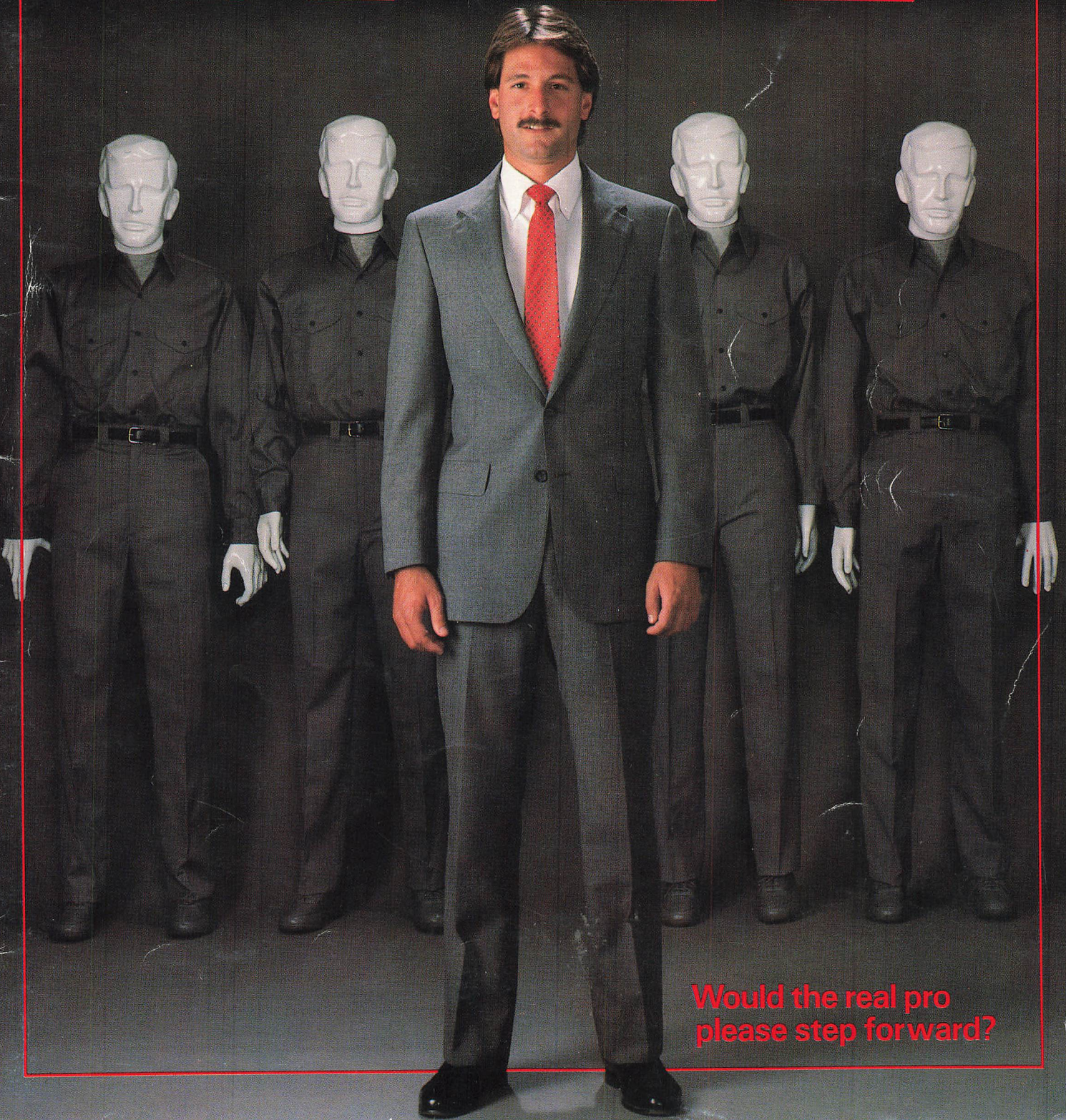


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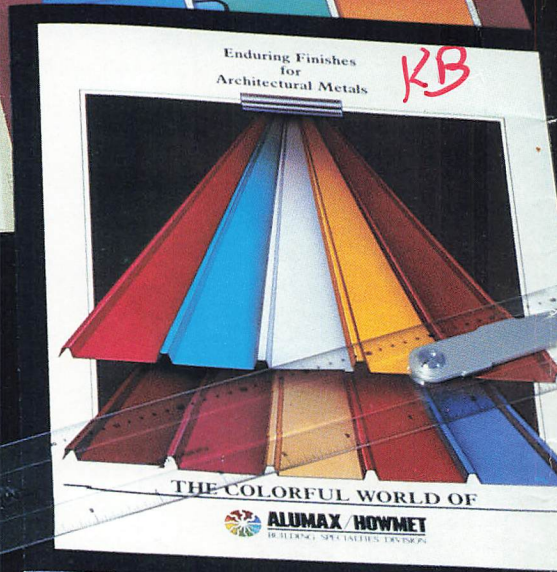
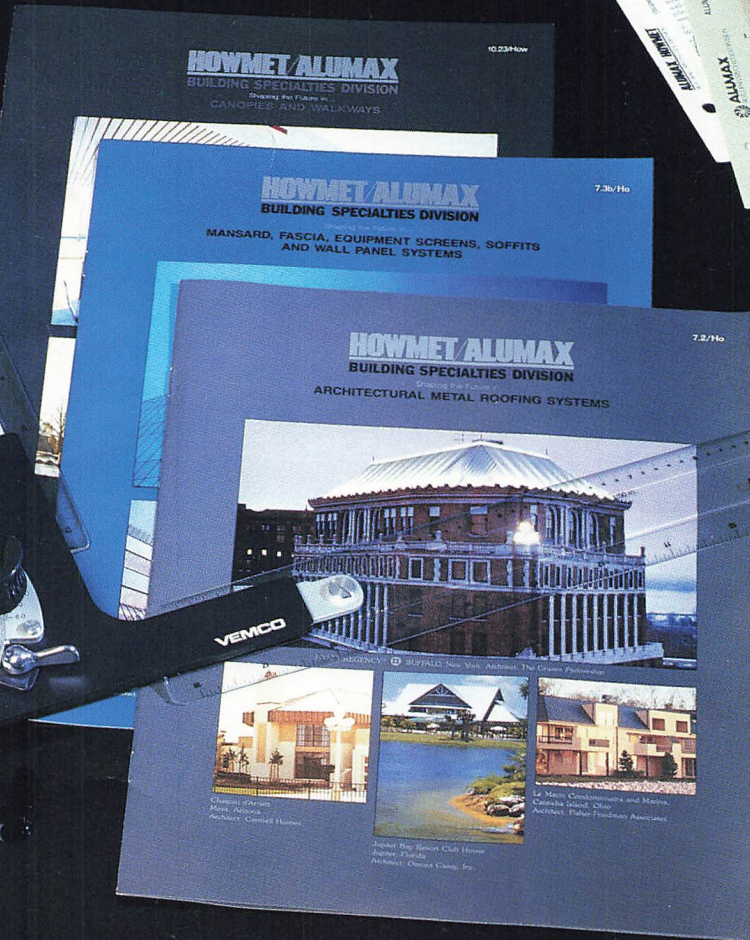
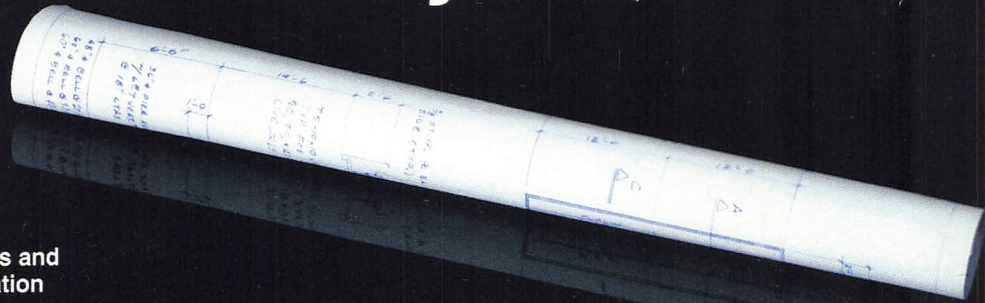
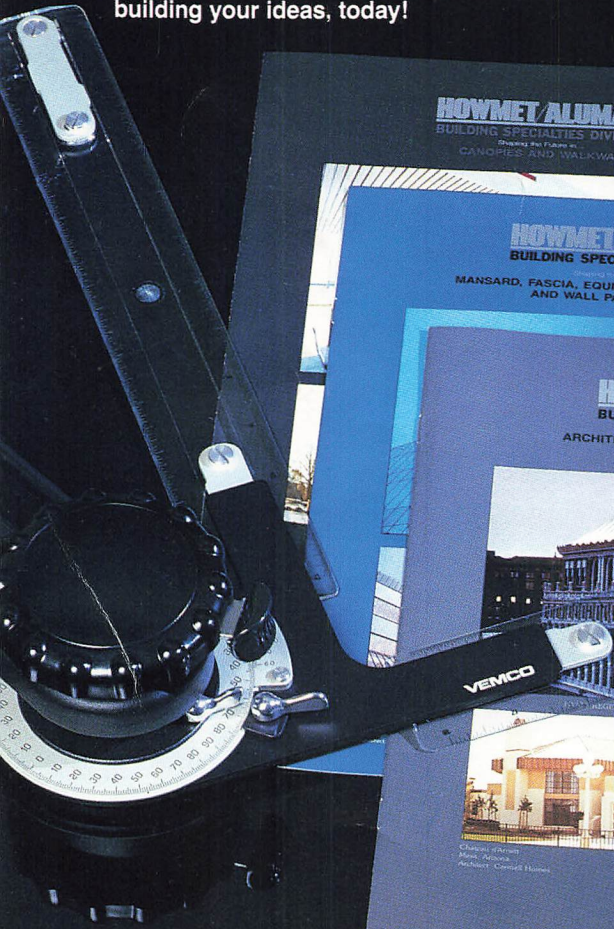
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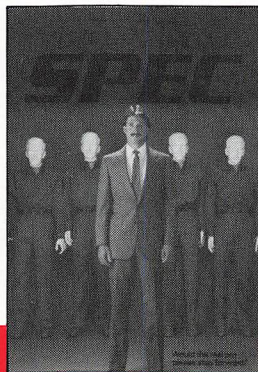
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Vol. 13, No. 6 June 1985

