid wire, Rosin Core or Acid Core Solder
- **Manville — Roofing Accessories**  
Expand-O-Flash expansion joint covers,  
Flex-I-Drains®, FP-10® Solar Vents.

**CALL US/TOLL FREE**

**1-800-4-COPPER (426-7737)**  
(In Minnesota call 1-800-742-0578)



## Senate to vote on PAC contribution bills

Much attention has been given recently to the role of political action committees (PAC) in financing congressional elections. The latest reports from Washington indicate that two separate bills have been introduced in the Senate that seek to limit or eliminate PAC campaign contributions.

The first of these two bills calls for financing Senate campaigns through optional public funding. The bill seeks to set up a voluntary tax check-off system similar to the one currently used to subsidize presidential campaigns. However, the bill does not appear to have the congressional support necessary for serious consideration.

The second proposed legislation is Democratic Senator David Boren's Campaign Finance Reform Act of 1985, which reached the Senate floor in December. The bill's key provisions are:

- to limit the amount of PAC contri-

butions per election to \$100,000 for House candidates and \$175,000 to \$750,000 for Senate candidates, depending on the population of the candidate's home state;

- to lower the PAC contribution limit from \$5,000 to \$3,000, while raising the individual limit from \$1,000 to \$1,500;
- to close the current loophole for contributions from PACs; and
- to regulate PACs' use of media and materials by requiring disclaimers that state that an independent PAC is financing such items; the bill would also require TV and radio stations to provide free response time to candidates attacked in PAC-funded advertising.

The bill, which has eight cosponsors from both parties, may have enough support to pass a Senate vote, prompting much media attention.

*The New York Times*, in a Nov. 21 editorial, called the Boren bill a

"practical, prudent way to at least slow the slosh" of PAC contributions. *The Washington Post*, in a Nov. 4 editorial said, "Congress is wise to consider serious proposals for reform." On the other side, an editorial in the December issue of *The Subcontractor* from the American Subcontractors Association-PAC's chairman, Burt Fisher, called for increased accountability for contributions to candidates to limit the political favors PACs may receive from congressional members. Fisher also stressed in his editorial that PACs play an important role for voter participation in the political process and help force candidates to communicate their position on issues that voters deem important.

The outcome of the PAC contributions controversy could have considerable impact on the way representatives can be influenced.

## State prompt pay legislation getting much attention

Many state legislatures have been pursuing prompt pay laws this past year. The Coalition for State Prompt Pay, an organization integrating the efforts of more than 25 associations, has released its most current statistics regarding the legislations' current status.

According to the Association, 41 states and the District of Columbia have passed prompt pay laws. Initial legislation was still pending in two states for 1985 and two other states list it as first-round business for 1986. In 1985, six states passed their first prompt pay law, and another six states adopted amendments to strengthen existing laws. Pending legislation in four other states seeks to strengthen already existing prompt pay statutes.

The basic principle of prompt pay legislation is to require states to pay their bills promptly—within 30 calendar days after an invoice is received or according to normal industry practice. Should states fail to make prompt payments, they would automatically be charged interest on

the overdue amount. State laws vary considerably regarding interest payment and grace periods.

After states have passed prompt pay laws, according to the Coalition for Prompt Pay, the next step is to pass prompt pay laws for subcontractors. Only 11 states have passed such

statutes. The goal of the Coalition and the American Subcontractors Association (ASA) is to pass a law requiring the prime contractor on state work to pay the subcontractor within seven days after receiving payment from the owner. Failure to pay subcontractors would result in interest penalties.

### IN BRIEF

■ **IRS releases new recordkeeping regulations.** On Nov. 6, the Internal Revenue Service issued new regulations concerning recordkeeping for company vehicles and other equipment. The new regulations, intended to implement the 1985 law that repealed the "contemporaneous recordkeeping requirements," also address limitations on the use of depreciation and the investment tax credit for certain employer-owned property, and the taxation of fringe benefits.

■ **Problems cited in proposed affirmative action mandate.** Voluntary goals and timetables would be permitted under the latest working draft of a proposed revision of the presidential order mandating affirmative action for federal contractors. However, critics say that the language in a draft of the document will preclude contractors from setting goals and timetables, except for recruitment, for fear of reverse discrimination suits.

**"PVC  
WON'T  
LAST."**

# YOU'VE HEARD THAT BEFORE.

More than 15 years ago, we installed the first PVC single-ply roofs in Europe. More than 12 years ago, we installed the first PVC single-ply roofs in the United States.

And ever since, we've heard people say: "PVC won't last."

Quite frankly, in the early days, they were sometimes right. Experience was lacking and membranes were not always thick enough. But, at Trocal, there was (and still is) a big difference: we're dedicated to single-ply roofing.

So, those early mistakes were soon corrected. (And, we stood behind our customers by living up to our warranty every time they had a problem.) From that point on, Trocal PVC membranes have performed quite well, thank you.

Sure, there are problems now and again. (You'll never find a roofing system that's 100% perfect.) But, we provide service to our customers and fix their problems fast.

One more important point.

Recently, we took test cuts from ten and fifteen year old Trocal roofs and gave them to an independent testing laboratory.

The results were impressive. Every sample tested showed physical values *equal to or better than* published minimum standards for *new materials*. We were pleased but our customers were even happier.

Now, without fear of contradiction, we can simply state: Trocal PVC membranes meet all the criteria necessary for long-term performance in the roofing environment. We have the track record. We have the proof. (And, we'd be happy to discuss it with you further.)

To be sure, we don't expect people to stop saying "PVC won't last."

It's nice to know they're wrong. We know Trocal PVC *will* last. And last. And last.

We'll talk again soon.

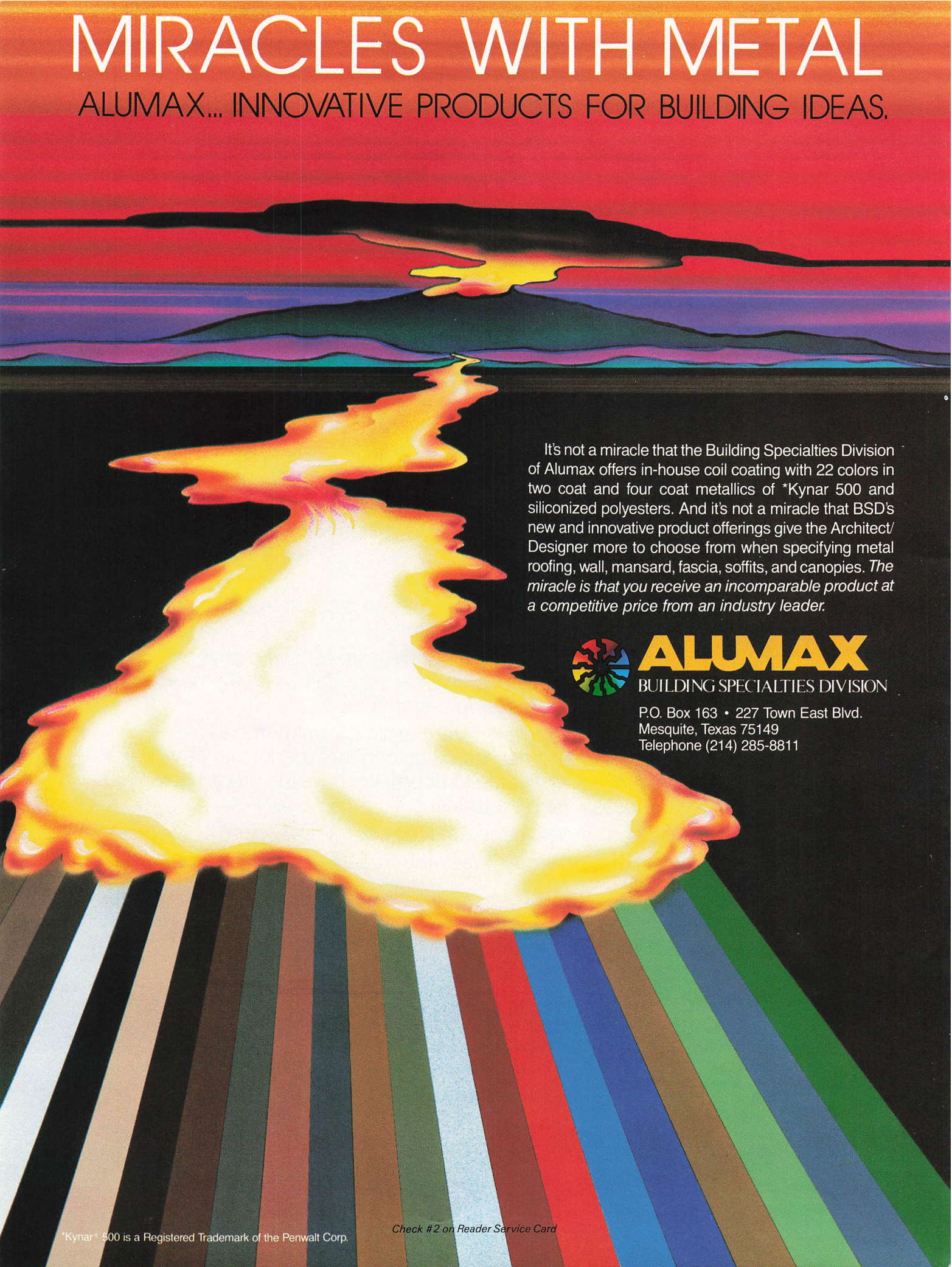
**Known by the companies we keep dry.**



10 Link Drive, Rockleigh, New Jersey 07647, 800-526-4610 (In NJ: 201-767-1660)

# MIRACLES WITH METAL

ALUMAX... INNOVATIVE PRODUCTS FOR BUILDING IDEAS.



It's not a miracle that the Building Specialties Division of Alumax offers in-house coil coating with 22 colors in two coat and four coat metallics of \*Kynar 500 and siliconized polyesters. And it's not a miracle that BSD's new and innovative product offerings give the Architect/Designer more to choose from when specifying metal roofing, wall, mansard, fascia, soffits, and canopies. *The miracle is that you receive an incomparable product at a competitive price from an industry leader.*



**ALUMAX**  
BUILDING SPECIALTIES DIVISION

P.O. Box 163 • 227 Town East Blvd.  
Mesquite, Texas 75149  
Telephone (214) 285-8811

## Analysts predict falling mortgage rates won't boost home buying

Even though mortgage rates are falling again and could decline further in coming weeks, the drop will probably not boost home buying, reported *The Wall Street Journal*.

The new rates, which average 11½ percent on a 30-year fixed-rate loan and 10½ percent on an adjustable-rate loan, have come at a bad time. Consumers are already burdened by a record-high deficit, and lenders are requiring homeowners to put down 10 percent on new homes, rather than the traditional 5 percent.

When interest rates began declining in May, after being hung at 13 percent for several months, builders hoped that sales would respond accordingly. However, house sales in October fell 5½ percent, the third straight monthly decline, even though mortgage rates were about 1 percent lower than a year earlier.

Analysts now believe that during 1985 consumers backed away from adjustable-rate mortgages, even at lower rates, because they worried about the federal deficit's effect on Treasury bill rates. The industry also misjudged the number of consumers who were waiting for lower rates. Much of the housing demand was met in 1983, when rates dropped to 13 percent from 16½ percent, according to the analysts.

While 1985 was not a boom year, some companies did quite well, depending on their specific market. Lower mortgage rates are credited for putting the sales of existing homes at or near a six-year high. The lower average cost of houses and the ready supply of existing homes also helped sales.

Still, much of the industry remains skeptical. "We haven't seen an upturn in demand," says Wyatt Johnson, a vice president for Georgia Federal Bank, one of many institutions that recently trimmed rates to 11⅝ percent from 11¾ percent.

The level of consumer debt, up 57 percent from the 1982 level, is currently one factor that will probably constrain home building. "A great many people really can't obligate themselves to buy a house," says Glen S. Corso, a senior vice president with the Mortgage Bankers Association.

Also significant is the phasing out of 5 percent down payments, which will eliminate thousands of first-time buyers from the market. The 5 percent payment was popular with buyers, but proved costly to lenders because the loans too often ended in delinquencies and foreclosures.

## ABOVE ALL ELSE, A FOSTER® ROOF!



A sprayed roof system and Foster® coating provide a seamless, flexible, watertight roof that adds high R-value insulation while it stops leaks. It's UL-classified and fire resistive.

On new construction and reroofing, the system requires virtually no maintenance. In some cases, the energy savings will pay the roofing cost in the first year!

10-YEAR WARRANTIES AVAILABLE.  
Contact the Foster Products Division of  
H.B. Fuller Company for more information.

Call toll-free: 1-800-231-9541  
In Texas: 713-926-3125  
International: 305-971-8600

 H.B. Fuller Company

Check #24 on Reader Service Card

## ROOF-GARD PADS™

SELECT  
FROM  
5 SIZES

**10** YEAR  
GUARANTEE  
AGAINST DETERIORATION

AVAILABLE IN  
½" & ¾" THICKNESS

**A Safe,  
Simple, Economical Solution to Protect  
Roofs from Damaging Foot Traffic.**

Roof-Gard Pads are quickly and easily installed on single ply or built up roofing. Use them for walkways, machinery pads, anti-vibration pads, or full coverage in heavy traffic areas. Write or call for sample & details.



CALL TOLL FREE 1-800-233-PADS  
**HUMANE EQUIPMENT CO.**  
P.O. Box 24, Baraboo, WI 53913

Check #32 on Reader Service Card

## ROOFING SPEC

### Publisher

Christine Nolen Taylor, CAE

### Editor

Martin Eastman

### Associate Editor

Kathleen Aharoni

### Contributing Editors

Amy Anson  
Melody Beckman  
Barb Dykema  
Katie Shultz

### Circulation Coordinator

Joan Kriete

### Technical Advisors

Robert LaCosse, CAE  
Jeff Lowinski

### Advertising Sales Manager

Amy Kassel

## HUD drops lien waiver requirement after receiving critical letter from ASA

The U.S. Department of Housing and Urban Development (HUD) has agreed to drop the lien waiver from one of its contracts at the American Subcontractors Association's (ASA) insistence.

HUD had required prime contractors to make subcontractors waive their lien rights on HUD-assisted construction as part of HUD's Construction Contract Cost Plus. In a memorandum released Sept. 16 HUD instructed its regional administrators, field managers and others to delete the statement "... and shall include in each subcontract a clause which shall impose this requirement on the subcontractor" from Article 7 of the Construction Contractor Cost Plus forms.

ASA's request to eliminate this provision came in a sharply worded letter to HUD earlier this year. ASA explained that by removing this

important payment protection and failing to provide a substitute, such as a payment bond, the original clause gave subcontractors no assurance of receiving payment for services rendered on HUD-assisted construction.

"ASA has long advised subcontractors not to sign contracts with lien waiver provisions," said ASA Government Liaison Committee Chairman William Manson Sr. Manson said some ASA chapters had advised members to condition their HUD-assisted construction bids on the provision of a payment bond. Others advised their members to avoid HUD projects where a lien waiver is required.

HUD's agreement to delete this clause will make such tactics unnecessary, while creating an atmosphere of security and fairness for subcontractors, according to ASA officials.

## NATION WIDE REPUBLIC ASPHALT

WHY PAY MORE

CALL TODAY FOR YOUR AREA DISTRIBUTOR

215-884-4930

EXCLUSIVE AGENT:  
CONTINENTAL MATERIALS, INC.

ATTENTION DISTRIBUTORS: EXCLUSIVE AREAS AVAILABLE  
LOWEST PRICES STEEP ASPHALT & GLASS FELT



## On your way to the top?

### TAKE ROOFING SPEC ALONG.

*Roofing Spec* is your closest link to the fast-changing roofing market. Subscribe today to get the information that will put you on top tomorrow.

*Roofing Spec*—we know what's going on.

Please enter my subscription to *Roofing Spec*.

Only \$20 per year:  Bill me  My check is enclosed

Name \_\_\_\_\_

Company \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

My primary business activity is: (check one only)

- 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 \_\_\_\_\_  
(please specify)

Signature \_\_\_\_\_

Date \_\_\_\_\_

Above information required to process subscription.

Check #16 on Reader Service Card

Check #50 on Reader Service Card

## Women not interested in roofing, says Bay Area Counties group

*From the Rooftops*, reports that efforts by the Bay Area Counties Apprenticeship Training Program to lure an acceptable quota of women into the roofing trade have fallen considerably short of the 21.9 percent goal established by California's Division of Apprenticeship Standards.

*From the Rooftops* is the publication of the Roofing Industry Promotion Fund of the Bay Area Counties.

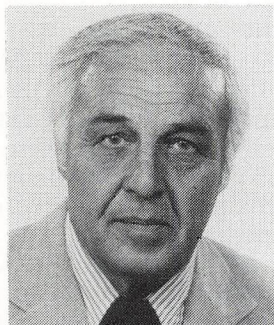
Despite attempts to solicit women's interest in the roofing trade, very few women have responded by signing up for apprenticeship training. Of the women who did sign up for the program, only two went on to become journeymen roofers, according to the newsletter.

During the last five years, the Bay Area training programs have indentured a total of 1,571 apprentices. Only 32 of these apprentices were women. Apprenticeship training director Duane Mongerson suggested the low number of women enrolling in the program results from the nature of the work. "Roofing is simply a very demanding trade physically and it's conspicuously dirty from the standpoint of materials and the types of work fresh apprentices are usually assigned to, such as tearing off roofs, lifting heavy materials and carrying around hot buckets," Mongerson said.

Mongerson also indicated that the Division of Apprenticeship Standards (DAS) has been placed in the somewhat awkward position of enforcing the quota goals, despite statistical data that clearly indicates that the goals may be unreasonable.

Mongerson has petitioned the DAS to revise its standards and establish goals more closely tied to availability and interest, rather than arbitrary equal employment opportunity quotas. Mongerson seeks to reduce the intake goal for women roofing apprentices from 21.9 percent to 2 percent. He may be aided in his

efforts by President Reagan and Attorney General Edwin Meese, who wish to strip away existing goals and timetables and dissolve affirmative action numerical quotas programs. A decision is expected soon as to whether the existing regulations will be discarded.



Cy Tilsen

Cy Tilsen  
Tilsen Roofing Company, Inc.  
Madison, Wisconsin

"We recommend ARC modified bitumen because of its cold weather properties."

Cy Tilsen

The ARC *commitment to excellence* means producing the finest all-weather modified bitumen roofing material available anywhere in the world and backing that commitment with our warranty.



DISTRIBUTORS COAST TO COAST

**The American Roofing Corporation**

3100 S. California Avenue  
Chicago, Illinois 60608  
(312) 376-1110

Check #4 on Reader Service Card

## Wage hikes negotiated in 1985 about the same as year before

Median first-year wage increases in agreements concluded during the first three quarters of 1985 are at about the same level as the previous year, according to the Bureau of National Affairs' Collective Bargaining Negotiations and Contracts service. This level was maintained by sharp increases in the size of construction industry settlements.

Construction contracts yielded a median first-year wage increase of 2.9 percent in the first three quarters of 1985, a significant increase from 1984's median of zero.

For all industries, the median first-year gain during the year's first nine-month period was 3.9 percent, compared with 3.8 percent for the first three quarters of 1984 and 4 percent overall in 1984. Excluding construction, the median first-year wage increases in industries other than construction were less than increases

last year, however. The median increase in the first nine months of 1985 was only 4 percent compared to the same period last year.

Continuing trends in this year's settlements are lump-sum bonuses, two-tier compensation, adoption of Martin Luther King's Birthday as a paid holiday, healthcare cost containment, and a decline in wage concessions.

Settlements that freeze or cut pay declined in the first three quarters to 24 percent of the pacts surveyed. During the same period last year, these settlements comprised 29 percent of the surveyed agreements. Lump-sum bonuses, often paid in lieu of a general wage increase, were provided in 13 percent of 1985's contract reports, compared with 5 percent in the same period of 1984.

Regionally, the highest wage increases were negotiated in the mid-Atlantic states and New England, up

4.9 and 4.7 percent, respectively. The lowest median wage increases were in the Southwest at 2.3 percent.

Deferred increases (effective 12 or more months from the beginning of a contract) were included in 86 percent of surveyed contracts negotiated so far this year. The median deferred increase for both the second and third years of settlements bargained this year was 4 percent.

Two-tier compensation systems, calling for lower pay for new employees, were established in 9 percent of the contracts reported so far this year, about the same amount as in the comparable 1984 period.

Cost-of-living adjustment provisions were mentioned in 10 percent of the contract reports in the first three quarters of 1985, down from 15 percent in the corresponding 1984 period.

In the construction industry, three-year terms went down 13 points to 35 percent; two-year terms rose 8 points to 37 percent; and one-year terms went up 6 points to 28 percent.

Martin Luther King's Birthday was added as a holiday in 57 percent of the 65 contracts that specified a new or changed holiday. Under revised holiday provisions, the average number of days provided per year was 11.

Healthcare cost containment was addressed in 51 percent of the 340 settlement reports that itemized insurance changes. The most common cost-cutting measures were higher deductibles, coverage for second surgical opinions, reduced first-dollar major medical coverage with maximum out-of-pocket expenses, and employee contributions to premiums.

Benefit changes occurred in 74 percent of the contract settlements reported in the first nine months of 1985. The benefit most mentioned in 1985 was insurance, with changes appearing in 82 percent of 763 contract reports that broke down benefit revisions. Pension plans were changed in 56 percent of such contracts.



### Little JOHN

a great new performer for your roofing team  
from GIUFFRE BROS./The Roofing Specialist

In the beginning, Giuffre Bros. brought you the Complete Roofer's Package. And who can forget the Haul Mighty, an outstanding second truck designed specifically for your needs? Then came the Roof King, the most reach for your money in a crane.

Now... The Giuffre Bros. show goes on with another memorable star. Little John, a super skid steer loader. A class act developed by JLG Industries. Weighs only 1,200 lbs. Can lift up to 500 lbs. in its ample bucket. Easily attached broom.

You can take Little John anywhere. A low 54-inch profile and a skinny 36-inch width. Run it up in an elevator. The ideal loader for tight-corner maneuvers.

Who could ask for anything more... from Giuffre Bros. The Roofing Specialist. For details, call or write:

- SMALL
- POWERFUL
- VERSATILE

A  
Bucket-'n-Broom  
Brigade in  
One Machine

IT LIFTS  
IT LOADS  
IT CLEANS

Buy  
•  
Rent  
•  
Lease  
\$6,995



**GIUFFRE BROS.** 9770 S. Ridgeview Drive Oak Creek, WI 53154 (414) 761-2300

Check #26 on Reader Service Card

## New rules issued by Washington state for asbestos removal

Washington state has issued final rules on asbestos removal and encapsulation projects. As of Nov. 21, 1985, the state has required specific hands-on worker training in techniques and equipment use, according to the Washington Department of Labor and Industries.

The rules implement a 1985 law that took effect July 28 banning work on asbestos projects until workers receive 30 hours of state-approved training. Temporary emergency regulations on worker training were adopted late in July.

The final rules, which are more specific than the emergency rules, state that the proper use of respirators and other equipment as well as removal techniques must be incorporated into the training classes. The new rules also limit the size of training classes to 30 trainees unless the department grants an exemption and state that there should be one teacher for every 10 students.

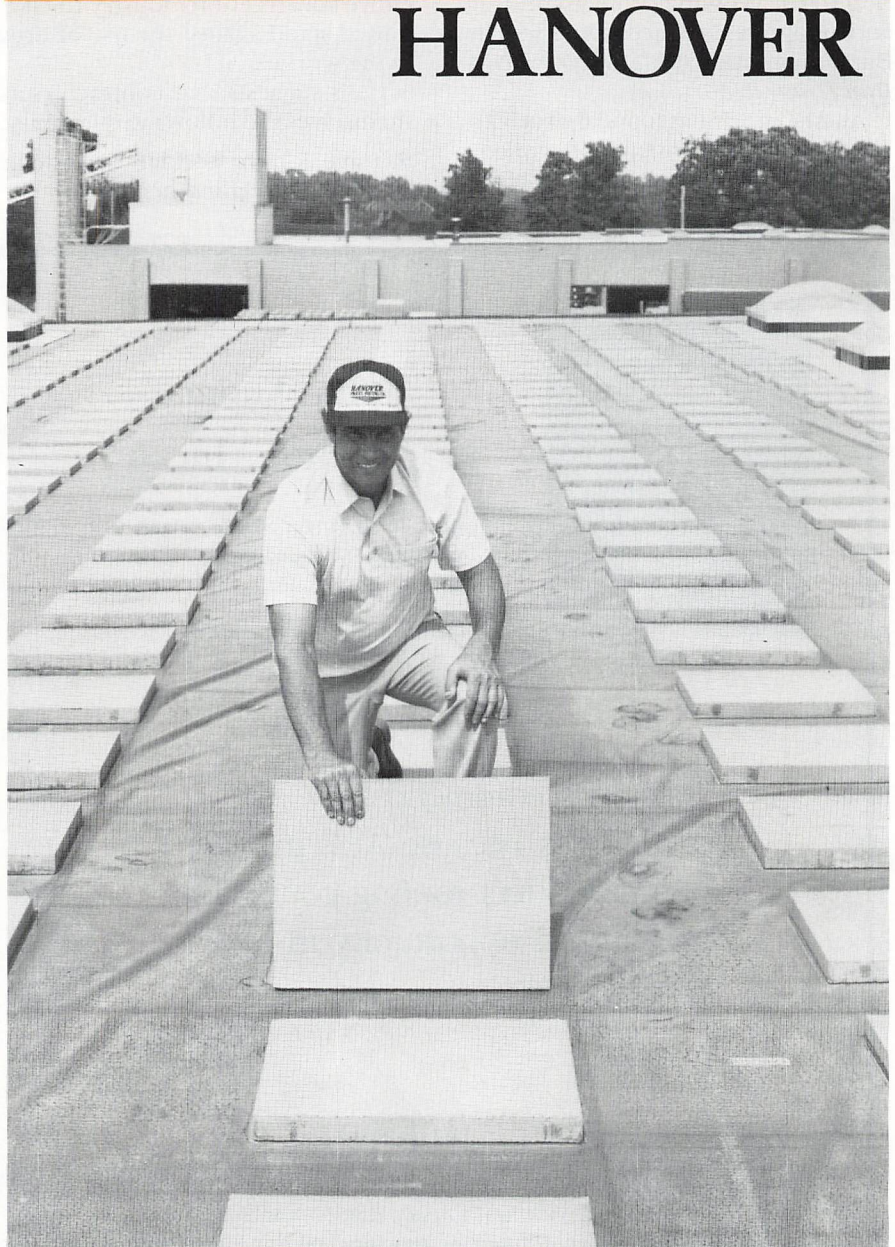
The final rules say uncertified workers can remove or encapsulate asbestos only under the supervision of a certified worker, and there must be one supervisor for every three workers. All must be employed by the same company and be working at the company's own facility.

The new statute covers all construction, demolition, repair, removal, salvage, encapsulation, disposal and maintenance projects that could result in asbestos release. Work on public and private buildings and mechanical piping equipment is regulated by the law.

Under the statute, workers are required to take 7-hour refresher courses every two years. The state-approved courses cover the physical characteristics of asbestos, the use and care of equipment and clothing, state-of-the-art asbestos removal and encapsulation techniques, personal hygiene, and state and federal asbestos abatement requirements.

TOP IT OFF WITH . . .

**HANOVER**  
PREST-PAVING® CO.  
**HANOVER**  
**HANOVER**



### 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.

*"Concrete Paving Materials for  
Roofs and Decks"*

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

## ABC prepares brochure to help control drug and alcohol abuse

The Associated Builders and Contractors (ABC) is working to draw attention to the growing problem of drug and alcohol abuse, according to The Bureau of National Affairs' *Construction Labor Report*.

An ABC study has found that at least 20 percent of all construction workers have a drug or alcohol abuse problem, said Jean Hails, ABC's president.

Hails believes drug and alcohol abuse is industrywide and wants the entire construction industry to take a united stand against the use of drugs in the workplace.

Hails suggests that contractors ask themselves the following questions:

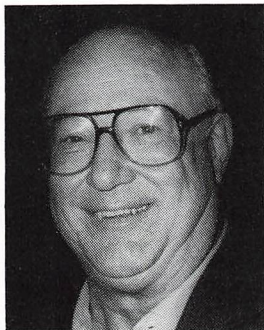
- Have jobsite accidents and compensation claims increased?

- Have projects fallen behind schedule for unknown reasons?
- Are employees frequently absent, especially on Mondays?
- Have there been material and/or tool overruns on projects?

If a contractor can answer yes to these questions, chances are there's a drug problem in the company, Hails says.

To deal with drug and alcohol abuse, ABC has prepared a 50-page manual, titled *Drug Abuse and the Workplace*. The manual's topics include management's responsibility, formulating a company drug policy, pre-employment drug screening, the legality of detecting drug abuse, employee assistance programs, and the company's position on company policy violators.

ABC members can purchase copies of the manual for \$31.50. The non-member price is \$45.



John Thomas

### John Thomas Railton, Inc.

Austin	Fort Worth	Lubbock
Corpus Christi	Harlingen	San Antonio
Dallas	Houston	Albuquerque

*Distributor of Quality Roofing Material*

"Railton recommends ARC to contractors because ARC modified bitumen offers roofing contractors exceptional opportunity in the market place."

*John Thomas*

The ARC *commitment to excellence* means producing the finest all-weather modified bitumen roofing material available anywhere in the world and backing that commitment with our warranty.



DISTRIBUTORS COAST TO COAST

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

## A national source for pre-painted aluminum

□ One of the largest inventories of pre-coated and pre-finished aluminum flatrolled products in the U.S.

□ A major supplier to the architectural and building products industries.

□ Paint systems available: acrylic, polyester, siliconized polyester, Kynar<sup>®</sup> 500 Fluorocarbons and Duranar<sup>®</sup> XL.

□ Mill finish aluminum in a variety of alloys and tempers in widths up to 103 inches.

□ Materials are smooth or embossed, vinyl protected or paper interleaved.

□ For prompt quotations or color charts, call:

**(800) 424-4402**

In PA, call:

**(215) 436-8600**



**Alliance Metals**  
Alliance Metals Inc.  
905 Fern Hill Road  
West Chester, PA 19380

Check #5 on Reader Service Card

Check #1 on Reader Service Card

## California exploring ways to prohibit unlicensed contracting

California has passed a bill providing for treble damages up to \$10,000 in an effort to tackle the problem of unlicensed contracting activity.

The bill states that any unlicensed person who causes injury or damage to another as a result of providing goods or performing services for which a license is required shall be liable to the injured person for treble damages. The bill allows the injured person to recover all of his or her legal costs and attorney's fees.

Yellow Page advertising by unlicensed contractors and the problems it has created for legitimate licensed contractors and others was also the focus of a recent California Senate subcommittee hearing held in San Francisco. The legitimacy of Yellow Page advertisers has been a problem since regulatory powers over such publications were repealed in 1979.

John Upshaw's testimony to the subcommittee on behalf of the Associated Roofing Contractors of the Bay Area, Inc., linked the Yellow Page advertising issue to many other problems that are making it increasingly "difficult for licensed, legitimate roofing contractors to remain profitable and competitive in an environment that encourages evasion of legal responsibilities by either an unwillingness or inability of state regulatory agencies to uphold and enforce the laws designed to protect consumers and bona fide providers of goods and services," he said.

Upshaw, as part of his testimony, presented a list of non-licensed roofing contractors currently advertising in the San Francisco Yellow Pages, published by the Pacific Bell Co. Upshaw told the Senate subcommittee that his selection had been a random check of roofers listed in the directory between the letters A and G. Upshaw claimed that six of the 15 unlicensed contractors he had found listed fictitious license numbers. "I think it's safe to assume from this ran-

dom sample that we have a problem here that is quite prevalent," Upshaw said.

Speaking on behalf of Pacific Bell, directory service manager Hank Harvey said, "We have to rely pretty much on what an advertiser says." He added

that his company is willing to respond to complaints when misrepresentations are brought to the company's attention. Harvey also indicated that he is willing to meet with various contractor association representatives to solve the growing problem.

## 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 1500 construction companies nationwide.

Call 1-800-554-9865 (in New Jersey call (201) 938-3200) today for the name of your local Software Shop Construction System dealer who'll show you why your company is ready for an accounting system you can really count on.

**Software Shop**

**SYSTEMS**

Route 34, P.O. Box 728, Farmingdale, NJ 07727

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

Check #56 on Reader Service Card

## Two-day CRC seminar will address low-slope roofing problems

The Construction Research Center (CRC) at the University of Texas at Arlington is sponsoring a two-day seminar on low-sloped commercial and industrial roofing. The seminar will be held March 11 and 12 in Arlington, Texas.

The seminar will attempt to explain why roofing is currently con-

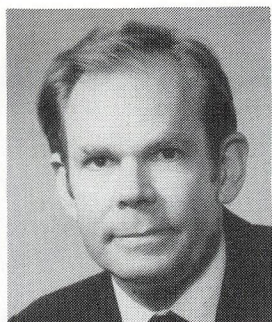
sidered the number-one problem in the construction industry. During the meeting other questions concerning flat roofs will be addressed as well. The seminar will also provide attendees with a basic understanding of the overall low-sloped commercial/industrial roofing industry. Special emphasis will be placed on practical

guidelines for specifying, applying and maintaining roofing systems. The seminar will also explore the alternatives to built-up roofs that have proliferated during the last 20 years.

In addition, various roofing materials and systems manufacturers will present information on the past and present roofing industry and related issues.

Seminar speakers include Stephen L. Patterson of Alexander Patterson Associates, Riad Nimri of the Southwestern Petroleum Corp., Roland Jary of Southwestern Laboratories, Dave Richards of the Owens-Corning Fiberglas Corp., John Busch of the Manville Corp., Herbert Coon Jr. of the Urethane Foam Contractors Association, Larry Garrison of Frank Meier Architects and Jim Koontz of Roff Engineering.

The seminar's registration fee for Construction Research Advisory Committee members is \$100. The non-member fee is \$200. Registration is limited to 200. To register, contact CRC, P.O. Box 19347—UTA Station, Arlington, Texas 76019; 817/273-3701.



Wm. E. Kugler

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

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

*Bill Kugler*

The ARC *commitment to excellence* means producing the finest all-weather modified bitumen roofing material available anywhere in the world and backing that commitment with our warranty.



DISTRIBUTORS COAST TO COAST

**The American Roofing Corporation**

3100 S. California Avenue  
Chicago, Illinois 60608  
(312) 376-1110

## Greason to be ASTM treasurer for second term

The American Society for Testing and Materials (ASTM) has appointed David M. Greason to serve a second one-year term as treasurer on the ASTM Board of Directors. Greason's term began Jan. 1, 1986.

Greason, a retired research leader for Foam Products Technical Service and Development at Dow Chemical U.S.A., has served on ASTM's Board since 1981. He is also a past chairman of the Board Committee on Technical Committee Activities and a past member of the ASTM Standing Committee on Technical Committee Operations. Currently, Greason is a member of Committees C-16 on Thermal Insulation and D-8 on Roofing, Waterproofing and Bituminous Materials.

Check #6 on Reader Service Card

## Business Roundtable reviews study's effectiveness at meeting

The Business Roundtable's 30th National Conference of Representatives of Local Councils, held Nov. 4-6, focused on improving productivity, reported the Bureau of National Affairs' *Construction Labor Report*. During the meeting, the Orlando Utilities Commission reported on its use of the Roundtable Construction Committee's Construction Industry Cost Effectiveness (CICE) program. The four-year, \$5 million CICE study of the construction industry generated 240 recommendations for improving construction practices.

The Orlando Utilities Commission implemented the CICE recommendations when it wrote the specifications for a major new power generation facility now under construction, according to Gerald Hardage, the utility's managing director for construction.

The project specifications included a clause that stated contractors would be evaluated on the basis of their implementation of the CICE program. To date, the project is two months ahead of schedule and the budget has been reduced from \$555 million to \$511 million. Hardage attributes the program's success to honest, open and frequent communication with craft workers and sincere concern for their well-being.

The project also has strict policies regarding drug and alcohol use. The policies are carried out with lunch-box searches and sniffer dogs.

The utility project has also benefited from worker incentive programs. Especially productive workers are given various recognition awards such as football tickets, dinners for two, or reserved parking places.

Recognition is also given to crews that have distinguished themselves through bad performance on the project, Hardage said. Members of the crew with the worst safety record for the month must wear hats attesting to their carelessness.

As a self-insured project that is using CICE safety recommendations, the utility expects to save \$6 million in direct costs and almost \$30 million in hidden costs on the project.

The findings of a survey of major National Constructors Association

(NCA) contractor members concerning CICE's recommendations were also revealed at the conference. All of the more than 30 NCA firms surveyed agreed with CICE recommendations on the use of well-defined safety programs. All respondents said they have

implemented CICE recommendations in this area and judge the recommendations to be significant.

NCA members were most opposed to CICE's recommendations for formal foreman training programs and management education programs.



## Modified Bitumen Machinery and Technology

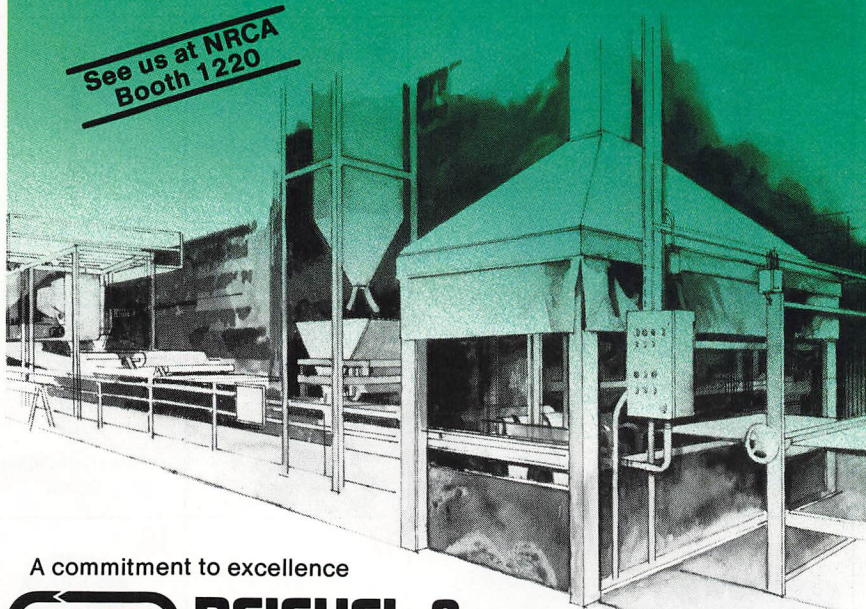
### We supply it all:

- Cost-Effective Manufacturing Equipment
- Proven Product Formulations using APP and SBS
- Production and Laboratory Training
- Membrane Application Know-How and Training
- Expert Marketing Consultation ...and much more.

### Contact us for more information

Reichel & Drews has been serving the asphalt roofing industry for over 60 years

See us at NRCA  
Booth 1220



A commitment to excellence


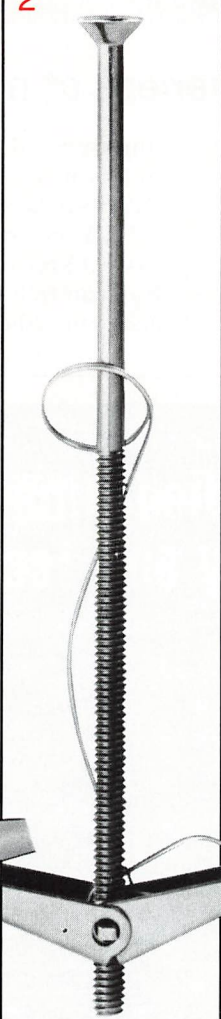
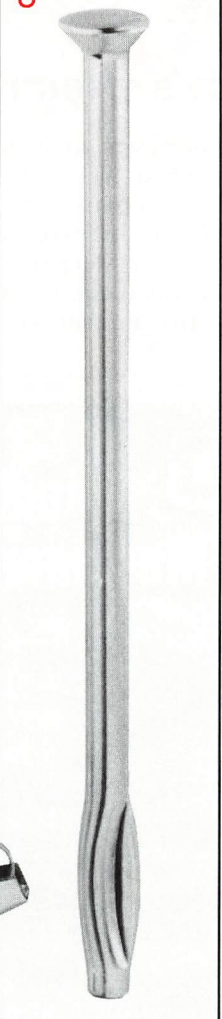
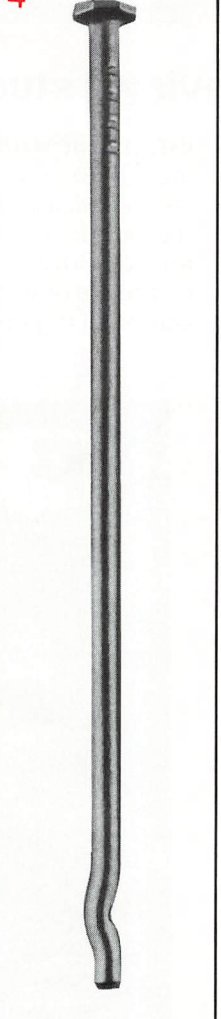
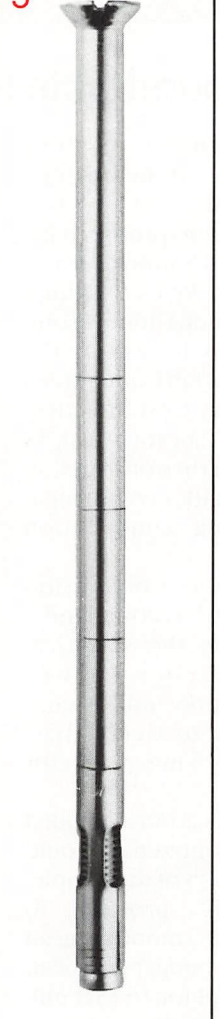
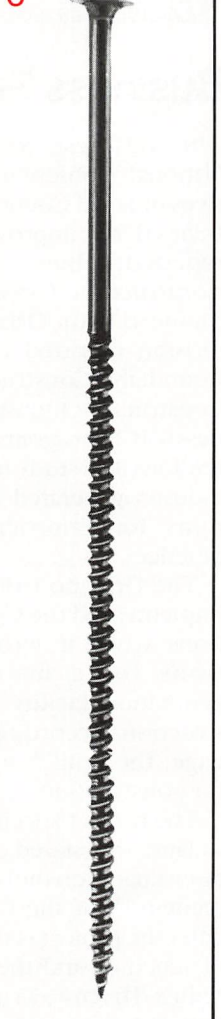
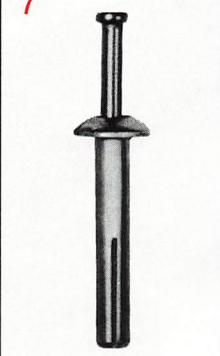
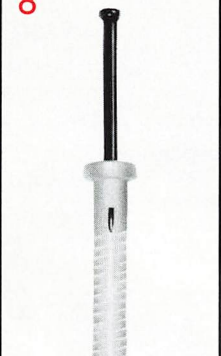
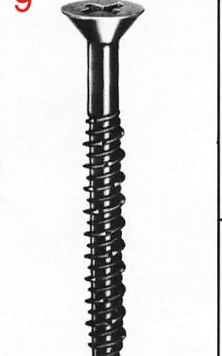

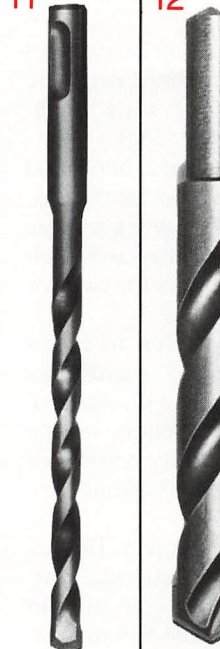
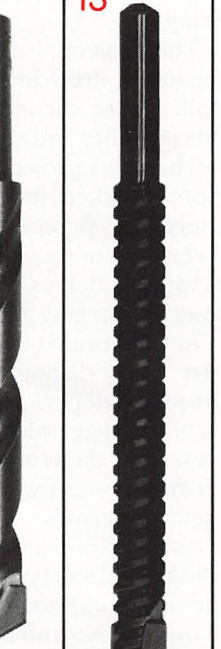
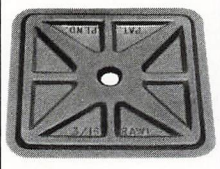

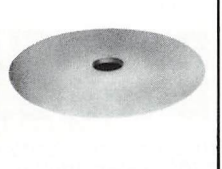
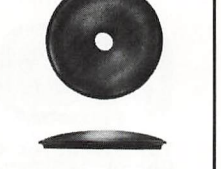
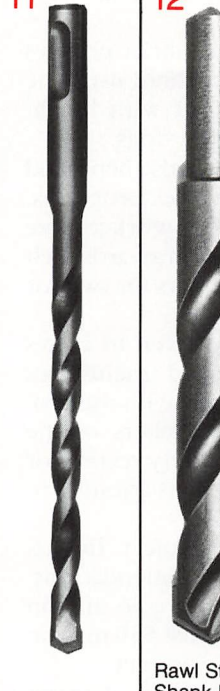
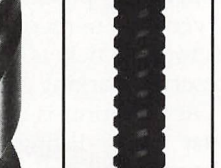


**REICHEL &  
DREWS, INC.**

1025 West Thorndale Avenue, Itasca, Illinois 60143  
Phone: 312-773-2500 Telex: 25-5105

Designers and Builders of  
Systems and Machinery for  
Manufacturing Asphalt  
Roofing Materials

Check #48 on Reader Service Card

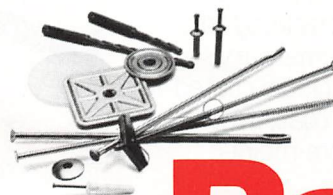
<p>1</p>  <p>Rawl Toggle Bolt</p>	<p>2</p>  <p>Rawl Speed-Lock™ Toggle Bolt</p>	<p>3</p>  <p>Rawl-Drive</p>	<p>4</p>  <p>Rawl-Spike™</p>	<p>5</p>  <p>Rawl Lok/Bolt</p>	<p>6</p>  <p>Rawl Deck Screw</p>
<p>7</p>  <p>Rawl Zamac Nailin</p>	<p>8</p>  <p>Rawl Nylon Nailin</p>	<p>9</p>  <p>Rawl Tapcon® Fastener</p>	<p>10</p>  <p>Rawl Hammer Drive Pin</p>	<p>11</p>  <p>Rawl SDS Carbon Drill</p>	<p>12</p>  <p>Rawl Straight Shank Rotary Carbide Percussion Drill</p>
<p>15</p>  <p>Rawl Galvanized Steel Stress Plate</p>	<p>16</p>  <p>Rawl Galvanized Steel Lap Plate</p>	<p>17</p>  <p>Rawl Polyethylene Stress Plate</p>	<p>18</p>  <p>Rawl EPDM Sealing Washer</p>	<p>13</p>  <p>Rawl Straight Shank Carbide Drill</p>	<p>14</p>  <p>Rawl Self-Drilling Screw</p>

# Rawl Roofing Fasteners — Tough, fast and reliable. A complete range of styles and sizes to fit every job.

Choosing the right fastener gets the job done better, faster and at lower cost. Rawl offers a complete line of fasteners for use in lightweight or structural concrete, wood or steel decks, tectum, gypsum or cement fiber, used for fastening membranes, wood blocking, termination bars or flashing.

Rawl gives you the widest choice of styles and sizes in the industry.

1. Rawl Toggle Bolt. Used in lightweight concrete, tectum, gypsum, steel or wood roof decks. Used with steel or polyethylene stress plates, lap plates and batten bars.  
Made of carbon steel with corrosion resistant yellow dichromate finish. Sizes from 1/4" x 3" through 1/4" x 18" with a full 4" thread in Phillips flat or wafer head styles.
2. Speed-Lock™ Toggle Bolt. With all the advantages of the standard Rawl Toggle Bolt, the Rawl Speed-Lock toggle with exclusive "Louie Loop"™ keeps the wings from spinning, allowing the use of a high speed driver for fast installation. The "Louie Loop" then locks the toggle into place, keeping the wing from spinning loose.  
Available pre-assembled with stress or lap plates, installation time can be reduced by as much as 75%. Vibration resistant. FM approved for I-60 and I-90 ratings.
3. Rawl-Drive. One-piece anchor for fast installation and tremendous holding power in concrete, dense brick and stone. Wind-lift and vibration resistant. Used with stress or lap plates, batten bars, and for wood blocking. Made of tempered grade 8 (150,000 psi minimum tensile) carbon steel. FM approved for I-60 and I-90 ratings.  
Sizes 3/16" x 1" to 1/4" x 14", in flat or wafer head styles. Corrosion resistant yellow dichromate finish. Wafer head also available with PermaSeal™ coating. Fast "Drill 'n Drive" installation.
4. Rawl-Spike™. Wind-lift and vibration resistant for excellent holding power in concrete, dense brick and stone. Used with stress or lap plates, batten bars, and for wood blocking. One-piece anchor made of tempered grade 8 (150,000 psi minimum tensile) carbon steel, mechanically galvanized (G90). FM approved for I-60 and I-90 ratings.  
Sizes from 3/16" x 1 1/2" to 3/16 x 6". "Drill 'n Drive" installation.
5. Rawl Lok/Bolt. One-piece all-steel fastener used in concrete, brick, or block. Used with stress or lap plates, batten bars, and for wood blocking.  
Sizes from 1/4" x 1 1/8" to 3/8" x 6". FM approved for I-60 and I-90 ratings.
6. Rawl Deck Screw. Used in steel or wood roof decks with stress or lap plates. Made of case-hardened carbon steel, with #12 diameter shank to withstand high driving torque. Lengths from 1 1/8" to 12" in Phillips wafer head style with PermaSeal™ corrosion-resistant coating. Sizes through 6" available with yellow dichromate finish. FM approved for I-60 and I-90 ratings.
7. Rawl Zamac Nailin. Used alone or with stainless steel sealing washer for termination bars and flashing in concrete, block, or brick. Made of zinc with steel or stainless steel nail. Sizes from 3/16" x 7/8" to 1/4" x 2" in mushroom and flat head styles. Fast "Drill 'n Drive" installation.
8. Rawl Nylon Nailin. Used alone or with stainless steel sealing washer for termination bars and flashing in concrete, block, or brick. Available with steel or stainless steel nail. Sizes from 3/16" x 1" to 1/4" x 6" in round, flat or mushroom heads. Fast "Drill 'n Drive" installation.
9. Rawl Tapcon® Fastener. Used in concrete, block or brick. Sizes from 3/16" x 1 1/4" to 1/4" x 6" in Phillips flat head and slotted hex head styles. Use Tapcon drill bits for maximum holding power.
10. Rawl Hammer Drive Pin. Used for fastening flashing in concrete, concrete block or brick. Not recommended for brittle or dense masonry. Lengths from 1/2" to 3".
11. Rawl SDS Carbide Drill. Made of heat-resistant alloy tool steel with copper-nickel brazed carbide tip. Used in the Hilti TE 12, 17 and 22, Bosch 11207, Black & Decker 5016-09, AEG 210 and Kango 327. Sizes 5/32" x 6" to 1" x 18" with new exclusive parabolic turbo flute for faster dust removal and drilling.
12. Rawl Straight Shank Rotary Carbide Percussion Drill. Used in rotary hammer drills with Jacobs chuck. Made of high alloy tool steel with special relief angle ground on the carbide tip for longer wear. Sizes from 3/16" x 4" to 3/4" x 6".
13. Rawl Straight Shank Carbide Drill. Made of high alloy tool steel with carbide tip for use in Jacobs chuck rotary drills. Sizes from 1/8" x 2 1/2" to 1 1/4" x 18" in fast spiral or deep flute design.
14. Rawl Self-Drilling Screw. Threaded fasteners drill, tap and fasten metal-to-metal. Four head styles, sizes from 6-20 x 3/8" to 12-14 x 3/4".
15. Rawl Galvanized Steel Stress Plate. Used to fasten insulation board to roof decks. Made of heavy gauge (.022") galvanized (G-90) carbon steel in 3" x 3" squares. Designed for precise mating with Rawl 3/16" or 1/4" flat head or wafer head fasteners. FM approved for I-60 and I-90 ratings.
16. Rawl Galvanized Steel Lap Plate. Used to fasten insulation board to roof decks. Made of heavy gauge (.032") galvanized (G-90) carbon steel in 2" round plates. Designed for precise mating with Rawl 3/16" or 1/4" flat head or wafer head fasteners.
17. Rawl Polyethylene Stress Plate. Used to fasten insulation board to roof decks. Made of special grade, high density, rigid polyethylene in 3 1/4" round plates. Designed for precise mating with Rawl 3/16" or 1/4" flat head or wafer head fasteners. FM approved for I-60 and I-90 ratings.
18. Rawl EPDM Sealing Washer. Used with 1/4" mushroom head Rawl Zamac or Nylon Nailin for a watertight seal for flashing and termination bars. Made of EPDM bonded to 304 stainless steel. Heat, cold, and galvanic resistant. Size 1/4" x 1 1/8".



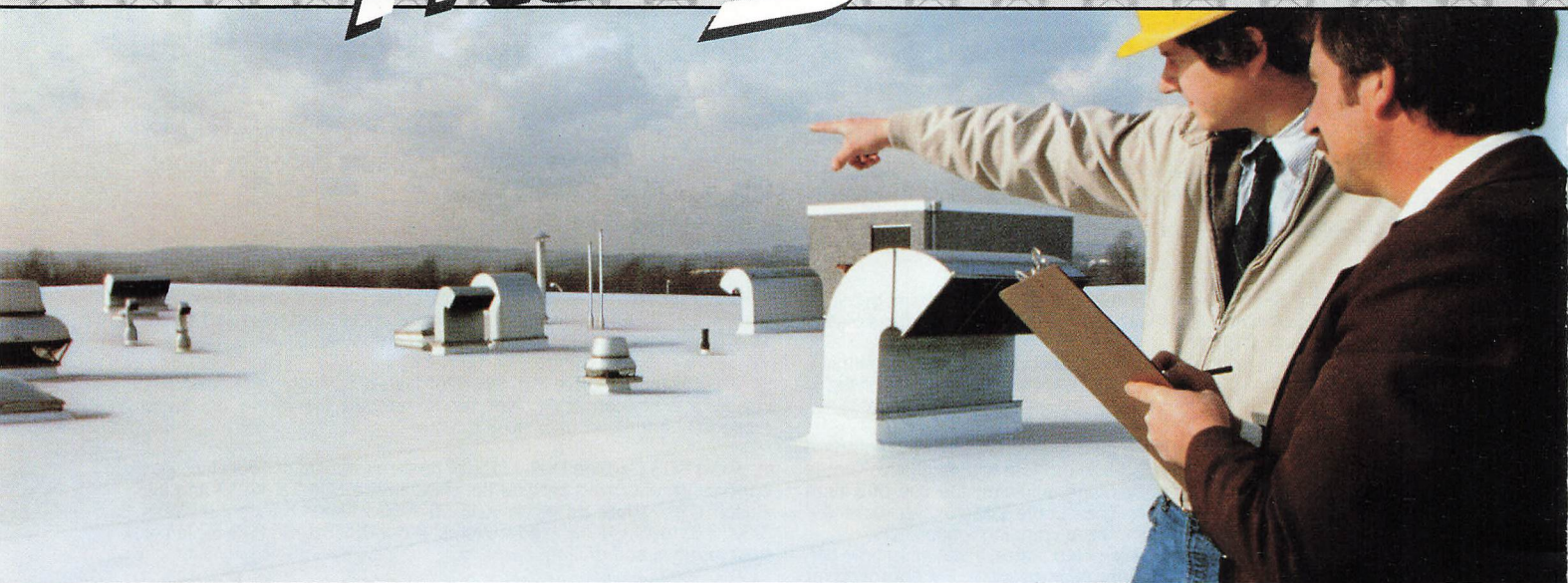
For complete information, contact your Rawl Distributor, or write to Rawl Technical Services Department.

"See us at booths 1824-1929"

THE RAWLPLUG CO., INC., Two F. B. Powers Square, New Rochelle, NY 10802

# Rawl

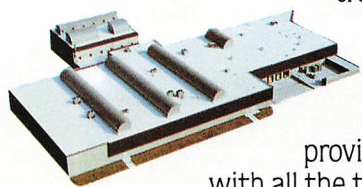
# The System



## 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.



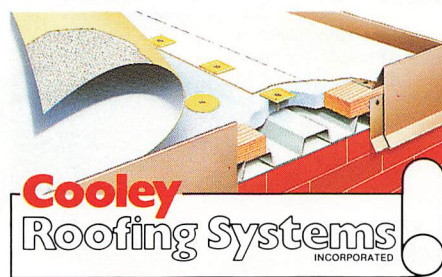
We also provide you with all the technical and engineering support you need to ensure the integrity of the entire *CoolTop 40 Roofing System*.

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 #17 on Reader Service Card

## ASC Pacific reorganizes and relocates headquarters

ASC Pacific, Inc., of Tacoma, Wash., has reorganized its corporate structure to accommodate the company's intended growth, and has relocated its corporate headquarters from Tacoma to the West Campus area of Federal Way, Wash.

The relocation is intended to physically separate the corporate headquarters from the Northwest regional headquarters and manufacturing plant in Tacoma. Manufacturing plants in Anchorage and Spokane will now report to the Tacoma regional headquarters, which will be directed by Jerry Iselin.

ASC's Western regional headquarters is now located in Sacramento and is directed by Mike Tinney. This division also includes a recently opened plant in Fontana, Calif., and the ASC-Omega plant in Phoenix. Eddie Blair manages the Southeastern regional headquarters in Grapevine, Texas.

## Bally announces personnel changes

Bally Engineered Structures has named Bud Streff central United States regional sales manager. Streff will be responsible for Alply sales in Texas, Minnesota, New Mexico, Colorado, Indiana and Arkansas.

Before joining Bally, Streff was district sales manager for Inryco in both Dallas and Boston for six years.

## Benjamin Equipment opens Virginia facility

The Julien P. Benjamin Equipment Co. of Jacksonville, Fla., has announced the grand opening of its new branch office and warehouse in Norfolk, Va.

The new branch office includes 8,000 square feet of warehouse and outdoor storage, which will house roofing equipment, parts and commodity materials. This new facility will help the equipment company service its customers in Virginia, North Carolina, Maryland, New Jer-

sey, Pennsylvania, New York, east Tennessee, Kentucky, and West Virginia.

Personnel for the new branch office includes David Owen as territory manager, and Chris Kline as inside sales, service and parts manager. John Fraschilla, who has 10 years of equipment experience with the Aeroil Co., will service customers in Pennsylvania, New York and Maryland. Glenn Lapouble has been appointed branch and territory manager in New Orleans, for Louisiana, Mississippi and Alabama. Steve Collins has been appointed as inside sales, service and parts manager.

## ARC hires Purnell; announces new guaranty

The American Roofing Corp. (ARC) has appointed E.P. Purnell manager of the company's architectural services.

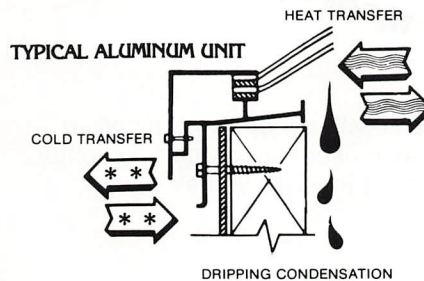
Purnell will be responsible for assisting architects, contractors and owners on project specifications for new and old roofing.

Purnell has more than 40 years' experience in the roofing industry. Prior to joining ARC, he was The Koppers Co., Inc.'s, Chicago district sales manager and regional manager of architectural sales.

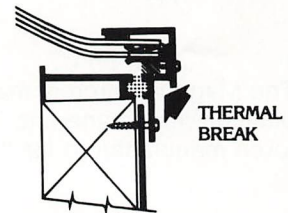
ARC has also announced its Silver Eagle 15-year limited material warranty for ARC 200 series specifications, when used with ARC's modified base sheet as the base ply. This base sheet can be set in a full mopping of asphalt or may be mechanically attached with approved fasteners and attachment patterns.

The Silver Eagle warranty is available only through ARC-approved contractors. Details and free specifications are available.

## Why buy skylight condensation problems...



## ...when SUNGLO "THERMAL BREAK" costs no more!



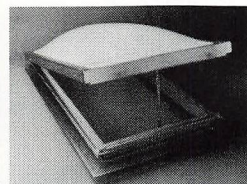
### And only SUNGLO gives you:

- Sizes designed around your needs — not ours.
- Unquestionable integrity and product warranty.

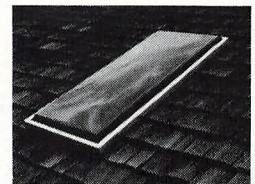


**SUNGLO®**  
SKYLIGHT PRODUCTS

DIV. OF PLASTIC SALES & MFG. CO., INC.  
3016 CHERRY • KANSAS CITY, MO 64108



VENTDOME



CURB MOUNTS

For Immediate Quotes  
CALL 1-800-821-6656  
In Missouri call 816/561-1155

Check #58 on Reader Service Card

## Carlisle opens Chicago distribution center

CarlisleSynTecSystems has announced the opening of its North Central Region/Chicago Distribution Center in Arlington Heights, Ill.

The 25,000-square-foot facility can house 3 million square feet of single-ply roofing membrane. The Center will stock a full line of Carlisle products and will provide technical exper-

tise to Carlisle customers in a seven-state area comprising Carlisle's North Central region.

"This new regional distribution center will provide product availability for pickup or shipment on a regional basis, as opposed to dealing directly with the factory," said George Lacina, regional manager for the Chicago facility. "Our intent is to continue the decentralization of our home headquarters and to provide

closer contact with our roofing applicators and distributors," he added.

The new complex includes administrative office space and features a direct computer link with Carlisle's customer service department in Carlisle, Pa.

Joining Lacina at the Chicago Distribution Center are Gregg Hoffman and Mark Barnhardt, sales engineers; Bonnie Bomhack, customer sales coordinator; and Lee Buckley, warehouse operator.

## CertainTeed names marketing vice president

The CertainTeed Corp. has named Robert L. Garrett vice president of marketing for the company's Shelter Materials Group.

In his new position, Garrett will be responsible for overseeing the Group's marketing functions, including national advertising, sales promotion, marketing research, public relations, and new product development for residential roofing products.

Garrett has been with CertainTeed since 1976. Most recently, he was director of new development for the company's Vinyl Building Products Division.

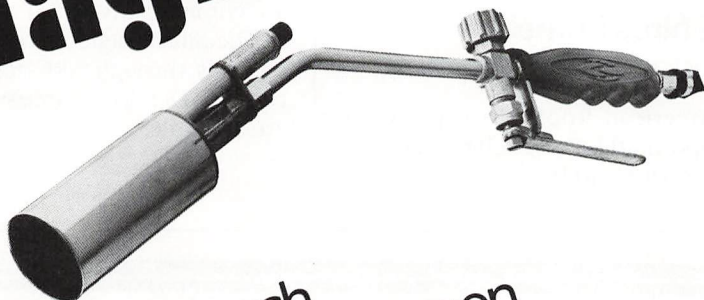
## Paslode creates new position

Carl Schneider has joined the Paslode Corp. of Lincolnshire, Ill., as manager of training and development.

In this new position, Schneider will be responsible for designing and implementing programs to increase the efficiency of Paslode's sales force and distributor network.

Prior to joining Paslode, Schneider was training manager at International Harvester. During his six years with Paslode, he has also held the position of territory manager and dealer/business consultant.

# magnum



the first torch  
for modified bitumen  
from **modi-systems**

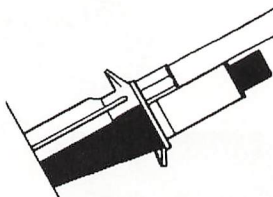
The Magnum torch is made specifically for applying modified bitumen membrane and it has been used longer than any other torch manufactured for this purpose (over 15 years).

### MEASURES

Three different sizes assure the right length for the right job. A 7 inch torch, for close flashing and detail work. A versatile 10 inch torch, long enough for full width fusing or detail and a 16 inch torch, ideal for full width standup work.

### AUTO START

The Magnum is the first torch on the market that utilizes a wind resistant electric start button.



34 Kinderkamack Rd  
Oradell, NJ 07649  
(201) 599-0604  
Toll Free 1-800-222-MODI

**modi-systems**  
accessories for modified bitumen

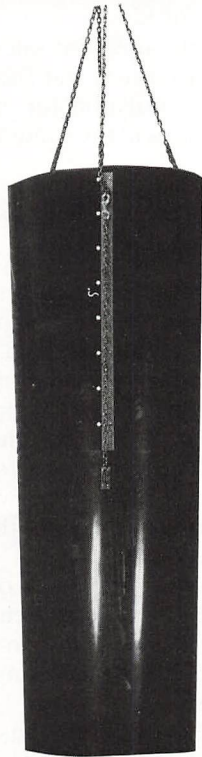
Check #39 on Reader Service Card

continued on page 26

# WE'VE GOT THE RIGHT EQUIPMENT...



**FELTMASTER**  
 • Felt Layer



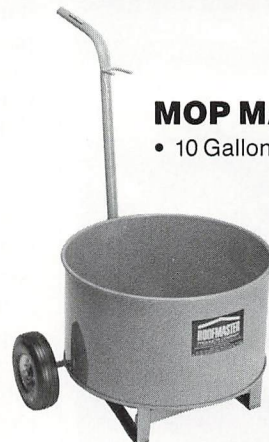
**TRASH CHUTES**  
 • Highest Quality  
 UV Resistant  
 Material Available



**T-HANDLE  
 DUMP CART**



**LITE LIFT  
 LADDER MASTER  
 HOISTING WHEEL**  
 • All steel housing  
 • 12" aluminum wheel  
 • Dual ball bearings with  
 grease fittings



**MOP MASTER**  
 • 10 Gallon and 20 Gallon

## TOOLS...

## AND MORE...

- Mop Sleeves
- Roller Mop Frames
- Fasteners
- Vents
- Kettles
- Spray Systems



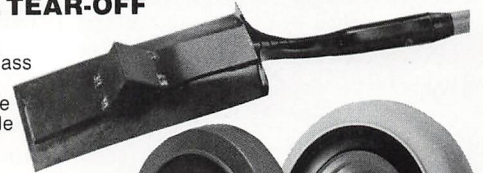
**NAIL  
 STRIPPERS**

**CARBIDE BLADES**



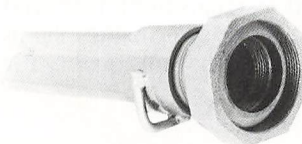
**SPECIAL TEAR-OFF  
 SPADE**

- With Fiberglass  
 handle...
- Wood handle  
 also available



**LITE-WALL  
 TUBING**

- 5', 10', 15' & 20'  
 Lengths
- Available with  
 Stockham  
 Catawissa or  
 Capitol Unions

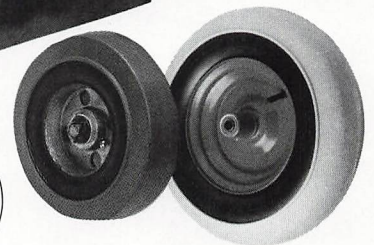


**THE FOLLOW TOOL**

- Outlasts a  
 mountain  
 of brooms



Call Toll Free  
 800-372-6409  
 (California, except 213 & 818 Area Code)  
 800-421-6174  
 (Nationwide, except CA & AK)



**SILICONE RUBBER  
 TIRE COVERS**

### INSIST ON ROOFMASTER

ASK YOUR DISTRIBUTOR...OR CALL...



750 Monterey Pass Road  
 Monterey Park, California 91754  
 Mailing Address: P.O. Box 63309  
 Los Angeles, California 90063

Tele: 213/261-5122  
 800/372-6409 (California, except 213 & 818 Area Code)  
 800/421-6174 (Nationwide, except CA & AK)  
 Telex: 298940 Roof ur

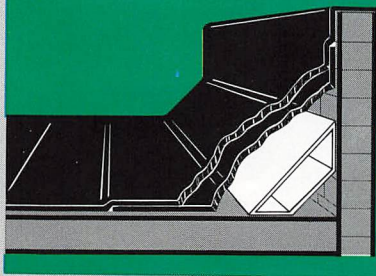
**Manufacturers & Distributors of Roofing Equipment - Tools & Accessories**

Check #51 on Reader Service Card

Attention:  
Torch On Applicators

**New** Cant

## GREENSTREAK FIRE STOP



### ELIMINATE PERIMETER FIRES NOW

This One **Does** What Others  
Only **Claim** To Do

- **FLAME RETARDANT MATERIAL**—Won't support flame or smolder.
- **RIGID PROFILE**—Can be mechanically attached, if necessary.
- **HIGH IMPACT**—Withstands transit abuse.
- **WATER RESISTANCE**—Will not deteriorate.
- **LIGHT WEIGHT**—25% lighter than conventional cant.



**GREENSTREAK**

CALL 800-325-9504

For more information  
call or write.

Missouri Residents 314-225-9400  
Box 7139 • St. Louis, MO 63177

Check #28 on Reader Service Card

### Pittsburgh Corning names new sales manager

Pittsburgh Corning has named Thomas J. Piroosko product manager of architectural products.

Piroosko will supervise sales of PC GlassBlock® products and Foamglas® cellular glass insulation for architectural applications in the United States.

### Roofblok relocates and adds personnel

Roofblok, Ltd., has recently moved its corporate headquarters from Waltham, Mass., to Lunenburg, Mass., and has hired two new employees.

Vincent J. Piro has been appointed national sales director of the company and will be responsible for coordinating the Roofblok network of marketing and sales agents throughout the United States.

Piro, a 16-year veteran of the Massachusetts House of Representatives, has been affiliated for many years with the J.F. White Contracting Co. of Newton, Mass.

Robert Bryngelson has been appointed manager of technical services. Bryngelson was formerly superintendent of construction for the P.J. Keating Co. He will provide technical support for architects and specifiers and will coordinate technical information and services.

### Four roofers win Armco design awards

Seven Armco Building Systems builders have won 1984 Design Awards of Excellence for innovative and economic design. Four of these design awards were given to roofing projects. The winners were announced at the annual meeting of Armco builders in Cincinnati.

The four winning roof projects were awarded to: Abbott & Williams Construction Co. of Longview, Texas, for construction of the roof on the bank and office leasing facilities of

the Texas National Bank; Sande Construction and Supply Co. of Humboldt, Iowa, for roof construction on the new doctors' offices of the Webster City Medical Clinic; Steel Structures of Kansas, Inc., of Wichita for the construction of the High Plains Area Vo-Tech School; and Stoldt-Stotts, Inc., of Oklahoma City for the construction of the roof on the Charles Haskell Elementary School.

All facilities with Armco applications were eligible to enter the company's annual design contest. Armco wall-only or roof-only applications, including reroofing, were also eligible.

### Brian R. White opens Ohio office

The Brian R. White Co., Inc., has opened a new sales office in Akron, Ohio. This new facility will feature a qualified sales staff, warehouse and a repair center for the complete line of Leister hot air equipment.

Michael Pisanelli will oversee the new Ohio office.

### Permalite introduces new contractor program

International Permalite has introduced the Registered Tapered Systems program for experienced roofing contractors. The program's purpose is to build awareness of the need for and benefits of tapered roofs.

Contractors qualifying for the program will receive from Permalite the Dodge Scan Service, a Tapered Take-Off System™, A Quik-Cricket™ slide rule, the *Estimators Handbook*, and staff assistance in bidding jobs.

Contractors who meet a level of professional and industry standards, have a working knowledge of the benefits and installation of a tapered roof, and who pass a Permalite examination on tapered systems qualify for the program.



## Richards receives ASTM Award of Merit

David E. Richards, manager, technical services, CRD, for the Owens-Corning Fiberglas Corp., was named a 1985 recipient of the American Society for Testing and Materials (ASTM) Award of Merit. Richards received the award at ceremonies hosted by ASTM Committee D-8 on Roofing, Waterproofing, and Bituminous Materials.

During the awards presentation, Richards was cited for outstanding leadership and distinguished service in advancing the United States voluntary standardization program, and for dedicated personal commitment in the development of new and improved standards for bituminous and polymeric roofing and waterproofing materials and systems.

An active member of Committee D-8 since 1965, Richards is a past secretary and assistant secretary of the Committee. He is currently a member

of several D-8 subcommittees and has contributed to the writing of numerous roofing standards. Richards is also a member of ASTM Committee E-6 on Performance of Building Construction.

The Award of Merit, and the accompanying honorary title of Fellow of the Society, were established in 1949 by ASTM. The award recognizes distinguished service to the cause of voluntary standardization through productive service to ASTM, marked leadership, outstanding contributions, or publication of papers.

## Celotex names national account executive

H.C. "Pete" Lindsay has been named a national account executive for the Celotex Corp.'s Cincinnati regional sales office.

In this new position, Lindsay will be responsible for promoting Celotex building and roofing products to spe-

cific national accounts based in the Great Lakes states.

Lindsay joined Celotex in 1981 as a sales representative for the building products division. Most recently, he was in charge of sales in northeastern Indiana and northwestern Ohio.

## Terra Cotta winners announced

The National Building Museum has announced the six winners of "The Contemporary Terra Cotta Competition." The competition, which called for new designs in architectural terra cotta, was organized by the National Building Museum, with support from the Ludowici Celadon Co., Inc.

The six winners were selected from 110 contestants by six leading architects. The winners are: Terry Brown and the team of Muller and Brown Architects of Cincinnati; H. Stow Chapman, principal in Grossman, Chapman, Kingsley Architects, Inc., of Louisville; Peter J. Fortier, project architect for Clements, Blanchard and Holmes, Metairie, La.; Eric Gazley, principal in Gazley, Plowman Architects, Portland, Ore; Carl Vogtmann, project engineer for Loyola University's physical plant department, Chicago; and Giorgio M. Zigliotto, architectural designer for Carrasco and Associates, Palo Alto, Calif.

Honorable mentions were awarded to Erin McNamara and Jim Gilroy, both of Chicago; Karen Singer of Philadelphia; Tim Sappington of Randolph, N.H.; Melanie M. Swick of Cincinnati; and Elizabeth McClure of Brooklyn.

The winning design will be incorporated into a new product line by the Ludowici Celadon Co. In addition to royalties from their designs, the winners will receive a \$750 cash prize.

**Goss Ready-Flame Roofing Torch...**  
helps you heat-fuse roofing faster and more efficiently

BP-6TE tip reaches required temperatures for heat-fusing.

Economiser pilot valve.

On/off control valve.

Standard 9/16" - 18LH hose fittings.

Form fitted high pressure lever.

Available with interchangeable extensions in lengths of 4, 12, or 18 inches. Also comes with an 18-inch double-headed burner extension.

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.

Visit Our Booth 1239, 1241 at the NRCA Show  
For more information, call toll-free:

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

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

Check #27 on Reader Service Card

## SRI studies single-ply composition

Structural Research, Inc., of Madison, Wis., is evaluating various combinations of polyester and fiber glass for single-ply roofing.

SRI will test a wide range of roofing samples, varying the spunbonded non-woven polyester content, the fiber glass content, and also the types of bitumen matrix used. In each case, the characteristics of the resulting material will be evaluated for use as single-ply roofing. The study includes both the APP and SBS types of modified bitumens.

SRI will carry out the testing under the direction of Rene Dupuis, who, according to Lutravil, is one of the leading experts on roofing materials in the United States. The Lutravil Co. is sponsoring the study.

## Barra names Ferguson sales rep

James S. Ferguson has been named sales representative for the Barra Corp. of America, West Caldwell, N.J. Ferguson will be responsible for Barra roofing product sales in North Texas, Oklahoma and Arkansas.

Before joining Barra, Ferguson held roofing sales and systems design posts with Carlisle SynTec Systems. He also served as an independent roofing products manufacturer's representative in Phoenix.

## Synergy develops new fabricating process

Synergy Methods, Inc., of Cranston, R.I., has developed a new rubber fabricating process.

The new fabricating process seams together several narrow sheets of raw EPDM rubber. A proprietary adhesive is used to form each seam. A special powder is applied to prevent the membrane from sticking or lumping together during the curing period. The newly fabricated large sheet is then wrapped using a proprietary wrapping cloth. Serial numbers are assigned to all materials.

After the sheet has been comple-

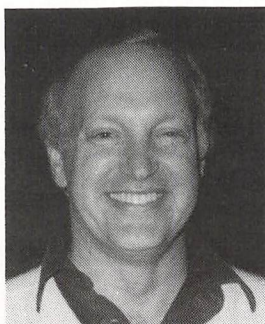
tely wrapped, it is placed in a large pressure chamber. Here the untreated rubber is vulcanized at the proper time, pressure and temperature. The result is a fully bonded membrane of EPDM. After the product has cooled to room temperature, it is trimmed and packaged.

This improved process should triple EPDM rubber sheet production, the company says.

Synergy has also appointed James

H. Kohler Southeast district sales manager. In his new position, Kohler will be responsible for promoting and selling Synergy roof and wall systems in the company's Southeast region, which includes Virginia, South Carolina, North Carolina, Florida, Georgia, Alabama, Mississippi, Louisiana and Tennessee.

Prior to joining Synergy, Kohler was a project manager with Terstep, LA, Inc.



George S. Moeller

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

"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*

The ARC *commitment to excellence* means producing the finest all-weather modified bitumen roofing material available anywhere in the world and backing that commitment with our warranty.



DISTRIBUTORS COAST TO COAST

**The American Roofing Corporation**

3100 S. California Avenue  
Chicago, Illinois 60608  
(312) 376-1110

Check # 7 on Reader Service Card

# ***We dare our com***

For more than a century, contractors have specified our commercial roofing materials more than any other: Celotex. There's good reason for that!



## **Built-up roofing systems.**

When you specify a Celotex built-up roof, you're planning for lasting protection. Celotex manufactures virtually every component of the industry's finest roofing systems: roof insulations; waterproofing and dampproofing coatings; expansion joint covers; roofing felts and flashings; coatings and cements.

And only Celotex can offer roofing contractors the Celopal Modified Bitumen System — the only system on the market that is completely torchable.



That means no kettles, buckets and mops. And less manpower to complete the job. The Celopal Modified Bitumen System consists

of a venting base sheet and two different cap sheets. You have the choice between a mineral-surfaced cap sheet or a smooth-surfaced cap sheet. And all three Celopal sheets give you the flexibility of choosing between mopping or torching.

Celotex's broad range of reliable commercial roofing systems offers you maximum latitude in selecting a system most appropriate for your requirements.



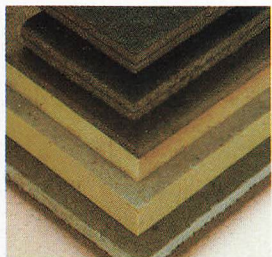
***Building lasting***

Check # 13 on Reader Service Card

# *petitors to top us.*

## **Roof Insulations**

Celotex is the only company in the roofing business today that offers five (5) different types of roof insulation. We realize the superior performance of the entire roofing assembly depends on careful selection and proper application of all components including the roof insulation. Thermax Hy-Tec,<sup>™</sup> Thermax Hy-Tec Plus,<sup>™</sup> Fiberboard,<sup>™</sup> High Density Fiberboard,<sup>™</sup> and Celo-Therm<sup>™</sup> are all available from Celotex.



Thermax Hy-Tec and Hy-Tec Plus are new roof insulations from Celotex. They are dimensionally stable, tough, easy to cut, lightweight and come in a variety of thicknesses to suit every situation. Both have excellent insulating efficiency with a Factory Mutual class I Rating. Fiberboard is a general-

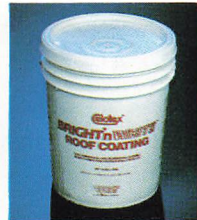
purpose insulation especially suited to applications requiring unusual strength and rigidity. High Density Fiberboard is used under EPDM adhered systems,

single ply systems and built-up-roofing systems as a separation board between an old and new roof.

No one in the roofing business today can match our breadth of products, our experience and our total commitment to excellence.

## **New Bright 'n White roof coating.**

A water-based acrylic, elastomeric roof coating, Bright 'n White provides 85% light reflectance. It's easy to work with and dries quickly to form a permanently elastic protective coating for built-up roofs.



## **Your business is roofing...so is ours!**

For roofs that stand the test of time, count on Celotex. Our quality and technology support you. And our warranties back you up.

For more information on Celotex roofing products...

# **Celotex<sup>®</sup>**

THE CELOTEX CORPORATION  
POST OFFICE BOX 22602  
TAMPA, FLORIDA 33622

a Jim Walter company

# **celotex**

**protection with quality.**

# 30,000,000

times the 10 seconds it takes to read  
this page is how long efficient, easy-to-apply  
**GAFGLAS**® Built-Up Roofing Systems have  
been in service without a single, product-  
related failure.