ADVERTISERS

- 11 Aeroil Products Co., Inc.
- 2 Alumax Aluminum Corp.
- 20 American Associated Cos., Inc.
- 13 American Buildings Co.
- 40 Atlantic Building Systems
- 21 AVW Audio Visual, Inc.
- 22 Carlisle SynTec Systems
- 38 CNA Insurance Cos.
- 15 Dupont, Reemay Products Group
- 6 Evanite Permaglas, Inc.
- 42 Evergreen Slate Co., Inc.
- 56 Genstar Roofing Products Co.
- 8 Globe Industries, Inc.
- 9 Hanover Prest-Paving Co.
- 10 Humane Equipment Co.
- 17 Hydrotherm, Inc.
- 4 International Permalite, Inc.
- 39 JBD Supply
- 12,41 Koppers Co.
- 44 Lifetile Corp.
- 7,45 Liquid Asphalt Systems
- 16 Manville Corp.
- 45 NRCA *Roofing Materials Guide*
- 18 Nord Bitumi U.S., Inc.
- 5 Petersen Aluminum Corp.
- 14 Roofers Mart
- 42 Roofmaster Products Co.
- 55 Seal-Dry
- 49 Siplast
- 20 Sulmac, Inc.
- 19 Sunglo Skylight Products
- 37 Thermo Materials, Inc.
- 40 Trumbull Asphalt
- 53 U.S. Intec, Inc.
- 7 Vande Hey-Raleigh Manufacturing Co.



COVER

Manufacturers are launching programs purported to help contractors market themselves as professionals and even certify them as pros.

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FEATURES

- 23 Manufacturers' marketing programs: producing pros—or collecting them?
by Kathleen Aharoni
- 27 Crumbling walls and leaky roofs make Bob Vila a celebrity
- 29 Steep roofing alternatives look better to homeowners all the time
by Mike Major
- 33 Industry groups examine plywood decking changes
by Bob LaCosse

DEPARTMENTS

- | | |
|-------------------|-------------------|
| 5 Letters | 44 On the Roof |
| 9 National News | 46 Coming Events |
| 17 Associate News | 47 New Ideas |
| 39 NRCA Update | 52 Classified Ads |
| 42 Legal | 54 Tech Talk |

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LETTERS

Roofing Spec encourages your letters and comments. Letters for publication may address articles appearing in the magazine or topics that may be of interest to Roofing Spec readers. The editor does have the right to abridge all letters for publication.

Coal tar terms defined

Dear Editor:

We have received the April 1985 issue of *Roofing Spec* and were interested in the article on page 35, "Coal tar overruns: tests help clear up controversy." We have run into two words with which we are not familiar: *centipoise* and *centistokes*. Will you be kind enough to give us a definition of these two words?

Over the years we have been familiar with the coal tar pitch, but would appreciate your explaining to us the difference between coal tar pitch and coal tar bitumen. Your help will be appreciated.

Albert L. Haskins Jr., FAIA
Haskins & Rice, Architects & Planners, P.A.

Jeff Lowinski, NRCA technical department manager, replies:

All liquids and some solids possess a definite resistance to flow or change of shape. This property, a sort of internal friction as resistance is experienced by one portion of a liquid moving over another portion of the liquid, is called viscosity. It is expressed in time-force per unit area (dyne-second per square centimeter), or poise. Centipoise, the standard unit of viscosity, is equal to 0.01 poise (1 poise = 100 centipoise). As a point of reference, water at 20C (68F) has a viscosity of 1.002 centipoise.

Kinematic viscosity is the ratio of a fluid's viscosity to its density at the same temperature. The standard unit of kinematic viscosity is the centistoke. It is obtained by dividing the viscosity of a fluid, in centipoise, by its density.

Many people are confused by the difference between coal tar pitch and coal tar bitumen. Both products are covered by the American Society of Testing and Materials (ASTM) D450 Standard Specification for Coal Tar Pitch Used in Roofing, Dampproofing and Waterproofing. This specification covers three types of coal tar pitch; Type I coal tar pitch is suitable for use in built-up roofing systems and is the traditional or old-style pitch that has been around for a hundred years. Type III coal tar bitumen is also suitable for built-up

continued on page 7



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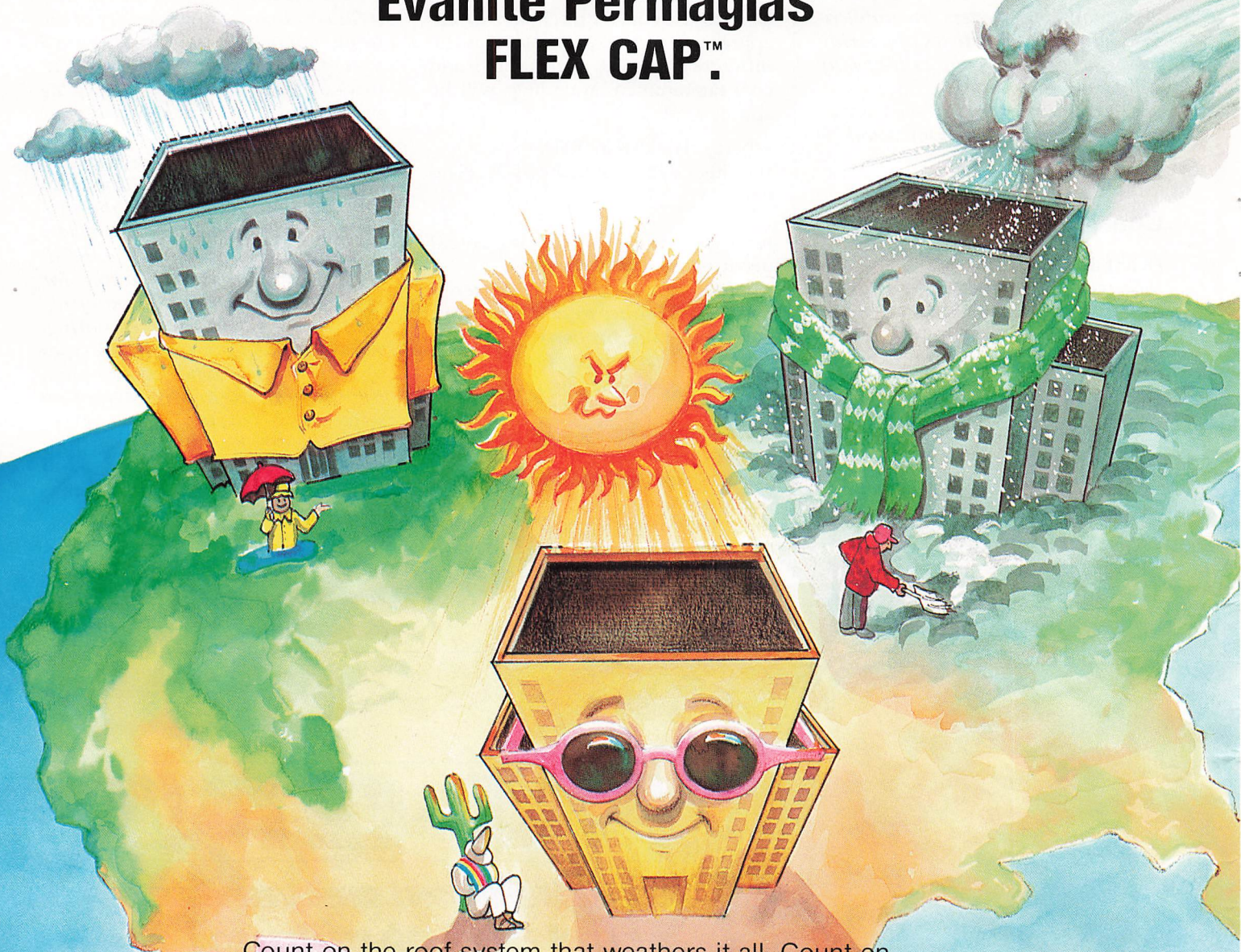
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LETTERS

roofing, but has less volatile components than Type I. Type II coal tar is used in below-grade waterproofing. Type III is manufactured solely by The Koppers Co. (though Koppers also manufactures Type I coal tar pitch). Type III is similar to Type I in its heating, softening and cold-flow properties, but is billed by The Koppers Co. as low-fuming.

Coal tar weight loss perplexes contractor

Dear Editor:

We found your article "Coal tar overruns: tests help clear up controversy" (see April *Roofing Spec*, page 35) very interesting. Our own test, while

certainly not as carefully controlled as yours, reflects that wide variations do exist in interply quantities of tar pitch bitumen.

However, we felt the test missed an important point. We know from our test that we can usually expect our cuts to have more interply adhesive than specified by the manufacturer. Taking an average bitumen or pitch weight per test cut and multiplying by the number of squares produces figures always in excess of that specified.

The confusing point is that these usage figures are always drastically less than the weight of the pitch or bitumen that was delivered to the job. The difference in the amounts delivered and the amounts numerous tests show that we placed on the roof are always out of line on job after job. This discrepancy, added to the overages we normally get in the interply, have time after time

added up to overages of as much as 40 percent above the manufacturer's recommendations.

We have come to believe that considerable weight is "lost" during the heating process. While this belief is certainly not based on in-depth research, it is the only way we have found to explain the loss of large amounts of weight.

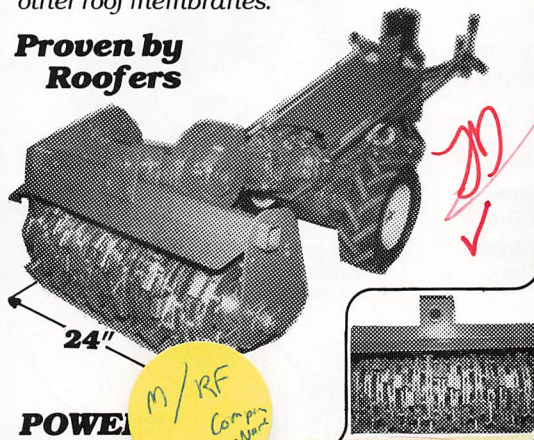
L. E. Mitchell Jr., vice president,
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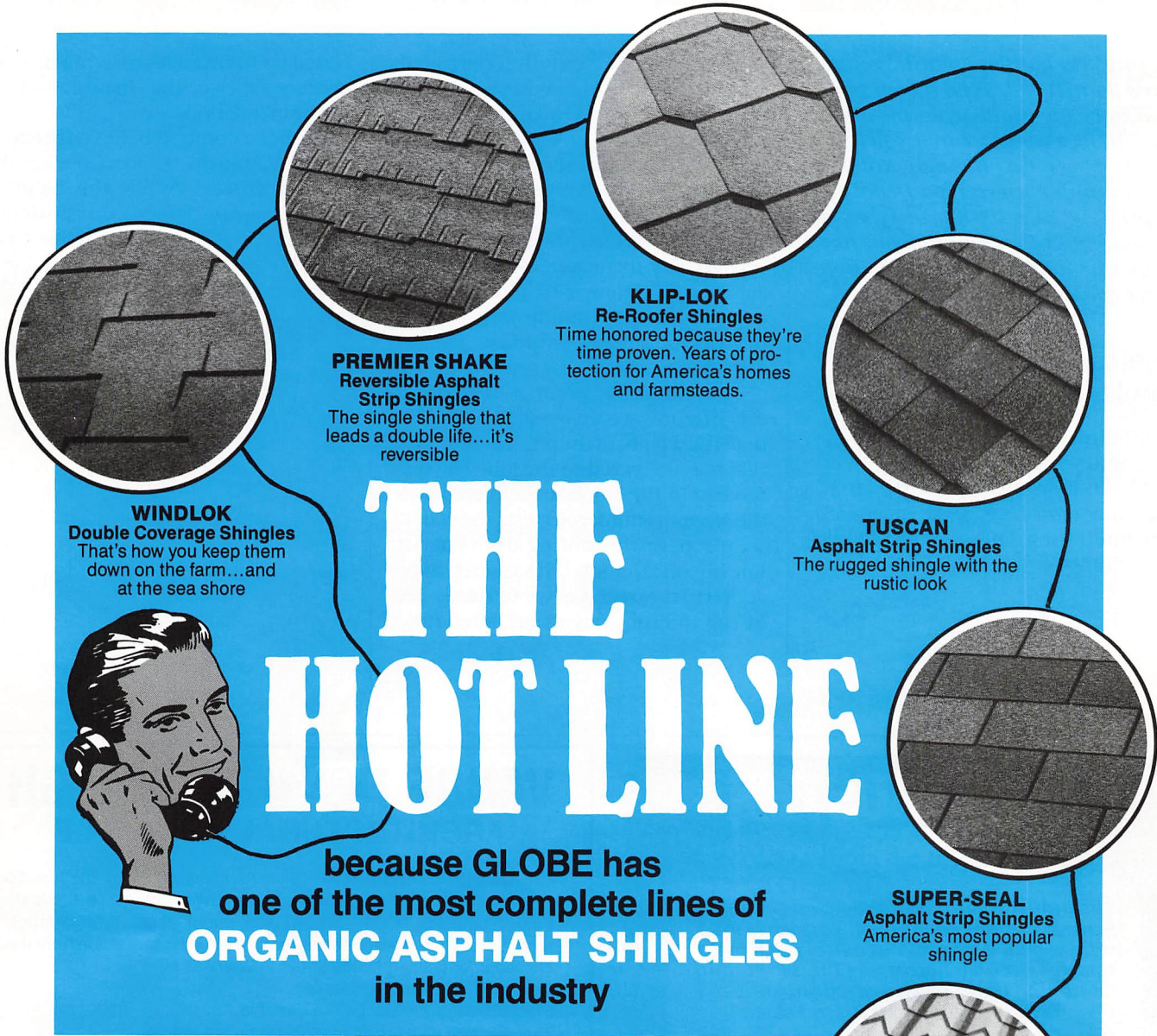
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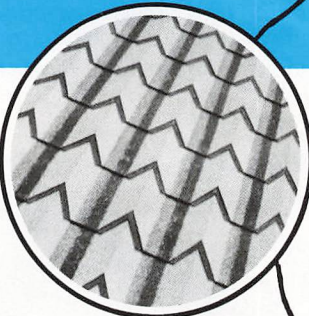
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Congress reconsiders vehicle-use recordkeeping requirements