**GAF** **Super**  
**system**  
THE BEST OF  
THE BEST

GAF Corporation, Building Products Division, 1361 Alps Road, Wayne, New Jersey 07470.  
For details, see Sweet's Catalog Reference Numbers 7.1 Gaf and 7.15 Gaf.

**EBUR**  
ELECTRIC BUILDING PRODUCTS

Check #29 on Reader Service Card

## Hartford plays host to NERCA's 60th meeting

The North/East Roofing Contractors Association (NERCA) will hold its 60th annual convention and trade show in Hartford, Conn., March 5-7. More than 2,000 contractors, architects, engineers, construction users and government officials are expected to attend.

Guest speakers will address single-ply roofing experiences, the status of the insurance market, and Factory Mutual's forthcoming standards on roof fastening systems and corrosion.

More than 165 booths will feature the latest in roofing materials and equipment.

NERCA represents contractors from New York, New Jersey, Pennsylvania, and six New England states. Its membership includes more than 240 contractors and 125 associate members—manufacturers, wholesalers and suppliers.

Contact Executive Director Thomas Gunning at 148 State St., Boston, Mass. 02109, for more information.

## Rosenow receives McCawley Award

Will F. Rosenow, Hans Rosenow Roofing Co., Inc., Chicago, received the James Q. McCawley Award at the annual banquet of the Midwest Roofing Contractors Association (MRCA) meeting in November. The award is presented each year in recognition of outstanding service to the roofing industry.

Rosenow began helping out in his father's slate and tile roofing business when he was a boy. He took over the family enterprise at 17.

Rosenow has been active in industry associations at the local, regional and national level, and in the American Society for Testing and Materials for many years. He has served as president and director of the Chicago Roofing Contractors Association (CRCA) and was given CRCA's Clyde Scott Award for industry service.

MRCA also elected 1986 officers and board members during its meeting, which was held in San Antonio. They are: George Moeller, Kansas City, Mo., president; Thomas Bollnow, Westmont, Ill., first vice president; Robert Dalsin, Minneapolis, second vice president; David Kielpinski, Cudahy, Wis., secretary-treasurer; and Allan Boone, Omaha, chairman of the board.

Board of Directors' members are: Ardist Allen, Roswell, N.M.; Rick Gwaltney, Dodge City, Kan.; Harlan Hanson, Ames, Ia.; Douglas Kirberg, St. Louis; James Petry, Urbana, Ill.; Gerald Sadlon, Racine, Wis.; Grady Barr, Abilene; Michael Beldon, San Antonio; Andrew Buckner, Indianapolis; George Covington, Conway, Ark.; Clifford Johnson, Tulsa; and Gary Koder, Tucson.

## Carolinas association elects 1986 leaders

The Carolinas Roofing and Sheet Metal Contractors Association, a two-state regional association with headquarters in Raleigh, has announced its 1986 slate of officers.

They are: Dale Gillis, Charlotte, president; Ben Pickens, Spartanburg, S.C., first vice president; Dennis Whitener, Lenoir, N.C., second vice president; and Glen Mosser Jr., Columbia, secretary-treasurer. Nathan Pridgen, Florence, S.C., is immediate past president and Frank Hackney, Raleigh, is executive vice president.

Elected to the associate (supplier) group for 1986 were: Max Knox, Owens-Corning Fiberglas, president; Jack Best, Best Distributing, first vice president; Ted Hamre, Hamre Associates, second vice president; Jeff Tice, Carolina Atlantic Distributors, secretary-treasurer; and John McClellan, Roofers Mart, immediate past president.

# hot-shot®



U.S. Pat. Pending 4,354,893 and Patent Pending.

## roofing torches

For successful  
heat-fused roofing

- **ECONOMICAL**  
Economizer trigger and idle valve saves gas.
- **PROVEN**  
Hot-Shot systems feature the torches used in Europe since the 1950's for torch-applied roofing, and constantly being improved.
- **RAPID**  
Torch systems . . . for rapid production!



Call or write now for details.

**united construction products™**

1300 Shoshone, P.O. Box 4246  
Denver, Colorado 80204 U.S.A.  
Phone 303-892-0400

## Neumeister to head Miami Valley group

Robert Neumeister, president of the Enterprise Roofing and Sheet Metal Co. of Dayton, was installed as president of the Sheet Metal and Roofing Contractors Association of the Miami Valley, Ohio in December.

Neumeister will join six other newly elected board members in

guiding this year's programs. The other officers elected were: Louis Taylor, Springfield, first vice president; Gerald Espy, Dayton, second vice president; and Richard Willis, Dayton, treasurer. New directors are Louis Christy, Middletown; Anthony Bohman, Dayton; and Robert Seiden, Dayton.

Daniel Kerber of Troy will continue on the board.

## FRSA rides herd on worker's comp rates

The trustees of the Florida Roofing, Sheet Metal & Air Conditioning Contractors Association Self Insurers Fund (FRSA-SIF) have called Insurance Commissioner Bill Gunther's attention to a situation that has unfairly cost Florida business more than \$50 million in inflated worker's compensation premiums in 1985.

The problems lay with improper constants used in formulae that determine individual companies' experience modification figures. The program is designed to reward companies with good loss experience and to require those with poor experience to reimburse the system.

Simply put, FRSA-SIF trustees noted that experience modifications for contractors with minimal or no claims actually increased.

The constants were approved as part of the rate increase filed by the National Council on Compensation Insurance (NCCI), which became effective Jan. 1, 1985.


"We see this as a back-door rate increase . . . not approved by the office of the insurance commissioner," Bruce Martin, FRSA-SIF administrator, said. "It's especially inappropriate in view of the radical rate increases requested through proper channels."

Commissioner Gunther has directed that the insurance industry revise the 1985 experience modification figures retroactively to Jan. 1. As a result, most employers will realize a credit on their payments at the time of the final audit.

"Out of all the business organizations in Florida, FRSA was the only one to detect this unfair practice," Gunther commented.

When Gunther called NCCI's attention to the anomaly, the Council admitted that there was an "unusual event" in connection with the 1985 experience modifications. It proposed to remedy the problem by revising the factors to create a credit to employers in 1986.

**M F** MacLean-Fogg Co.'s  
**Roof-Tite™**  
**Holds Tight**



**Use MacLean-Fogg's Roof-Tite Fastening System for**  
**STRONG POSITIVE ATTACHMENT**  
of Insulation to Steel Deck

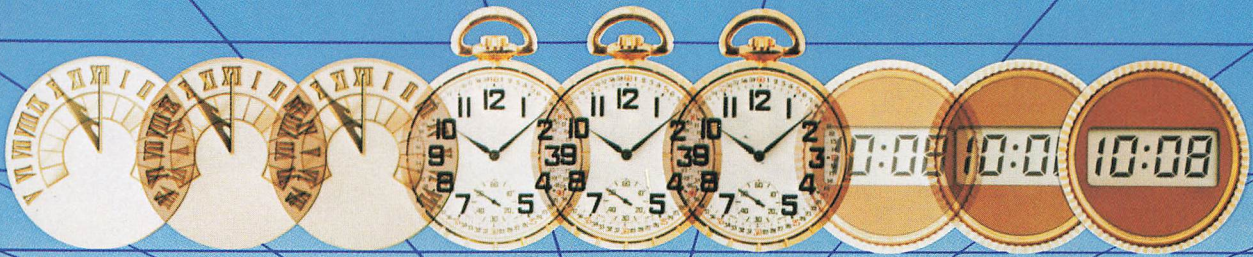
**Deck-Gard RETARDS RUST**

The Deck-Gard coating will pass proposed FM corrosion test #4470  
(test results available upon request)

**M F**  
**MacLean-Fogg Co.**  
BUILDING PRODUCTS DIVISION  
5600 WILSON ROAD RICHMOND, IL 60071 815/678-4566, TELEX 25 4470

**Factory Mutual System**  
**Approved**

Check #37 on Reader Service Card



# TIME-TESTED ROOFING



**Trust your roof to the time-tested reliability of Koppers coal tar built-up roofing systems and the professional roofing contractors who apply them.**

## TIME-TESTED COAL TAR.

For almost 125 years only one roofing material has been used continuously—coal tar! Koppers built-up roofing systems have always been coal tar based because we believe the superiority of coal tar—its natural resistance to moisture and oxidation, its cold-flow self-healing properties—is unsurpassed.

## THE PROVEN PERFORMANCE OF PROFESSIONAL ROOFING CONTRACTORS.

Even with the best of materials, roofing a building is a complex job. It takes professional roofing contractors using their years of experience and proven techniques to do the job right. That's why we urge our customers to use only professional roofing contractors for best results.

For more information on Koppers coal tar built-up roofing and waterproofing systems use the accompanying coupon.

T20-8501

**Send to:**  
 Koppers Company, Inc.  
 Dept. 3A-5  
 1901 Koppers Building  
 Pittsburgh, PA 15219

Please have a Koppers representative contact me.  
 Please send more information.

\_\_\_\_\_

Name \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_ Zip \_\_\_\_\_  
 Area Code \_\_\_\_\_ Phone \_\_\_\_\_



Built-Up Roofing, A System Above The Rest.



**INSIST ON A PROFESSIONAL ROOFING CONTRACTOR.**  
 Check #34 on Reader Service Card

# KOPPERS

# Evanite Permaglas<sup>®</sup> introduces **FLEX CAP<sup>™</sup>**



**...the very strong, very flexible, tear-resistant polyester-based Modified Asphalt membrane for all seasons.**

No matter what conditions your roof faces, new Permaglas FLEX CAP will meet them. And beat them. FLEX CAP gives you excellent low temperature flexibility (high temperature, too, of course), elongation, elasticity and recall.

For roof maintenance or wall flashing use, FLEX CAP wins hands down over traditional mineral or smooth surfaced cap sheets. When you use it with an approved Permaglas base sheet, you can create a very high performance roof system.

FLEX CAP comes in two grades . . . "HM" for hot mop application only and FLEX CAP "T" for either hot mopping or torch applying. For details on the top-performing new Permaglas FLEX CAP, call today.

**(503) 753-1211**



For UL-Classified Asphalt,  
phone (800) 541-6230

**EVANITE PERMAGLAS, INC.**

P.O. Box "E" • Corvallis, Oregon 97339

*Check #22 on Reader Service Card*

# Steady future ahead for roofing industry

**T**he roofing industry will remain relatively stable during 1986 as well as during the next five years, according to a survey *Roofing Spec* recently conducted. We polled manufacturers, associations, roofing contractors, architects, engineers, specifiers, consultants and building owners to discover their opinions of the roofing market and materials. Although the survey revealed no big surprises in the industry, the 729 responses we received did indicate that BUR is no longer the preferred roofing system.

The system that was used most often in 1985, according to the survey, was single-ply. Analysts predicted last year that single-plys would take as much as 45 percent of the 1985 market. Their estimates appear to have been a little low. According to this year's survey, 52.5 percent of the total 1985 commercial roofing market was single-ply.

More specifically, the product most often specified by our respondents was EPDM. They preferred EPDM over other single-ply systems, they preferred it for reroofing and they preferred it in inverted membrane systems.

Another major contender in the marketplace was modified bitumen. Unfortunately, it was difficult to tell from the survey what modified bitumen's actual market share was because some respondents grouped their modified bitumen projects in the bituminous roofing material category, and some grouped them with the single-plys. Some even grouped them in both categories.

The survey also revealed some other interesting market tidbits such as who specifies the products and what goes into the specifiers' decisions, the market outlook for new and reroofing opportunities, and where the different products stand in popularity and use.

## As several products vie for market dominance

by Kathleen Aharoni,  
associate editor

### Broad range surveyed

The survey was sent to 4,460 roofing industry members in November 1985. We received responses from 382 roofing contractors, 222 architects/engineers, 59 specifiers, 32 building owners/managers and 29 consultants. Because we were asking these groups to name their roofing material preferences, we were also interested in how often they were involved in roofing decisions. The respondents told us that specifications for new roof materials are made 63 percent of the time by architects/engineers, 17 percent by roofing contractors, and 10 percent each by specifiers and building owners. They also said that materials for reroofing projects are specified 39 percent by roofing contractors, 36 percent by architects/engineers, 13 percent by building owners/managers and 12 percent by specifiers.

The roofing contractors who responded to the survey performed mostly commercial/industrial work. They said that 82 percent of their 1985 roofing revenue came from commercial/industrial jobs, 17 percent from residential roofing jobs and 1 percent from other. Reroofing was also a major part of their work, with 59 percent of their jobs being reroofing/retrofit projects, bringing in 62.4 percent of their 1985 revenue.

Contractors of all sizes were polled. The lowest reported gross income for 1985 was \$60,000, while the highest gross income was \$36 million. The average gross income of the contractors surveyed was \$2,131,258.

Most contractors expect their business mix to change little in 1986. They are predicting that this year 83 percent of their roofing revenue will be in commercial/industrial roofing, 16 percent in residential roofing and 1 percent in other. Reroofing/retrofit will comprise 62.5 percent of their revenue in 1986—a .01 percent increase. However, the contractors do expect to be making more money in 1986. The roofing contractors surveyed believe their total gross business income this year will be 16.4 percent more than in 1985.

**The product most often specified by our respondents was EPDM.**

## The material world

None of the survey's respondents indicated that one roofing material would dominate the market in the near future. The respondents ranked the roofing systems they used or specified most in 1985 in the following order: EPDM, BUR, modified bitumen, Hypalon, PVC, CPE and metal standing seam.

Of the bituminous systems, built-up roofing was used and specified most in 1985 (41 percent), followed by asphalt shingles (26 percent), modified bitumen (24 percent) and other (9 percent). These statistics aren't expected to change during 1986, according to the survey.

The survey also showed that market share in the single-ply product category is expected to remain stable in 1986. According to the survey, EPDM's share of the single-ply market in 1985 was 65 percent, modified bitumen's was 17 percent, Hypalon's was 7 percent, PVC's was 4 percent, CPE's was 2 percent and other's was 5 percent.

Many factors influence the roofing professional's choice of materials, according to the survey. Respondents told *Roofing Spec* that the manufacturer's reputation is the most important consideration. Other factors in order of importance are: the prod-

uct's price, its warranty, the customer's preference and the product's ease of installation. Code performance carried the least amount of influence in the materials decision, according to the survey.

## Market turns upside down

The rising popularity of inverted membrane systems has drawn the interest of many in the roofing industry. Some believe that the systems' configuration, with the membrane below the insulation and ballast, helps protect the membrane from extreme temperature changes and mechanical damage. Now that the Dow Chemical Corp.'s patent on the inverted membrane roofing application (IRMA) has expired, several industry experts predict that its popularity will grow.

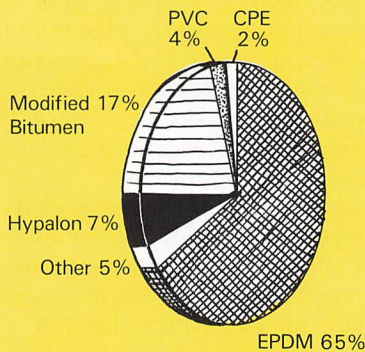
Approximately 40 percent of the survey's respondents replied that they had used an inverted membrane system. On average, they said that 18 percent of the projects they specified, designed or installed in 1985 involved the inverted roof system. They also predicted that inverted roof systems would continue to command 18 percent of their business in 1986. Although almost any roofing membrane may be used in the system, the product choice for survey respondents was EPDM, followed by BUR and modified bitumen.

## Top spot still up for grabs

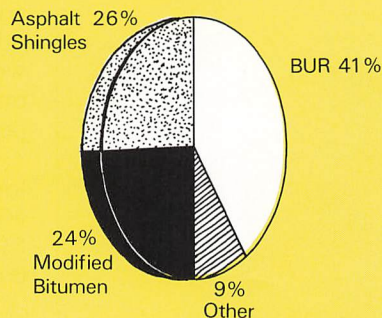
The information collected in the survey indicates that the overall market outlook for the next five years will remain stable. One fuzzy spot in the crystal ball, however, is the market performance of the market leader, EPDM. As the rubber systems that are in place reach their 10-year anniversaries, many in the industry will be watching to see how they hold up. If they encounter the types of failures that some groups are predicting, the product's popularity may decline, and the lead may once again go to second-ranked BUR. Another possibility is that modified bitumen's rising popularity may help that product make inroads into EPDM's market. The industry does seem to agree on one thing, however—the odds of one material dominating the market over the next five years are slim.

The opinions expressed in our survey are by no means the final word. Other groups with a stake in one segment of the market or another have also been busy monitoring the state of the industry. To get as clear a picture of the market as possible, we asked these groups for their opinions as well.

1985 Single-ply Systems



1985 Bituminous Systems



## Asphalt roofing sales decline

The Asphalt Roofing Manufacturers Association (ARMA) reports that 1985 sales for its 18 members declined as expected.

Bituminous roofing product sales dropped 5 percent from their 1984 level of 80 million squares each of asphalt shingles and BUR materials. Sales in 1985 amounted to 76 million squares for each product. The decline is a result of last year's high interest rates and the sluggish economy, said Richard Snyder, ARMA's executive vice president. The Association believes that as interest rates continue to decrease during the first half of 1986 and financing becomes easier to obtain, sales should remain relatively constant. However, ARMA is preparing for another slight decrease in sales should interest rates rise again as expected during the second half of 1986.

Asphalt shingles continued to make a good showing in 1985 with a total sales volume between \$1.4 billion and \$1.5 billion. The reroofing market remained a strong customer for shingle production, according to ARMA. The Association further reported that fiber glass-based shingles now account for 85 percent to 90 percent of total asphalt shingle sales. According to Snyder, however, there will continue to be an organic-based shingle market, even if it remains a small one. "Once a house is roofed with organic-based shingles, it usually is in the future, too," he explained.

Because ARMA's members are more heavily involved in residential roofing than our survey's respondents, their product mix is markedly different. ARMA's members report that 75 percent of their total sales are in shingles (residential roofing), with 75 percent of the shingle sales going to reroofing. The other 25 percent of their business is composed of BUR materials, with industrial roofing comprising 80 percent of this market.

## Courting modified bitumens

ARMA members' product mix will change soon, however, as they add another product line to their manufacturing capabilities. According to Snyder, within the next 18 months ARMA's eight or nine members that now produce BUR products will also be producing modified bitumen products.

Snyder estimates that production is nearly at this level already. Modified bitumen is the product of the future, Snyder told *Roofing Spec*. He expects modified bitumens to even supercede EPDM. Snyder added that modified bitumen, like BUR, is a system that should be installed in multiple layers.

One modified bitumen manufacturer who spoke to *Roofing Spec* echoed Snyder's enthusiasm. Bailey King, vice president of U.S. Intec, predicted that by the end of 1986 modified bitumen sales should exceed 5 million squares, an increase of 1 million squares over 1985 sales. Modified bitumen sales should continue to be good during 1987, Bailey says, although he foresees sales declining by 1988 because of a saturated market.

About 40 percent of the commercial/industrial modified bitumen market is in reroofing, Baily told *Roofing Spec*. However, the product has also hit the flat residential market, which consumes 35 percent of the product's production. Modified bitumens are also expected to be the trend in inverted membrane systems.

Modified bitumen sales may get another boost as their prohibitively high cost drops. Because competition is so great, with 35 manufacturers producing 99 modified bitumen products, the price has to come down, Bailey said. However, Bailey doesn't expect the fallout to occur during 1986, but rather in 1987, when demand for the product will soften.

At present, modified bitumens have found their largest niche in the Northeast—this is where the initial marketing push for the product originated. Use of the product has gradually moved West, and this is where manufacturers are presently focusing their marketing efforts.

Another modified bitumen and BUR manufacturer said that demand for modified bitumen roofing experienced its largest growth in 1985. Modified bitumen sales increased 20 to 30 percent last year, according to John Apgar, Owens-Corning Fiberglas' marketing manager for commercial roofing, while total single-ply growth increased 11 percent. BUR sales declined during 1985, decreasing 3 percent, according to Owens-Corning's figures. However, the fiber glass portion of the BUR market increased 9 percent, Apgar added.

Apgar's market statistics varied a bit from those *Roofing Spec* received in its survey.

*ARMA is preparing for another slight decrease in sales should interest rates rise again as expected during the second half of 1986.*

**According to Apgar, BUR still led the commercial roofing market in 1985 with a 48 percent share.**

According to Apgar, BUR still led the commercial roofing market in 1985 with a 48 percent share, followed by single-ply (including modified bitumen), which had a 42 percent market share. Apgar did agree with the survey that EPDM is the undisputed single-ply leader, with a 58 percent share of the market. Modified bitumens constituted a 24 percent share of the single-ply market, he said. Looking down the road, Apgar sees the commercial roofing market's shares leveling at 30 percent BUR, 30 percent EPDM, 30 percent modified bitumen and 10 percent everything else.

Overall, Apgar's outlook is positive. He sees total roofing opportunity in 1986 reaching 4 billion square feet, a 3 percent increase over 1985's opportunity. According to Apgar, 76 percent of this market will be in reroofing/retrofit.

### **Metal follows market's trend**

Like other industry groups, the Metal Building Manufacturers Association (MBMA) is also expecting modest returns for its 27 member companies in 1985. The Association is also predicting a flat outlook for 1986, with little or no increase in metal construction.

The MBMA reports total steel shipments in 1985 at around 1.1 million tons. New roofing products will consume 200 million square feet of this material, and 53 to 55 million square feet will go to reroofing, which is primarily a standing seam market. In 1986, total steel shipments are expected to be around 1.2 million tons with 335 to 340 million square feet going to new construction and 80 to 100 million square feet going to retrofit.

According to MBMA, 1986 will be a year of watching and waiting as all eyes turn toward Washington to view the fate of the administration's various tax reform proposals. Another potential problem is the overbuilt office sector, which will cut into an important segment of the commercial building market for metal building systems. Competitive pricing will produce small profit margins and the federal deficit has all business leaders concerned about its impact on interest rates and economic growth.

Given this scenario, the MBMA Executive Committee is viewing 1986 as a very tough year. The best potential for business gains is in the area of roofing sales and retrofit projects, MBMA leaders say. "We [MBMA] expect to close the year with about the same results as in 1984," said MBMA

Chairman James D. Murphy. "For 1986, our company is budgeting for essentially a flat year."

Based on 1986 F.W. Dodge construction estimates, MBMA business operations should hold their own, and maybe then some, according to Murphy. The Dodge forecast calls for construction activity to be off 5 percent to \$20.3 billion for stores, offices and other commercial buildings. Contracts for manufacturing facilities and distribution centers are expected to rise about 9 percent to \$7.5 billion.

However, the increasing acceptance of the standing seam metal roof has generated a tremendous amount of optimism among metal building industry leaders. According to Murphy, "Our biggest potential new source of business is with the standing seam metal roof. More and more independent roofing contractors are familiar with the product, and there are a lot of old roofs that have to be replaced."

According to MBMA, about a third of the country's manufacturing plants, warehouses and distribution centers are roofed with metal. "One point to remember," Murphy added, "is that regardless of economic conditions, faulty roofs have to be repaired so manufacturers can continue to fill their orders."

Architectural interest in the standing seam metal roof has been especially strong, according to U.S. Steel. In analyzing architectural specifications from F.W. Dodge construction reports, U.S. Steel said that activity involving standing seam metal roof systems has doubled annually for one- and two-story structures, the primary market for MBMA manufacturers, and included a broad range of structures in commercial, industrial and light manufacturing applications.

### **Tile manufacturers keeping mum**

The Tile Roofing Manufacturers Association (TRMA) seems to have had a hard time convincing its members this year that sharing market statistics could be a positive move. Because of this reluctance, TRMA was only able to say that the market has remained stable over the past year with the greatest percentage of tile roofs (75 percent) still being installed in the residential market. The tile reroofing market only increased slightly during 1985, as TRMA expected, because of the building slowdown. Also in 1985, more than 50 percent of the new residences in the Sun Belt were roofed with tile. No major changes are expected during the next five years.

# Phase II of coal tar study finds mechanical application EVT

**T**his article is the full text of the report "Program to Study the Relationship Between Temperature-Viscosity and Interply Weight During Mechanical Application of Roofing Membranes Using Hot-Applied Coal Tar Products," Phase II. The report was prepared by The Koppers Co. and the National Roofing Contractors Association (NRCA), who have completed a two-phase joint program to determine the relationship between heating and application temperatures, application viscosity, and the interply quantity of hot-applied coal tar products used in the construction of built-up roofing membranes. Phase I dealt with hand-mopping application techniques and the results were reported in the April 1985 issue of *Roofing Spec*, pp. 35-42. Phase II, which addressed mechanical-spreader application procedures, has been completed and the results are presented in this report.

Forty-two test-roof sections, 3 feet wide by 50 feet long, were constructed under controlled conditions to study the effect of three major variables on applied interply weights: (1) temperature at point of application; (2) materials—coal tar pitch and coal tar bitumen<sup>1</sup> were used; and (3) mechanical equipment and application procedures.

Three types of mechanical application units were used: (1) a hot bitumen dispenser without a felt layer attachment; (2) a forward-rolling unit with integral hot bitumen dispenser and felt layer; and (3) a reverse-rolling unit with integral bitumen dispenser and felt layer.

Eight 1-foot-square coupons were cut from each test-roof section for a total of 336 coupons. Eighty-four coupons were

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

## Spreaders put down product uniformly, says study

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

forwarded to NRCA and 252 coupons were retained by Koppers. The examination of these coupons included calculating the interply quantity of the coal tar materials, and measuring the coupons' tensile strength and elongation at 0F. The physical properties of the coal tar products were determined by the methods described in the American Society for Testing and Materials' (ASTM) D-450-78. Viscosity measurements of the bitumens used were determined over a temperature range of from 300F to 450F.

### Objective

The objective of Phase II was to determine the relationship between the application temperature, the application viscosity and the interply mopping weights of coal tar products using mechanical equipment spreading procedures.

### Study parameters

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

- physical and rheological properties of the material;
- point-of-application temperature; and
- method of application.

It is recognized that there are several factors that 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 moppings. However, a study of these factors and their contribution to the total amount of coal tar used was not a part of this study.

**Three important variables affect the application rate of hot-applied coal tar roofing products.**

### Variables studied under controlled conditions

**Materials:** two coal tar products were included in the study: coal tar roofing pitch as described in ASTM D-450 Type I and coal tar bitumen as described in ASTM D-450 Type III. Type I is the traditional coal tar pitch in use for decades, while Type III's formulation is 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 six application temperatures: 300F, 325F, 350F, 375F, 400F, and 425F.

**Application methods:** built-up roof membranes were constructed using three mechanical spreaders. The hot dispenser without felt layer applied only the coal tar product. The felt was rolled in manually behind the spreader and not broomed. The other two spreaders applied the hot coal tar product and felt concurrently. In some cases, the felts were broomed in and in others they were not. Table 1 lists and identifies the variables.

**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 because it was large enough 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 spreaders:** three types of mechanical spreaders were used. Unit A 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.

Unit B was a forward-rolling spreader with integral bitumen dispenser and felt layer. It had a 40-gallon capacity, eight 5/8-inch-diameter jets and a 5-inch-by-36-inch chain mop. It weighed 257 pounds.

Unit C was a reverse-rolling spreader with integral bitumen dispenser and felt layer. It had an insulated aluminum body, a 40-gallon capacity, a hand-controlled flow, safety lids with latches and a safety parking brake. It weighed 98 pounds.

The broom used was a spring-metal type, measuring 35 inches wide. It was used for brooming in felts.

**Template for cutting coupons:** to obtain the coupons a 12-inch-by-12-inch flat steel template with a handle was positioned flat on the membrane and the coupons were carefully cut to template shape with utility knives.

**TABLE 1: Test Runs**

Test #	Bitumen			Test#	Pitch		
	Temp.	Unit*	B or NB		Temp.	Unit*	B or NB
B-1	300	A	NB	P-1	300	A	NB
B-2	325	A	NB	P-2	325	A	NB
B-3	325	B	NB	P-3	325	B	NB
B-4	325	C	NB	P-4	325	C	NB
B-5	350	A	NB	P-5	350	A	NB
B-6	350	B	NB	P-6	350	B	NB
B-7	350	B	B	P-7	350	B	B
B-8	350	C	NB	P-8	350	C	NB
B-9	350	C	B	P-9	350	C	B
B-10	375	A	NB	P-10	375	A	NB
B-11	375	B	NB	P-11	375	B	NB
B-12	375	B	B	P-12	375	B	B
B-13	375	C	NB	P-13	375	C	NB
B-14	375	C	B	P-14	375	C	B
B-15	400	A	NB	P-15	400	A	NB
B-16	400	B	NB	P-16	400	B	NB
B-17	400	B	B	P-17	400	B	B
B-18	400	C	NB	P-18	400	C	NB
B-19	400	C	B	P-19	400	C	B
B-20	425	C	NB	P-20	425	C	NB
B-21	425	A	NB	P-21	425	A	NB

NB—Not Broomed  
B—Broomed

\* See Section "Mechanical Spreaders" for description of spreaders.

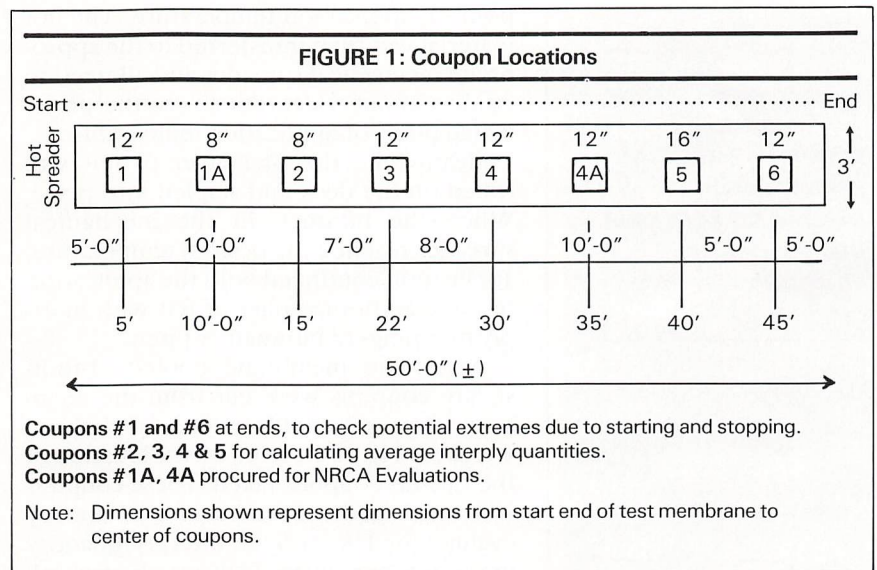
**Scale:** a Metler 15,000-gram balance with 2-decimal accuracy was used to weigh the coal tar material, felt and membrane samples.

**Test surface:** the deck was 22-gauge steel with a 2 1/2-inch-wide flute placed on wood framing. Flake board, 15/32 inch 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 36 inches wide and 50 feet long in overall dimensions.

**Roofing personnel:** the roofing crew, which consisted of a spreader operator, roll man and kettle operator, was employed by Pennsylvania Roofing Systems, Inc., a contractor member of NRCA. Crew members were experienced in the mechanical spreader application of felts and coal tar products used for built-up roof systems. They were members of the United Union of Roofers, Waterproofers and Allied Workers Association, Local No. 37 (AFL/CIO).

### Test procedures

Eighty-four rolls of 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 mopping quantities.

The test applications were started at the low temperature and progressed to the high temperature in 25-degree increments. Table 1 lists the program sequence. The kettle temperature was raised to approximately 25 degrees above the selected

**TABLE 2: Physical Properties of Bitumens**

Requirements/ASTM D 450-78	Test Date				ASTM Test Method
	Type I	Type III	Type I	Type III	
Water, max., %	0	0	0	0	D-95
Specific gravity, 25/25°C (77°F)	1.22-1.34	1.22-1.34	1.25	1.27	D-70
Softening Point (R&B), °C	52-60	56-64	58.1	56.1	D-36
Softening Point (R&B), °F	126-140	133-147	137	133	D-36
Flash Point (COC), min., °F	248	248	420	415	D-92
Total Bitumen Soluble in Carbon Disulfide, %	72-85	72-85	86.16	78.30	D-4
Ash, max., %	0.5	0.5	0.14	.14	D-2415
Distillation:					
0-300°C, (32-572°F), max., %	10	0	.79	0	
0-315°F, (32-599°F), max., %	N.A.	0	N.A.	0	
0-360°F, (32-680°F), max., %	N.A.	5	N.A.	2.2	
Specific Gravity of Distillate from 0-300°C, min, (32-572°F min.) 38/15.5°C	1.03	N.A.	*	N.A.	
Softening Point (R&B) of Residue from Distillation to 300°C max., to 572°F max.	80°C 176°F	N.A. N.A.	67.0 152.6	N.A. N.A.	D-36 D-36

N.A.—Not applicable    \*—Insufficient sample for test from distillation

*The results of viscosity measurements indicate that pitch and bitumen have similar shaped viscosity curves.*

point-of-application temperature. The hot material was then transferred to the appropriate mechanical spreader 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 in the mechanical spreader reached the desired temperature, application continued with the application of three additional plies of felt with interply moppings of bitumen or pitch.

When the membrane cooled, 1-foot-square coupons were cut from the membrane at preselected locations, labeled and weighed. Figure 1 identifies 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.

### Test results

**Physical properties:** the two types of coal tar materials were tested for conform-

ance with ASTM Standard D450-78. Table 2 shows that the materials essentially met the requirements of the standard, except that Type I material exceeded the ASTM maximum for total percentage of bitumen soluble in carbon disulfide by 1.2 percent.

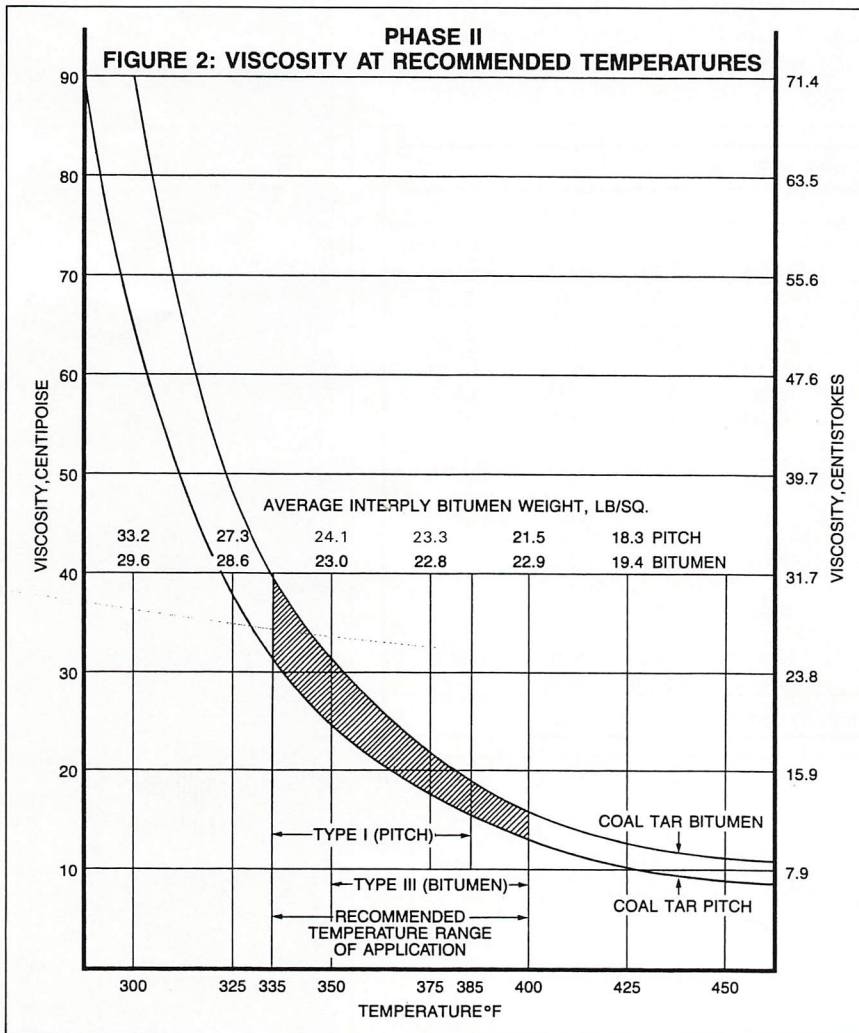
The results of viscosity measurements over the temperature range from 300F to 450F are plotted in Figure 2, indicating that pitch and bitumen have similar shaped viscosity curves in this range. It is also interesting to note the similarity in viscosity curves between Phase I and Phase II for both coal tar materials in spite of the slight differences in property values. The shaded area shown in Figure 2 approximates application temperature ranges and indicates that the application viscosity should be maintained somewhere between 15 and 40 centipoise (12 to 32 centistokes) for bitumen and pitch.

The scale superimposed along the abscissa in the center of Figure 2 approximates the average interply mopping weights achieved at the respective application temperatures. The results indicate that the mechanical spreader techniques gave applied interply mopping weights of 21.5 to 28.6 pounds per square for both pitch and bitumen with application temperatures ranging from 325F to 400F. The higher viscosities at temperatures lower than 325F resulted in heavier interply weights for both pitch and bitumen. Conversely, lower viscosities at temperatures higher than 400F resulted in lighter weights.

The viscosity/temperature curve for bitumen shows that an applied viscosity of  $25 \pm 10$  centipoise ( $20 \pm 8$  centistokes) should result in interply mopping weights of somewhere in the vicinity of 22 to 24 pounds per square. Therefore, the conclusion may be made that the equiviscous temperature (EVT) range for both coal tar products used in this study appears to be 335F to 400F.

Figure 2 shows that pitch has a somewhat lower viscosity than bitumen at any given temperature. Nonetheless, the applied weights of pitch and bitumen are virtually equal within the application temperatures of 350F and 400F. Based on these data, the assignment of the same EVT for both bitumen and pitch in the range of 350F to 400F appears to be valid. More precisely, due to the variation of viscosities of these two materials at any given temperature, the EVT is  $375F \pm 25$  degrees for coal tar bitumen, and  $360F \pm 25$  degrees for coal tar pitch.

Application temperatures of 300F to 425F resulted in average interply weights ranging from 15.3 to 37.2 pounds per square feet per ply. The quantities varied



## Some helpful hints for proper hot material use

The point-of-application temperature of the hot material is important to achieve the proper material application. It can influence the quantity of material used at the jobsite, especially for interply and top pours. Some variables in achieving the proper point-of-application temperature are as follows:

- atmospheric conditions, including ambient temperature, wind velocity, etc.;
- the distance from the kettle to the point of application (bitumen temperature drop);
- the use of insulated equipment and piping in cold weather;

- the kettle temperature;
- the nature and temperature of substrate;
- the method and speed of application, and the experience and teamwork of the crew; and
- the efficiency and type of equipment.

In addition, The Koppers Co. suggests the following parameters that may influence the quantity of hot material used at the jobsite:

- the glaze coating (the frequency and area covered);
- the start-up operations and day-end cut-offs;

- the bitumen run-out at felt edges;
- the flashing at parapet walls, gravel stops and roof penetrations;
- the peak and valley tie-ins.
- tear-off and replacement jobs, especially areas of daily cut-offs and tie-ins; and
- kettle operations and dumping bitumen from equipment at breaks and end of day.

Additionally, maintaining daily records of materials used and number of squares applied will provide a record of the actual amount of material used.

tar pitch. These values are similar to those suggested in Phase I of this study.