Congress has moved to repeal the controversial law requiring taxpayers to keep detailed daily records of their vehicle and home computer use for business purposes. The repeal measures won't relieve taxpayers completely from recordkeeping duties, however. The new provisions simply eliminate the requirement, enacted in 1984, that the records be contemporaneous with usage.

The House and Senate, in lopsided votes on April 2 and 3, approved differing measures to drop recordkeeping requirements. The House measure passed by a 412-1 vote and included a tax increase to offset the revenue lost by repealing the recordkeeping requirements.

The Senate, in a 92-1 vote, passed a measure to reduce the amount individuals can write off each year for the business use of luxury automobiles.

This reduction is in addition to the curbs Congress voted last year to put on write-offs for expensive cars. Both the House and Senate versions would repeal the contemporaneous recordkeeping rules.

The House version would require that, beginning in 1986, taxpayers keep written evidence to prove their deductions for business use of cars. But instead of a use-by-use log, the House bill would allow taxpayers to cite such things as receipts, expense reports, diaries, trip sheets, account books and witness' written statements. The Senate version, which would take effect this year, doesn't include the new written-evidence standard.

The House's provisions would also permit employers to present to the IRS policies that prevent personal vehicle use or that limit personal use to commuting as evidence of business use—a rule that the Senate version doesn't include.

The House measure would give employers more flexibility in withholding taxes for the personal use of business vehicles, adding questions to tax forms about the vehicles' use.

The House measure is expected to reduce tax revenue by \$300 million over four years. The Senate version would cut \$150 million each year. Lawmakers have complained that the recordkeeping repeal is a defeat for deficit reduction and efforts to overhaul the federal tax system.

The Senate measure wouldn't add any revenue to make up for the losses. But the House measure would reduce the amount of investment tax credit and depreciation that can be claimed by individuals who own or lease expensive cars.

In addition to cars, the repeal measures would apply to light trucks, boats, airplanes and computers.

Construction jobs lost during recession regained as labor market improves

The nation's labor market expanded by about 3 million jobs last year, with the service-producing sector contributing 70 percent of the new non-farm jobs.

By the end of 1984, the construction industry had regained about 170 percent of the jobs lost during the recession. The greatest job gains were in specialty trades such as plumbing, painting, electrical work, masonry and concrete work. These employment gains took place mostly in the first half of the year, according to a 1984 labor market conditions analysis, published in the February issue of the Bureau of Labor Statistics' (BLS) *Monthly Labor Review*.

"All in all, two years of economic recovery added about two and one-half times the number of payroll jobs lost during the 1981-82 recession. Virtually all of the recession loss occurred in the goods-producing sector, while two-thirds of the recovery gains took place in the service-producing sector. Indeed, goods-sector jobs were still slightly short of their pre-recession peak at the end of 1984," the study reports.

Contrary to popular opinion, the 1984 figures reflect the industrial character of U.S. employment, the BLS analysts point out, with managerial/professional jobs growing fastest while service and clerical positions growing slower.

E/R/R

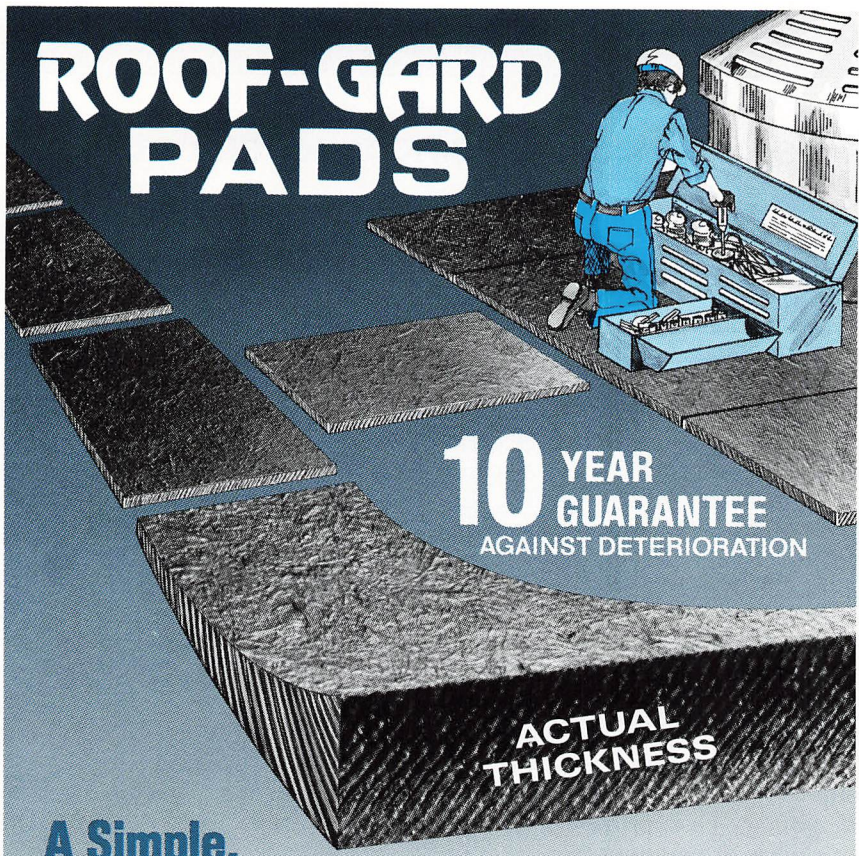
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NATIONAL NEWS

Single-ply use increases in '85

A significant increase in the volume of single-ply roofing membranes shipped this year was announced by the Single Ply Roofing Institute (SPRI).

Figures compiled by Ernst and Whinney, Chicago, show that the square footage of single-ply materials shipped in January 1985 is 68 percent more than that shipped in January 1984.

The increase is due in part to the stronger economy, which has spurred construction, as well as contractors and designers growing increasingly familiar with single-ply roofing membranes, says SPRI.

RCEC offers \$1,000 scholarships

The Residential Construction Employers Council (RCEC) recently announced the establishment of five \$1,000 scholarships for college juniors or seniors majoring in construction administration, management and/or technology at selected Midwestern universities.