**Application rates of interply material:** Tables 3a and 3b give the interply weights of bitumen and pitch for each of the 252 coupons. The weights are expressed in pounds per 100 square feet per ply. A general correlation exists

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

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

Test No.	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Temp. at Point of Application (°F)	300	325	325	325	350	350	350	350	350	375	375
Application Unit <sup>(1)</sup>	A	A	B	C	A	B	B	C	C	A	B
Broomed	No	No	No	No	No	No	Yes	No	Yes	No	No
Interply, lbs./100 ft. <sup>2</sup>											
Coupon # 1	32.8	21.4	28.2	—	23.2	26.1	25.7	26.1	30.1	20.6	38.3
2	27.1	28.8	26.8	31.5	25.0	22.1	18.8	21.6	23.6	19.2	28.9
3	32.3	34.8	28.3	29.6	27.3	23.5	20.1	22.6	23.8	21.1	25.1
4	25.3	24.1	27.6	27.5	28.9	24.1	18.5	21.8	25.7	19.3	22.3
5	33.8	28.0	27.2	29.5	25.0	23.0	19.4	21.8	22.8	24.7	24.5
6	27.8	27.1	28.3	40.5	22.2	23.9	20.4	24.7	25.7	17.5	28.2
Average (6 coupons)	29.9	27.4	27.7	31.7	25.3	23.8	20.5	23.1	25.3	20.4	27.9
Average (4 coupons)	29.6	28.9	27.5	29.5	26.6	23.2	19.2	22.0	24.0	21.1	25.2
Standard Deviation	4.1	4.4	0.6	1.6	1.9	0.8	0.7	0.4	1.2	2.6	2.7
Variance	16.6	19.6	0.4	2.7	3.6	0.7	0.5	0.2	1.5	6.6	7.5
Test No.	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	
Temp. at Point of Application	375	375	375	400	400	400	400	400	425	425	
Application Unit <sup>(1)</sup>	B	C	C	A	B	B	C	C	C	B	
Broomed	Yes	No	Yes	No	No	Yes	No	Yes	No	No	
Interply, lbs./100 ft. <sup>2</sup>											
Coupon # 1	27.2	26.7	28.5	20.2	30.9	28.1	26.4	24.7	23.1	18.7	
2	20.9	23.2	24.3	19.4	24.6	22.6	23.0	23.5	19.6	18.0	
3	20.3	23.1	22.8	21.8	26.0	22.6	23.6	24.1	19.8	20.7	
4	19.2	21.5	23.5	19.6	22.5	21.2	22.1	26.9	21.7	15.3	
5	20.3	24.9	26.1	17.2	23.0	25.8	22.0	27.1	21.9	18.1	
6	24.8	26.0	24.0	17.5	24.1	30.1	23.9	23.7	24.8	17.3	
Average (6 coupons)	22.1	24.2	24.9	19.3	25.2	25.1	23.5	25.0	21.8	18.0	
Average (4 coupons)	20.2	23.2	24.2	19.5	24.0	23.1	22.7	25.4	20.8	18.0	
Standard Deviation	0.7	1.4	1.4	1.9	1.6	1.9	0.8	1.9	1.2	2.2	
Variance	0.5	1.9	2.0	3.5	2.5	3.8	0.6	3.5	1.5	4.9	

Note: Coupons No.1 and No. 6 were taken approximately 5'0" from the beginning and end of each test roof section. Test coupons Nos. 2 through 5 were used to calculate the average of the (4 coupons) in this table, Figure 2, and other tables in this report.

(1) See Section "Mechanical Spreaders" for description of spreader units.

**Brooming or rolling-in the felts did seem to improve the embedment of the felt into the hot roofing material.**

with material, temperature, the mechanical spreader used, and whether or not it was broomed. The viscosity of coal tar roofing products ranged from about 10 to 100 centipoise (8.0 to 80.0 centistokes) over the temperature range of 300F to 450F.

A study of the standard deviation and variance among the interply mopping weights from the four inner coupons of each test section indicates that with few exceptions (specimens from Test Nos. B1, B2, P2, P4 and P10 in Tables 3a and 3b) the uniformity was quite good. This is in contrast to the evaluation of the hand-mopping application techniques reported in Phase I.

Further, Tables 3a and 3b show the average interply mopping weight for each test section as the average of all six coupons and the inner four coupons. Initially, it was erroneously anticipated that variations in the amount of the coal tar applied would occur at the beginning and end of the spreader run compared to the center of the run. Although in cases some variation was found, it is not especially significant for all practical purposes. For uniformity, the

average of the four inner coupons has been used in all figures and tables.

As shown in Table 4, there was no apparent correlation between interply mopping weight and whether the sample was broomed during application. However, from visual observations, brooming or rolling-in the felts did seem to improve the embedment of the felt into the hot roofing material. Table 5 summarizes the average interply weights of bitumen and pitch at the test application temperatures for all test roof sections, broomed and unbroomed.

**Load/strain properties of membrane specimens:** load/strain properties were measured on selected test coupons. These coupons were selected from among those having weights closest to the group average interply weight. The specimens were tested in accordance with ASTM method D-2523 in the across-machine direction at a temperature of 0F. Stress and modulus at break values were calculated using the actual cross-sectional dimensions of the specimens tested.

**TABLE 3B: Coal Tar Pitch/Coal Tar Organic Felt Interply Weights 4 Plies—3 Interply Applications**

Test No.	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11
Temp. at Point of Application	300	325	325	325	350	350	350	350	350	375	375
Application Unit <sup>(1)</sup>	A	A	B	C	A	B	B	C	C	A	B
Broomed	No	No	No	No	No	No	Yes	No	Yes	No	No
Interply, lbs./100 ft. <sup>2</sup>											
Coupon #1	23.1	19.5	27.5	31.2	20.3	31.0	37.0	24.4	26.5	14.8	30.9
2	32.8	27.2	25.3	24.4	21.3	26.4	29.4	21.2	22.1	18.5	22.4
3	37.2	36.7	23.7	35.0	23.4	23.9	30.5	21.9	21.4	30.2	26.5
4	32.0	24.3	23.0	27.6	20.7	25.7	31.7	20.1	21.8	19.0	22.4
5	30.8	26.0	23.1	30.5	20.6	25.2	30.2	21.7	22.2	19.2	20.0
6	28.0	24.4	26.3	35.9	19.9	28.2	30.2	24.2	25.1	24.7	23.9
Average (6 coupons)	30.7	26.4	24.8	30.8	21.0	26.7	31.5	22.3	23.2	21.1	24.4
Average (4 coupons)	33.2	28.6	23.8	29.4	21.5	25.3	30.5	21.2	21.9	21.7	22.8
Standard Deviation	2.8	5.6	1.1	4.5	1.3	1.1	1.0	0.8	0.4	5.7	2.7
Variance	7.8	30.9	1.1	20.3	1.7	1.1	0.9	0.6	0.1	32.0	7.3
Test No.	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	
Temp. at Point of Application	375	375	375	400	400	400	400	400	425	425	
Application Unit <sup>(1)</sup>	B	C	C	A	B	B	C	C	C	B	
Broomed	Yes	No	Yes	No	No	Yes	No	Yes	No	No	
Interply, lbs./100 ft. <sup>2</sup>											
Coupon #1	31.3	29.7	28.2	18.8	23.4	26.5	26.9	20.2	18.4	13.8	
2	22.6	26.1	24.4	22.3	22.1	21.7	24.7	20.4	19.0	16.7	
3	24.3	24.4	24.3	25.2	24.8	21.8	19.9	19.0	16.8	16.9	
4	26.0	22.6	23.4	22.6	22.1	22.3	20.5	19.3	17.0	19.8	
5	22.1	25.4	22.7	19.8	21.5	20.3	19.6	19.3	20.1	19.8	
6	28.6	24.9	24.6	17.9	22.9	23.2	21.3	22.2	20.3	18.9	
Average (6 coupons)	25.8	25.5	24.6	21.1	22.8	22.6	22.2	20.1	18.6	17.7	
Average (4 coupons)	23.8	24.6	23.7	22.5	22.6	21.5	21.2	19.5	18.2	18.3	
Standard Deviation	1.8	1.5	0.8	2.2	1.5	0.9	2.4	0.6	1.6	1.7	
Variance	3.1	2.3	0.6	4.9	2.2	0.7	5.7	0.4	2.5	3.0	

Note: Coupons No.1 and No. 6 were taken approximately 5'0" from the beginning and end of each test roof section. Test coupons Nos. 2 through 5 were used to calculate the average of the (4 coupons) in this table, Figure 2, and other tables in this report.

(1) See Section "Mechanical Spreaders" for description of spreader units.

**TABLE 4: Consolidated Interply Applied Weight/Square Averages**

Temp., °F	Broomed		Not Broomed	
	Bitumen	Pitch	Bitumen	Pitch
	Type III	Type I	Type III	Type I
300	—	—	29.6	33.2
325	—	—	28.6	27.3
350	21.6	26.2	23.9	22.7
375	22.2	23.8	23.2	23.0
400	24.3	20.5	22.1	22.1
425	—	—	19.4	18.3

**TABLE 5: Consolidated Interply Applied Weight/Square Averages Per Application Test Temperatures**

Temp., °F	Broomed and Unbroomed	
	Bitumen Type III	Pitch Type I
300	29.6	33.2
325	28.6	27.3
350	23.0	24.1
375	22.8	23.3
400	22.9	21.5
425	19.4	18.3

Tables 6 and 7 report the results of the load/strain tests. The data indicate there are no apparent correlations between the load/strain properties and the application temperature, interply mopping weights, or whether or not the test sections were broomed. The specimens obtained from the sections prepared with the ASTM D450 Type I (pitch) product gave average tensile strength and elongation values of 181 pounds per inch and 3.8 percent respec-

tively with all 21 specimens falling somewhat below the suggested 200-pounds-per-inch criterion for tensile strength described in the National Bureau of Standards' Preliminary Performance Criteria for Bituminous Membrane Roofing (BSS #55, 1974).

On the other hand, the ASTM D450, Type III (bitumen) material gave average values of 201 pounds per inch and 4.2 percent respectively for tensile and elongation characteristics. Although the average value was above the 200-pounds-per-inch crite-

*There are no apparent correlations between load/strain properties and the application temperature, interply mopping weights, or whether or not the test sections were broomed.*

**TABLE 6: Coal Tar Pitch—ASTM D-450 Type I BUR Load/Strain Properties**

Membrane ID <sup>(2)</sup>	Tens. Prop. @ Peak Load			Modulus Break lbs./in. <sup>2</sup>	Interply @ Test Coupon (lbs./sq.)	Test Avg. (lbs./sq.)	Membrane Application Test Temp., °F
	Peak Load (lbs./in.)	Stress (lbs./in. <sup>2</sup> )	Strain %				
P1-NB-2	171.4	1071.4	4.4	84,532	32.8	33.2	300
P2-NB-2	183.4	1146.4	5.3	81,899	27.2	28.6	325
P3-NB-3	182.5	1140.6	3.9	73,301	23.7	23.8	325
P4-NB-5	174.7	1091.7	3.4	88,650	30.5	29.6	325
P5-NB-2	191.6	1197.4	3.6	61,982	21.3	21.5	350
P6-NB-5	172.3	1076.6	4.3	77,587	25.2	25.2	350
P7-B-3	175.8	1099.0	3.6	83,735	30.5	30.5	350
P8-NB-2	162.4	1015.1	3.6	68,533	21.2	21.2	350
P9-B-4	169.2	1057.3	4.1	71,903	21.8	21.7	350
P10-NB-5	184.6	1153.4	3.9	85,271	19.2	21.7	375
P11-NB-4	179.0	1118.8	4.0	73,277	22.4	22.8	375
P12-B-3	185.1	1156.8	4.0	61,569	24.3	23.7	375
P13-NB-3	173.4	1083.9	3.8	65,393	24.4	24.6	375
P14-B-4	183.4	1146.4	3.8	64,231	23.4	23.7	375
P15-NB-4	192.2	1207.4	3.7	87,982	22.6	22.5	400
P16-NB-2	185.3	1158.4	3.7	70,011	22.1	22.6	400
P17-B-2	197.5	1234.5	3.4	81,221	21.7	21.5	400
P18-NB-4	180.8	1129.7	3.4	77,530	20.5	21.2	400
P19-B-5	192.1	1200.6	3.7	79,885	19.3	19.5	400
P20-NB-2	179.6	1122.4	3.4	69,921	19.0	18.2	425
P21-NB-5	188.7	1179.2	3.6	80,585	19.8	18.3	425
Total	3805.0	23787.0	80.6	1,588,998	492.9	495.6	
Average	181.2	1132.7	3.8	75,667	23.5	23.6	

Notes: 1. BUR membrane test specimens were preconditioned at 0°F for two hours prior to testing in cold chamber  
 2. Sequence in membrane ID represents test number—Brooming/Not Brooming—Sample No. ("B" = Broomed); ("NB" = Not Broomed).

**The equiviscous temperature range for both coal tar products appears to be 335 F to 400 F.**

tion, 10 of the 21 specimens tested fell below the 200 pounds per inch value.

The intent of this report is not to compare the results of the Phase I and Phase II tests. However, there appears to be such an unexplained and significant difference between the load/strain property values of samples prepared by the hand-mopping technique and those prepared using mechanical equipment that further investigation is warranted.

### Summary and conclusions

The application of coal tar pitches and bitumens in a viscosity range of 15 to 40 centipoise (12.0 to 32.0 centistokes) resulted in approximate interply application rates of 21.5 to 28.6 pounds per square.

The suggested EVT for both the 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 products used in this study, the EVT for coal tar bitumen is 375F ±25 degrees for the coal tar bitumen (Type III) and 360F ±25 degrees for the coal tar pitch (Type I). Point-of-application temperatures from 335F to 400F appear to

be an appropriate range for mechanical spreader application depending on bitumen type, environmental conditions and the like. In general, the lower the point-of-application temperature, the greater the quantity of interply material applied.

The uniformity of the interply mopping weights among the individual specimens from each test run was generally good with some exceptions noted. There appeared to be no significant differences in interply application weights between broomed test sections and those not broomed, when applied at the same temperature.

The average ultimate breaking load for the 21 bitumen specimens was approximately 201 pounds per inch, while the 21 pitch specimens averaged approximately 181 pounds per inch when tested at 0F. The average elongation was 3.8 percent for pitch specimens and 4.2 percent for bitumen specimens. The amount of interply material did not appear to have any significant effect on the value of the breaking load.

**TABLE 7: Coal Tar Bitumen—ASTM D-450 Type III BUR Membrane Load/Strain Properties**

Membrane ID <sup>(2)</sup>	Tens. Prop. @ Peak Load		Strain %	Modulus Break (lbs./in. <sup>2</sup> )	Interply @ Test Coupon (lbs./sq.)	Test Avg. (lbs./sq.)	Membrane Application Test Temp., °F
	Peak Load (lbs./in.)	Stress (lbs./in. <sup>2</sup> )					
B1-NB-2	188.8	1179.7	5.1	89,049	27.1	29.6	300
B2-NB-2	199.1	1244.3	4.2	78,614	28.8	28.9	325
B3-NB-4	210.0	1312.5	4.2	109,720	27.6	27.5	325
B4-NB-5	184.3	1152.1	3.9	93,443	29.5	29.59	325
B5-NB-3	203.8	1274.0	4.6	68,464	27.3	26.6	350
B6-NB-5	186.5	1165.6	5.1	81,068	23.0	23.2	350
B7-B-5	196.8	1229.7	4.3	85,324	19.4	19.2	350
B8-NB-4	203.2	1269.8	4.3	82,243	21.8	21.9	350
B9-B-3	209.3	1308.3	4.5	65,220	23.8	24.0	350
B10-NB-3	213.1	1331.8	4.9	73,985	21.1	21.1	375
B11-NB-3	196.4	1227.6	4.0	82,681	25.1	25.2	375
B12-B-3	195.0	1218.8	4.0	74,242	20.3	20.2	375
B13-NB-3	208.0	1300.0	4.0	90,522	23.1	23.2	375
B14-B-2	211.1	1319.3	3.8	89,520	24.3	24.2	375
B15-NB-4	212.2	1326.0	3.8	89,797	19.6	19.5	400
B16-NB-2	196.4	1227.6	4.0	93,054	24.6	24.0	400
B17-B-2	205.2	1282.3	4.1	110,940	22.6	23.0	400
B18-NB-2	205.3	1282.8	3.7	90,786	23.0	22.7	400
B19-B-3	196.4	1227.1	3.7	74,656	24.1	25.4	400
B20-NB-3	196.3	1277.1	3.7	74,656	19.8	20.7	425
B21-NB-2	211.1	1319.3	4.1	91,960	18.0	18.0	425
Total	4228.3	26475.7	88.0	1,789,941	493.9	497.6	
Average	201.3	1260.7	4.2	85,235	23.5	23.7	

Notes: 1. BUR membrane test specimens were preconditioned at 0°F for two hours prior to testing in cold chamber.

2. Sequence in membrane ID represents test number—brooming/not brooming—Sample No. ("B" = Broomed); ("NB" = Not Broomed).

**TABLE 8: Consolidated BUR Membrane Load/Strain Properties**

Membrane ID	Peak Load (lbs./in.)	Tensile Prop. @ Peak Load		Modulus Break (lbs./in. <sup>2</sup> )	Application Test Temperature	
		Stress (lbs./in. <sup>2</sup> )	Strain %		Membrane Application Test Temp. °F	Average Interply (lbs./sq.)
P1	177.4	1071.4	4.4	84,532	300	32.8
B1	188.8	1179.7	5.1	89,049		27.1
P2-P4	180.2	1126.2	4.2	81,283	325	27.1
B2-B4	197.8	1236.3	4.1	93,926		28.6
P5-P9	174.3	1089.1	3.8	72,748	350	26.0
B5-B9	199.9	1249.5	4.6	76,464		23.1
P10-P14	181.1	1131.9	3.9	69,948	375	22.7
B10-B14	204.7	1279.5	4.1	82,190		23.5
P15-P19	189.6	1186.1	3.6	79,326	400	21.2
B15-B19	203.1	1269.2	3.9	91,846		23.6
P20-P21	184.2	1150.8	3.5	75,253	425	19.4
B20-B21	203.7	1298.2	3.9	83,308		18.9

The data presented in this Phase II report applies to the use of mechanical spreader techniques to determine the relationship between heating and application temperatures, application viscosity, and the interply quantities of hot-applied coal tar products used in the construction of built-up roofing membranes. Phase I of the study dealt with hand-mopping application techniques.

### Suggestions for future research

Certain objections have been raised as to the validity of the "phase construction" used in the preparation of test samples in both Phase I and Phase II of this study as compared to the usual field construction practice of applying felts in shingle-fashion. Therefore, an additional series of tests (Phase III) have been made using the shingle-fashion methods for both hand mopping and mechanical application techniques. The results will be reported in a subsequent document.

It is suggested that a summary report be prepared comparing the results of the Phase I, Phase II and Phase III portions of the project along with recommendations for implementing the findings of the program into realistic construction practices.

It is also suggested that, because similar application testing has not been done with either glass felts or polyester felts and asphalts or coal tars, an additional series of tests be conducted by the roofing industry to study the relationship between application temperature, viscosity, and interply weights using the glass- and polyester-based felts now being used in practice and the major hot-applied asphalt and coal tar products.

It is further suggested that a study be made to determine reasons for differences in load/strain properties between products and Phase I and Phase II specimens.

### Acknowledgements

Both Koppers and NRCA take this opportunity to pay special tribute to the late Robert First for his interest, participation and special contribution in advancing this work toward completion. His assistance was of great value to all of us who worked on this project.

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.)

#### Notes

<sup>1</sup> Coal tar pitch refers to ASTM D-450 Type I and coal tar bitumen refers to ASTM D-450 Type III.

*Certain objections have been raised as to the validity of the "phase construction" used in the preparation of test samples.*

## TT2000 TROLLEY HOIST



### Hoist It By The Ton

Reimann & Georger's hydraulically-powered hoisting systems provide heavy duty performance for your heavy duty lifting needs — safely and effectively, ton after ton.

### Two Powerful Performers

The TT2000 Trolley Hoist and HS2000 Swing Hoist are specially engineered to deliver the power your jobs demand. Their 2000 lb. capacity lifts heavy loads to the roof — quickly and effectively. Whatever your needs, you can choose the R&G unit best suited for your individual lifting requirements.

### A Tradition of Safety

Both the TT2000 and HS2000 feature built-in safeguards. Rigidly braced for strength and durability, they include protective operator fences that stand guard between your workers and the roof's edge. With both units, payloads can be deposited well back from the roof's edge — for safe removal to the work area.



See us at the NRCA Show.  
Booth No. 601

### HydraPak

Both units use the versatile R&G HydraPak as a single hydraulic power source, which is ideal for operating a wide range of hydraulically powered lifting equipment, tools and other implements. Hoist it by the ton. Hoist it with equipment from Reimann & Georger. Call or write today.

*The leader today...The leader tomorrow.*

**REIMANN**  
HOISTING EQUIPMENT  
**GEORGER**

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

# ***NRCA's 99th Annual Convention & Exhibit***



**Tourist information**

*page 53*

**Exhibitors list**

*page 59*



**This new  
school roof  
will cut energy  
costs up to 30  
percent, and  
also stop leaks!**

This is the 13th new polyurethane foam roof purchased by one school district over seven years. Why? Schools regularly report that heating and air conditioning bills drop 20%, 30%, or even more when a polyurethane foam roof is installed. A seamless polyurethane foam roof stops leaks, installs quickly (usually without tear-off of existing roofing), and is easy to repair and maintain. And no other roof will outlast a properly specified, installed, and maintained polyurethane foam roof. For more information about polyurethane foam systems for new and reroofing applications contact the Urethane Foam Contractors Association, 4302 Airport Blvd., Austin, TX 78722. Tel: 512/454-0041.

**Polyurethane  
Foam** *The roofing system of the future  
...time-proven through decades of use!*

Check #65 on Reader Service Card

---

# Fine food, lovely scenery, lots to do—in *Las Vegas*??

---

**H**ow many times have you asked someone if they've been to Vegas, and he or she has looked at you in surprise and said, "Oh, no. I don't gamble." Or, more incredibly, you've heard a report that someone failed to have a rip-snorting good time here, and a mutual friend explained to you, "Well, you know, he doesn't gamble."

No excuse. If you can't have a good time in this town, it's because you have a thing for lying around in your hotel room and staring at yourself in the ceiling mirror (or maybe that *is* your definition of a good time). Sightseeing, sunbathing, shopping, and sports make the city more than a desert outpost with a lot of blinking lights.

## Getting there

Yes, Virginia, you *can* get around Vegas without an automobile, although renting one is a transportation option. Assuming you don't hire a car or a private limousine and driver (there are 90 servicing Vegas), you will have to travel with regular people.

There are 400 taxis, any one of which will take you anywhere, charging you \$2.60 for the first mile and \$1.20 for each additional mile. (There is an additional 20-cent charge for a trip originating at the airport.) If you have spent your cab money on blackjack, consider the bus system. There are 10 routes around town, and Strip and Downtown buses run 24 hours a day. The fare is 80 cents.



**Bet  
on  
it**

If you are interested in seeing a popular attraction, or several, ask the bell captain in your hotel about organized tours.

## A sight for your eyes

Las Vegas is thought by many to be in the middle of nowhere, but actually, it's close to some of the country's more spectacular scenes.

Lake Mead is just a half-hour from the center of town. It is the largest constructed reservoir in the Western Hemisphere. The lake is 100 miles long, with almost 850 miles of shoreline, providing a jumping-off point for swimming, water skiing, boating and fishing (large-mouth bass, blue gill, black crappie and channel catfish).

Hoover Dam, also 30 minutes from town, is equally spectacular. As tall as a 70-story building, the Dam has supplied power to Arizona, southern California, Colorado, Wyoming, New Mexico and Nevada since it was built 50 years ago. The dam is wider than two football fields, and spans the Colorado River between Nevada and Arizona.

Red Rock Canyon is just a few miles west; it has evolved from a 400-million-year-old seabed into a series of magnificent geological formations, wind-sculpted sandstone outcroppings and unique desert vegetation. In some places, the canyon walls are 7,500 feet high.

Travel north about 50 miles to reach the Valley of Fire, which Indians inhabited more than 20,000 years ago. The legends about the area are as numerous as the sandstone etchings you will see in the state park there. A replica of an Indian pueblo also stands on the site.

**Liberace Museum exhibits include a small-scale replica of Liberace's home, fashioned entirely out of bread dough.**

The rough-and-tumble history of southern Nevada is nowhere more evident than in the ghost towns that surround Las Vegas. The vestiges of the Old West are found in these once-properous mining communities with names such as Potosi, Goodsprings, Sandy Valley, Eldorado Canyon and Searchlight.

If you're feeling particularly adventurous, a day trip by plane to the Grand Canyon is available. You can witness from the air this 200-million-year-old natural phenomenon.

If you're *not* feeling so adventurous, closer-to-home museum browsing might be just the ticket. The Museum of Natural History, the Southern Nevada Museum and the Nevada State Museum and Historical Society are nearby. But the most well-known local collection of memorabilia has to be the Liberace Museum at 1775 E. Tropi-

cana. Liberace lives in Las Vegas, where he has played the clubs for years. All proceeds from the museum go to The Liberace Foundation for the Performing and Creative Arts, which is the only redeeming factor in an otherwise appallingly tacky display of egomania. Museum exhibits include the pianist's more famous costumes, cars and candelabra, along with a small-scale replica of Liberace's home, donated by a woman in Ohio who (I swear to God) fashioned the model entirely out of bread dough.

### Good sports

Perhaps your cardiovascular system needs more activity than it can get by standing around looking at a piano player's clothes. For you, Las Vegas offers everything from organized athletic tournaments to on-your-own sports.

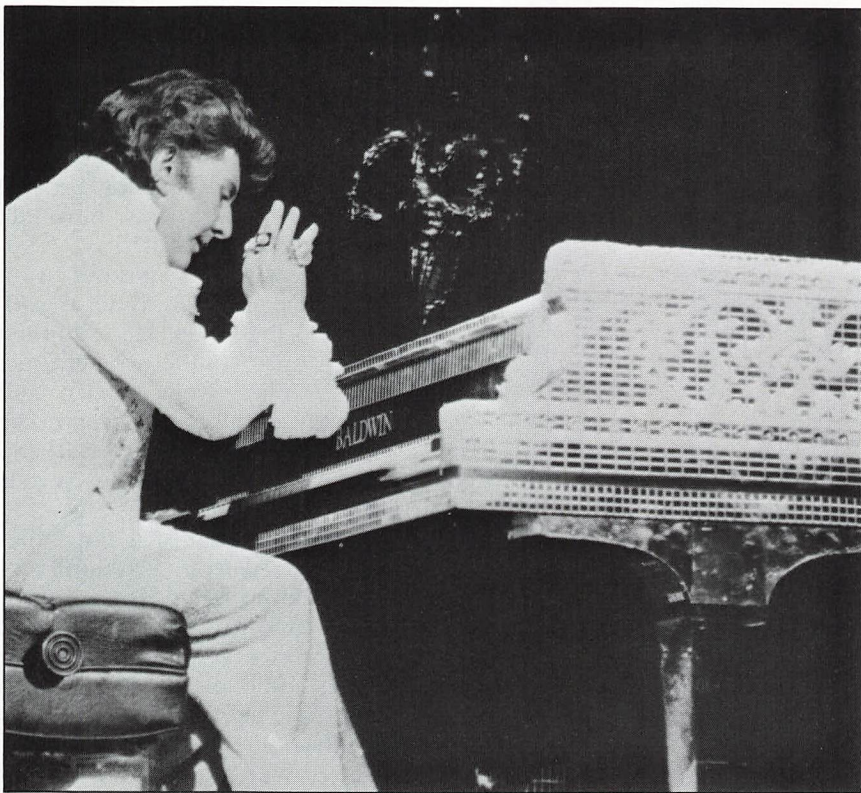
The pros come here regularly for purse-rich golf, boxing, tennis and road racing events, but amateur athletes can find lots to do, too. Between the hotels and motels, there are 11 golf courses, 18 indoor/outdoor tennis facilities and seven racquetball court complexes. (See Sunday's issue of *Convention Spec* for details.) Swimming pools at the hotels allow you to take advantage of the weather, which is outstanding year-round.

But that's not all. Folks are winter skiing at Mt. Holly; Brianhead-Utah; and Lee Canyon at Mt. Charleston, 36 miles west (call 702/872-5462 for a snow report). Hiking, horseback riding, skating, trap shooting and even desert soaring (ideally, in a glider) are also available.

### That's entertainment

At night, Vegas sparkles with some of the biggest stars and most fabulous shows ever. For the most up-to-the-minute information, consult the local entertainment sheet that you received with your registration packet. Occasionally, changes are made in the talent line-up, but the following is the information *Roofing Spec* had at press time.

**Caesar's Palace**—731-7110  
Feb. 4-11: Rodney Dangerfield  
Feb. 12-18: Joan Rivers



Liberace

**Desert Inn Country Club and Spa—**  
733-4444

Feb. 6-26: Tony Orlando, Juliet Prowse

**Sahara—737-2111**

Feb. 13-16: George Carlin  
Showroom: A Chorus Line

**Golden Nugget—385-7111**

Feb. 6-11: Alan King

**Las Vegas Hilton—732-5111**

Jan. 15-Feb. 25: Norm Crosby, Vic Damone  
Showroom: Bal du Moulin Rouge

**MGM Grand—739-4111**

Feb. 6-19: Tom Jones  
Showroom: Jubilee

**Riviera—734-5110**

Jan. 9-Feb. 13: Fifth Dimension  
Showroom: Splash

**Frontier—734-0110**

Showroom: Siegfried and Roy

**Stardust—732-6111**

Showroom: Lido de Paris

**Tropicana—739-2222**

Showroom: Folies Bergere

**Flamingo Hilton—733-3111**

Showroom: City Lites

**Dunes Hotel and Country Club**  
—737-4110

Showroom: The Comedy Store

**Food for thought**

Now that we've whetted your appetite for getting out and about, you should know that you can fortify yourself with more than a 99-cent breakfast from Circus Circus. Vegas has some decent eateries if you know where to look.

**American continental**

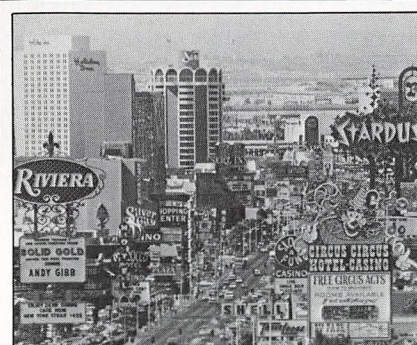
**Alias Smith 'N Jones**, 541 E. Twain in Twain Plaza; 732-7401. Full menu featuring ribs, beef stroganoff and steaks in rustic atmosphere with antiques and stained glass. Large screen TV in bar. Reservations suggested. Major credit cards.

**Elephant Bar & Restaurant**, 2797 S. Maryland Parkway; 737-1586. Come as you are. Jungle decor and ceiling fans in a sunny room. Fresh seafood daily. Major credit cards.

*Sightseeing, sunbathing, shopping, and sports make the city more than a desert outpost with a lot of blinking lights.*



**Las Vegas.** Founded in 1905, this city has grown from an insignificant desert railroad town into a world-famous resort destination known for its dazzling entertainment and 24-hour casinos. The Las Vegas of the '80s attracts nearly 12 million visitors each year.



*You can fortify yourself with more than a 99-cent breakfast from Circus Circus.*

**Facciani's Library**, 200 W. Sahara; 384-5200. Broad menu range; house specialties include Steak Diane, Bananas Foster, veal and seafood dishes. Old English decor with authentic antiques. Jackets appreciated, gentlemen. Reservations suggested.

**Jubilation**, 75 E. Harmon; 798-8822. Paul Anka's place. Steaks, veal, seafood, ribs in garden room setting. Fine wines. Reservations suggested. Major credit cards.

**Tivoli Gardens**, 1775 E. Tropicana; 739-8762. Liberace strikes again. Four dining rooms and two cocktail lounges, all totally different decor. Afternoon tea served in the English Hunt Room at 5 p.m. Piano lounge entertainment. This is an experience. Fairly dressy and expensive. Major credit cards.

**Diamond Jim's Cabaret**, 3120 Las Vegas Blvd. S., in the Frontier Hotel; 734-0232. Full course meal every night. Piano bar. More expensive; reservations required. Major credit cards.

**Tony Roma's**, 620 E. Sahara; 733-9914. Wood, glass and brick decor. Barbeque, onion ring loafs and other goodies. Entertainment nightly. Major credit cards.

#### French

**Andre's**, 401 S. Sixth; 385-5016. French country inn atmosphere; full French menu. Jackets, please. Reservations suggested. Amex, Visa and Mastercard.

**Pamplemousse**, 400 E. Sahara Ave.; 733-2066. Romantic French country atmosphere; covered patio. Warm and personal. Large baskets of fresh veggies for starters; fresh fish, duck, veal and steaks. Reservations suggested. Major credit cards.

#### Italian

**The Bootlegger**, 5025 S. Eastern; 736-4939. Maria's own cuisine; veal, pasta, seafood and steaks. Informal. Fireside cocktail lounge, old world atmosphere. Major credit cards.

**Mariano's**, 3513 Valley View; 871-4596. Homemade pastas; complete authentic Italian menu. Great atmosphere. Reservations required. Major credit cards.

**Gianno Russo's State Street**, 2570 State St.; 733-0225. Italian and then-some menu. Two dining rooms, piano bar, game room (backgammon, chess, etc.). Jackets, please. Reservations required. Major credit cards.

**The Vineyard**, 3630 S. Maryland Parkway in the Boulevard Mall Shopping Center; 731-1606. New York City Little Italy marketplace atmosphere. Antipasto salad bar. Relaxing, informal, inexpensive. Recommended by *Bon Appetit* as "one of America's best restaurants."

## Some Las Vegas trivia, in case you were wondering

In a town in which the whole ball of wax may come down to how adept one is with numbers, it is no wonder that the natives feel a compulsion to assign a figure to every subject. If a thing can't be assessed somehow, then it just isn't worth bothering about. The result is a collection of intriguing but largely useless minutiae, to wit:

The sun shines here up to 320 days a year. It rains only 4 inches a year.

Average daily temperatures are 79F maximum, 52F minimum. The humidity ranges between 20 to 30 percent.

There are 55,000 marriages annually, with people lining up at the 24 wedding chapels six deep on New Year's Eve, the busiest day.

The mammoth Convention Center is the largest single-level facility in America, with 1.1 million square feet. Vegas claims 54,000 hotel and motel

rooms, which house 13 million visitors annually; more than 100 million meals are served. Conventioneers (that means you) spend more than \$700 million here every year.

Gaming provides the local economy with a whopping 25 percent of its income and employs 80 percent of the local work force. There are 48,000 slot machines in the city.

## Thanks for putting us down.

You just gave us the biggest put down in our history. And how do we feel? Great.

That's because more Stevens Hi-Tuff™ was put down on more roofs this year than anyone ever expected. And we've got you, the Stevens contractor, to thank for it.

And next year looks even better, due to a national trend toward mechanically-attached single-ply and an increased sales and promotional push. It looks so good, we've invested \$11 million in a manufacturing facility in Westfield, North Carolina, to ensure nationwide product availability in 1986.

You'll begin to see more Stevens field engineers, more ads, sales literature and technical support materials as we continue to assume an aggressive role in the roofing industry.

If you weren't part of the Stevens success in 1985, there's only one solution. Give us a call. We'll send you information on how to become a Stevens applicator. Then you can put us down too.

J.P. Stevens & Co., Inc., Stevens Elastomerics/  
Roofing Systems,  
Northampton, MA 01061.  
Telephone: 413/586-8750.

# STEVENS

# Application of the Modified Bitumen Membrane

**N**ow available from NRCA is the worker training program **Application of the Modified Bitumen Membrane**. The training package consists of a narrated audiovisual presentation and companion workbook specifically designed for training workers through in-house sessions in the contractor's shop. It introduces the roof mechanic to the modified bitumen roofing product—what it is and how it is made, the ways that application differs from traditional built-up roofing, and the various types and installation systems. The program covers in detail materials, equipment, specifications, safety precautions, and installation procedures used with self-adhering, torch-applied, and mopped systems.



The audiovisual program, available in either slide/cassette or videotape format, consists of 450 slides and a 40-minute narration. A comprehensive workbook contains a complete outline of the program plus quizzes, drills, and tests to gauge student progress and aid in instruction. A complete instruction guide is available as well.

Up to five hours of credit toward the requirements of the Academy of Roofing Contractors program can be earned using this program.

For more information on this program, contact the NRCA Education Department, 8600 Bryn Mawr Ave., Chicago, Ill. 60631, (312) 693-0700.

**A four-part  
audiovisual  
program designed  
for the roofing  
worker**



# 1986 exhibitor list for NRCA's Convention and Trade Show

**T**he 300-plus exhibitors filling the Las Vegas Convention Center exhibit hall from wall to wall represent the largest number of companies ever to participate in an NRCA Convention. NRCA President Country Harrison will officially open the Trade Show Sunday, Feb. 8 at 6 p.m. After the opening ceremonies, Convention attendees will get a special preview of the displays until 7:30.

Hours for the Trade Show are: Monday, 8:30 a.m. to 12 noon; Tuesday, 12:30 p.m. to 5:30 p.m.; and Wednesday, 8 a.m. to 12 noon.

**ACA Products** (1829).

**AEG Power Tool Corp.** (1921, 1923) will feature industrial portable electric hand-held drills, hammer drills, rotary hammers, screwdrivers, angle drivers and other cordless tools.

**AEP/Span** (1364, 1365) will show a complete line of formed metal for roofing, mansard, fascia and soffit applications.

**AGR Co.** (637, 736) will show the single-ply Alphagard system, a polyisobutylene membrane reinforced with a non-woven synthetic fleece backing and featuring self-sealing side laps for waterproof seams.

**APC Corp.** (1753, 1755) will display the Daylighter heat shrink fire vent with new safety features.

**ARO Corp.** (1818, 1820) will display pumping systems for adhesive, lap seam cement and lap seam sealant for single-ply systems and for other conventional roof sealing materials.

Including  
exhibitor  
new ideas

**ASC Pacific, Inc.**, (1552, 1554) will show a full line of roof deck systems, architectural products and a concealed fastener structural standing seam system that features Zinca-lume® and carries a 20-year warranty.

**Adco Products, Inc.**, (1822) will exhibit its full line of self-adhesive EPDM flashings, splicing tapes, metal building butyl sealants and tapes.

**Adcoat, Inc.**, (1336) will show single-component roof and wall coatings and sealants that may be sprayed, rolled or brushed. Primers and flexible reinforcing mesh will also be shown.

**Aeroil Products Co., Inc.**, (111) will display power equipment for the removal of old roofing. Roof cutters, the Rhino power tear-off and engine-powered transporters will be shown.

**Air Vent, Inc.**, (1964) will present roof ventilation products, including the Ridge Filtervent, the Peak Filtervent, the Flash Filtervent, the Tile Ridge Filtervent and others.

**Alemite Division, Stewart-Warner Corp.** (1341, 1343) will show pumps and roofing equipment for all types of application systems.

**Alkor Division, Hedwin Corp.** (1700, 1702, 1704) will feature Alkorflex CPE single-ply roofing material and Alkorplan PVC single-ply roofing material.

**Allied Corp.** (1539) will present its coal tar roofing pitch for use in construction of pitch BUR and dampproofing systems.

**Allroof International, Inc.**, (1864, 1865, 1963).

**Altusa Clay** (1449).



**Alumax** (732, 734) will show architectural, snap-on, integral and structural metal roofing systems, along with mansards, fascia, soffits, walkways and canopies with Kynar 500 coatings.

**American Associated Cos., Inc.**, (1701, 1703) will display cotton and fiber glass roofing mops as well as waterproofing roller mops. Special rollers for single-ply roofing will also be shown.

**American Hydrotech, Inc.**, (1313, 1315) will exhibit waterproofing and roofing products, including Liquid Membrane 6125, PRM rubberized asphalt membrane, Hydro-Seal EPDM sheet rubber membrane and Lite-Top Hypalon sheet membrane.

**American Roofing Corp.** (1600, 1602) will display its modified bituminous membranes, including Golden Eagle, Premium, Granular, Aluminum, Modified Base Sheet and Ice Gard.

**Amoco Foam Products Co.** (1257, 1259) will exhibit Amocor®-PB4, an all-plastic protection course for liquid-applied or sheet waterproofing membranes, and Amofeam®-CM, an extruded polystyrene rigid foam insulation board.

**Anjon, Inc.**, (106).

**Apache Building Products Co.** (1801, 1803) will display polyisocyanurate roof insulation products, including materials for single-ply and BUR systems, shingles, and tapered and vented roofing applications.

**Armco Building Systems** (1323, 1325) will offer a standing seam floating roof system for new and reroof projects and the Armco reinforced EIP single-ply system.

**Asphalt Products Oil Corp.** (1951).

**Asphalt Roofing Manufacturers Association** (1840, 1842) will serve as an information center for BUR products, providing general information to contractors, architects and specifiers.

**Associated Foam Manufacturers, Inc.**, (827, 829) will be featuring Contour Taper Tile EPS and extruded polystyrene insulations and the Perform series of EPS roof insulations.