RCEC hopes this expenditure will promote the residential housing industry by providing scholarships to help Illinois students continue their education and then return to strengthen residential construction in the Chicago area.

The scholarships will be awarded at the following universities for the 1985-86 school year: Bradley University, Peoria, Ill.; University of Illinois, Champaign-Urbana, Ill.; Michigan State University, East Lansing, Mich.; University of Wisconsin, Madison, Wis.; and Indiana University/Purdue University, Indianapolis.

Criteria governing the selection of recipients will be determined by each university's offices and construction departments as well as through the RCEC office.

Manville refuses to participate in asbestos claims settlement

The Manville Corp. has indicated that it won't join an agreement establishing an out-of-court framework for settling billions of dollars of asbestos-related claims against the company, other asbestos producers and their insurance companies.

According to a story in *The Wall Street Journal*, attorneys for asbestos victims said they were stunned and dismayed by Manville's action. But representatives of other asbestos producers said they had expected that Manville wouldn't make the agreement's May 29 deadline. The other producers will try to proceed without the company.

Manville conditionally signed the pact last fall, saying it had reservations about the agreement's formula for dividing damages costs against the various asbestos producers and insurance companies. Although Manville said it probably wouldn't be able to join the agreement by May 29, the scheduled date of effect, it hopes to join the agreement at a later date.

The agreement is intended to streamline thousands of asbestos-related lawsuits by allowing the defendants to be represented as a group. Lawyers for asbestos victims, although not direct parties to the agreement, have praised it as less costly and quicker than working through the court system.

"We would like to see the agreement go forward because it would help our clients get more money and at a rapid pace," said Fred Baron, a Dallas attorney representing many asbestos claimants. "And we still have the right to proceed in court if we can't settle under the agreement."

The accord, named the Wellington agreement for its author Harry Wellington, dean of the Yale Law School, could proceed without Manville, defendants' attorneys say. However, this could mean massive duplication of effort as claimants seek damages from companies that have signed the agreement and then pursue parallel claims against Manville. As of March, the Wellington agreement had been signed by 33 asbestos producers and 22 insurance companies.

Various bankruptcy-law reorgani-

zation plans under consideration call for Manville to pay asbestos claimants with stock and rights to future profits. Until such plans are decided, the company has indicated it would be difficult to join the agreement.

Earlier, Manville announced that asbestos-related property damage claims against it probably would

exceed \$50 billion, an amount far greater than expected. Health-related claims against the company total about \$12.5 billion. The Wellington agreement is intended to settle health-related cases and does not apply to property claims.

continued on page 13

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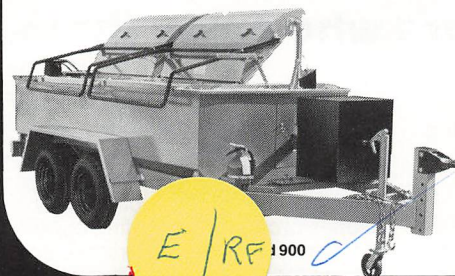
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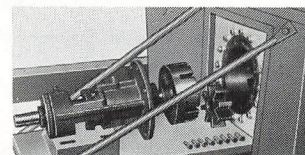


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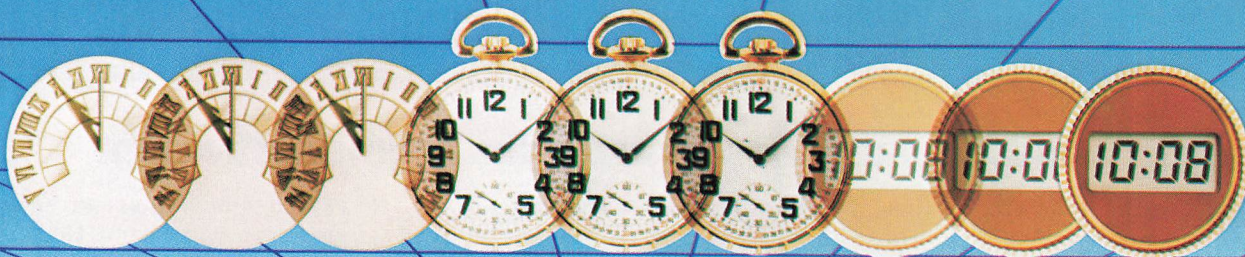


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Competition for work to shape construction labor agreements

Construction industry bargaining during 1985 is predicted to be a repeat of 1984. Bargaining will again focus on competition rather than union power as the factor that will determine labor cost changes in new agreements, according to the Construction Labor Research Council's (CLRC) bargaining outlook for this year.

Because wage rates in the organized sector of the construction industry are "based on competition and volume of work in each area," CLRC predicts a high degree of labor-rate moderation and stability through 1985. In areas where unions are still trying to be competitive with the open shops, CLRC expects more freezes and rollbacks. Increases are most likely to be negotiated where the construction market is strong and unions still have some control of the labor market.

Bargaining will be heavy this year, due to the large number of one-year agreements negotiated last year by both labor and contractors, a tactic which allows for quicker reactions to market changes.

Structural changes in bargaining make it more difficult to accurately estimate the number of agreements expiring in 1985. Estimates show that nearly 70 percent of the more than 4,000 construction labor agreements, covering more than 750,000 building tradesmen, will expire in 1985. Robert Gasperow, CLRC director, noted that "as more multi-employer bargaining units disband and contracts expire without being renegotiated, a greater amount of uncertainty is associated with measuring the amount of negotiating activity."

This year's heaviest bargaining is expected in the mid-Atlantic states and the East North Central states, with relatively light bargaining in the West.

The average wage/fringe benefit increase negotiated over the past five years is \$5.82, a 40.6 percent increase, bringing the average hourly labor rate to \$19.94 an hour, according to CLRC figures. For the same period, the Consumer Price Index rose 37.2 percent.

The 2.2 percent increase in the wage/fringe package negotiated last

year was the smallest since World War II. This compares with a 10.5 percent increase in 1981, CLRC reported.

Because of the large number of one-year agreements negotiated last year, deferred increases in this year's labor talks will play a more minor role, projects CLRC. About 40 per-

cent of workers with deferred increases due this year are in California, Illinois and New York.

For the 558 contracts already settled through 1985, the average wage/benefit increase is 90 cents or 4.3 percent. Increases deferred for 1986 average 85 cents or 3.9 percent.

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At Exterior Building Products, we're so confident in our Weather Master standing seam roof system, that if it leaks within a twenty-year period, we'll pay our certified roofing contractor to fix it. That includes parts and labor up to the cost of the roof. You won't find any other roofing system that.

For more information on our Weather Master standing seam roof system, its warranties, and certification program, contact Joel Voelkert, Exterior Building Products, P.O. Box 800/Eufaula, AL 36027/(205) 687-2032.

Exterior Building Products

A Division of American Buildings Company.



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ROOFERS MART.

DISTRIBUTORS OF QUALITY ROOFING PRODUCTS FOR PROFESSIONAL ROOFING CONTRACTORS.

Whether your business is manufacturing quality roofing products or installing them, you owe it to yourself to take a closer look at Roofers Mart. For one reason, in less than one year we've grown from a good idea to a network of 17 distribution centers nationwide. And we're still growing.

That's a success record that would make any company proud. And, at Roofers Mart we are.

Chances are you've heard of us, and chances are you may have already given some thought as to how we might fit into your plans. Roofers Mart offers contractors and manufacturers alike a unique opportunity.

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And to roofing products manufacturers, we offer a valuable link to a growing network of roofing contractors whose purchases of materials and supplies currently exceed \$300 million annually. Face it, that's an impressive figure by anyone's standards.