**Atas Aluminum Corp.** (1810, 1812, 1814) will show Wind-Lok roof and mansard panels, and an integrated batten and concealed fastener system that features 12- or 16-inch coverage and a variety of finishes.

**Atlas Bolt and Screw Co.** (923, 925) will display fastening systems for attaching insulation to steel, wood and concrete decks, and for fastening masonry. Installation tools will also be featured.

**Atlas International Building Products** (1556, 1558) will show Classic Slate™ fiber cement roofing shingles, Cavity and T-Deck™ roof decking, and Promenade Tile™.

**At-Last Roofing Co.** (1547).

**Babcock Davis Hatchways, Inc.**, (1754) will display its Underwriters Laboratories/Factory Mutual-labeled smoke vent.

**Barra Corp.** (1300, 1302, 1304) will exhibit its single-ply systems, including Rhenofol PVC, Rubber-Shield EPDM, Hy-Shield Hypalon CSPE and Modi-Shield modified bitumen. Skylights and roof windows will also be on display.

**The Barrett Co.** (1215) will show liquid-applied, hot-melt rubberized asphalt membranes, single-ply SBS-modified bitumen, liquid-applied bitumen and related accessories and insulations.

**BehStev Corp.** (1246, 1347) will exhibit single-ply, APP- and SBS-modified bitumens in plain and granular surfaces, along with polyester and fiber glass membranes.

**Bend Industries, Inc.**, (1218) will show the Roofcap paver system and Ultra Stone deck paving units.

**Julien P. Benjamin Equipment Co.** (1432, 1434, 1436, 1533, 1535, 1537) will feature on-deck equipment, elevators, conveyors, kettles, hoists, tankers, cranes and other roofing gear.

**Berridge Manufacturing Co.** (1825, 1827) will show architectural metal systems for roofs, barrel vaults, walls, facades, mansards, soffits and equipment screens. The products are available in a choice of 21 colors and finishes.

**The Bilco Co.** (1718) will exhibit an S-50 aluminum roof access scuttle modified to serve as an automatic fire vent, and a DSH-4848AA double-leaf aluminum fire vent.

**Blackwell Burner Co.** (713) will display asphalt kettles, hoisting equipment, conveyors, tankers, yard storage equipment and deck equipment.

**Boato Tecsystem S.p.A.** (1550) will exhibit a scale model of a Boato plant for the production of APP- and SBS-modified bitumen membranes.

**Bond Cote Systems** (613) will feature the Bond Grey 35® single-ply system, a reinforced thermoplastic NBP polyblend membrane that is loosely laid, mechanically fastened and heat-welded.

**Bostitch Division of Textron, Inc.,** (1749, 1751) will highlight its N12 pneumatic roofing nailer, which drives standard galvanized roofing nails.

**Bradco Supply Corp.** (1223) will display its line of roofing, siding and sheet metal products.

**Briggs & Stratton Corp.** (1116, 1118) will show the I/C series of industrial and commercial air-cooled, 3- to 18-horsepower gasoline engines, which feature Oil Gard low-oil protection.

**Bristol Fiberlite Industries** (1356, 1358) will exhibit its line of residential, commercial and industrial skylights, which are available in more than 40 standard sizes and equipped with several options.

**Browning Metal Products Co.** (1353) will display a ridge vent manufactured from stucco-finish aluminum. Roof edges, eave drips, gravel strips and flashing will also be featured.

**Buildex Division of ITW** (1626, 1628, 1727, 1729) will be showing roof fasteners and tools for the attachment of roof insulation or single-ply membranes to concrete, steel, wood, Tectum or gypsum decks.

**Building Design & Construction** (1805) will feature its publication for building teams, owners, architects, engineers and contractors.

**Building Design Journal** (1252).

**Burke Rubber Co.** (1221) will display the Burkeline Hypalon roofing system for both mechanically fastened and fully adhered designs.

**Burners, Inc.,** (1949) will present the Plyrite wagon and the Lil-spit Fire hand torch.

**CMV-Limido Engineering** (1441) will show modified bitumen production equipment capable of producing APP- and SBS-modified plain or granular-surfaced materials.

**CNA Insurance Cos.** (1601, 1603) will feature an NRCA-sponsored general business insurance program.

**Cal-Shake, Inc.,** (921) will display a cementitious, perlite-based roofing shake that is light weight and fireproof and comes in three colors.

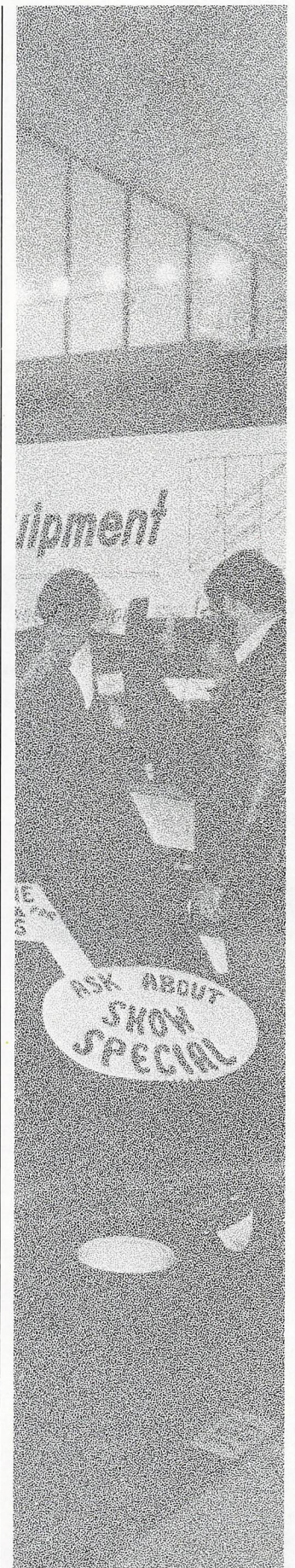
**Cant Products, Inc.,** (110, 112) will show standard and flameproof cant strips and edge strips along with tapered perlite, wood fiber and Styrofoam® insulations.

**Carlisle SynTec Systems** (201) will present the Sure-Seal® total roofing system along with insulation, fasteners, flashings, adhesives, edging and counterflashing.

**Carpenter Insulation Co.** (1648, 1650) will show expanded polystyrene and polyisocyanurate insulations, which are available in tapered and composite forms.

**The Celotex Corp.** (225) will display its complete line of roofing products, including residential shingles and commercial insulations, ply sheets and coatings.

*continued on page 63*





## Put the Eagle on your roof.

Not everyone can do it.

But wholesalers and contractors who fly with the Eagle are dealing with the fastest growing, most dynamic company in the roofing materials industry.

When you fly with the Eagle, you're protected. Your territory is your own. We select only the best wholesalers and contractors in each area, then back them all the way. With brochures and sales films, and with seminars that teach their people how to apply our products.

The Eagle is the symbol of Tri-Ply, the only company to offer both torch- and mop-applied modified bitumen roofing—and then back them with 12-year warranties.

But it's at inspection time that the Eagle really soars. You can count on us to react faster, making it easier and quicker to settle your job.

If this sounds like the kind of organization you'd like to deal with, call or write for more information today.

Come fly with the Eagle.

 **TRI-PLY**

Put the Eagle on your roof.

TRI-PLY, INC. • 1401 East Lincoln • Madison Heights, MI 48071 • (313) 543-7910 • (800) 445-9856

See us at booth #1553-1555.

Check #62 on Reader Service Card

**Celotex-Marley, Inc.**, (1204, 1206) will exhibit lightweight and regular-weight concrete roof tile in both mission and flat profiles.

**Cheney Flashing Co.** (1548) will show flashing, fascias, soffits, reglets, framing systems, standing seam roofing, coping, gutters, and gravelstops.

**Chicago Metallic Corp.** (1928) will feature a reroof framing system for supporting a sloped standing seam roof, and a standing seam system with 20-inch panels, batten caps and clip fastening.

**Clark-Cutler-McDermott Co.** (1225) will exhibit Clarmac-RM, a non-woven polyester mat impregnated with asphalt.

**Classic Products, Inc.**, (1557, 1559) will feature the Rustic shake-shingle, the Rough shake and the Classic canopy and mansard panel.

**Clearfield Conveyors, Inc.**, (1418, 1420, 1422, 1424, 1426, 1428) will display the LN-77, a conveyor that extends to 77 feet, reaches up to 53 feet, and includes a 25-foot articulating boom and a 20-inch-wide belt.

**Cleasby Manufacturing Co., Inc.**, (101) will feature a 540-gallon, fully automatic kettle; various deck tools and some specialty items for single-ply applications.

**Columbia ABECE, Inc.**, (1706) will show machinery for producing concrete roof tile using the Skandia extrusion method. Systems range from manual handling to fully automated.

**Columbine International, Ltd.**, (1346, 1447) will feature the Zinser 3-in-1 welder, hand-held welders and accessories for single-ply installations.

**Concord Management Systems, Inc.**, (1200, 1202) will provide information on financial management, estimating and scheduling for roofing contractors.

**Conklin Co., Inc.**, (1401, 1403) will present liquid-applied elastomers and single-ply membranes for weatherproofing and fire resistance.

**Consolidated Fiber Glass Products Co.** (319) will display fiber glass BUR and modified bitumen roofing, perlite and isocyanurate insulations and accessories.

**Construction Fasteners, Inc.**, (1518) will highlight the expanded product line of the Dekfast insulation fastening system for steel and concrete roof decks.

**Continental Rubber Co.** (1766)

**Contractors Guide** (1310) will feature its publication for roofing, insulation and siding contractors.

**Cooley Roofing Systems, Inc.**, (325) will present Cool Top 40, a white, reflective single-ply CPE roofing system reinforced with polyester.

**Copper Sales, Inc.**, (1914) will show Uni-Clad steel or aluminum sheeting supplied in coils or flat sheets with a factory roll-coating of Kynar 500® finish.

**Cufica Group, S.A.** (1457) will present natural roofing slates in a variety of colors.

**D & H Publications** (1960) will feature *Roofer Magazine*, an independently owned publication geared toward roofing contractors, consultants, architects, engineers, distributors and roofing product manufacturers.

**DMS Industries** (1222)

**Danosa Caribbean, Inc.**, (1340, 1342) will highlight modified bitumen membranes reinforced with polyester or fiber glass mats and finished with mineral granules, sand or polyethylene film.

## **Dow and Grace develop joint warranty**

The Dow Chemical Co. and W.R. Grace & Co.'s Construction Products Division will be unveiling their joint warranty program at this year's Convention.

The new warranty covers systems using Dow's Styrofoam RM or Lightguard insulation and Grace's GRM® 350 self-adhering membrane.

Lightguard insulation is surfaced with a 3/8-inch layer of latex-modified concrete to protect it from weather, foot traffic and other environmental dangers. The GRM membrane is a 50-mil composite of heavy plastic and self-sealing rubberized asphalt.

The system employing these two products complies with key building codes and may be used in both new and reroofing. It will be installed by selected Grace-approved roofing contractors.

Grace will offer single-source responsibility for all components in the joint warranty. The warranty covers both the waterproofing integrity of the system and its thermal performance.

**See booths 1404, 1406, 1408, 1410**

---

*continued on page 65*

# AFM Perform<sup>TM</sup> 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...

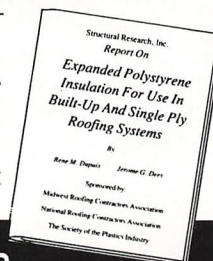
**Perform 2**  
EPS with a factory  
laminated 1/2" hard-  
board face for high  
panel integrity.

**Perform 3**  
EPS laminated to a  
foil/kraft face to  
separate membrane  
and insulation.

## AFM Perform EPS will last...

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:



**Associated Foam  
Manufacturers**

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

Check #8 on Reader Service Card

**Data Systems of Arizona** (1823) will feature an interactive subcontractor management software system for accounting and cost control.

**Decks International, Inc.**, (436).

**Deleo Clay Tile** (1913).

**Dibiten USA** (1433, 1435, 1437, 1439) will show Poly/4 APP-modified bitumen reinforced with a non-woven polyester core, and Poly/4.5 granular-surface APP-modified bitumen.

**DiversiTech General** (433, 435, 437, 532, 534, 536) will highlight gray PVC and black or white EPDM single-ply membranes for ballasted or unballasted systems.

**Dodge/SCAN** (1904, 1906) will provide information on improving planning and forecasting, developing sales leads and increasing market penetration.

**The Dow Chemical Co.** (1500, 1502) will feature Styrofoam® brand insulation for single-ply and BUR systems, and Styrofoam Lightguard® insulation, an alternative to stone ballast systems.

**Dow Chemical Specialty Plastics Dept.** (1400, 1402).

**Dunlop Construction Products, Inc.**, (619) will exhibit Dunseal Hypalon and EPDM talc-free membranes, which are available reinforced or non-reinforced for ballasted, fully adhered or mechanically fastened systems.

**Duro-Last Roofing, Inc.**, (1301, 1303, 1305) will present its factory-fabricated roof system made from polyester fabric coated with a thermoplastic alloy.

**Dynamit Nobel of America, Inc./Trocral Roofing** (133, 135, 137, 232, 234, 236).

**ESE Machines** (1916) will demonstrate various hand tools for the architectural sheet metal industry, including power seamers and shears, tongs, and pliers.

**Elastizell Corp. of America** (1850) will exhibit insulating roof decks designed to provide positive drainage, fire resistance and a solid base for single-ply and BUR systems.

**Elco Industries, Construction Products Division** (1319, 1321).

**Elk Corp. of America** (501) will highlight Prestique® Plus, a shingle that features deep-textured shadow lines.

**Enerco Watertite** (1465, 1563) will display the Waterhawk II, a portable gutter machine.

**Engineered Components, Inc.**, (1649, 1651) will display architectural metal roofing and fascia systems and standing seam roofing.

**The Enterprise Cos.** (1646, 1747) will feature the Memoric Seamless Roof line, including a modified bitumen coating and the Mobil Home Leakproof Roof system.

**Environment Coating Systems** (1712).

**Envirospec, Inc.**, (104) will exhibit the Pave-El pedestal system, which elevates paver stones above waterproofed deck areas to create functional walking surfaces and provide drainage.

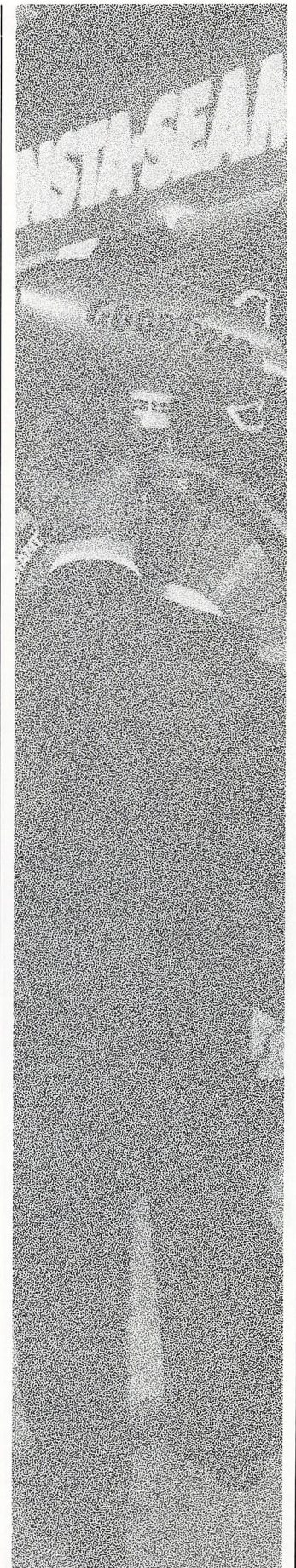
**Erico Aerosmith Sales Co.** (1926) will display pneumatic fastening equipment and fasteners for securing insulation and roofing material to concrete and steel roof decks.

**Estimation, Inc.**, (1728) will show Bidmaster estimating software and Accountpro office management software.

**Evanite Permaglas, Inc.**, (1501, 1503) will feature fiber glass BUR membranes, a modified asphalt single-ply membrane and an EPDM single-ply system.

**Evergreen Slate Co., Inc.**, (1505) will exhibit roof layups of its Vermont roofing slate in all colors. Slater's tools such as rippers, hammers and the ESCO slate cutter will also be displayed.

**Fabco Fastening Systems** (333, 335, 432, 434) will present roof fastening systems for concrete, steel, fiber and light weight decks.

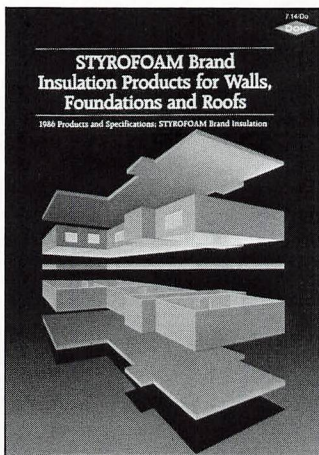


## Publication details Styrofoam products

Dow Chemical Co. will have available in its booth a new brochure detailing the various products in the Styrofoam brand line of insulation.

The 24-page brochure contains information on specifications, product applications, laboratory and field test results and the physical properties of the products. Cutaway product illustrations and details on performance warranties are also included.

Among other products described in the brochure are the insulated roof membrane assembly (IRMA) and Optimum high humidity IRMA systems. The IRMA system consists of a roof membrane applied directly over the deck and protected from temperature-induced expansion and contraction by insulating boards covered with stone. The Optimum high humidity IRMA system sandwiches the single-ply membrane between a bottom layer of Styrofoam insulation and a top layer of Styrofoam Lightguard or RM insulation. The system is specifically designed for structures such as textile, pulp and paper mills where dewpoint control is important.



See booths 1500, 1502

**Fabral Division, Alcan Building Products** (1930) will feature steel and aluminum roofing and siding components with exposed and concealed fasteners, along with standing seam roofing.

**Fashion, Inc.**, (1903, 1905) will show roll-formed architectural metal for roofing, facing and mansards. The company's steel or aluminum products are available with either a Kynar® 500 or polyester finish.

**Fina Oil & Chemical Co.** (1922, 1924) will show its line of Finaprene bitumen modifiers.

**Firestone Building Products Co.** (313, 1854, 1856, 1858, 1955, 1957, 1959) will exhibit EPDM roofing systems, insulations and accessories for adhered, ballasted, mechanically fastened and non-penetrating applications.

**Five Star Manufacturing** (840).

**Flame Engineering, Inc.**, (116, 118) will display Red Dragon roofing torches and accessories. Safety information will also be available.

**Flex-Shield Corp.** (1900) will exhibit water- or solvent-based, liquid-rubber cold-applied systems, fully adhered single-ply systems, hot rubber BUR systems and information on a total roof maintenance and inspection program.

**Follansbee Steel Corp.** (1359) will exhibit terne and TCS (terne-coated stainless) metal roofing products.

**Foremost Manufacturing Co.** (1307) will present prefinished Kynar® 500 galvanized steel batten and standing seam panels in 10 colors.

**Futura Coatings** (831, 833) will feature liquid-applied coatings and adhesives, and other single-ply system products.

**GAF Corp.** (511) will feature the Ruberoid modified bitumen roofing system and the GAFGLAS Ply 4 roofing program. Timberline laminated shingles and other residential roofing products will also be shown.

**Gaco Western, Inc.**, (1958).

**Gardner Asphalt Corp.** (1849, 1851) will present asphalt-based roof coatings and cements, driveway sealers, water-based emulsions and other specialty items.

**The Garland Co., Inc.**, (1855, 1857) will show 11 different roofing systems, which are sold through field technical consultants.

**Garlock Equipment Co.** (1604, 1606, 1608, 1610, 1612, 1614, 1705, 1707, 1709, 1711, 1713, 1715) will feature hydraulic hoists, conveyors and a full line of on-deck equipment.

**Gates Engineering Co., Inc.**, (719) will highlight EPDM, neoprene and Hypalon single-ply roofing systems as well as liquid coatings used as waterproofing and protective topcoats.

**Gedaco S.p.A.** (1240, 1242) will show APP- and SBS-modified bitumen membranes with a spunbond polyester or fiber glass core.

**General Computer Systems, Inc.**, (1446, 1448).

**Genstar Roofing Products Co.** (1519, 1521, 1523) will feature roofing shingles and the company's new commercial roofing specification manual with data on Genstar BUR systems in CSI format.

**Georgetown Insurance Service, Inc.**, (1946).

**Georgia-Pacific** (1936, 1938, 1940, 1942) will highlight BUR components, modified bitumens, organic and fiber glass shingles and insulation.

**Gerard Tile Co. U.S.A., Inc.**, (1453, 1455) will show Superroof tiles, which are galvanized steel roofing panels with a lightweight stone coating available in 17 colors.

*continued on page 68*



## Greenstreak adds to product line

Greenstreak will be displaying three new items it has added to its concrete construction product line.

A new cant strip made of high-impact, flame-retardant plastic is resistant to water damage and is compatible with most asphalt cutbacks. The cant strip, which is available in standard industry sizes, comes with a black sandpaper finish to promote bonding.

A new termination bar and a field attachment bar have also been introduced by the company. Both products are constructed of white, non-corrosive rigid plastic. They are predrilled and are designed to accommodate most fasteners. Both items also feature a screw head channel designed to eliminate exposed sharp edges that can damage membranes. The termination bar can be used in a variety of positions and applications to provide a built-in caulking channel or cant. It is available ultraviolet-stabilized.

See booth 1543

**Giuffre Brothers Cranes, Inc.**, (725) will feature the "Roofer's Package," consisting of a diesel truck with flatbed, hydraulic crane with hose reel, and several hydraulic accessories.

**BFGoodrich/Lexsuo** (1525, 1527, 1529) will show insulation clips and fasteners, vapor retarders, expansion and control joints, flashing, vents, drains, protective walkways, adhesives, and tools.

**Goodyear Tire & Rubber Co.** (701).

**Goss, Inc.**, (1239, 1241) will display its line of roofing torches, including detail torches, stand-up torches, a five-burner fuser wagon and accessories.

**W.R. Grace & Co., Construction Products** (1404, 1406, 1408, 1410).

**Graco, Inc.**, (233, 235, 237) will show pumps and sprayers for applying roof coatings such as resaturants, two-component urethane topcoats and spray foam insulation.

**Greenstreak Plastics** (1543).

**Guaina Corp. of America** (1261).

**Guardian Fasteners, Inc.**, (1306, 1308) will exhibit its Insul-Tite roof fastening system with plastic or metal plates, and a line of Insul-Tools.

**Gulf States Asphalt Co., Inc.**, (1103) will present roofing cements and coatings, asphalts, waterproofing coatings and Rufon polyester fabrics.

**Gusmer Corp.** (1719) will introduce Models HV and H-2000 high-pressure foam and coating proportioning units with automatic hose temperature control and self-contained hydraulic drive systems.

**Hardcast, Inc.**, (1853) will show its aluminum Peel 'N Seal tape, an all-weather sealing and flashing tape that bonds to most surfaces.

**W.P. Hickman Co.** (100, 102) will display the Microzinc roof panel system, Permasnap coping, the Econosnap extruded roof edge system, Safeguard gravel stops, reglets and fascia.

**Hillsdale Industries, Inc.**, (1832) will feature a sample of its Model 930 cluster skylighting system as well as samples of other skylights, thermal safety vents and hatches.

**E.L. Hilts & Co.** (911, 913) will show water pumps and a full line of equipment and tools for both single-ply and BUR systems.

**Hoechst Fibers Industries** (1819, 1821).

**Homasote Co.** (1333, 1335) will show N.C.F.R./Thermasote nail-base roof insulation, Ultra/M-II Iso/Glas, and TUPS stress-skinned structural sandwich panels.

**Humane Equipment Co.** (120) will display rubber walkway pads for protecting BUR or single-ply roofing surfaces from foot traffic.

**Hyload, Inc.**, (1504).

**IKO Manufacturing** (1212) will display asphalt and fiber glass shingles, rolled roofing, felts and fiberboard sheathing.

**INRI, Inc.**, (1229) will feature the liquid-applied, polyester Kemper System membrane, which is self-adhering, self-flashing and fleece-reinforced.

**Insta-Foam Products, Inc.**, (1363) will show the Froth-Pak® polyurethane "foam machine in a carton."

**Insul-Mark Midwest, Inc.**, (1919) will display coated roofing screws, toggle bolts and plates for installing BUR or single-ply roofs on metal, masonry or wood decks.

**Insulation Systems, Inc.**, (1841).

**International EPDM Roofing Systems** (1720, 1722).

**International Permalite, Inc.**, (413) will show perlite, isocyanurate foam, composite board and tapered perlite systems, APP- and SBS-modified bitumens, perma-fasteners, and expansion joint covers.

**International Staple & Machine Co.** (1763) will exhibit pneumatic fastening systems, staples, nails, hand-held pneumatic fastening tools and accessory items.

**Interstate Coatings, Inc.**, (1459).

**JBD Supply Co.** (1551) will show roof system detail products, including flashing termination bars, corrosion-resistant bar anchors, and adhesive rollers and brushes.

**J & P Petroleum Products, Inc.**, (1213) will feature Aquasel, a self-adhesive rubberized asphalt waterproofing membrane, and Aquasel WIP, a roofing underlayment for ice dam protection.

**Jimco Products, Inc.**, (1326, 1328).

**Karnak Chemical Corp.** (1413, 1415) will introduce its newest product, Elasto-Brite, and exhibit its cold-process roofing, waterproofing and liquid-applied elastoplastic systems, and maintenance repair items.

**Kelly Energy Systems, Inc.**, (1632, 1634, 1636, 1733, 1735, 1737) will exhibit Whaleskin EPDM, a fire-retardant rubber roofing that allows Class A fire ratings over combustible and non-combustible decks.

**Kenergy Corp./Kennedy Sky-Lites** (1863) will feature standing seam skylights that combine a low-profile with standing seam and step-flashing techniques and a continuous weather cap.

**Kirby Fiberglass, Inc.**, (1464) will feature its line of Glasphalt fiber glass roofing mops.

**Kokem Products, Inc.**, (132) will highlight its Sunguard acrylic latex roof surface coating that provides ultraviolet shielding and fire resistance over modified bitumen, hot-mopped BUR and single-ply rubber sheeting.

**Kold King, Inc.**, (1423) will display its line of cold-process spraying and granulating equipment and roofers' accessories, including puddle pumps, inspection kits and roof drains.

**Koppers Co., Inc.**, (419) will exhibit BUR and waterproofing systems as well as Rx phenolic foam insulation and maintenance products.

**Leatherback Industries, Inc.**, (540, 541) will display residential and BUR asphalt-saturated roofing felts.

**Leigh Products, Inc.**, (1205) will exhibit a line of ventilation products that includes ridge vents, undereave vents, static vents, gable-end vents, foundation vents, and power attic and gable-end vents.

**Libin & Associates** (1852).

**Lifetile Corp.** (1618, 1620) will feature concrete roofing tile.

**Lift Conveyor** (1652, 1654, 1656, 1658) will display a lightweight, electric-powered portable conveyor that stores in a 16-foot space and extends to 35 feet.

**Liquid Asphalt Systems, Inc.**, (1506, 1508, 1510, 1512, 1514, 1607, 1609, 1611, 1613, 1615).

**Little Giant Industries, Inc.**, (1908).

**Lord Corp., Elastomer Products Division** (1337, 1339) will present Chemlok® primer, Chemlok TXL Tape, cover strips and specialty products for EPDM roofing systems.

**Lucas Sales Co., Inc.**, (1463) will feature the Lucas Flashpan, a steel roofing pitch pan with uncured neoprene factory-installed, and the Lucas tapered perlite-and-extruded-polystyrene roof insulation system.

**Ludowici Celadon Co.** (336) will display clay roofing tiles in a variety of colors and patterns as well as tiles to match and restore existing roofs.

**The Lutravil Co.** (1750, 1752).

**MM Systems Corp.** (332, 334) will feature its new Series 300 standing seam roofing system and the Snap-Lok fascia system. Drip-proof fascia, Snap-Lok coping and other fascia systems will also be shown.

---

*continued on page 71*

## **Firestone offers 45-mil membrane**

Firestone Building Products Co. will be announcing several new additions to its product line at the NRCA show.

One of its new products is the RubberGard® batten-in-the-seam system. The system eliminates cover strips, associated adhesives and lap sealants. It uses a new 45-mil EPDM membrane with 7-foot-on-center batten strip spacing and a fully adhered perimeter. The new, thinner membrane is less expensive than the company's 60-mil membrane. The product may be warranted for up to 10 years.

Firestone is also offering a variety of new accessory items, including pipe boot clamping rings, metal termination bars, a crushed stone ballast mat and walkway pads. A new wood fiber insulation is also being introduced by the company.

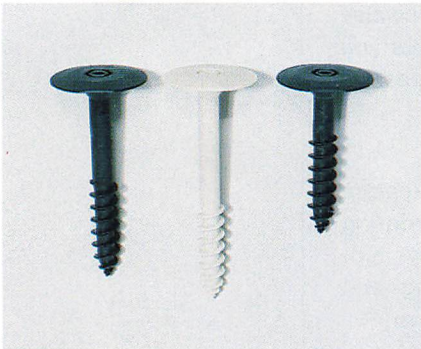
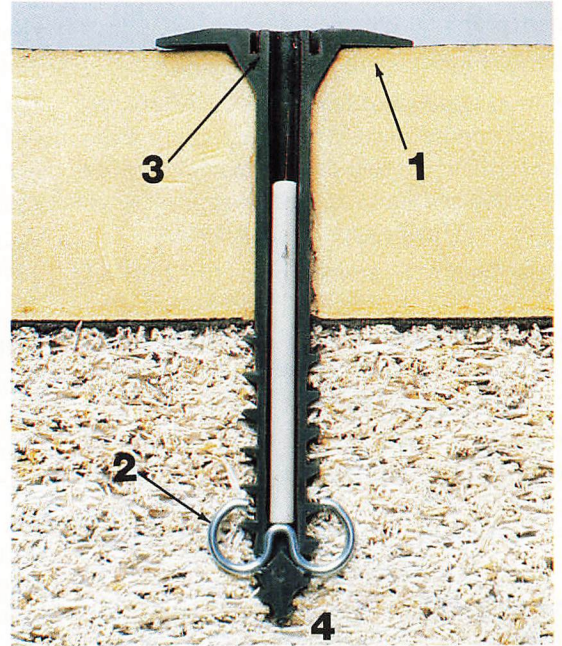
*See booths 313, 1854, 1856,  
1858, 1955, 1957, 1959*

# THE NON-PENETRATING FASTENING SYSTEM

*For Structural Cement-Fiber and Lightweight Concrete Decks*

## SUPERIOR FEATURES

1. Stress plate and fastener body are one piece so that fastener does not puncture roof membrane if fastener is stepped on.
2. Pre-assembled wire barbs prevent fastener from backing out and add to fastener holding power.
3. Double hex head design provides faster installation time and prevents stripping off of plastic head.
4. Does not penetrate through roof deck and has no unsightly toggles exposed on underside of deck.
5. Unique in that it can be used both in new construction and in retrofitting situations.
6. Because fastener is made of non-corrosive plastic, stress plates do not need taping when used with single-ply membranes.
7. Does not have toggles or toggle bolts that loosen up and cause debris to fall into interior of building.



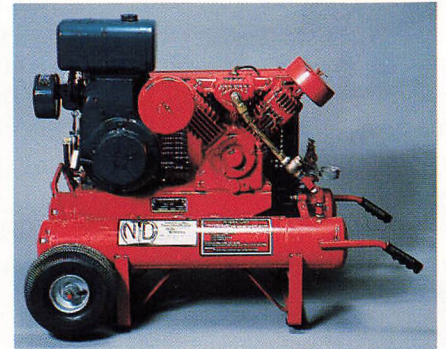
### Fasteners

Plastic Toggle-Less Fasteners, pre-assembled with wire barbs, designed for use in structural cement fiber and lightweight concrete decks. Available in 3-5½" lengths in ½" increments. Check with manufacturer for availability of longer lengths.



### Tools

Patented industrial quality pneumatic air tools provide fast installation of plastic Toggle-Less Fasteners, eliminating chance of electrical shock.



### Compressor

Heavy duty 8 HP, 4 cylinder pump, single stage compressor delivers 15 cubic feet of air at 125 P.S.I. The perfect companion for the N.T.B. air wrench.



### N.T.B. Fastening Systems Inc.

788 Western Ave.  
Mosinee, WI 54455  
(715) 693-4545

Check #43 on Reader Service Card

"See us at booths 1224, 1226,  
& 1228 at the NRCA Show"

**MacLean-Fogg Co.** (1756, 1758) will display Roof-Tite screws for attaching insulation to steel and wood decks and Con-Nails for fastening roofing materials to structural concrete.

**Manville Corp.** (401) will display BUR, single-ply and modified bitumen membranes, high-thermal insulations and roof accessories.

**Marathon Roofing Products, Inc.,** (128, 130) will display copper, aluminum and PVC roof drains along with one- and two-way roof insulation breathers and vents.

**Maruhachi Ceramics of America, Inc.,** (1944) will show clay roofing tile.

**Masonite Corp.** (1657) will feature Woodruf™ traditional wood fiber roofing shingles with the look of cedar and a 25-year warranty.

**McElroy Metal, Inc.,** (1624) will exhibit a range of industrial panels, trim accessories and secondary structural members.

**Merchant & Evans Industries, Inc.,** (1248, 1250).

**Metal Building Components, Inc.,** (1255) will show its standing seam system, which is available in three widths and gauges, and is designed to begin and end in the high area.

**Metal Construction News** (1338).

**Metal Sales Manufacturing Corp.** (1932, 1934) will display a variety of metal roofing and siding panels for agricultural, commercial/industrial and residential markets.

**MetalEra, Inc.,** (1837, 1839) will introduce the AnchorTite roof edge protection system, as well as a line of roof termination products.

**Milliken** (1907, 1909) will show glass and polyester textile reinforcements for single-ply, hot BUR, modified bitumen and flashing products.

**Mineral Fiber Manufacturing Corp.** (1956) will display Bituflex torch-applied modified bitumen, Ice Buster self-adhering shingle underlayment, Polyply polyester cap sheets, and a line of felts and flashing materials.

**Minnesota Diversified Products** (1663) will exhibit molded and extruded polystyrene panels for tapered or flat roof designs along with a protected membrane system using extruded polystyrene.

**Modi-Systems** (1443) will show the Magnum torch and Modi trowels, for use with BUR systems, and Modi vents and drains.

**Monier Roof Tile** (1312, 1314) will display its line of tiles, which come in a variety of designs and colors.

**Monsey Products Co.** (1419, 1421) will display the Endure cold-process roofing system.

**Morgen Manufacturing Co.** (801, 803, 805, 807, 809, 811) will feature its Super High Reach roofing conveyor, which offers a 68-foot reach.

**Multi-Chemical Products, Inc.,** (1214) will display polyurethane and epoxy waterproofing and corrosion-proofing systems.

**Multi-Flashing Corp.** (1659) will feature a two-in-one residential roof flashing made of lowdensity polyethylene.

**Multilite** (1918, 1920).

**NRG Barriers, Inc.,** (1412, 1414) will show a full line of rigid polyisocyanurate roof insulation products, including the Tapered System and Nailboard, for single-ply and BUR roofs.

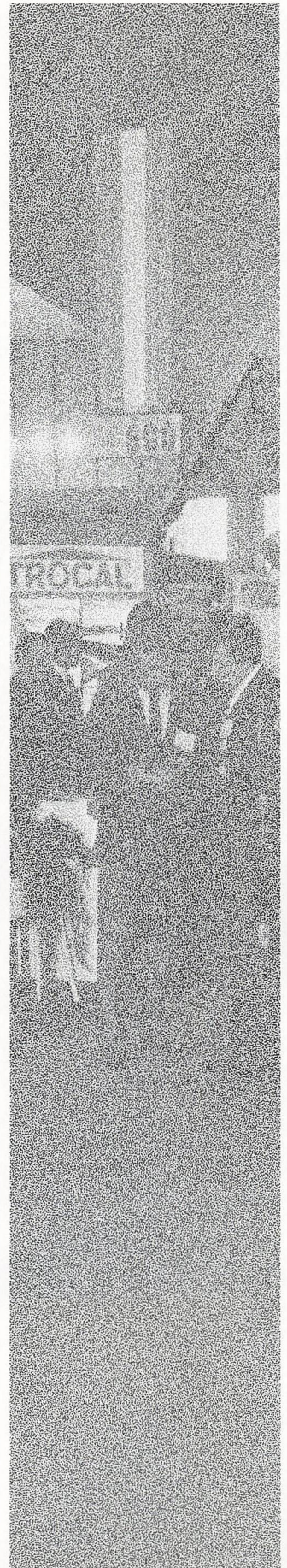
**N.T.B Fastening Systems, Inc.,** (1224, 1226, 1228) will exhibit non-penetrating, non-corrosive fasteners for structural cement fiber and lightweight concrete decks.

**Nardini S.p.A. Via Valdemonghe** (114).

**National Nail Corp.** (440, 441) will present Round-Top cap nails for fastening single-ply or BUR membranes to wood decks and Round-Top masonry nails for attaching felts to parapets.

---

*continued on page 73*



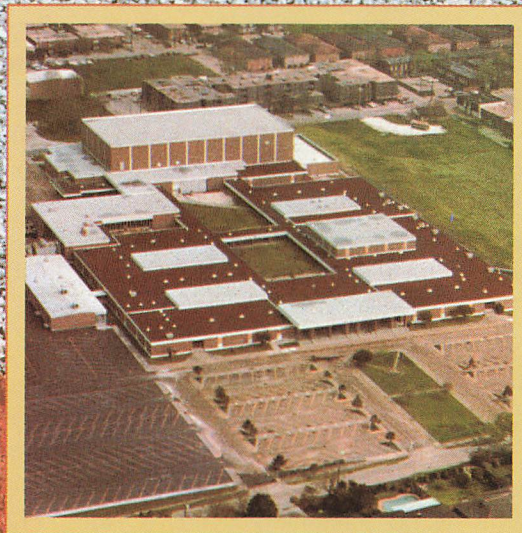
## Elastomeric Design

Paradiene 20/30 includes two component plies, each composed of an elastomeric asphalt blend, reinforced by a light fiberglass mat. This allows exceptional elongation/recovery characteristics, while providing superior dimensional stability.

## Multi-ply Practicality

Paradiene's multi-ply design provides double protection. Its durable top ply has a factory-applied granular surface, available in a variety of colors. The system can be applied conventionally with hot asphalt or with cold adhesive.

**ROOF COVERING MATERIAL  
CLASSIFIED BY  
UNDERWRITERS  
LABORATORIES, INC.**



The Siplast logo features a stylized, three-dimensional 'S' symbol to the left of the word 'siplast' in a bold, lowercase, sans-serif font. The 'S' is composed of several overlapping, semi-transparent rectangular planes.

## Proven performance

Paradiene: time-proven in the world's climatic extremes since 1968; a lightweight, highly flexible system, with superior resistance to sun, ponding water and other traditional causes of roof degradation — guaranteed against leaks for a full ten years.

## Call Today

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

**National Roofing Consultants, Inc.**, (1765) will be offering its roof analysis, design, maintenance and inspection consulting services.

**National Varnish Co.** (1355) will show Alco asphalt roof coatings, emulsions, plastic cements, adhesives, walk-on traffic pads, cant strips and tapered edges.

**Naturalite, Inc.**, (1207, 1209) will feature samples of skylight corner sections and information on roof scuttles, mechanical and drop-out fire vents, and venting and thermalized skylights.

**Nord Bitumi U.S., Inc.**, (1740, 1742) will exhibit seven polyester-reinforced APP- and SBS-modified asphalt membranes in smooth and mineral surfaces, for installation by torch or in hot asphalt.

**Olympic Fasteners** (835, 837, 839), which specializes in long threaded fasteners for concrete and steel decks, will show roof insulation fasteners for BUR and single-ply systems.

**Owens-Corning Fiberglas Corp.** (301) will feature a range of BUR and single-ply modified bitumen products.

**P.B.S., Inc.**, (1910, 1912) will display rigid isocyanurate foamcore insulating products with a choice of facers. The products are designed for use with BUR or single-ply systems.

**Pac Scan** (1541).

**Pacific Polymers** (1254).

**Pantasote, Inc.**, (628, 630) will display the Flexhide® mechanically fastened single-ply membrane, which is compounded from CPE, PVC and Hypalon® for waterproofing low-slope and unusually shaped roofs.