Check out the Roofers Mart locations listed below. If we aren't near your market now, chances are we will be. Give us a call and give us an opportunity to show you what Roofers Mart can do for you.

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Atlanta, Georgia

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Milwaukee, Wisconsin

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Richmond, Virginia

Roofers Mart of Central Texas
San Antonio, Texas

Roofers Mart of Southern California
Los Angeles, California

Roofers Mart of Delaware Valley
Philadelphia, Pennsylvania

Roofers Mart of Minnesota
Minneapolis, Minnesota

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St. Louis, Missouri

Roofers Mart of Central Pennsylvania
Lancaster, Pennsylvania

Rocky Mountain Roofers Mart
Denver, Colorado

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Roofers Mart of North Carolina
Raleigh, North Carolina

Roofers Mart of Oregon
Portland, Oregon

Roofers Mart of New England
Boston, Massachusetts

Illinois Roofers Mart
Chicago, Illinois

Great Lakes Roofers Mart
Detroit, Michigan

For additional information contact:
Roofers Mart of America, Inc.
St. Louis, Missouri
314-434-1800

NATIONAL NEWS

MSDSs asked of SPRI members

The Single Ply Roofing Institute (SPRI) is nearing completion of its new Roof Top Chemical Safety Program. The program is designed to improve the workplace in which single-ply products are being used.

SPRI members were asked to provide material safety data sheets (MSDS) for materials they manufacture and/or sell. They were also asked to develop uniform labeling for all single-ply products, listing hazardous ingredients, identifying what hazards can result and describing how workers and employers can protect against those hazards.

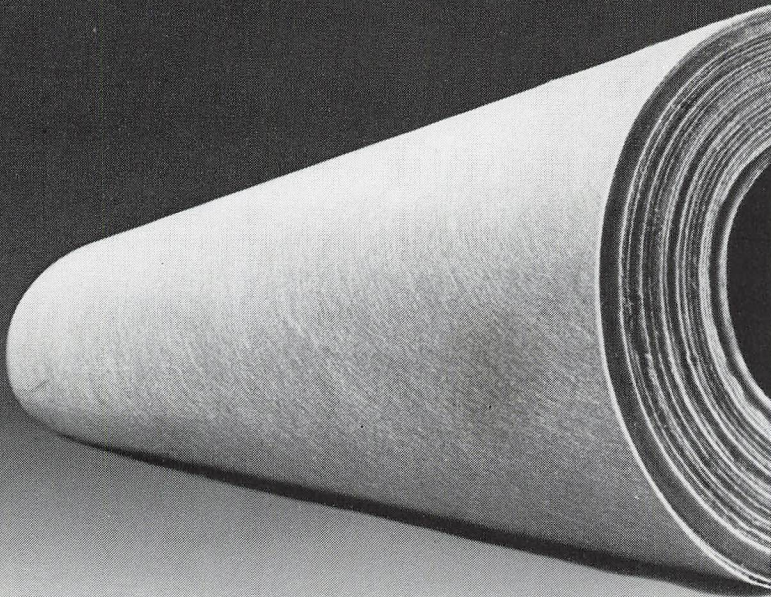
SPRI members that support this program will be required to make sure that:

- any hazardous chemical in their product line is included in a generic list;
- their product labels identify hazardous components by the proper chemical name;
- labels and MSDS language are consistent with the program;
- suitable personal protective equipment recommendations are suggested based on health hazard ratings and expected rooftop exposure conditions.

Chris Cronin, chairman of NRCA's Health and Hazardous Materials Committee, has been working closely with SPRI's Safety, Health and Environmental Committee, which is under Tom Curran's leadership, on this project. Cronin feels confident that a majority of manufacturers and suppliers are attempting to furnish MSDS on their shipments. If for some reason an MSDS does not accompany a shipment, a simple request to the manufacturer will ensure that the information will be sent to the contractor.

SPRI has classified single-ply product chemicals and has assigned them a hazard rating. The NRCA Health Committee plans to make this information available as soon as all the information is collected.

Remarkable Reemay[®] gives you four ways to improve profits.



Company Name -
DuPont, Reemay Products Group

REEMAY[®] Roofing Fabric by DuPont is superior to felts in four key ways that reduce your costs.

2 times stronger

REEMAY is twice as strong as fiberglass felt. It holds together over seams and joints. You install a more durable membrane and reduce call-back costs.

9 times lighter

Lightweight REEMAY cuts labor costs because it goes down faster, easier. Cuts freight costs significantly, too.

20 times more stretch

REEMAY elongates 43% its normal size, while fiberglass breaks at 1.8%. That means REEMAY adapts to extreme heat, cold and ponding weight. You get a more failure-proof roof and reduce call-back costs.

REEMAY vs. FELTS	Organic Felt, 15 lbs.	Fiberglass Felt	REEMAY S-2024
1 Strength, pounds	1	10	22
2 Weight, pounds/100,000 sq. ft.	15	36,000	4,050
3 Elongation, percent	1.8	1.8	43
4 Flex-life, cycles-to-failure	100	100	100,000
All materials tested in 3 plies in asphalt.			

E/RF

1,000 times more flexible

REEMAY exceeds 100,000 flex cycles without cracking. Fiberglass felts fail at 100 in the same test. Over years of freeze/thaw cycles, REEMAY holds up. You get a long lasting, reliable roof.

Used with most common cold mastics, for single-ply or built-up roofs, remarkable REEMAY Roofing Fabric gives you a more trouble-free, more profitable roof. Contact a distributor from the list at right

for name of a dealer near you. And for more information, call (302) 999-5077 or write DuPont Company, Room G-39978, Wilmington, DE 19898.

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Ask about DuPont Certified Systems



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Manville GlasPly™ Premier and GlasPly IV for '85. Standard features that mean performance.

Ruggedness.

Tough. Durable. Built to perform. GlasPly Premier and GlasPly IV incorporate a special wet-process fiber glass mat. One that provides outstanding fiber distribution, uniformity and reinforcing strength. And use of an improved asphalt application process results in an asphalt-impregnated ply felt of unvarying thickness.

As a result, both Manville GlasPly felts exceed ASTM-2178-84 Type IV criteria.

That means you get a product that's stronger with greater resistance to moisture and weathering. And with better all-around performance.

Advanced design.

The specially constructed mats of both GlasPly felts from Manville are designed to stop asphalt migration problems. Fine, uniform perforations in the fiber glass mats are large enough to provide for venting during application, but small enough to properly stabilize the membrane asphalt, for improved waterproofing.

Beautiful handling.

Manville GlasPly roofing felts have excellent pliability. They lay fast and easily, conforming readily to minor irregularities in the roof surface. They're easy to mop, easy to work with. For time and money savings.

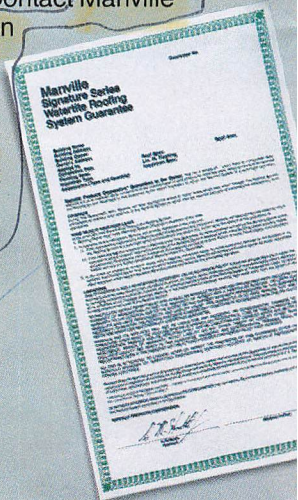


The best guarantee program in the business.

GlasPly felts are manufactured to rigid specifications, which are the result of Manville's 127 years of roofing experience. GlasPly Premier qualifies for our unique, 20-year, No-Dollar-Limit (NDL) Guarantee—and GlasPly IV for our standard penal sum guarantee for up to 20 years. Both GlasPly felts give you the versatility to choose and still be assured of top quality and guaranteed performance.

Find out more. Contact Manville

Product Information
Center, P.O. Box
5108, Denver,
Colorado 80217.
(303) 978-4900.
For export, TELEX:
MANVL DVR
454404.