**Partner Industrial Products** (1263, 1264) will feature the Partner K 500 power cutter.

**Perma Glas-Mesh Corp.** (1511) will be displaying fiber glass scrim fabrics, polyester fabrics, cotton fabrics and Phillips Ruftac.

**Petersen Aluminum** (1724, 1726) will show a line of roll-formed roofing panels, and steel and aluminum flat sheets in various gauges and finishes.

**Petrolane Propane Gas and Service** (1901) will feature fuel for kettles, pumps and vehicles, and will provide information on converting existing equipment to propane.

**Phillips Fibers Corp.** (529, 531) will show Rufon polyesters for cold-applied and other installations, and Ruftac single-ply, self-adhering membranes.

**Pittsburgh Corning Corp.** (1513, 1515) will display all-glass Foamglas® insulation.

**Plasteco, Inc.**, (1640, 1642) will show standard and custom skylights with glass or plastic glazing, and heat and smoke vents for commercial, industrial and residential applications.

**Pneutek, Inc.**, (1655).

**Politex** (1933, 1935) will feature specialty non-woven polyester fabrics.

**Polyseal Division, Ital-Fintex Corp.** (1952, 1954) will show smooth- or granule-surfaced APP- and SBS-modified bitumen roofing and waterproofing membranes with non-woven polyester cores.

**Portals Plus, Inc.**, (915, 917) will show pipe flashings for angles, squares and rounds from 1/4 to 6 inches, and prefabricated corners.

**Power Marketing Group, Inc.**, (1357) will feature Cascades asbestos BUR roofing felts and a line of combination base flashings.

**Protective Coatings, Inc.**, (1808) will exhibit black and white EPDM single-ply membranes for ballasted, fully adhered, plate-bonded or non-penetrating mechanically attached systems.

## Guaina develops new underlayment

Guaina Corp. of America will be highlighting the latest addition to its line of modified bitumen products, Guaina-Base F/G 2.

Guaina-Base is designed as an underlayment for use with Guaina Polyester 4; the two products used together qualify for a 15-year warranty. When Guaina-Base and Polyester 4 are used in conjunction with the company's Polyester 5 and a high-quality aluminum roof coating, the system qualifies for a 20-year warranty.

*See booth 1261*



**Publishers for Conventions, Inc.**, (1208) will be distributing free copies of the *National Conventioneer*, a catalog of products and services that relate to the roofing industry.

**Q-Panel Co.** (1947) will exhibit the Q-U-V accelerated weathering tester, which uses fluorescent ultraviolet lamps and condensing humidity to reproduce the effects of sunlight, rain and dew.

**RSI** (1813) will feature its magazine for the roofing industry.

**The Rawlplug Co., Inc.**, (1824, 1826, 1828, 1925, 1927, 1929) will show Perma-Seal™-coated mechanical fasteners and plates for structural concrete, steel and impregnated wood roof decks.

**Reach Plastics** (1322, 1324) will display Gripcon plastic and steel plates and the Gripcon masonry fastening system for concrete roof decks, insulation, and perimeter and flashing attachments.

**Reeves Roofing Equipment Co., Inc.**, (1004, 1006, 1008, 1010, 1105, 1107, 1109, 1111) will highlight its new reverse graveler as well as its 200- and 1500-gallon kettles and power wagon with attachments.

**Reichel & Drews, Inc.**, (1220) will feature APP- and SBS-modified bitumen manufacturing systems, shingle and roll production lines, thermal fluid heaters, asphalt handling equipment and bulk material handling equipment.

**Reimann & Georger, Inc.**, (601) will display its platform hoist, trolley hoist, swing hoist, and other hoisting equipment and accessories.

**Republic Powdered Metals, Inc.**, (1000, 1002) will show Geoflex PIB single-ply roofing membrane in black and white, and a line of roof, sidewall and metal building coatings.

**Resolite Division, H.H. Robertson Co.** (1351) will feature its fiber glass-reinforced corrugated plastic panels for transmitting light, and corrosion-resistant opaque panels for use in corrosive areas.

**Reynolds Metals Co.** (1349) will feature aluminum shingles, shakes and mansard panels.

**Rhoflex Division, Teltex, Inc.**, (535, 537, 634, 636, 640, 641) will exhibit its polyester-reinforced, APP- and SBS-modified bitumen roofing systems.

**Rising & Nelson Slate Co.** (642).

**Rmax, Inc.**, (633, 635) will feature Therma-roof Composite, Therमारoo Plus and Tapered Therमारoo polyisocyanurate foam board insulation.

**Rohm and Haas Co.** (1210) will exhibit Rhoplex EC acrylics for liquid-applied roof coatings.

**Roll Former Corp.** (1237).

**Roof Management Materials** (1653) will exhibit torchapplied APPmodified bitumen roofing and waterproofing membranes and firerated coatings.

**Roof Rite Equipment Co.** (1451).

**Roof Systems, Inc.**, (1843) will show the RS-18 structural/architectural standing seam roof system, a new skylight system and a light-gauge structural framing system.

**Roofblok, Ltd.**, (241, 242) will display ballasted systems for single-ply or BUR roofs, including a stone-and-Roofblok composite system and three types of full-coverage systems.

**Roofing Products International, Inc.**, (119) will present EPDM rubber roofing materials and accessories, mobile home reroofing kits and SBS-modified bitumen membranes.

**Roofmaster Products Co.** (904, 906, 908, 910, 1001, 1003, 1005, 1007, 1009, 1011) will exhibit its manufactured and distributed products, including carbide blades, spud bars, kettles, carts, vents, pumps and hot-asphalt supplies.

**Rubber & Plastics Compound Co., Inc.**, (134, 136) will display single-ply PVC roofing, Thru-Wall flashing and roof expansion joint shields.

**Ruemmer-Vedag-Voith** (1721, 1723, 1725) will feature plants for the production of APP- and SBS-modified bitumen membranes, heat insulating panels, glass fibers and glass fiber mats.

**San Joaquin Refining Co., Inc.**, (919) will show several types of air-blown roofing asphalt, which is available packaged and in bulk.

**Sarnafil (US), Inc.**, (625).

**Seal-Dry/USA, Inc.**, (1405, 1407, 1409, 1411) will show white, reinforced single-ply roofing systems and prefabricated accessories.

**Seaman Corp.** (1736, 1738) will exhibit FiberTite®, a prefabricated, mechanically attached EIP single-ply roof system.

**Seamless Engineering** (1708).

**Senco Products, Inc.**, (1232, 1234, 1236, 1238) will display pneumatic fastening systems for felt, shingle, shake, tile, cedar shake and reroofing applications in commercial and residential roofing.

**Sermatech International, Inc.**, (1911) will highlight SermaGard® corrosion-resistant coatings for fasteners and small parts.

**Shell Chemical Co.** (900, 902) will feature Kraton modified asphalt roofing products.

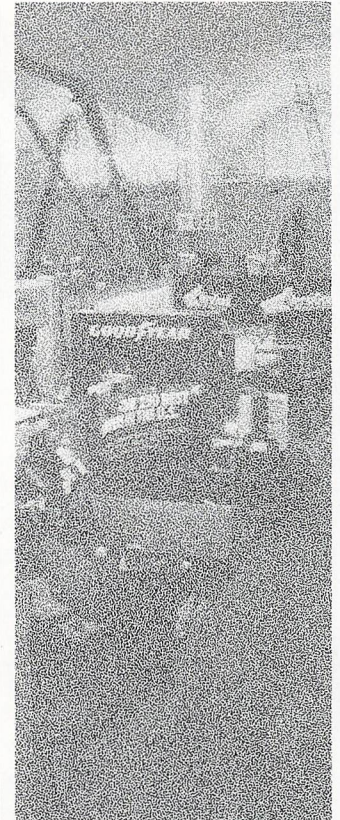
**Sibo, Inc.**, (337) will feature its tapered fiber glass roof insulation system, which is factory precut and packaged with engineering drawings.

**Siefer of North America** (1622) will show the Siefer Trigonal machine for incorporating elastomers into asphalt.

**Single-Ply Institute of America, Inc.**, (1807) will present the P.V.M. (photovoltaic membrane) roof system, which sheds water, insulates and generates electricity.

**Siplast** (425) will exhibit its line of modified bitumen roofing systems, including Parakiene 20/30FR, Paradiene 40FR and the Trafbloc protective surface.

*continued on page 77*



## THINK BIG!



CLEARFIELD'S BIG 5: (L to R)  
HSDU-42, HSDU-52, LSN-62,  
NEW GL-72, LN-77.

Clearfield introduces the all-new GL-Series, featuring a 16" wide belt, 20' folding section, and 51' high reach!

The GL has a 72' boom, 30 hp Wisconsin engine, tandem axles and outriggers. You get the safety and added reach of a folding boom, with guaranteed Clearfield quality!

The GL-Series is just in time for Clearfield's 30th Anniversary. Watch for it at the NRCA, or call for details today:  
NATIONAL 1-800-453-2446.

*There's always something new at Clearfield!*



**CLEARFIELD CONVEYORS, INC.**

362 South Main Clearfield, Utah 84015  
Telephone 1-800-453-2446

Check # 14 on Reader Service Card

# Bear Facts



## Big roof or small . . . Depend on Dibiten

The clean, easy, odor-free application of Dibiten modified bitumen roofing membrane is a fact — but Dibiten's proven durability is what makes it the number one choice.

Reborn in the USA. After almost 20 years successful use in Europe and seven years of experience in the states, Dibiten is manufactured here in America in an all new state-of-the-art processing plant, assuring availability and consistently high quality product.

**With a warranty of up to 12 years, Dibiten is best for big jobs . . . or important smaller ones. Bare facts.**

**dibiten** 

4301 E. Firestone Blvd.  
South Gate, CA 90280  
213-564-7220  
Telex #5101000179

Toll Free:  
1-800-DIBITEN  
1-800-367-8315 (Calif.)

**R & G Sloane Manufacturing Co., Inc.**, (1211) will display PVC roof drains and accessories such as underdeck clamps, overflow units and flexible expansion/alignment couplings.

**Smith Hoist Manufacturing Co., Inc.**, (1732, 1734, 1833, 1835) will feature the Model 190-H Hoistmaster and the new Golden Boy 500 hydraulic hoist with a 2000-pound capacity.

**SoLuminaire Corp.** (1450).

**Soprema Roofing & Waterproofing** (1540) will feature a variety of SBS-modified bitumen membranes with granular, metallic and smooth surfaces, for use with torch-applied, asphalt or self-adhering systems.

**Speeflo Manufacturing Corp.** (1438) will show gasoline-powered, self-contained hydraulic pumps for airless spray application of elastomeric, cutback asphalt, fibrated aluminum, urethane and other liquid roofing systems.

**Sprak Water Blasting Equipment, Inc.**, (1456, 1458) will show a range of cleaning equipment for the roofing industry, including the Model 3500 PSI.

**L.D. Sterns Corp.** (1227) will feature a solar-powered, motorized active roof insulation vent; a solar-powered, self-contained roof siphoning system; and a line of cold-process roof coatings.

**J.P. Stevens & Co., Inc.**, (733, 735, 737, 832, 834, 836).

**Stickney-Shepherd, Inc.**, (1549).

**Supradur Manufacturing Corp.** (1327, 1329) will show Supra-Slate and other fire-proof mineral-fiber roofing systems.

**SYenergy Methods, Inc.**, (1507, 1509) will exhibit a non-penetrating, partially attached single-ply EPDM roofing system.

**Tamko Asphalt Products, Inc.**, (211, 219) will feature Awaplan modified asphalt along with its full line of roofing felts.

**Tech Specialties** (1112, 1114).

**Technicote Corp.** (1256, 1258) will exhibit asphalt and coal tar coatings, saturants and mastics as well as Reemay®, Sontara®, Bamilex® and Technituff® polyester membranes, and Technigum® modified bitumen.

**Tennant Co.** (1334) will display the Roof Scraper power sweeper.

**Tesco Hi-Lift Truck & Equipment Service** (1425, 1427, 1429) will show its Hi-Lift combination dump truck with rear hydraulic outriggers.

**Thermal Insulation Manufacturers Association, Roof Insulation Committee** (1943) will provide information on rigid polyurethane and polyisocyanurate roof insulation products.

**Thermal Systems, Inc.**, (1804, 1806) will display polyiso/urethane boardstock, and tapered polyisocyanurate, composite, standard and nail-base insulation.

**Thermo Materials, Inc.**, (1846, 1848).

**Tietex Corp.** (1354) will show polyester for cold roofing, and modified bitumen reinforcements and slip sheets.

**3 E Group** (1638) will present a self-adhesive, single-ply solar reflective roof waterproofing system as well as its solar-reflective coatings and liquid-rubber roofs based on urethanes and plastic elastomers.

**Topcoat, Inc.**, (140, 141, 240) will present Topcoat, a liquid roofing system with no plasticizers to migrate out of the system.

**Tramex/United** (740, 741) will show its line of roof moisture detection instruments.

**Transmet Corp.** (1902) will show the Sun-Gard roofing system, including reflective roofing chips, glass- and polyester-reinforced cap sheets, self-adhering membrane and modified bitumen.

---

*continued on page 79*

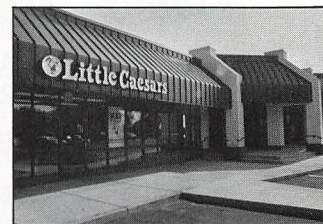
## Company offers prefinished metal

Copper Sales, Inc., will be introducing a new prefinished architectural roofing and flashing metal for sheet metal projects at the NRCA show.

Una-Clad is 24-gauge, G-90 hot-dipped galvanized steel, roll-coated with Glidden Nubelar Kynar 500 fluorocarbon. Stock coatings are available in dark bronze, Roman bronze, mansard brown, stone white and matte black.

The metal is designed for use with standing seam, batten seam and flat-lock seam systems. It may also be used for mansard panels, fascia, coping, gravel stops and flashing.

Una-Clad is available in standard or custom sheet sizes and standard or slit coils. For additional protection during shipping, fabricating and erection, the company offers an optional PVC masking that can be stripped off when the job is done. A full 20-year warranty is available upon request.



See booth 1914

# One-day programs devoted to roof performance and design considerations

Designed for architects, engineers, specifiers, general contractors, building owners, plant engineers, maintenance supervisors, and roofing contractors

## NRCA Conference on Reroofing and Energy Conservation

Cleveland, March 13, 1986  
Philadelphia, March 20, 1986  
Chicago, April 10, 1986

### Program

- Roof Problem Analysis:  
The Repair or Reroof Decision
- Insulation and Energy Payback
- Reroofing Options: Built-up and Modified Bitumen Systems
- Quality Control in the Application of Built-up Roofing
- Reroofing Options: Single-ply Systems
- Retrofit Details
- The Reroofing Project

## NRCA Roofing Systems Conference

Houston, April 17, 1986

### Program

- Roof Decks
- Roof Insulation
- The Built-up and Modified Bitumen Roof Membranes
- Quality Control in the Application of Built-up Roofing
- The Single-ply Roof Membrane
- Roof Details: Protecting the Roof's Most Vulnerable Points
- The Roofing Project:  
Cooperation Means Success

### What past attendees have said about these conferences:

"I wish that I had gone to a conference like this a long time ago."—*specifier, Los Angeles.*

"This was the best seminar I've attended in thirty-five years. Thanks very much."—*engineer, Detroit.*

"The conference was very informative . . . will prove very helpful in specifying future projects."—*roofing contractor, Atlanta.*

"The best conference of a number which I've attended."—*architect, Washington, D.C.*

"Excellent in all respects."—*government rep., Tampa.*

For further details on the conferences and registration information, contact the NRCA Education Department, 8600 Bryn Mawr Ave., Chicago, Ill. 60631 (312) 693-0700



**Tremco** (1440, 1442) will show Therm MB, Tremply, Burmastic and Ecolastic systems along with other products and services.

**Tri-Ply, Inc.**, (1553, 1555).

**Trion, Inc.**, (1809, 1811).

**Tropical Industrial Coatings, Inc.**, (1101) will feature the Tropiseal modified bitumen single-ply membrane reinforced with non-woven polyester, and a line of liquid-applied coatings and maintenance products.

**The Tru-Fast Corp.** (1120, 1122) will introduce a new line of ultra-stainless steel- and PC-3-coated fasteners, stand-up and short fastening tools, and a pull-out tester.

**Trumbull Asphalt Division** (340, 341) will present information on the ASTM BUR asphalt flash point requirements and the use of EVT in BUR systems.

**TuffCon** (1231, 1233) will show the Tuff-Con cementitious roof protection system.

**Turner Building Products, Ltd.**, (1710).

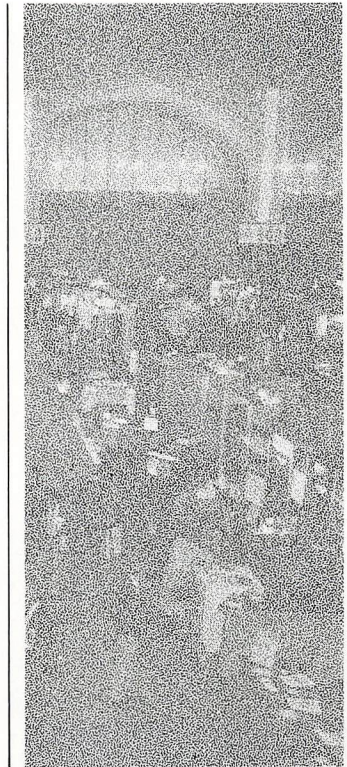
**UC Industries, Inc.**, (1757, 1759) will show Foamular® extruded polystyrene rigid foam insulation for use on flat and sloped decks in new and reroofing applications.

**UCAN Fastening Products, Inc.**, (1605) will show the U-Drive® masonry anchor system for fastening insulation to structural concrete decks.

**UIP Engineered Products Corp.** (841) will present machinery and equipment for manufacturing modified bitumen, BUR products and asphalt shingles, and mixing, heating and oxidizing asphalt.

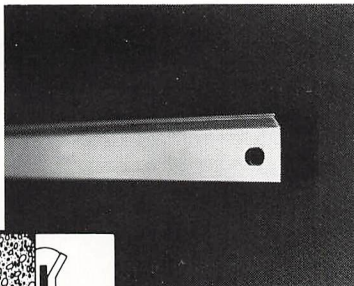
**USG Industries** (1348, 1350, 1352).

**U-Flow, Inc.**, (1941) will feature the U-Flow roof drain system with aluminum bodies, cast aluminum strainers, and rubber and nylon seals.



## Pressure Bar

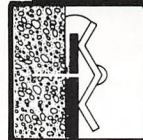
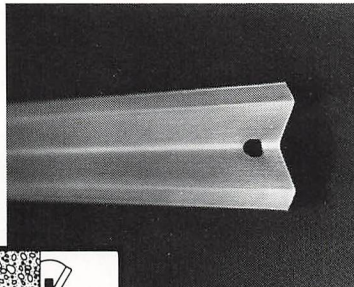
Product No. AL 200



- .100" mill finish 3003 H-14 aluminum.
- 10' 1" x 1" over-all dimensions.
- Slot holes 1/4" x 3/8" punched 4", 8" or 12" on center.

## TermBar Patent Pending

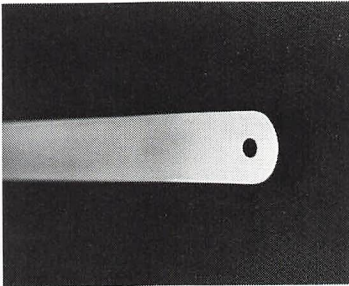
Product No. AL 100



- .040" mill finish aluminum.
- 10' 1" x 1-3/4".
- Slot holes 1/4" x 1/2" punched on 8" or 12" centers.

## Bar Anchor

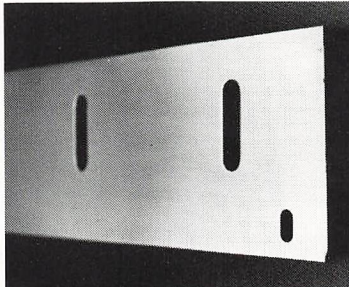
Product No. GA 300



- 16 ga. CR coated steel — four (4) times better than G-90 galvanized.
- 1" x 10' long.
- 1/4" hole punched on 12" centers. End radius rounded.
- Exceeds new FM specs for corrosion resistance.

## Gravel Retainer

Product No. AL 500 (aluminum)



- .100" mill finish aluminum.
- 10' x 3-1/2" wide.
- 3/8" x 1-1/2" slots spaced 4" on-center along entire length for drainage.
- Slot holes 1/4" x 1/2" punched 12" on-center for fastening.
- For use with ballasted systems.

## JBD SUPPLY

High performance roofing systems require quality accessories to complete every installation. JBD Supply has the hard-to-get items so important for a good job.

**Pressure Bar** — The most popular termination bar on the market today! Aluminum bar formed with a caulk trough. Excellent rigidity, easy installation.

**Term Bar** — Two pressure points for superior holding power. Keeps membrane secure, even on irregular walls. Great for modified sheets as well as single ply.

**Bar Anchor** — Quality attachment strips for mechanically fastened roofs. No sharp edges, no burrs to cut membrane. Now made of CR steel for superior corrosion resistance. Available with counter-sunk holes or LW profile for use with Gyptec™ style fasteners on lightweight decks.

**Gravel Retainer** — Allows drainage of ballasted roofs while keeping the gravel in place, now made of aluminum for improved appearance and corrosion resistance.

**Stickney Shepherd Inc.**  
National Sales Managers  
**1-800-821-5489**  
(816) 753-5022 (Missouri)

**JBD Supply**  
Technical and General Info  
**1-800-233-7605**  
(216) 452-7110 (Ohio)

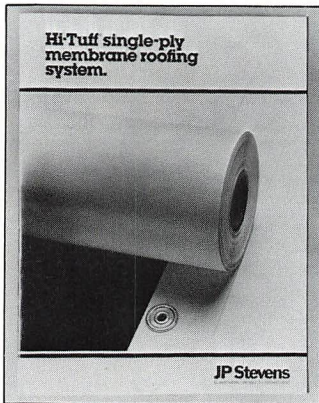
Check #33 on Reader Service Card

## Stevens publishes Hi-Tuff brochure

J.P. Stevens & Co., Inc., will be offering its recently published full-color brochure detailing the Hi-Tuff™ single-ply roofing system at the NRCA Trade Show.

High-Tuff is a mechanically attached commercial roofing system based on Du Pont Hypalon® synthetic rubber, reinforced with a fully encapsulated polyester scrim. The reflectant white membrane is self-curing and compatible with asphalt for use over existing BUR systems. The installed system carries Underwriters Laboratories' Class A fire rating and exceeds Factory Mutual's I-90 wind uplift standards.

Along with general product information, the brochure includes details on test data and a specifications summary for the Hi-Tuff system.



See booths 733, 735, 737, 832, 834, 836

**Underwriters Laboratories, Inc.**, (1739) will provide information on its product safety certification laboratory.

**Uniroof, Ltd.**, (1452, 1454) will show its fiber-backed Hypalon roofing membrane for fully bonded and loose-laid applications.

**United Construction Products, Inc.**, (1546, 1647).

**United McGill Corp.** (1948, 1950) will show the Safety rooftop walkway system, made of galvanized or aluminum interlocking plank grating with a 360-degree anti-skid surface.

**U.S. Intec, Inc.**, (122, 124, 125) will introduce the Brai Laser venting base sheet. APP-modified bitumens and related roof products will also be shown.

**VRT Systems, Inc.**, (1859) will be exhibiting its factory-assembled Cura™ adjustable roofing spacer that provides the slope required for new metal roofing installed over flat roofing.

**Vacuum Engineering Corp.** (1714, 1815) will show its trailer-mounted multi-purpose mobile vacuum for removing gravel and roof debris.

**Vermont Structural Slate Co., Inc.**, (1309) will display samples of Vermont roofing slate in all available colors and a new line of slaters' tools.

**Villas Roofing Systems, Inc.**, (1746, 1748, 1847) will show APP- and SBS-modified bitumen membranes, and machines for producing asphalt and modified bitumen roofing.

**Vincent Metals** (1800, 1802) will feature Colorklad galvanized metal for fascias, mansards, copings, gravel stops and metal roofs.

**Vortex Hydra/Vortex America** (1764) will highlight complete machinery systems for manufacturing concrete roof tile.

**Vulcraft Division, Nucor Corp.** (1937, 1939) will exhibit a standing seam metal roof system for use on new and retrofit construction.

**W-W Sales** (1834, 1836, 1838).

**Wasco Products, Inc.**, (1741, 1743) will show smoke and heat vents and skylight systems for commercial, architectural, custom and residential markets.

**Wat Pro, Inc.**, (1318, 1320).

**WeatherGard Roofing Systems, Inc.**, (1564, 1565) will feature FireGard EPDM, neoprene and butyl membranes for fully adhered, mechanically fastened, ballasted, IRMA and custom-engineered roofing systems.

**Brian R. White Co., Inc.**, (519) will introduce the X-84 vertical welder. Leister hand welders and the X-84 automatic machine will be demonstrated.

**Win-Tec, Inc.**, (1311) will show isocyanurate insulation for BUR and single-ply systems.

**Woof's Works Manufacturing Co.** (1951, 1953).

**Wrisco Industries, Inc.**, (1249, 1251) will exhibit mansard and fascia systems in architectural colors and prefinished architectural sheets in a variety of colors, finishes and gauges.

**York Manufacturing, Inc.**, (1332) will feature copper-laminated flashings and accessories.



**100**  
**ANNIVERSARY**

A century of achievement  
identified by the outstanding names  
in residential roofing

TIMBERLINE<sup>®</sup> ROYAL SOVEREIGN<sup>®</sup> SENTINEL<sup>®</sup>  
and the finest, most durable  
commercial roofing systems  
RUBEROID<sup>®</sup> GAFGLAS<sup>®</sup> GAFTEMP<sup>®</sup>



# See you at Centennial





# The Proof Is In The Roof

Sure, we have all the test data that show the major advantages of SPR membranes made with TYRIN\* elastomers. Top oil and chemical resistance; super weatherability, seamability and strength.

But the real proof of quality TYRIN elastomers is in the membranes in service on actual roofs...since 1967. Value and performance have made TYRIN chlorinated polyethylene elastomers the choice of leading manufacturers of membranes such as Cooley Roofing Systems, Inc. and alkor. Value and

performance have made many hundreds of owners and managers very happy.

TYRIN elastomers; the twenty years proven CPE polymers.

Contact us. We want to earn your business. Call 1-800-258-CHEM, or write to us for more information. Dow Chemical U.S.A., TYRIN Marketing Group, 566 Building, Midland, MI 48667.



\* Trademark of The Dow Chemical Company



# TYRIN<sup>®</sup>

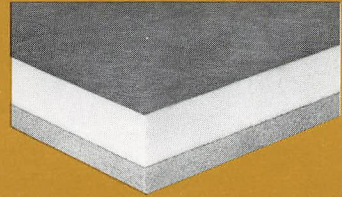
## Elastomers



*four more reasons  
you should use **conglas**  
roof insulation systems!*

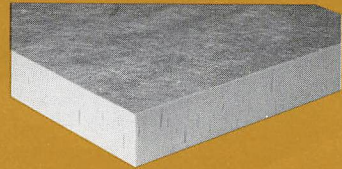
## **POLYCON-POSITE**

POLYCON-POSITE roof insulation is a rigid board composed of polyisocyanurate foam bonded to a fiberglass roofing felt on one side with a 1/2" perlite board on the other side.



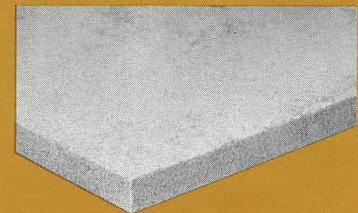
## **POLYCON-CLASS 1**

POLYCON -CLASS 1 Roof insulation is a rigid board composed of polyisocyanurate foam bonded to fiberglass facers on both sides for added strength and dimensional stability.



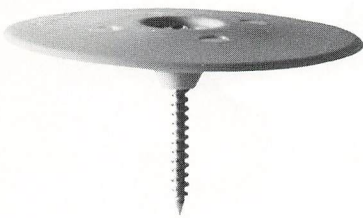
## **CONPERL**

CONPERL ROOF INSULATION is a rigid insulation board composed of perlite, cellulose binders and sizing agents. Its topside is integrally treated to retain the proper amount of bitumen to achieve maximum bond between insulation and membrane...yet inhibits the absorption of bitumen thus maintaining thermal efficiency.



## **CONPERL TAPERED**

CONPERL ROOF INSULATION is a rigid insulation board composed of perlite, cellulose binders and sizing agents. Its topside is integrally treated to retain the proper amount of bitumen to achieve maximum bond between insulation and membrane...yet inhibits the absorption of bitumen thus maintaining thermal efficiency. Available in 1/8" and 1/4" slopes.



**INSUL-GRIP  
FASTENERS**



**CONSOLIDATED FIBER GLASS PRODUCTS CO., INC.**  
3801 STANDARD STREET/BAKERSFIELD, CALIFORNIA 93308/PH. (805)323-6026

Check #15 on Reader Service Card

*call the professionals!*



Build-Up Roofing. A System Above The Rest.

One of the most notable events scheduled for the Centennial year will be NRCA's "Roof of the Future" design competition. The intent of the competition is to promote a greater awareness of roofing systems and to further educate architecture and engineering students in the basics of sound roof design.

NRCA will work with the American Institute of Architecture Students (AIAS) on this project. The two groups will enlist the assistance of faculty at 139 schools of architecture to enroll their students in this special focus competition.

"We believe that the future design opportunities in roofing need to be better understood, and a student/faculty competition like 'The Roof of the Future' offers a special opportunity to bring this challenge before the architecture schools," says NRCA Executive Vice President Fred Good.

The NRCA contest will be publicized and promoted to all students and faculty in U.S. and Canadian architecture schools. The Association intends to make the greatest number of interested persons aware of the purpose, scope and timetable of the competition. Marketing and promotional efforts will primarily be channeled through newsletters, brochures, magazines, regional and national seminars, and direct mail solicitations.

## A joint effort

At the design stage of the competition, students and educators will collaborate on the effort. Faculty members will be encouraged to incorporate the design competition into their course curricula. Students who are not able to participate in the formal classroom setting will have the opportunity to enter the competition as part of an independent educational project. Each student will be challenged to find innovative solutions to design problems within the context of the program setting.

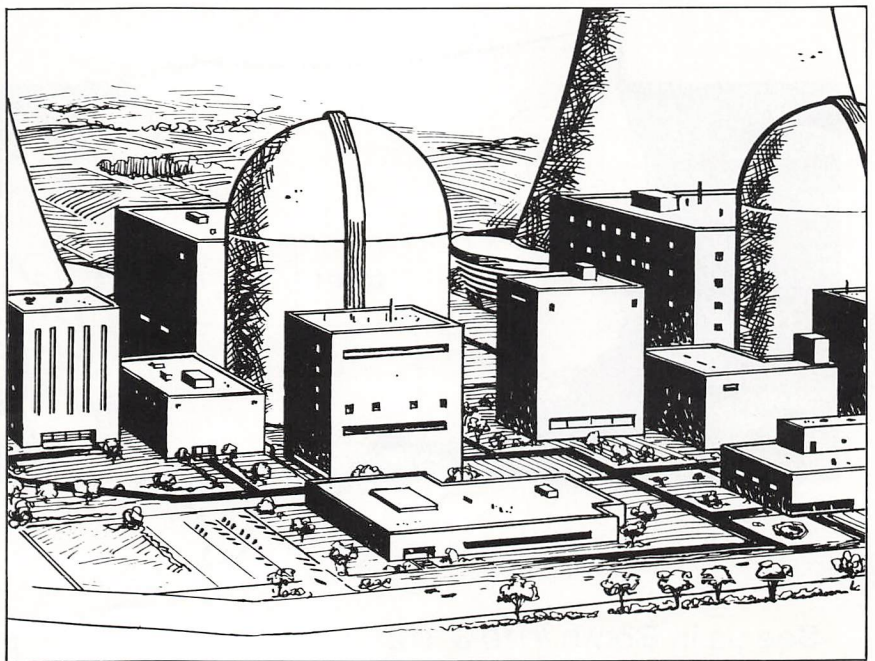
The final stage of the competition will involve the collection and judging of entries, selection of winners and honorable mentions, and exhibition of student works. The judges will be looking for projects that present a systems understanding of roofing and the opportunity for design breakthroughs. The competition's planners have suggested three broad ideas that students might refine and develop. The ideas include:

- a building type that is significantly influenced by the roofing system;
- a roofing system for new alternative uses; and
- a design solution that addresses problem areas in present roofing structures.

The coordination and judging of the final entries will take place in San Francisco shortly before NRCA's Centennial Convention. The panel of judges will include representatives of NRCA and the American Institute of Architects (AIA). Winning entries will be displayed at the Centennial Convention in February 1987. The competition will also be a part of AIA's annual convention in 1987, where attendees will also be given the chance to view the winning entries.

Winning and selected entries will be published with the jury's comments in a competition catalog. The catalog will be distributed to college and university libraries around the country. Architecture students and educators, private enterprises and NRCA's members will also receive a copy.

A  
contest  
ahead  
of  
its  
time



# CANT PRODUCTS INC.

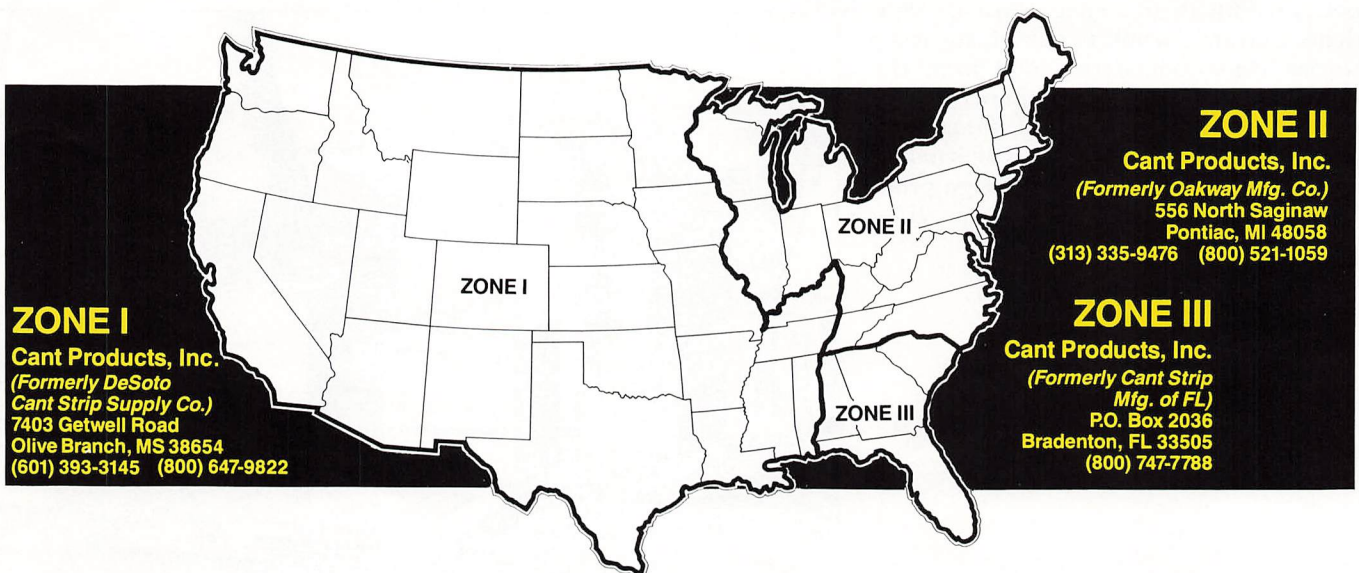
"WHEN ONLY THE BEST WILL DO"

TAPERED ROOF SYSTEMS  
CANT AND TAPERED EDGE  
PERLITE CANT STRIP  
SUPERIOR FIRE RESISTANCE PROPERTIES

With the C.P.I. total quality assurance program plus four regional manufacturing plants, distributor customers receive prompt, damage-free materials, delivered on time by our own truck fleet. All materials are palletized for quick and easy mechanical unloading at your warehouse or job-site.

C.P.I. gives free estimates quickly, often by a return phone call. Shop drawings are provided upon request, at no additional cost with your order.

C.P.I. has been serving the roofing industry since 1963. Don't forget, there is no substitute for experience. If you have a problem, don't hesitate, CALL C.P.I...THE CAN DO CREW!



See us in Booth #110 & 112

\*Additional C.P.I. Mfg. Plant  
P.O. Box 1285 • Conyers, Georgia 30207  
(800) 282-4482

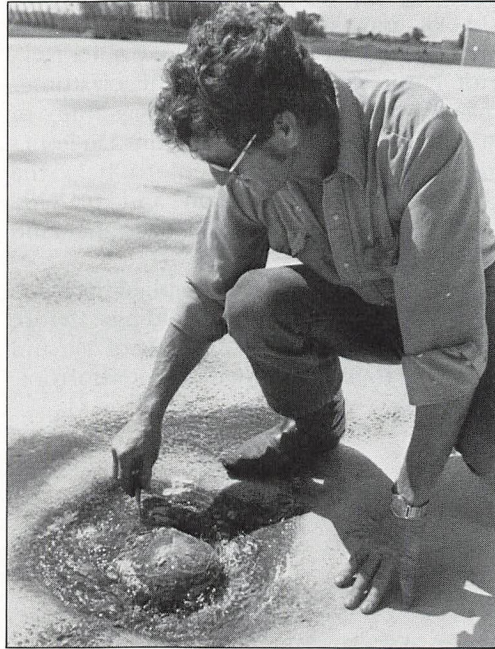
# ON THE ROOF

**M**ost roofs aren't designed to be volcano-resistant. But when Mount St. Helens dumped 3 inches of ash on the school roofs in Moses Lake, Wash., the Board of Education decided it was time to reassess its choice of roofing.

It was the clean-up operations that did the most damage to the school's roofs. At times, 100 people could be counted on the rooftops shoveling ash or pushing loaded wheelbarrows across built-up systems that had been soaked by the heavy rains that followed the eruption. However, according to Francis McDowell, assistant superintendent, secondary education, the clean-up crew's abuse only dealt the final blow to roofs that had been neglected for years.

To repair the 613,000 square feet of roof area, the Board allocated \$1.5 million. It then directed its building steering committee to determine the best choice of roofing for the school buildings. McDowell says that the Board originally favored either asphalt repairs or metal roofs, but when the steering committee finished its assessment, it was decided to install urethane foam systems on the buildings.

School officials were sold on foam after inspecting the foam roofs installed on schools in the Central Valley School District of Spokane. The field trip showed the officials that foam roofs could be durable,

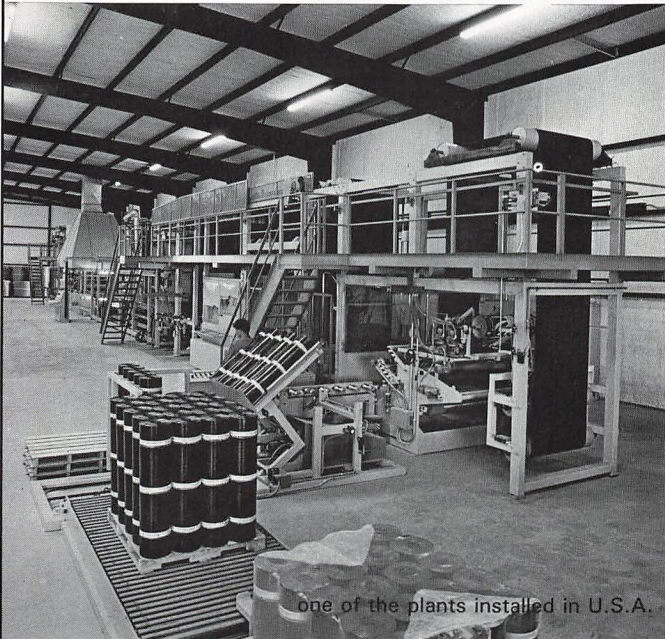


**Volcano-damaged roof replaced with foam**

Through a maintenance program that includes removing standing water from drains after a heavy rainfall, the urethane roofs at Moses Lake Washington, School District 161 are expected to last a long time.

## modified bitumen membrane plants

Our technology and chemical know-how for modified bitumen membranes: an experience based on over 50 plants sold throughout the world, an achievement that few can claim.



one of the plants installed in U.S.A.