Manville

Bird dedicates roofing shingle plant

Bird, Inc., has officially dedicated what the company claims is "the country's newest and most modern roofing shingle manufacturing plant" in Norwood, Mass., during a ceremony for employees and community and civic leaders.

The facility, which houses a machine twice as long as a football field, has "computer-controlled machinery that will increase efficiency and ensure consistent product quality of fiber glass-based roofing shingles and asphalt roll roofing," Bird says. "It will produce enough roofing shingles in two minutes to cover an average-size house, and in one hour enough shingles to fill three tractor-trailers," the company explains.

Thomas O'Toole, Bird's most senior plant employee and Louie Gabrielli, senior plant foreman, unveiled a commemorative plaque dedicated to all past and present Bird employees. The ceremony also included a slide presentation and tour of the new facility.

Duro-Last opens West Coast facility

Duro-Last Roofing, Inc., Saginaw, Mich., has opened a West Coast manufacturing facility in Grants Pass, Ore.

The new facility occupies 25,000 square feet and will allow for a 25 percent increase in Duro-Last® roofing production nationwide. In addition, the plant is expected to reduce West Coast delivery time of single-ply systems from two to three weeks to one week or less, the company says.

"We expect to produce an average of 18,000 square feet of custom roofing per day," explained Monte Sharp, plant manager for the facility.

A 100 percent sales increase is expected over the next year, and plans to move out of the current facility and into a larger one within two years, John Burt, owner and president of Duro-Last Roofing said.

Pittsburgh Corning appoints key personnel

The Pittsburgh Corning Corp. has named Dr. Chester P. Smolenski director of new business development and Robert M. McMarlin manager of technical systems.

Smolenski will be responsible for the company's new business development efforts. McMarlin will coordinate customer/technical assistance programs.

Smolenski, a member of the American Society of Civil Engineers (ASCE) and the American Society for Testing and Materials (ASTM) joined Pittsburgh Corning in 1966. He has served the company in various technical and marketing capacities. Most recently he was manager of technical systems.

McMarlin, also an ASTM member, began as a research engineer with Pittsburgh Corning in 1969. Before this appointment he served as manager of technical services and systems development.

Elk Corp. names new vice president

The Elk Corp. has appointed Jon Fiese as vice president of sales and marketing. He will be responsible for the company's sales and marketing activities.

Fiese formerly spent more than 12 years with the Masonite Corp. as director of sales and marketing for its Western and Central divisions.

WatPro names new vice president

George H. Dougherty has joined WatPro, Inc., Kimberton, Penn., as the company's vice president.

In his new position, Dougherty will be responsible for all aspects of the WatPro business, including production, sales and marketing of the company's line of synthetic polymer roofing materials.

Dougherty was formerly the general manager for Carboline Building Products Corp.

Ken Jacobs joins Henry Co.

Ken Jacobs has joined the Henry Co. as a roofing consultant. He will also head the company's inspection team and membrane warranty program.

Prior to joining the Henry Co., Jacobs was employed by Flintkote.

continued on page 19

HYDRO-THERM

**INTRODUCES
A "NEW" DURABLE LINE
OF FLUID APPLIED
ROOF COATINGS!**

These coatings insulate, waterproof, deaden sound, neutralize rust (on metal surfaces) and provide a deep velvety appearance.

*"The Insulating Quality is
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**SAVINGS OF UP TO
40% ON HEATING AND
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And Qualifies for the Federal Energy Tax Credit

In independent testing for fire resistance, our material had a Fuel Contribution Factor of 0.

The **HYDRO-THERM** Roof System forms a blanket of protection shaped around roof edges, vents, and irregularities, leaving **NO** seams that develop into leaks.

HYDRO-THERM is excellent for application on polyurethane foam, metal substrates, plywood, built-up roofs and asphalt shingles.

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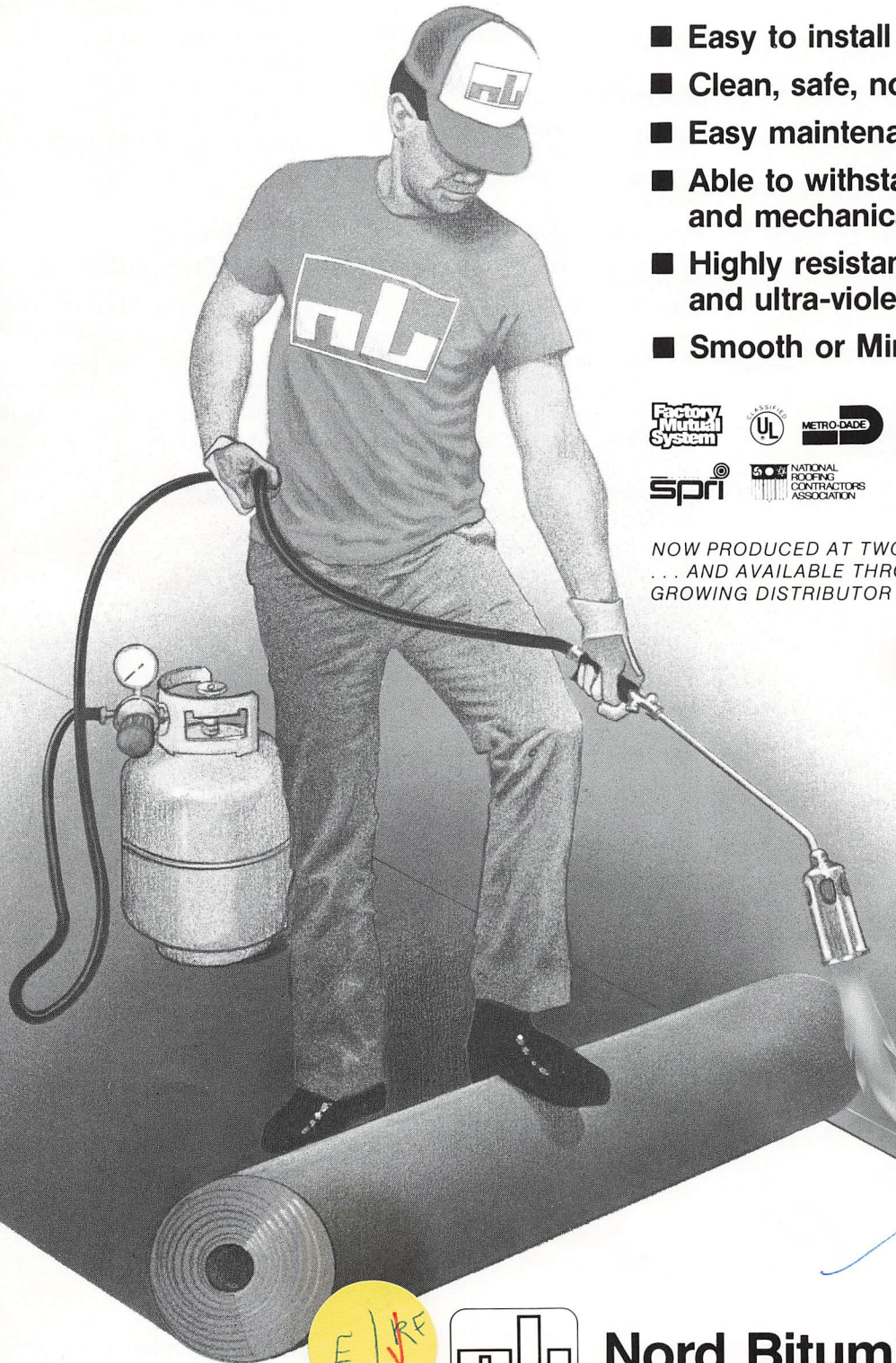
W/RF

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Nord Bitumi U.S., Inc.