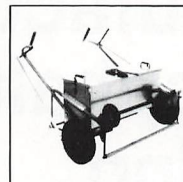


**boato tecsystem s.p.a.**

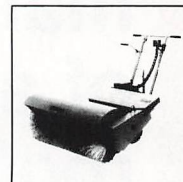
v. Grado n. 64 - Zona Industriale 34074 Monfalcone (Italy)  
phone (0481) 711811 - tlx 460416 boato I

Check #10 on Reader Service Card

## Quality Comes First At Garlock.



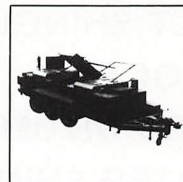
Aluminum Feltlayer



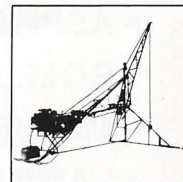
Model 86 Sweeper



Power Roof Cutter



Garlock Kettle



Hydraulic Hoist



72' Conveyor

# GARLOCK

**EQUIPMENT COMPANY**

2601 NIAGARA LANE • MINNEAPOLIS • MN 55441 U.S.A.  
Phone (612) 553-1935

Check #25 on Reader Service Card

*Before the work could begin, 500 tons of ash and rock had to be vacuumed off the rooftops.*

leak-resistant, and energy- and cost-efficient. "I gained a totally different picture of a foam roof," McDowell says. "It was a means of inexpensively solving our problem."

The foam system the Board chose consists of foam insulation manufactured by Witco Chemical Corp. of New Castle, Del., and Futura-Flex 500 urethane elastomer manufactured by Futura Coatings, Inc., of St. Louis. The elastomer contains Du Pont's Terathane polyether glycol to help the roofs withstand abrasion and provide hydrolytic stability, impact resistance and flexibility.

Urethane Systems, Inc., applied the roofs on the district's 22 school buildings. Before the work could begin, 500 tons of ash and rock had to be vacuumed off the rooftops.

Each day, after the insulation was applied, it was covered by a 24-mil brown coating containing Terathane. The following day, a 12-mil urethane coat was added. Finally, a 12-mil white topcoat, also containing Terathane, was applied.

A white topcoat was chosen to reflect the sun's rays and save energy. "The white coating on even the hottest days is no more than one or two degrees hotter than the ambient temperature," McDowell says. Most district buildings are much cooler than before because of the heat reflected by the coating, McDowell claims. School officials also expect energy savings from the insulating properties of the urethane system.

And what if Mount St. Helens blows its top again? "We probably could wash the roofs down," McDowell says.



## 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



**T**he professional roofers working on the El Pueblo project in Scottsdale, Ariz., have an unusual assignment—they're to disregard much of what they learned about roof tile installation.

The workers' intent is not to install a bad roof, but an authentic one. El Pueblo, a \$10 million retail and office complex, was designed to closely resemble a Mexican village, complete with Mexican tile roofs. But roofing in a Mexican village follows different standards than U.S. roofing. In Mexico, a straight line of tile is strictly *prohibido*.

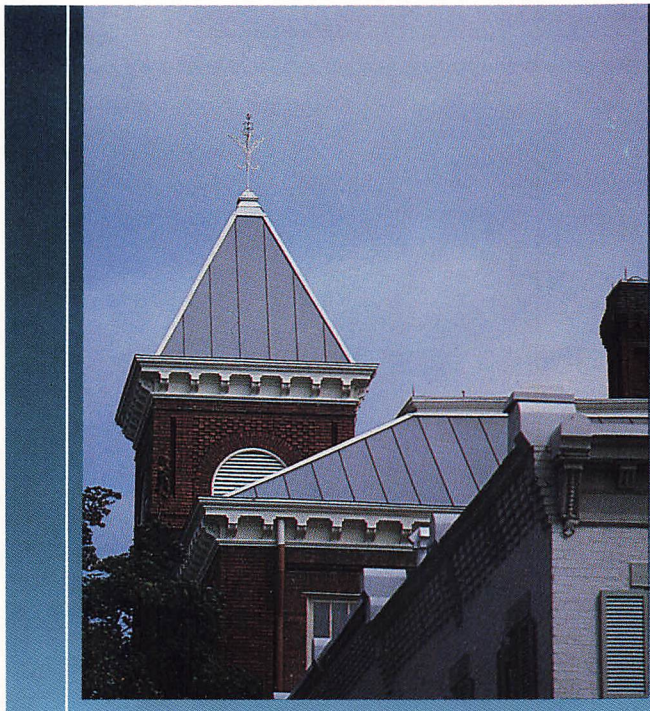
"It's not easy to make the roofs look like those you would find in Mexico," said Mike Ryan, project manager for the Sundt Corp., the complex's builder. "For instance, the lines of tile on Mexican roofs usually aren't straight. So, in order to duplicate that appearance, we're laying the tiles crooked on purpose, something the tile subcontractor's employees are trained not to do."

The roofing work on El Pueblo's 11 buildings is being performed by NRCA member K & L Roofing Co., Inc., of Phoenix. The 62,800 square feet of tiled roof will be the largest roofing project of its type in the Phoenix area, said Rick Baldrige, K & L's vice president. The company is using imported Pinto Borgada Mexican tile, which is hand-made by families living near the Mexican town of La Godones and transported to the construction site by truck.

"The tiles are very beautiful," Baldrige said. "The multi-colored bands running through them are characteristic of authentic Mexican tile. But they're also very delicate. We expect to lose 18 to 20 percent of it to breakage before it can be installed."

K & L is being very careful to copy the look of a Mexican roof. Workers are even laying tiles over each other occasionally to simulate Mexican-style repairs. Cement is placed between the tiles as they are installed to add strength, a technique copied from Mexican roofers.

**Tile project requires unusual methods**



**Project:** Corcoran School  
**Product:** PAC-CLAD  
**Finish:** Slate Gray PAC-CLAD Galvanized Steel  
**Owner:** Corcoran Limited Partnership  
**Architect:** Arthur Cotton Moore Associates, P.C.  
**Roofing Contractor:** James Myers Co., Inc.  
Beltsville, Maryland

## PAC-CLAD

*prefinished galvanized steel and aluminum*

- Full Kynar 500®
- 24 ga. and 22 ga. steel
- .032 through .080 aluminum
- Eight standard colors
- Twenty year warranty

For complete information regarding the Petersen product line, and to be placed on our mailing list, please give us a call 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

# ON THE ROOF

*In Mexico, a straight line of tile is strictly prohibido.*

Contracted to install an authentic Mexican tile roof, K&L Roofing Co., Inc., workers must lay crooked lines of tiles. The tiles are handmade in Mexico and are very delicate.

The El Pueblo complex is scheduled for completion within the next few months. The project is owned by El Pueblo Venture and was designed by Dick, Fritsche, Yantzer & Sheller, Architects, of Phoenix.

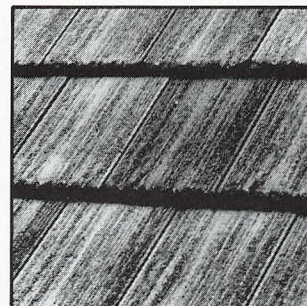


# LIFETILE®

## The Leader

**... in high density, extruded concrete roofing tiles**

- Preferred Styles ■ Most Popular Colors
- Professional Technical Assistance



Super SHAKETILE

Call **800 / 551-4455**, In California **800 / 533-8899**  
Plants in Fremont and Rialto, CA: San Antonio, TX and Lake Wales, FL

**Now available  
coast to coast**



Rustic SHAKE Tile



Elegant CHATEAU Tile



Colonial SLATE Tile



ESPAÑA Mission Tile

Check #36 on Reader Service Card



# It's not easy being perfect.

Yet some succeed at it again and again.

It's a challenge to be perfect even once. It's an incredible feat to be perfect 100 times. Yet that's the hallmark of the Carlisle Centurion.

He's applied 100 or more error-free Carlisle roofing systems as judged by our technical representatives. That means every single detail of the installation was 100% perfect—the very first time.

Carlisle thinks that's quite remarkable. So we've honored these worthy roofing contractors as Carlisle Centurions. They're few and far between. And, without a doubt, they're among America's superstar roofers.

We're proud these men are associated with Carlisle. Their workmanship, coupled with Carlisle's reputation for quality, keeps Carlisle the name second to none.

For more information, call toll free 800-233-0551. In PA, 800-932-4626. In Canada, 1-800-387-4990.

1. **Richard Greb** / Fettin Roofing Company, Inc., Lincoln, NE

2. **R.A. Potts, II** / Potts Construction and Roofing, Inc., Sedalia, MO

3. **Robert L. Bubenzner** / Henry C. Smither Roofing Co., Inc., Indianapolis, IN

4. **Mike Kusenko** / Mak-Lyn, Inc., Brackenridge, PA

5. **James Smithey** / Frost & Company, Inc., Wapakoneta, OH

6. **Robert Barr** / B&B Roofing & Construction, Inc., Chambersburg, PA

7. **Steven Pensinger** / B&B Roofing & Construction, Inc., Chambersburg, PA

8. **Brad Ream** / Cumberland Valley Roofers, Inc., Carlisle, PA

9. **Warren Edwards** / Roof-Tek, Inc., Marshville, NC

10. **Don Parsons** / Wood Roofing Co., Inc., Des Moines, IA

11. **Pat O'Neill** / Granite City Roofing Company, St. Cloud, MN

12. **Kim Schwickert** / Schwickert Company, Mankato, MN

13. **Kim Schwickert** / Schwickert, Inc., Mankato, MN

14. **Harlan Hanson** / Central States Roofing Company, Ames, IA

15. **Ronald Therrien** / A.W. Therrien Company, Inc., Manchester, NH

16. **Mark Sobeck** / The Sobeck Corporation, Wyoming, PA

17. **John Gooding** / Gooding, Simpson & Mackes, Inc., Ephrata, PA

18. **Ardell Porter** / Porter Roofing Company, Inc., Belton, MO

19. **Chris Wille** / Ak Sar Ben Roofing Company, Inc., Omaha, NE

20. **Jim Taylor** / Jim Taylor, Inc., Belleville, IL

21. **Don Largent** / Don Largent Roofing, Harrisonburg, VA

NOT IN PICTURE:

22. **Kent Nielsen** / Curran V. Nielsen Company, Inc., Minneapolis, MN

23. **Glenn Langer** / Langer Roofing & Sheet Metal, Milwaukee, WI

24. **Sam Roth** / Roth Brothers, Inc., Youngstown, OH



**The Carlisle Centurion**  
There is no equal.

Check # 12 on Reader Service Card

**CARLISLE**

Carlisle SynTec Systems

Division of Carlisle Corporation  
P.O. Box 7000, Carlisle, PA 17013

Carlisle is a trademark of Carlisle Corporation, ©1986 Carlisle Corporation

# From Any Angle

## Manniglas® Facers Look Good.

No matter how you look at roofing, whether from the perspective of the architect, the owner, the contractor or the roofer, MANNIGLAS facers offer benefits you can't ignore.

As an **architect**, you will want the most trouble-free, longest-lasting roof system available. Specify MANNIGLAS facers for foam insulation boards and you specify a top quality component of that roof system. MANNIGLAS facers are available on FM Class I insulation from most major rigid urethane foam manufacturers. MANNIGLAS is dimensionally stable, even under conditions of high heat and moisture. Its unique structure results in better bonding to the foam insulation for better peel strength.

With MANNIGLAS, the **owner** can be confident his insulation has premium quality facers that will be compatible with whatever roof system he chooses. This quality and compatibility will optimize the performance of his chosen roof system.

The **contractor** will appreciate the versatility of MANNIGLAS facers. They can be used with FM Class I built-up roof systems or with the various single ply systems and their adhesives. This versatility and the competitive price of MANNIGLAS can provide savings in inventory, labor and material costs.

The **roofer** will value the ease of installing MANNIGLAS-faced boards. They go on quickly, are adhesive-efficient and give excellent bond to asphalt or single ply membranes. MANNIGLAS facers contain no asphalt, and are non-softening for easier adhesive application. They're non-glaring and non-irritating as well.

So specify MANNIGLAS. No matter what your angle, it's a winner!

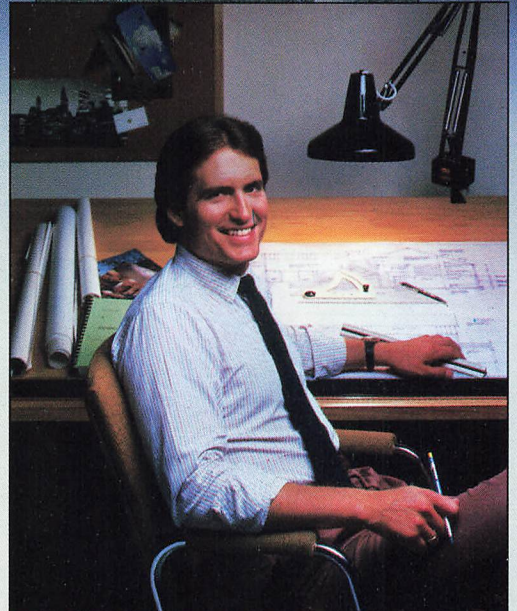
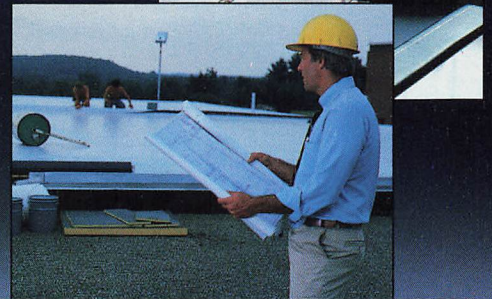
**MANNING PAPER COMPANY**



Manning Paper Company  
Division of Hammermill Paper Co.  
P.O. Box 328, Troy, NY 12181  
(518) 273-6320

©Registered Trademark of the Manning Paper Company.

Check #38 on Reader Service Card



MANNIGLAS 1279

MANNIGLAS 1274

MANNIGLAS 1273

MANNIGLAS 1268

MANNIGLAS 1267

**H**aving a safety coordinator present at each jobsite to enforce the company's safety rules may be as important as the rules themselves. With one person responsible for jobsite safety, it becomes more difficult for workers to make accident and loss prevention a low priority, especially if the safety coordinator has the knowledge and authority to carry out the company's policies.

Choosing the right person for the safety coordinator's job is critical to the success of the program, however. An article in *Builder and Contractor* magazine suggests looking for an employee who takes pride in his or her workmanship, is neat, and has a sincere desire to improve. This person should also have earned the respect of fellow workers and can get things done.

It may not be necessary for the worker to devote his or her full time to safety, although this will give the contractor the

most control over safety activities. If hiring or promoting someone to the position of safety coordinator is not possible, these duties may be combined with an employee's regular responsibilities. It might even be possible to recruit volunteer safety coordinators for each job.

Giving the safety coordinator the knowledge to perform effectively is also important. NRCA has several pamphlets, posters and brochures that contain safety tips and techniques. The Association's *Suggested Safety Program Guidelines* outlines the requirements for an entire safety program. Its Toolbox Talks can provide safety coordinators with materials for a series of short safety lectures.

For more information about NRCA's safety materials, contact Carl Good, director of member services, at NRCA, 8600 W. Bryn Mawr, Chicago, Ill. 60631.

**Coordinator  
makes  
safety  
a  
priority**

## Insurers dropping idea to offer "claims-made" insurance policies

"Claims-made" general liability insurance seems to have gone the way of the Edsel—for the moment, at least. Many insurers were considering switching to claims-made forms to reduce their exposure to catastrophic losses, but the reluctance of some major states' insurance regulators to approve claims-made coverage has made the carriers back off from the idea.

Claims-made policies cover only the claims that are filed within the year the insurance policy is in effect. Claims for losses that are discovered after a policy has expired are not covered. Had insurers begun offering claims-made policies, contractors would have been able to purchase insurance, called "tail" coverage, to cover the periods previously covered by expired claims, but the cost of this coverage would have been much higher than the cost of the original premiums.

Although insurance companies claimed that by adopting the claims-made approach they would have been able to offer lower premiums, critics of the practice complained that the cost of tail coverage would have more than offset the savings. Claims-made policies also could have left gaps in contractors' coverage, it was feared.

These criticisms have caused 12 states, including New York, California and Illinois, to not approve this type of insurance.

Their failure to endorse claims-made policies seems to have been the kiss of death for the idea, at least in its present form. The Insurance Services Office, the non-profit, insurance standards-setting body that came up with the claims-made idea, is going back to the drawing board to devise a more acceptable policy, according to Walter Derk, executive vice president of Fred S. James & Co., NRCA's insurance broker and advisor. But for the present, no insurance carrier is offering claims-made insurance, Derk says.

## IN BRIEF

- **An increase** in the number of Occupational Safety and Health Administration (OSHA) inspections is being planned. OSHA has announced that it will be inspecting companies that have below-average injury rates. Previously, the Administration would exempt these firms from comprehensive inspections. The change was prompted by Labor Secretary William Brock's belief that if companies know they could be inspected, they will pay more attention to worker health and safety.
- **Roofer Ted Hillberg** has come up with what he thinks is a better way to keep steep roofers from falling. His invention, which he calls the Sky-Hook, connects workers to a rotating boom mounted on the roof's ridge. The system allows workers to move around the roof unencumbered, Hillberg claims. Contractors wanting more information on the device should contact Bara Industries, Inc., P.O. Box 1643, Weaverville, Calif.

# COMING EVENTS

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

**Feb. 10-12**  
**Annual Convention**  
**National Roofing Contractors**  
**Association**  
**Las Vegas, Nev.**

**Feb. 22-26**  
 UFEX - 11  
 Urethane Foam Contractors  
 Association  
 Orlando, Fla.

**Feb. 25-26**  
 Standing Seam Metal Roofing  
 Systems  
 Roofing Industry Educational  
 Institute  
 San Diego, Calif.

**Feb. 28**  
 Roofing Update  
 Roofing Industry Educational  
 Institute  
 San Francisco, Calif.

**March 1-5**  
 Annual Meeting  
 New York State Roofing Contractors  
 Association  
 Hollywood, Fla.

**March 4-7**  
 Basic Roofing Technology Seminar  
 Roofing Industry Educational  
 Institute  
 Minneapolis, Minn.

**March 6-7**  
 3rd Annual Trade Show  
 Chicago Roofing Contractors  
 Association  
 Oakbrook Terrace, Ill.

**March 5-7**  
 Annual Convention  
 Northeast Roofing Contractors  
 Association  
 Hartford, Conn.

**March 10-11**  
 Standing Seam Metal Roofing  
 Systems  
 Roofing Industry Educational  
 Institute  
 Denver, Colo.

**March 10-14**  
 Infrared Scanning Course  
 Infrasppection Institute  
 San Diego, Calif.

**March 11-12**  
 Low-Sloped Commercial and  
 Industrial Roofing  
 The Construction Research Center  
 Arlington, Texas

## NRCA OFFICERS & DIRECTORS

### NRCA OFFICERS

**President**  
 ROBERT T. HARRISON  
 Greenville, S.C.

**Senior Vice President**  
 DONALD McNAMARA  
 Milwaukee, Wis.

**Vice Presidents—Two Years**  
 MICHAEL BELDON  
 San Antonio, Texas  
 WILLIAM T. FORT JR.  
 Sumter, S.C.

RICHARD ROSENOW  
 Chicago, Ill.

**Vice Presidents—One Year**  
 LARRY CARLSON  
 Rockford, Ill.

CHARLES GRIFFITHS JR.  
 Binghamton, N.Y.

CYRIL TILSEN  
 Madison, Wis.

**Immediate Past President**  
 WAYNE I. MULLIS  
 Phoenix, Ariz.

### BOARD OF DIRECTORS

**Three Year Term**  
 JOHN CARRUTH JR.  
 Miami, Fla.

ZACHARY L. ELLIS  
 Kenner, La.

HARRY ESBENSHADE JR.  
 Davisville, W.Va.

RALPH HINSHAW  
 Frankfort, Ind.

DOUGLAS 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 G. PROBST  
 Butler, Wis.

MICHAEL PROMEN  
 Broadview, Ill.

WILLIAM E. REYNOLDS  
 Enterprise, Ala.

JOE RUTKOSKI  
 Tampa, Fla.

ROBERT F. SHEA JR.  
 Mattapan, Mass.

ALAN WOLF  
 Cincinnati, Ohio

### Two 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 III  
 Atlanta, Ga.

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.

### One Year Term

JOSEPH ADLER  
 Joliet, Ill.

JOEDY BECKER  
 Pocatello, Idaho

GAYLORD BLUE  
 San Jose, Calif.

THOMAS E. BROWN JR.  
 Detroit, Mich.

JERRY CAMPBELL  
 Memphis, Tenn.

CHRISTOPHER CRONIN  
 Harvey, Ill.

THOMAS DRAKE  
 Winter Park, Fla.

JOHN HAUG  
 Phoenix, Ariz.

FRANK MANFREDONIA  
 Philadelphia, Pa.

JAMES MANSFIELD  
 Lyons, Ill.

JAMES McBRADY JR.  
 Portland, Maine

MONTY MOORE  
 Seattle, Wash.

SAM PIPER  
 Greenville, S.C.

HOLLIS PORCHER  
 Corpus Christi, Texas

ROGER STEYER  
 Warren, Mich.

## 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**  
 CURTIS HOLLIMAN  
 Director  
 ROBERT O. LEWIS  
 Accountant  
 SANDY HOSHELL  
 Finance Secretary

**Technical Services**  
 ROBERT LaCOSSE, CAE  
 Director

JEFF LOWINSKI  
 Manager  
 WILLIAM CULLEN  
 Research Associate  
 JOANNE WAWRZYNIAK  
 Secretary

**Information Management**  
 NORMAN BULLOCK  
 Director

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  
 BARBARA DYKEMA  
 Administrative Assistant  
 STEVE JUDSON  
 Service Center Assistant

PATTY KAZEOS  
 Receptionist  
**Association Services**  
 PATRICIA APPELHANS  
 Director  
 CONCHITA ALVAREZ  
 Administrative Assistant/  
 Legal Resource Center Manager  
 LYNN KEEFE  
 Administrative Assistant

**Membership Development**  
 CARL GOOD  
 Director

KATIE SHULTZ  
 Administrative Assistant  
 SARA ANDERSON  
 Secretary

**Communications**  
 CHRISTINE NOLEN TAYLOR, CAE  
 Director  
 MARTIN EASTMAN  
 Editor  
 KATHLEEN AHARONI  
 Associate Editor  
 ROB EISEMAN  
 Public Relations Manager  
 AMY KASSEL  
 Advertising Sales Manager  
 JOAN KRIETE  
 Circulation Coordinator

# NEW MEMBERS

The following have been approved for NRCA membership for December.

## CONTRACTORS

---

### **Atlantic Contracting Corp.**

52-09 31st Place  
Long Island City, N.Y.  
Giannos Skevis

### **Byrne-Johnson Roofing**

7948 W. 163rd Court  
Tinley Park, Ill.  
William Byrne

### **C & J Sheet Metal & Roofing Contractors**

239 W. 115th St.  
Chicago, Ill.  
Charles Green

### **Cascade Roofing**

319 N. 188th St.  
Seattle, Wash.  
J. Eric Pettersen

### **Dependon Exteriors, Inc.**

6835 W. Higgins Ave.  
Chicago, Ill.  
W. Yonk

### **Diamond Roofing Co.**

10920 Indiana Trail #309  
Dallas, Texas  
Alex Patterson

### **Fernandez Roofing Association, Inc.**

137 Scotts Lane  
P.O. Box 43037  
Philadelphia, Pa.  
Danny Baselice

### **Frost Construction**

229 Riverside Drive  
Dayton, Ohio  
Robert Frost

### **Geyer Roofing, Inc.**

528 Ardmore Ave.  
P.O. Box 375  
Pitman, N.J.  
George Geyer

### **E.C. Hager, Inc.**

11 Crestview Drive  
York, Pa.  
Edward C. Hager

### **Hesco Roofing, Inc.**

618 Elmwood Ave.  
P.O. Box 2804  
Gadsden, Ala.  
Glen Hester

### **McConnell Roofing, Inc.**

39025 N. 8th St. E.  
Palmdale, Calif.  
B. Gene McConnell

### **Peterson-Jenkins Roofing Co.**

861 Warrington Ave.  
Redwood City, Calif.  
Earl Jenkins

### **Rounds Roofing**

42453 Sierra Highway  
Lancaster, Calif.  
Gary Rounds

### **Stone County Roofing, Inc.**

P.O. Box 66 Rural Area  
Cape Fair, Mo.  
Gary Hammontree

### **Tabor, Inc.**

522 King St.  
P.O. Box 666  
Dunbar, W.Va.  
William Ashworth

### **Wharton Roofing**

P.O. Box 4037  
3405 Murdoch Ave.  
Parkersburg, W.Va.  
James Villers

## AFFILIATE

---

### **Charles Gluth & Sons, Inc.**

6234 Indianapolis Blvd.  
Hammond, Ind.  
Charles Gluth

### **Roberts Roofing Co.**

3825 E. 38th St.  
Tucson, Ariz.  
William G. Conran

### **Scudder Roofing Co.**

3349 Marina Drive  
Marina, Calif.  
Peter Scudder

### **Sunset Roofing Co.**

55 Elmira St.  
San Francisco, Calif.  
John Panetto

## ASSOCIATE

---

### **ASC Pacific, Inc.**

P.O. Box 6256  
Federal Way, Wash.  
Tom Black

### **Cheney Flashing Co.**

623 Prospect  
P.O. Box 818  
Trenton, N.J.  
J. Ridgeway Fell

### **Gate Roofing & Manufacturing**

Hall Industrial  
P.O. Box 716  
Greencove Springs, Fla.  
Pete Vining

### **Reichel & Drew, Inc.**

1025 W. Thorndale Ave.  
Itasca, Ill.  
Michael Walton

### **Wilson Cover Co.**

1611 Ralston St.  
P.O. Box 3047  
Wilson, N.C.  
Tom E. Roberts

### **GMI Rental & Lease**

633 Cecelia Drive  
Pewaukee, Wis.  
Thomas L. Walrath

### **Roof Management Materials**

9466 Sunland Blvd.  
Sun Valley, Calif.  
Glen E. Pyle

### **City of Norfolk**

7th Floor, City Hall  
Norfolk, Va.  
William Rhees

## INTERNATIONAL

---

### **Woodworth Roofing Contractor**

530 Park St.  
Kentville Kings, Nova Scotia, Canada  
D. Woodworth

## ARCHITECTS/ENGINEERS/CONSULTANTS

---

### **Century Roof Insulation**

51 W. Seegers Road  
Arlington Heights, Ill.  
George Criel

## Beldon Roofing appoints new vice president and service manager

Beldon Roofing & Remodeling has made two staff changes recently, according to the company's president, Mike Beldon.

Larry Stark has been appointed vice president of production for the company. He will be responsible for the day-to-day production of all roofing and sheet metal work.

Before joining Beldon's roofing division, Stark worked for Hansel Phelps Construction Co. as senior project manager. He has also worked for Stanley Structures in Denver.

Beldon has also promoted Denise Drain to service manager for its roofing repair division. Drain was formerly the company's payroll clerk. In

her new position she will be responsible for scheduling and processing all estimates and service work.

Beldon Roofing and Remodeling was established in 1946 and has offices in San Antonio and Austin. It is the largest roofing company in South Texas.

## Indianapolis-based roofing firm 10th fastest growing U.S. company

The North American Roofing Co. of Carmel, Ind., has been named the 10th fastest growing privately held company in the United States by *Inc.* magazine. To rank companies, the magazine rated their performance for the past five years.

North American specializes in the nationwide installation of commercial and industrial single-ply rubber roofs. The bulk of its business is for

companies with national real estate holdings.

The company has also recently developed a method of installing EPDM roofs that it says cuts the roofs' total cost. The new rubber roofs are backed by a 10-year warranty covering labor and materials. North American believes the new method will help the company to grow rapidly for the next five years.

## Harry Schwartz honored as part of sheet metal plant dedication

L.E. Schwartz & Son, Inc., of Macon, Ga., recently dedicated a new sheet metal plant. On hand for the dedication were Melvin Kruger, president of the company, and Harry Schwartz, the chairman of the board (and also the son immortalized in the company's name).

As part of the dedication ceremonies

a plaque was erected in honor of Harry Schwartz's years of service to the company and the industry. The bronze plaque reads: "This plant is dedicated to Harry M. Schwartz, who has committed 56 years toward a quest for professional excellence. May his example inspire all who follow."

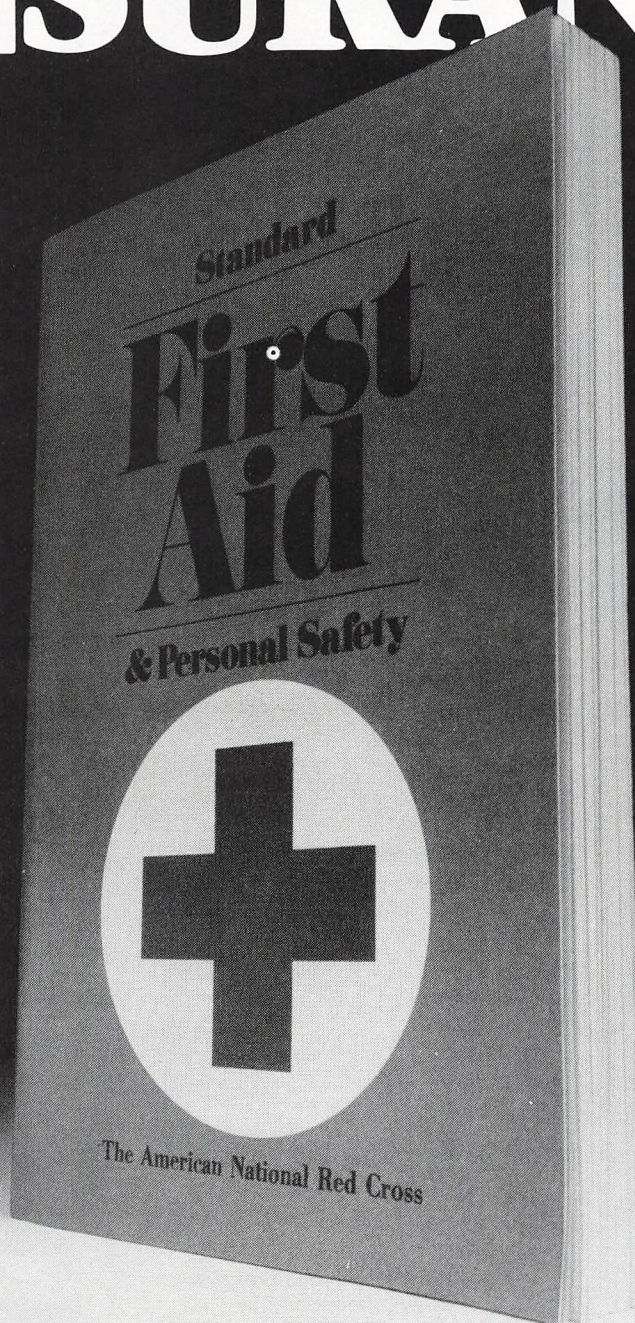
## 125th anniversary celebrated by M.B. Bourne & Son

Maine's oldest roofing company, M.B. Bourne & Son, is celebrating its 125th anniversary this year. During its many years of service, the company has installed roofs on such historic landmarks as the Wadsworth-Longfellow House and museum in Portland and the Margaret Chase Memorial Library in Skowhegan.

When the company was founded by Bourne, a Welshman who came to this country in 1860, its specialty was plain and ornamental slate roofs. In the mid-1880s, the company began installing flat tar and gravel roofs as well. When Paul K. Wyman bought the company in the 1930s, he branched out into sheet metal work.

EPDM installations were introduced by Wilbur C. Bell, who purchased the firm from Wyman's estate. Today, Bell runs the company with his son.

# HEALTH INSURANCE



There's an added health bonus that most companies aren't aware of. The American Red Cross.

We teach more employees how to avoid on the job accidents and save

more lives than any other school in the world.

So call the Red Cross. And invest in our insurance program. Because one day, it will pay off in big dividends.



American Red Cross

# Your problem isn't getting bids. It's winning them.

**Your customer's problem is getting the best solution for his immediate need.**

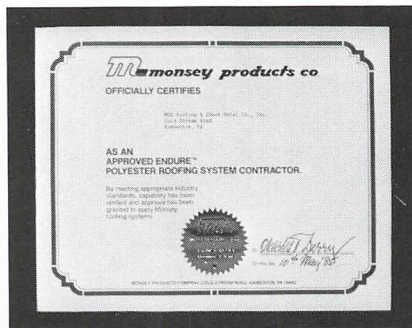
Now you can have the flexibility to supply the right solution for any re-roofing job. With Endure systems—combinations of Monsey mastics with strong DuPont polyester fabrics that allow you to offer specifications tailored to your customer's needs.

If he needs a quick, inexpensive repair, or a complete retrofit roof, you can win the bid with Endure.

Endure systems allow you to most

closely meet the needs of your customer at any time. They're simple, easy to apply, and can cut your costs.

Pick the system that solves the problem. Retrofit or repair. Endure has a system for any roof.



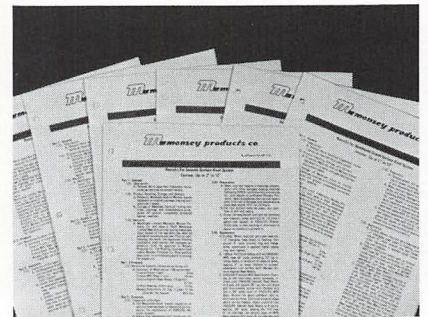
**Applicator Certification**

There's no hot kettle and associated odors. And you can cover more squares per day with a smaller crew. You save your customers money because you have lower labor costs.

And these systems work. Monsey makes ten and five year limited warranties available, depending on system specifications.

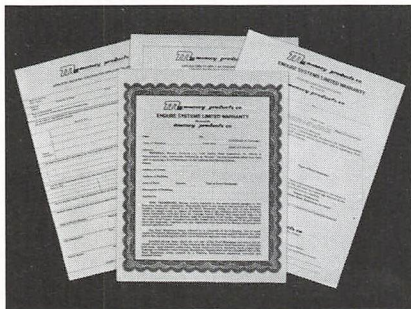
You also get a binder of system spec sheets that show you exactly what, where and how to apply each system.

And you can become personally certified by Monsey as a qualified Endure Roofing System Contractor based on your expertise as an experienced roofing contractor. Our products are the best and we want them used by the best.



**System Specs.**

Here's how to cover more, and win more, business. Write or call C.T. Derry, Monsey Products Company, Cold Stream Road, Kimberton, PA 19442, 800-523-0268 (in PA, 215-933-8888).



**Warranty**

# Endure™

Check #40 on Reader Service Card

**Come to booth  
1419-1421  
at the NRCA show**

## NIS adapts IBM PC-XT Vue

National Information Systems (NIS) has announced that its *Vue* project management system is now available for use with the IBM PC-XT and compatible systems.

The *Vue* program uses the critical path method to track a maximum of 3,000 activities per project. With the multi-project option, 99 related projects can be scheduled and tracked, and 100 resources can be scheduled and monitored.

*Vue* offers 14 standard reports, including printer graphics such as bar charts and network diagrams. Users may request reports covering entire projects or a specific department's activities or time-frame. The *Vue* program also includes project summaries.

Check #68 on Reader Service Card

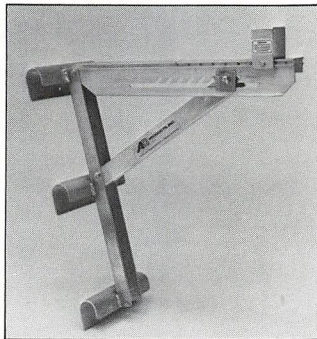
## Ad Products buys ladder jack line

Ad Products, Inc., has purchased the Lincoln Ladders aluminum Ladder Jack line, which they will market under the trade name Ladder Jax.

Ladder Jax may be used with extension ladders to erect scaffold platforms for supporting workers and materials. Ladder Jax fits all aluminum, fiber glass or wood ladders with round or D rungs. The jack may be mounted on either the inner or outer ladder face. The product further enhances platform safety because of a design that features three rung grips welded and riveted with aluminum rivets and a top rung-securing bolt. The planking pitch may be adjusted to one of nine positions. The jack's last stop holds the plank in place and is also adjustable.

Ladder Jax is constructed from 6061-T6 aluminum extrusions and carry a duty rating of 250 pounds for each jack, including the weight of the user plus materials. The units come with assembly instructions.

Check #69 on Reader Service Card



## VecLoader offers wet, dry cleanup

The Vacuum Engineering Corp. has released a brochure detailing its VecLoader line of vacuum roof cleaning systems.

Each VecLoader unit is self-contained and can be used in wet or dry operations to remove gravel, water, dust and other materials. The unit can also blow-dry insulation or rock and remove asbestos. Attachments are available to adapt the VecLoader for vacuum/wash applications and blow drying.

The units feature built-in safety struts and hydraulic-powered hoppers and leveling jacks. A special silencer helps reduce noise and provides an attachment for blowing accessories. Additional features include an Aero-finer filter that removes water from the compressed air system, a positive displacement blower, a filter monitor gauge and a wet/dry switch that eliminates the need for interior changeover from wet to dry vacuum.

Check #70 on Reader Service Card

## Seaman markets Fibertite roofing

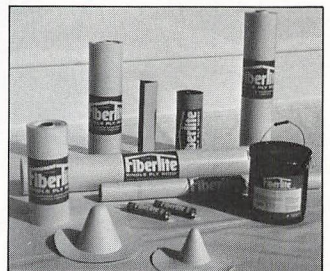
The Seaman Corp. has introduced a new single-ply roofing system composed of a reinforced knit Dupont Dacron® polyester fiber that is saturation-coated with a proprietary ethylene interpolymer (EIP) alloy.

Between the coating and the fabric substrate, the Fibertite® membrane features a molecular bond that is designed to eliminate delamination and wicking. The proprietary EIP compound is resistant to chemical contaminants, hydrocarbons, fungus, ultraviolet rays and ozone. Hot-air-welded patches may be applied if repair is required; solvents and adhesives are not needed for the patch process.

The beige Fibertite membrane is available in 10-, 15- and 20-foot widths to reduce the number of field welds required. Fastening tabs, which have been factory-bonded to the membrane, are covered by the material in installation, eliminating fastener penetration and exposure points.

A line of compatible installation components and accessory products is also available from Seaman.

Check #71 on Reader Service Card



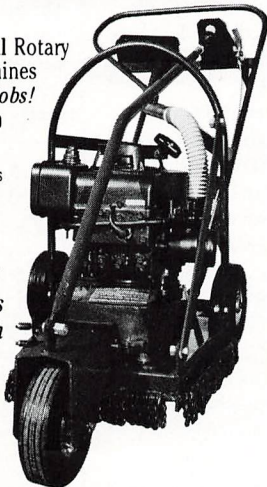
# Get a load off your roof with REEVES

Reeves Original Rotary  
Spudding Machines  
For The Tough Jobs!

## Super Tex - 180

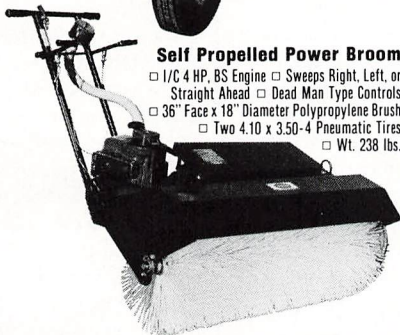
- 7 HP, BS Engine
- Double Pulley Drive With Matched V-Belts
- 12" Flywheel With 4 Carbide Blades
- 12 Sqs. Per Hour
- Wt. 199 lbs.

**FREE Set Of  
Cutter Blades  
Included With  
All Models**



## Self Propelled Power Broom

- 1/2 C 4 HP, BS Engine
- Sweeps Right, Left, or Straight Ahead
- Dead Man Type Controls
- 36" Face x 18" Diameter Polypropylene Brush
- Two 4.10 x 3.50-4 Pneumatic Tires
- Wt. 238 lbs.



## Single Blade Roof Cutter

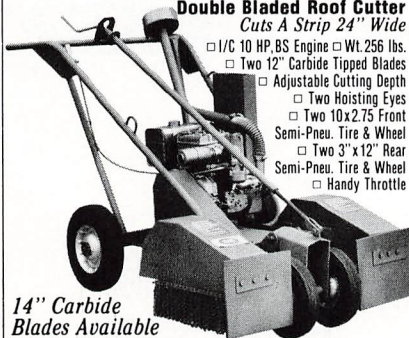
- 1/2 C 8 HP, BS Engine
- Handy Throttle
- Adjustable Cutting Depth
- Hi-Rise Air Filter
- 12" Carbide Tipped Blade
- Two Semi-Pneu. 3x12" Tires
- Front Semi-Pneu. 10x2.75
- Wt. 185 lbs.



## Double Bladed Roof Cutter

*Cuts A Strip 24" Wide*

- 1/2 C 10 HP, BS Engine
- Wt. 256 lbs.
- Two 12" Carbide Tipped Blades
- Adjustable Cutting Depth
- Two Hoisting Eyes
- Two 10x2.75 Front Semi-Pneu. Tire & Wheel
- Two 3" x 12" Rear Semi-Pneu. Tire & Wheel
- Handy Throttle



14" Carbide  
Blades Available

For a complete catalog, see your local distributor or call REEVES toll free:

Tex. 1-800-292-5104  
Nat'l 1-800-531-5606

**REEVES**

REEVES ROOFING EQUIPMENT CO., INC.  
Rt. 17, Box 300, San Antonio, Texas 78228 (512) 695-3567

Check #47 on Reader Service Card

## NEW IDEAS

### Roofcap pavers ballast single-ply

The National Concrete Masonry Association has developed an engineered ballast system that is designed for use with single-ply roofing systems.

The Roofcap Paver™ ballast system provides two-way drainage and insulating air space between the membrane and the paver surface. The pavers also protect the membrane from solar radiation and mechanical damage from traffic or flying debris. The flared footprint pattern of the pavers helps distribute weight evenly to prevent the ballast from sinking into the insulation and decreasing the roof's drainage capacity.

The interlocking pavers provide wind uplift resistance and may be adapted for use on an interlocking batten system. The modular design allows installation in either straight or staggered patterns.

The company has published a four-page brochure that provides additional information on the system.

Check #72 on Reader Service Card

### Company develops bar anchor tape

The Building Systems Division of DiversiTech General has developed a new bar anchor tape for use with the GenFlex ACR elastomeric single-ply roofing system.

The GenFlex bar anchor tape is backed with a strong adhesive that eliminates the need to manually apply glue to bar anchor strips before they are attached. The tape complies with Underwriters Laboratories' Class A and Factory Mutual I-60 and I-90 ratings.

The company has also published a product catalog that describes its single-ply systems. The catalog includes new system specifications and code approvals, and is designed for architects, specification writers, contractors, and owners, managers and maintenance supervisors of commercial and industrial buildings.

The catalog comes in a loose-leaf binder so that new information on the GenFlex ACR elastomeric and GenSeal ACR thermoplastic systems can be added as it is made available. New information will be sent automatically to any catalog owner who returns the binder registration card that accompanies each book.

Check #73 on Reader Service Card

## Electronic catalog reviews software

A new service from TeleWare, Inc., helps architects, engineers and contractors locate, preview and buy computer software specifically for their needs.

The SofLink service provides an electronic catalog of software products, electronic brochures, software demonstrations and full product packages. The service includes 75 packages, which cover accounting, computer-aided design and drafting, engineering, facilities and space planning, job costing, office management, and project scheduling.

The service is available in selected computer stores. To use the service, the user goes to one of the specified stores and selects a package. The user then views the vendor's electronic brochures that describe the latest product features and hardware requirements. Demonstration diskettes can be requested for study in the store or for trial at the office. The package can be purchased in the store; however, the product and user's manual will be delivered by overnight mail. The purchaser is not charged for the mailing.

*Check # 75 on Reader Service Card*

## Gates announces EPDM products

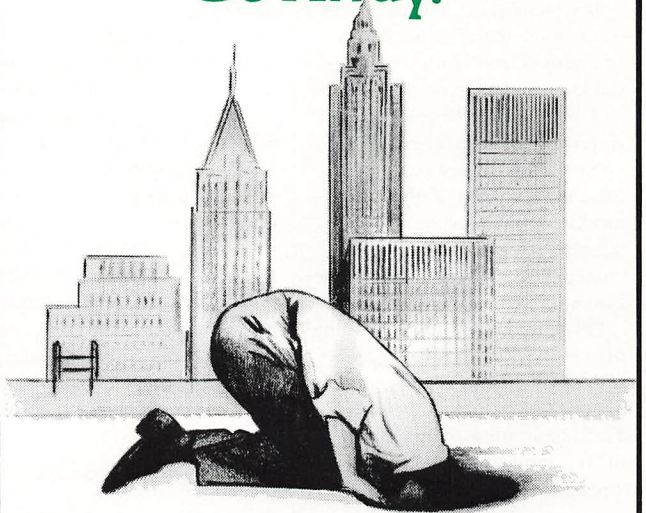
Gates Engineering has announced the development of two new products for EPDM systems.

One is an all-purpose EPDM adhesive known as G-10. It is designed to work in temperatures ranging from 32F to 158F. The adhesive is formulated for an extended open time and greater green strength.

The company has also announced a new EPDM roofing system. The System I EPDM Smart System uses an in-seam, bar-anchored and adhered lap seam application technique that requires no cap strip. A 16-gauge steel batten strip mechanically fastens the 5-foot-wide EPDM sheet membrane for maximum wind uplift resistance.

*Check # 74 on Reader Service Card*

# Ignoring Roofing Problems Has Never Made Them Go Away.



Whether you're specifying or installing a roof, choosing the correct fastening system is vital. Retrofitting and new construction each present complex problems in combining roof decks, membranes and fasteners. Constantly changing code approvals can turn a simple spec into a nightmare.

At Trinity, we inventory over 2400 different fasteners and tools. So once we evaluate your roof, we can select the best fastening system for your roofing needs. We will also provide you with concise back-up documentation to support your decisions. By eliminating the guesswork, you're guaranteed a more secure and economical fastening system.

For a copy of Trinity's "Comprehensive Roof Fastening Guide," and more information on our consulting services and fastening products, call us today.



**trinity group  
fastening systems inc.**

**TRINITY. Facts, not just fasteners.**

733 Ridgedale Avenue, E. Hanover, NJ 07936  
(201) 428-1335 or (800) 526-9026

*Call us!*

## Tri-Ply markets Eaveguard 100

Tri-Ply, Inc., has developed a self-adhering membrane for water-proofing applications under shingles, shakes, tiles and metal roofing.

The membrane, Eaveguard 100, is recommended for use in eaves and gutters, and around valleys, stacks, skylights, pipes, chimneys and other areas where ice and water accumulate. The product is composed of a fiber glass reinforcing mat coated with an SBS-modified rubber asphalt. The membrane's exposed surface is coated with silica sand to provide a non-slip working substrate.

Eaveguard is applied by peeling off a protective backing and pressing the adhesive-coated membrane to the work surface. The membrane is manufactured in 70-pound rolls that are 3 feet wide and 74 feet long.

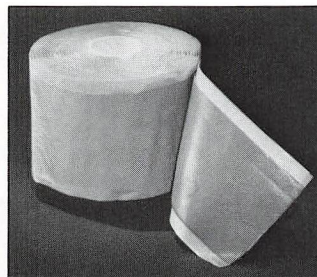
Check # 76 on Reader Service Card

## General Sealants offers sealing tape

General Sealants, Inc., is marketing a weatherproof roofing tape for use with single-ply roofing materials under metal flashings, over wooden butt joints of skylights and in corners.

The product, GS/7500, is a cross-linked butyl rubber sealant formulated for use with vulcanized elastomers, thermoplastics and modified bitumens. The tape, which is backed by a release paper, is intended for use on clean, dry surfaces. No primers, solvents or special tools are required for application. The tape also needs no curing or evaporation time. The range of service temperatures for the product is from -40F to 300F. The product comes in gray. Black is available by special request.

Check # 77 on Reader Service Card



## LIA publishes lead sheeting data

Two new publications have been prepared by the Lead Industries Association, Inc. (LIA).

*Sheet Lead: The Protective Metal* provides practical and technical information about sheet lead and sheet lead alloys for such applications as roofing and flashing, waterproofing, noise control, and radiation shielding. It also contains data on the physical and mechanical properties of lead and lead alloys, and gives recommendations for the proper specification of sheet lead for these uses.

*Solderability Testing* provides a short review of methods and procedures to determine the solderability of metal substrates. The booklet, the fourth in a series on soldering, discusses seven test methods and provides schematic diagrams along with a glossary of commonly used terms.

Check # 78 on Reader Service Card

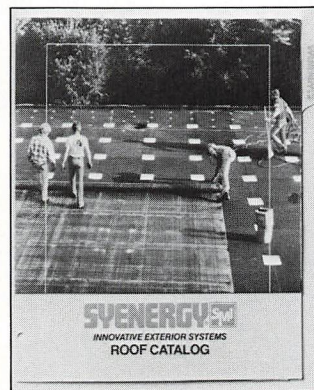
## Booklet details Synergy's BOSS

A mechanical plate bonding roofing system that secures EPDM membranes without penetration is featured in a four-page brochure from Synergy Methods, Inc.

The brochure describes the Button-On Synergy Single-Ply system (BOSS), which uses a two-part button-and-clamp fastening technique that eliminates the need for adhesives. Photographs and drawings to illustrate the system's use are also included in the brochure.

Synergy is also offering detailed technical literature on its single-ply EPDM roof systems. An eight-page brochure describes materials, installation methods, applications and warranties. A technical data chart is also included. The catalog comes pre-punched for use in a three-ring binder, and features an extended tab for filing purposes and a pocket for storing additional Synergy materials.

Check # 79 on Reader Service Card



## Wasco introduces extra-long skylight

Wasco Products has introduced new extra-long skylights to provide more light in residential roofs.

The factory-assembled Skywindows are 22 inches wide and 70 inches long. The windows provide almost twice the skylight area as standard skylights. Two models are available. Model DDRA-2270 features an acrylic dome, while flat-glass Model GA-2270 provides a low profile. Both styles are available in either clear or bronze-tinted models.

Wasco has also introduced two new accessory options for the Skywindows. A motorized module allows venting skylights to be opened and closed by touching a wall switch, rather than by cranking. A switch on the module also allows users to preset the skylight's open position to 4, 8 or 11 inches. A storm glazing panel for use with the venting skylights may be installed from inside by removing the skylight's snap-on screen and replacing it with the panel. The storm sash is made of a clear, flat acrylic sheet set in an aluminum frame with a white enamel finish to match the skylight.

These and other Wasco products are illustrated in a 32-page, full-color catalog that commemorates the company's 50th anniversary.

Check #80 on Reader Service Card

## Autocon develops solid/liquid mixers

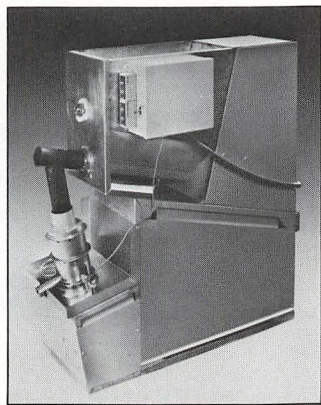
Autocon Mixing Systems has introduced a new line of continuous or on-demand solid/liquid mixers specifically designed for difficult resin formulations such as polymer cements and glues.

The Autocon mixers use a patented mixing head with a rotating hub and shearing blades, which are housed in a mixing chamber. Liquid material enters the chamber from the center of the rotating hub. Solid material flows through an inlet at the top of the chamber and is pulled toward the chamber's base, mixing with the liquid material.

The mixers operate in either a continuous or on-demand mode, and can deliver output capacities ranging from 1/4 pound to 140 pounds per minute. The units can handle either light or viscous formulas. Each system is engineered to specific formula and environmental requirements. Variables include head size, attitude and pattern of shear blades, and use of hydraulic or electric drive.

The units can handle filler sizes ranging from the consistency of flour to coarse sand. Sensing apparatus and flow meters are available for each component.

Check #81 on Reader Service Card

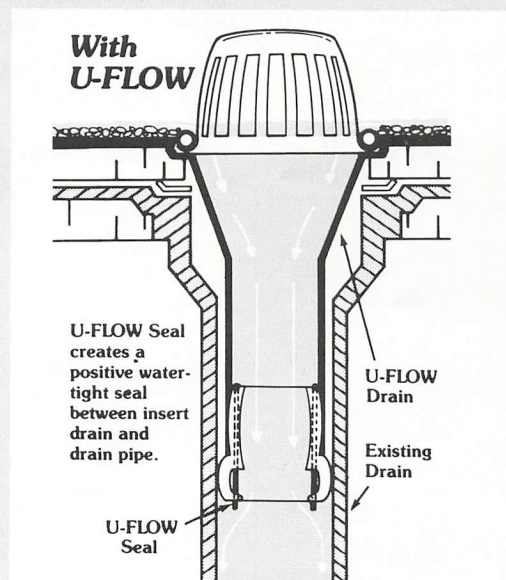


## THE ONLY ROOF DRAIN SYSTEM INSTALLED COMPLETELY FROM THE ROOF TOP!

# Uflow<sup>TM</sup> 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

**Uflow**  
SEAL

P.O. BOX 1470  
BUFFALO, N.Y. 14240-1470  
(716) 854-1521

VISIT US AT BOOTH NO. 1941 AT THE  
N.R.C.A. CONVENTION IN LAS VEGAS.

U.S. PATENT NO. 4,505,499

## ASTM releases publications catalog

The American Society for Testing and Materials (ASTM) has released its publications catalog describing the information contained in the 66-volume *Annual Book of ASTM Standards*.

The volumes contain information on over 7,000 test methods, specifications, practices, guides and definitions developed by the ASTM standards writing committees. The catalog, in addition to describing the volumes, contains information on several hundred ASTM special technical publications, compilations, data series and standard adjuncts.

Check #82 on Reader Service Card

## Lanier introduces SmartPhone system

Lanier Business Products, Inc., has developed a business telephone system for homes, small offices or major companies.

The Renaissance SmartPhone™ works as a 2500 replacement and can be used behind a private branch exchange (PBX) or with standard jacks. The system allows two-line capacity without a key service unit, and may be used with either rotary dial or pulse-tone phones.

The system includes speed dialing, automatic redial and a flash key that allows calls to be transferred through a PBX. The unit also has a built-in speakerphone and a liquid crystal display that gives the time of day, the number dialed and the elapsed time of the call. A built-in timer can be programmed to signal the user for appointments and meetings. The SmartPhone may be either desk- or wall-mounted.

Check #83 on Reader Service Card

## Membrane stops condensation drip

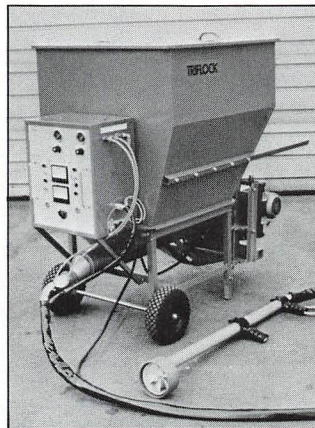
Flock Technologies is marketing a new anti-condensation membrane with a water-binding surface finish that can be applied directly to a profiled metal sheet.

Retanus condensation protection prevents condensation from accumulating and dripping off the roof. The system uses nylon fibers secured to a binding agent. The fibers stand at right angles to the base, producing a velvet-like appearance and a capillary action that holds the water in the fibers. The Retanus membrane is capable of binding up to 350 grams of water per square meter of membrane surface, or 0.63 pounds of water per square yard.

The membrane also provides corrosion protection and is fire- and frost-resistant. The flock finish, which is soil-repellant and rot-resistant, cleans with water. The membrane's surface strength and abrasion resistance is equivalent to epoxy-treated surfaces.

The system allows membrane application after coldframing, making application at the factory or on the finished roof possible.

Check #84 on Reader Service Card

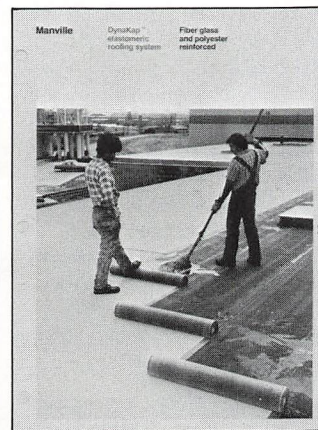


## Brochures detail Manville products

Manville has published a 12-page brochure describing the company's Signature Series guaranty for Dynakap™ system specifications when used with Manville's insulation, membranes, flashings or accessories.

Manville has also published a catalog describing the company's line of accessories for commercial and industrial roofing systems. Among the items the brochure describes is Expand-O-Flash® preformed expansion joint covers, the Flex-I-Drain® roof drain system, the FP-10 One Way® solar operated moisture vapor roof vent, Presto Lock™ and Seal Lock® fascia and flashing systems and the BTL/WTL sheet for split and flashing repairs.

Check #85 on Reader Service Card



## Manual provides contract advice

The American Subcontractors Association (ASA) has published two new education manuals.

*Winning the Battle of Subcontract Forms* explains how to negotiate equitable contract terms. The manual shows how the use of proposal forms can lead to fair contracts. The book also discusses payment terms, and tells subcontractors how to improve cash flow and the final payment process. Among the other provisions addressed in the ASA manual are: conduit clauses, hold harmless and indemnity clauses, protection-of-work clauses, warranties, liquidated damages, legal jurisdiction, cancellation and default clauses, and lien and bond rights.

The manual also contains information on temporary site facilities, scheduling and delays as well as samples of two addenda that can be used to modify harsh or unfair subcontracts.

ASA's second manual, *Safety Program Assistance for Subcontractors*, is written to help management define its safety program goals, assign employee responsibility, set risk control objectives and establish risk control activities. The publication includes examples of risk control activities, including the maintenance and analysis of accident records, and emergency preparedness. Personal protective equipment, first aid and medical assistance are also covered.

The manual also includes a sample written policy statement and several samples of the checklists, reports and accident charts necessary to keep accurate safety records.

Other publications available from ASA include *Commentary on the Form 600* (a manual containing revised contract language for dealing with AGC's Form 600), *Effective Employee Relations for Subcontractors* and *Insurance for Subcontractors*.

Check #86 on Reader Service Card

## Arcal announces two new chemicals

Arcal Chemicals, Inc., has announced the availability of two new cleaning products for companies working with tar or asphalt.

Tar-Asphalt Barrier is a liquid protective coating for asphalt trucks and equipment. The non-petroleum product prevents asphalt from sticking to equipment surfaces and can be used instead of diesel fuel and other petroleum solvents. The product is odorless and may be diluted with water. It will not attack tar or asphalt. Also, Tar-Asphalt Barrier is bio-degradable and non-toxic, and may be mopped or sprayed prior to each filling.

Arcal's second new product, Tar-Go, is a liquid, solvent-base compound designed to penetrate and soften asphalt, tar and other petroleum products. The product has strong emulsification properties along with wetting agents and chemical penetrants. It may be applied by brush, mop or pressure sprayer, and should be followed by a liberal water flush to wash away unwanted deposits. The product is recommended for use on concrete, brick masonry, unpainted metal, ceramic tile and aluminum. It is also suitable for use on tools, trucks, curbs and roofing, as well as for some cleaning and degreasing operations.

Check #87 on Reader Service Card

# QUALITY Torches For The PROFESSIONAL Roofer

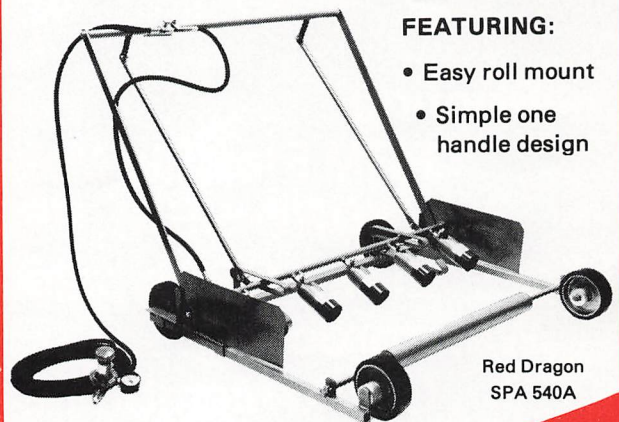
Red Dragon RT 2 1/2 -20 C



**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

## 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)

# As America Builds...

## ...We're "Keeping Water in its Place"

**Roofing:**

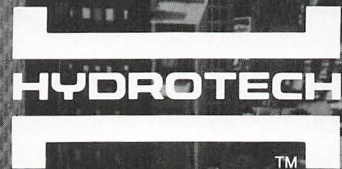
**PRM Flexible Membrane  
HYDRO-SEAL EPDM Membrane  
LITE-TOP Hypalon Membrane**

**Waterproofing:**

**Liquid Membrane 6125**

**Insulation:**

**Dow Styrofoam\* Products**



**Booth 1313, 1315**

\*Trademark of The Dow Chemical Company

Check #3 on Reader Service Card

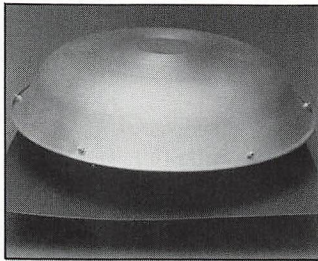
**American Hydrotech, Inc., Suite 2120, 303 East Ohio Street, Chicago, Illinois 60611 • (312) 337-4998**

## Butler expands dome vent line

The Butler Ventamatic Corp. has announced the addition of a new dome vent to its line of power attic ventilators.

The DuraDome®, which is computer-designed, complements the company's inventory of Cyclocac® ABS domes. The product is made of .040 spun aluminum, and can be installed on Butler's 2414-T, VIP-T and NRG-T ventilators as well as on earlier models. DuraDome can also be requested as an option on factory orders, as a replacement dome or as standard equipment on specific Ventamatic models.

Check #88 on Reader Service Card



## Grefco issues Permalite booklet

A new eight-page catalog detailing Permalite perlite concrete aggregates is available from Grefco, Inc.

In addition to describing the properties of perlite insulating concrete for roof deck applications, the new publication contains design data for roof and ceiling designs with fire ratings of up to three hours. Perlite concrete's use over corrugated steel decking and structural concrete is covered as well as the products' thermal performances, which are listed in a table that covers statistics for use with 1 to 4 inches of polystyrene board.

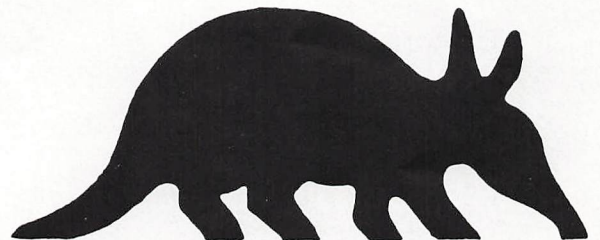
The publication also covers the use of Permalite sand concrete and pea gravel concrete in floor systems.

Check #89 on Reader Service Card

# IF...

- They AIN'T got sales support with the right answers.
- They AIN'T got quality training and competitive prices.
- They AIN'T got technical support and workable systems.
- They AIN'T got prompt inspections and quick guarantees.

## Call the AIN'T Eater.



## WeatherGard™

Single Ply EPDM Roofing Systems

## We got it all.

**Booths 1564 & 1565**  
or call  
**1-800-USA-EPDM**

# WHY WON'T TAMKO MODIFIED ASPHALT PRODUCTS CRACK UNDER THE MOST EXTREME CONDITIONS?



**SBS Modifiers.** We've been modifying our products with the block copolymer SBS (styrene butadiene styrene) since 1978. In fact, we were the first to use it.

But the addition of SBS is not enough. How it's blended with asphalt makes the difference. And having worked with SBS the longest, our techniques are the most advanced.

The process doesn't stop here. To be certain our SBS modified products perform consistently and reliably, we put them through constant testing. Analysis. And rigid raw material and process controls. When done, we have a properly blended modified asphalt product. And you have a dependable roofing product.

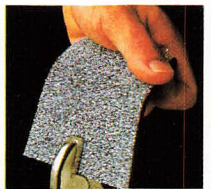


Competitive Modified Asphalt — Cracked

**Cold Flex Test.** Roofing swatches were kept in a 0° F freezer for 4 hours. Then subjected to the legendary **Vise-Grip®** locking pliers.



Fiberglass — Cracked



TAMKO SBS Modified Asphalt Maintained Flexibility

**The Products.** Whether it's AWAPLAN roll roofing. Or VERSA-FLASH 160 flashing material. You get products with: Cold weather flexibility, superior tensile strength, elasticity and resistance to roof traffic.

In short, TAMKO SBS modified asphalt products are proven to last. For more information, phone or write our BUR Division for your Free TAMKO Modified Asphalt Brochure: P.O. Box 1404, Joplin, Missouri 64802. 1-800-641-4691 (In Missouri: 417-624-6644). Or consult Sweet's Catalog File: 7.1/TAM.

**TAMKO**  
ASPHALT PRODUCTS 

PROVEN TO LAST A LONG, LONG TIME™

Check #59 on Reader Service Card

© Copyright 1985 TAMKO Asphalt Products, Inc.

## 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

### EQUIPMENT FOR SALE

Gravel-vac; excellent condition; well-maintained unit with Detroit diesel engine. Tandem-axle trailer. \$17,000. Call 518/638-8277.

### ROOFER SPECIAL HYDRAULIC TRUCK CRANE

Like new, 1986 JLG Series 1000 hydraulic truck crane; 10-ton capacity; 95-foot boom. Hydraulic clam bucket mounted on a like-new 1986 IHC diesel truck with 16-foot body loaded with extras. Complete new unit in September. 4,000 miles. We want to sell fast! Also available without attachments at a lower price. Call 414/761-2300. \$59,900.

### 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.

### ROOF VACUUM

Eliminator vacuuming system. New 4512 Schwitzer blower. Custom filter system. System less than two years old. Bruce Cotton; 713/353-0691 or 713/442-4942. Asking \$15K.

### 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.

### '73 GMC DIESEL LIQUID ROOFING ASPHALT TANKER

14-ton capacity with 318 Detroit engine completely rebuilt.

Asking \$9,800

Phone: 209/295-4410

### ROOF CORE

Roof core sampler; "C.R.R.E.L."-type; 17/8-inch core. Hardened steel jaws; compact weight less than 6 pounds. \$135 plus \$8 shipping and handling. For details contact Autrey Steel & Machine, P.O. Box 40304, Tucson, Ariz. 85717. Phone 602/623-3444.

### SINGLE-PLY MEMBRANES

If you are interested in a complete line of "quality first" membranes shipped directly from the factory, please contact Box 2A, *Roofing Spec*, 8600 Bryn Mawr Ave., Chicago, Ill. 60631-3502.

## PERSONNEL

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 404/373-4585. Lanta Enterprise, 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.

### FOR SALE ROOFING COMPANY

Established roofing company for sale. Located 15 years in Farmington, N.M., a growing, industrial community. Company in New Mexico over 40 years. Thirty experienced employees available. Current inventory and practical equipment. Includes property with room for expansion. Will sell property separately if desired. Call Nick Sanchez Sr., Albuquerque, N.M.; 505/884-0662.

## Positions Available

### SALES REPS WANTED

National manufacturer of single-ply, resaturants, coatings, cap sheet systems, floor repair and a full line of paint products for industrial, commercial and institutional markets. If you are experienced in these product areas and want to represent one of the most complete lines in our industry, answer this ad. We offer leads, established accounts, excellent commissions, company support and a proven product line for year 'round selling. We're in our 38th year of consecutive increased sales and earnings—become a part of it! Republic Powdered Metals, Inc., P.O. Box 724, Medina, Ohio 44258, Attn: Sales Manager.

### WANTED ENGINEERS AND ARCHITECTS

National engineering firm is looking for graduate engineers and architects with two to 10 years of roofing experience to manage and/or staff regional office operations offering complete roof consulting and engineering services. Opportunities available in Midwest, Southeast and Southwest. Call Liz Patt at 800/323-7205 for details.

### ADMINISTRATION

Dynamic multi-branch roofing material distributor seeks intelligent, motivated individual to review sales invoices and vendor invoices. Excellent benefits and salary. Woodbridge, N.J. Send resume, including salary history, to J. Stacy, P.O. Box 67, Avenel, N.J. 07001.

## WANTED

### ON-SITE ROOF INSPECTORS

On-site roof inspectors wanted for quality control, knowledge and experience in all types of built-up and other roofing required. Travel required. Part-time work available. Reply with references and qualifications to Box 2B, *Roofing Spec*, 8600 Bryn Mawr Ave., Chicago, Ill. 60631.

## ROOFING MATERIALS

### SALES REPS/AGENTS WANTED

Dunlop Construction Products, Inc., manufacturers of a unique line of single-ply membranes and a leader in single-ply technology, is looking for representatives in major areas in the eastern half of the United States. Particularly looking for individuals to call on architects and plant engineers and who have experience in construction. Please call or write:

### DUNLOP CONSTRUCTION PRODUCTS, INC.

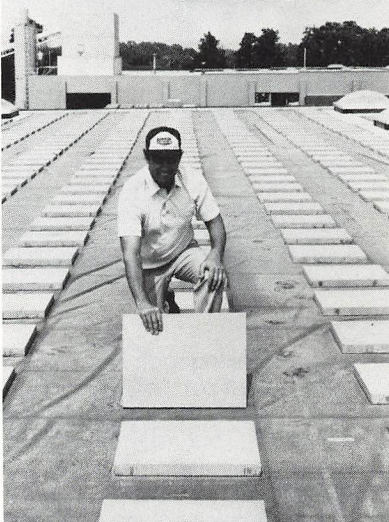
505 Northern Blvd.

Great Neck, New York 11021

516/487-6767

TOP IT OFF WITH . . .

**HANOVER**  
PREST-PAVING® CO.  
**HANOVER**  
**HANOVER**



**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

"Concrete Paving Materials for  
Roofs and Decks"

# IT STOPPED RAINING IN SAN FRANCISCO\*

\*At least inside Pan Am's  
double-barreled maintenance hangar.



A badly leaking roof. Nothing left to patch but patches. Steep, curved roof. Thermo Materials had all the answers . . . our risk-free, seamless, cold-process elastomeric roof system.

Performance-proven. Long-lasting. And we finished it in Pan Am blue.

You can sell a complete system with performance and profit designed into it. No laps. No joints. No flame. For new or existing roofs. Cost-effective.

Our system of Class A & B Roofing with 20- and 10-year guarantees

meets appropriate federal specifications and industry standards. Our DuPont Reemay® and Sontara® outperform felt fabrics.

Install a water-proof, energy-saving roof, with Thermo's modified asphalt system and Super Prep coating. Call us. You'll profit from it. Thermo Materials, Inc., P.O. Box 9454, San Diego, CA 92109. Phone toll free 800/882-7007. In California and Alaska 619/272-0061.

#### **In Florida**

Thermo Corporation  
1751-AS, Dixie Highway  
Pompano Beach, FLA 33060

Phone 305-786-1402

#### **In Hawaii**

THERMO OF HAWAII  
1521 Alexander, Suite 1703  
Honolulu, HI 96822  
Phone 808-944-3601

**THERMO MATERIALS**  
INCORPORATED

With Thermo Materials—  
YOU'RE COVERED

Dealer inquiries welcomed.

**S**o many subjects of interest to the roofing industry were discussed at two recent American Society for Testing and Materials (ASTM) meetings that it is not possible to mention them all in the space of this article. Instead, I will list some of the major issues and developments that emerged from these meetings.

## D-8's work on standards progressing

One of the ASTM groups meeting recently was Committee D-8 on Roofing, Waterproofing and Bituminous Materials. Members of this committee came together in Nashville last December.

Several standards in various stages of development were discussed at this meeting. Changes were made to draft number 11 of the proposed new standard specification for the vulcanized rubber sheet used in single-ply roof membranes. A new draft incorporating these changes will be circulated with a letter ballot for approval. Ballots were also circulated at the December meeting for a standard specification for reinforced nitrile butadiene polyblend (NPB) sheets.

It was also stated at the meeting that new letter ballots will be circulated shortly for standards covering:

- foam polyurethane roofing;
- non-vulcanized polymeric sheets;
- uncured flashing materials;
- adhered EPDM and neoprene systems;
- ballasted EPDM systems; and
- adhered PVC systems.

Several standards covering test procedures were also balloted and discussed at the meetings. These standards cover test methods for thermal shock resistance, the adhesion between roofing materials, and measuring and classifying interruptions in adhesive continuity.

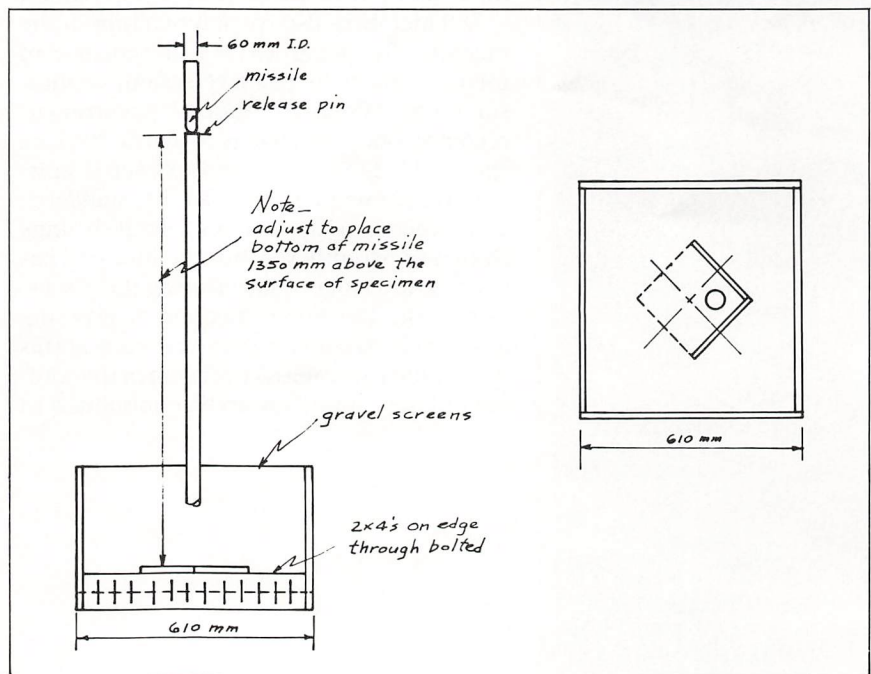
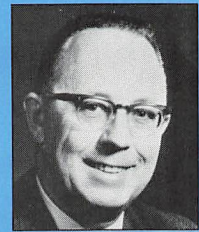
A new BUR tolerances standard was also introduced at the meeting. Committee members were balloted on the standard's criteria governing the number of plies, the base sheet sidelap or ply sidelap, the interply discontinuities, the total interply discontinuities, the average interply bitumen mass, the top bitumen mass, the mass of adhered aggregate, the number of mechanical fasteners, and the distance between fasteners. Because these criteria received a large number of negative votes, a summary of all the objections will be reviewed and discussed at the next D-8 meeting.

The Committee already completed its first standard for single-ply membranes in July 1985. This new release is designated D4434-85, Standard Specification for Poly (Vinyl Chloride) Sheet Roofing. The document will appear in the 1986 *Annual Book of ASTM Standards*, Volume 04.04.

D-8 members also reviewed an ad hoc committee's proposed criteria for the development of roofing materials standards. Questions yet to be resolved involve the types of materials to include in the standards, and the inclusion of test data and/or workmanship/quality data with the ballots.

## ASTM committees discuss important roofing issues

By Bob LaCrosse



One revision approved by ASTM Committee D-8 modified the test to determine the impact resistance of asphalt.

*It was decided that any future standards developed by E6 would not cover membrane installation.*

## Revisions discussed at D-8 meeting

In other work, the Committee approved revisions to two testing methods, one to evaluate the impact resistance of bituminous roofing systems, and the other to determine the softening point of asphalt and pitches (the Mettler cup and ball method). Revisions were also approved for an asphalt primer specification, an asphalt glass felt specification, a liquid-applied neoprene and chloro-sulfonated polyethylene specification and roofing term definitions.

One revision that wasn't approved was the proposed new standard specification for asphalt-saturated organic felt shingle underlayment. The new standard proposes reducing the weight of the underlayment to 8 pounds per square foot. The current standard specifies No. 15 non-perforated asphalt-saturated organic felt weighing 13 to 14 pounds. Objections to this change will be discussed further at the next meeting on disposition.

Other Committee projects discussed at the meeting included the work presently in process on performance requirements for single-ply seams and application practices for ballasted EPDM systems, and the development of a field sampling study of polymerics.

D-8 members also spent much time at the meeting discussing ASTM's present use of metric units as its primary system of measurement. When the federal government recommended the change to metric 10 years ago, ASTM D-8 voted to adopt metric units and recommended that all its standards show metric units first with English units shown in parentheses. But the industry has been slow to follow suit. During the discussion at the December meeting, it was suggested that to convert to metric units at this time could cause mass confusion in the roofing industry. A task group was appointed to

study this question and make a recommendation on whether to continue using metric units or return to using the English units as the primary units to Committee D-8 at the June 1986 meetings.

## E-6 subcommittee considers roofing assemblies

Some topics of interest to roofing contractors were also discussed at the October meetings of Committee E-6 on Performance of Building Constructions. These meetings were held in Milwaukee. The Committee, through its Subcommittee E6.21 on Serviceability, has formed two task groups to study built-up and single-ply roof system assemblies employing steel decks and cementitious cast-in-place insulating fills, and one task group to study single-ply roof system assemblies employing steel decks.

Initial drafts of standards governing these assemblies were circulated and discussed at the October meeting. NRCA and its affiliates are opposed to the release of these documents. At the meeting, the steel deck representatives, as well as some of the lightweight deck manufacturers, were also cool to the documents' release.

Because of these objections, and because these documents conflict with work being done within ASTM Committee D-8, it was decided that any future standards developed by E6 would not cover membrane installation. The work of E6 will involve only the lightweight and/or steel decking and possibly the application of roof insulations.

## Contractor involvement essential

To represent the interests of the contractor segment of the roofing industry and to see that ASTM develops and publishes proper standards, specifications and recommended application practices, more roofing contractors must get actively involved with the work of the ASTM committees. Contractor participation is needed to offset the dominance of the consultants and manufacturers. To increase contractor involvement, NRCA urges all its affiliates to sponsor a member to become an active participant in ASTM committee activities.

u.s.intec  
brai →

# WE'RE ON A ROLL



## 128 MILLION SQ. FT. OF BRAI ROLLED OUT ACROSS AMERICA IN 1985

U.S. Intec is the world's largest producer of A.P.P. modified bitumen, used to manufacture our Brai single-ply roofing systems. And Brai is being used more everyday.

There are loads of reasons for Brai's acceptance, from its extraordinary heat resistance and low-temperature flexibility, to the exceptional warranties and ease of application and inspection. But what's made us the tops is Brai's performance.

Our roofing systems have proven they can stand up to virtually all climates and the most difficult design projects. Brai is a clean, cost-effective choice.

Brai has passed the tests of time and the demands of the most demanding architects, contractors and building owners. Our company and our product are on a roll and here to stay.

**u.s.intec/**  
**brai**  **We're on a roll**

ROOFING

AND WATERPROOFING

PRODUCTS

For technical information, call  
**1-800-62INTEC.**

**ROLLING INTO VEGAS FOR THE NRCA CONVENTION. SEE YOU AT BOOTHS 122, 124 & 125.**



Holiday Inn/CROWNE PLAZA, Atlanta, Georgia. Southeastern States Roofing (Orlando, FL).

# THE TOUGH GOT GOING.



Dickinson Center and Cass School, Livonia, Michigan. Single Ply International (Livonia, MI). Marquette Building, Detroit, Michigan. WBC Roofing (Detroit, MI).

## BOND COTE SYSTEMS



WestPoint Pepperell

P.O. Box 71 West Point, Georgia 31833 800-368-2160

The word is getting around.

Bond Grey 35<sup>®</sup> mechanically-attached single ply membrane system installations are nationwide on new and retrofit projects. Commercial, industrial, hospital, resort and school and university applications are being protected by our 15-year watertight protection plan.

The Bond Cote Systems applicator has been carefully selected and trained to install the Bond Grey 35<sup>®</sup> system to our strict, exacting standards. You receive the full support and financial backing of our multi-billion dollar corporation.

Our network of representatives will be happy to show you more.

Bond Cote Systems' Bond Grey 35<sup>®</sup> mechanically-attached roofing system qualifies, without additional treatment or surfacing, for FM Class 1, I-60 and I-90, UL Class A (new and retrofit insulated constructions), SBCCI Compliance Report 8426, and Metro-Dade [84-0831.1(83), exp. 1/9/87.] Member, NRCA, SPRI and RCI.

Check #35 on Reader Service Card