NORD POLY 4

A modified bitumen roofing system with a polyester core manufactured in the United States



- Easy to install
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- Able to withstand thermal and mechanical shock
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Factory Mutual System

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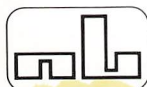
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NATIONAL ROOFING CONTRACTORS ASSOCIATION

NOW PRODUCED AT TWO MODERN U.S. PLANTS
... AND AVAILABLE THROUGH A
GROWING DISTRIBUTOR NETWORK



Nord Bitumi U.S., Inc.

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Check #26 on Reader Service Card

National Nail Corp. opens Cincinnati plant

The National Nail Corp. has opened its fourth distribution center in Cincinnati. This new facility will service Ohio, Indiana, Kentucky and Tennessee.

Pete Arends, formerly with the company's Grand Rapids, Mich. plant, has been appointed manager of the Cincinnati branch.

The center will receive nails in bulk and package them in 1-pound, 5-pound, 25-pound and 50-pound cartons for distribution throughout a 300-mile radius.

Wasco names new Southwest sales manager

Gary T. Tucker has joined Wasco Products, Inc., as its Southwest regional sales manager for the residential products division.

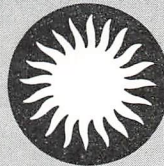
Before joining Wasco, Tucker was an independent lumber broker in the Dallas-Fort Worth area.

Tucker will be based at the division's Dallas-Fort Worth-area headquarters in Ennis, Texas.

Foley joins Sarnafil's sales team

Richard K. Foley has joined Sarnafil, Inc., of Canton, Mass. as vice president of sales and marketing.

Before joining Sarnafil, Foley was W.R. Grace's group marketing manager for roofing and waterproofing in the construction products division.



COMPARE!

Double glazed 9" insulated
Self-Curbing Unit
with thermal break



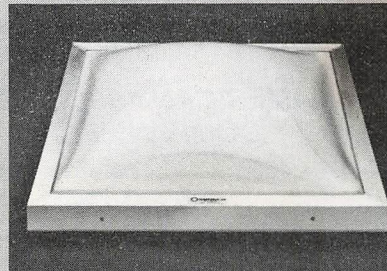
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DELIVERED ON TIME. EVERY TIME.

Vaults



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Synergy announces contractor incentive program

Synergy Methods, Inc., has introduced a new incentive marketing program for its roofing contractor network.

The "Synergy All Stars Program" rewards top-producing roofing contractors with all-expense-paid vacations to Nassau in the Bahamas.

Because the program coincides with the baseball season as well as construction's heaviest period, it features a baseball theme. Synergy-approved roofing contractors will receive regular mailings to reinforce the program and its baseball motif throughout the summer. The promotion will conclude Nov. 30, 1985.

Synergy-approved roofing contractors with base sales quotas of 250,000 square feet are eligible for the incentive program. Roofing contractors who sell 40,000 square feet over the 250,000 square feet base requirement are eligible to win one complete trip. Each additional 40,000 square feet in sales earns another trip.

Promotion participants can win a maximum of four complete trips.

Tri-Ply purchases manufacturing plant


Tri-Ply, Inc., has purchased a fully equipped manufacturing plant from Asphalti Breitner of Terni, Italy and is exploring possible building sites for it in the Midwest.

Asphalti Breitner has guaranteed Tri-Ply's TP-4 modified bitumen roofing systems production at one of their five U.S. plants until the Tri-Ply plant begins production next year.

Dow increases Styrofoam product prices

The Dow Chemical Co. has increased prices 4 percent to 7 percent for its Styrofoam RS, TG, SM and SB brand plastic foam products. The changes, which became effective May 1, are needed to recover increased manufacturing and transportation costs, according to Dow.

"While we continue to work hard at controlling our costs and expenses, these price increases will allow us to maintain our long-term commitment to providing our customers with the high quality products, performance and service they've come to expect from Dow," said Greg Stutelberg, product marketing manager for Dow.



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EMERGENCY Water Diverter

OVERHEAD PROTECTION FROM ROOF • PIPE • MACHINERY LEAKS!

ELIMINATE DOWN TIME!

PROTECT MACHINERY AND STOCK

PERFECT FOR OFFICES - SHOPS - WAREHOUSES

101 USES!

DIVERTS WATER TO WINDOW - DRAIN - SINK!

INDIVIDUALLY PACKAGED

DIVERTERS • YOUR CHOICE

Price subject to change without notice

3' x 6' — \$38.25	6' x 6' — \$44.75
3' x 8' — \$39.85	6' x 8' — \$48.50
3' x 10' — \$41.50	6' x 10' — \$52.35


SUSPENSION ROPE AND HOSE NOT INCLUDED
OTHER SIZES AVAILABLE UPON REQUEST

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

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

Our Water Diverter protects the machinery and equipment from roof leaks. A permanent solution can be accomplished.

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



INDUSTRIAL VINYL REINFORCED WITH POLYESTER

HEAVY DUTY GARDEN HOSE ATTACHMENT

SOLID BRASS GROMMETS

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

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

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

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CONVENTION CASSETTES

that let you hear what you may have missed.

Cassettes of the convention seminars are now available for purchase from AVW Audio Visual, Inc.

Here's how the convention seminar cassettes can be valuable long after the National Roofing Contractors Association convention is over:

- Provides an excellent 'refresher course' for the future.
- Provides an invaluable educational and training tool.
- Provides access to important information for those unable to attend.

Get your AVW seminar cassettes by using the handy order form below.

National Roofing Contractors Association

February 10-13, 1985
New Orleans, Louisiana

SUNDAY, FEBRUARY, 10

____ NRCA-01 Early Bird Program: "A Way To Increase Your Profits: Increase Your Business"
Panel Moderator: Dick Baxter \$16.00

MONDAY, FEBRUARY, 11

____ NRCA-02 Opening Luncheon: "The Problem Of Big Government" J. Peter Grace \$8.00
____ NRCA-03 General Session: "Marketing For The Professional Roofing Contractor"
Dr. Neil Miller \$8.00
____ NRCA-04 General Session: "Single-Ply: Past, Present And Future"
Panel Moderator: Larry Carlson \$8.00

TUESDAY, FEBRUARY, 12

____ NRCA-05 Member Breakfast: "When In Doubt, Mumble" Dr. James Boren \$8.00
____ NRCA-06 Educational Workshop: "Achieving Excellence Through Effective Management"
Joel Weldon \$8.00
____ NRCA-07 Educational Workshop: "Preparing Job Estimates: Can A Computer Help You?"
Panel Moderator: Bennett Hutchison III \$8.00
____ NRCA-08 Educational Workshop: "What To Do When You Don't Get Paid" Stephen Phillips \$8.00
____ NRCA-09 Educational Workshop: "Airing It Out: The Latest On Osha And Asbestos"
Panel Moderator: Christopher Cronin \$8.00
____ NRCA-10 Educational Workshop: "Insulation: R's, U's, Do's And Don'ts"
Panel Moderator: Melvin Kruger \$8.00
____ NRCA-11 Educational Workshop: "Understanding U.L.: Friend Of Foe?"
Panel Moderator: Robert L. Donahue \$8.00
____ NRCA-12 Recognition Luncheon: "Tuning In To Life's Celebration" Tom Sullivan \$8.00
____ NRCA-13 Rap Session: "A Family Affair" Panel Moderator: Gaylord Blue \$8.00
____ NRCA-14 Rap Session: "Maintenance Agreements" Panel Moderator: Kurt Carlson \$8.00
____ NRCA-15 Rap Session: "Legal Resource Center: Uses And Benefits"
Panel Moderator: James McBrady, Jr. \$8.00
____ NRCA-17 Rap Session: Personnel: "Hiring, Inspiring Or Firing"
Panel Moderator: Donald McNamara \$8.00

NRCA

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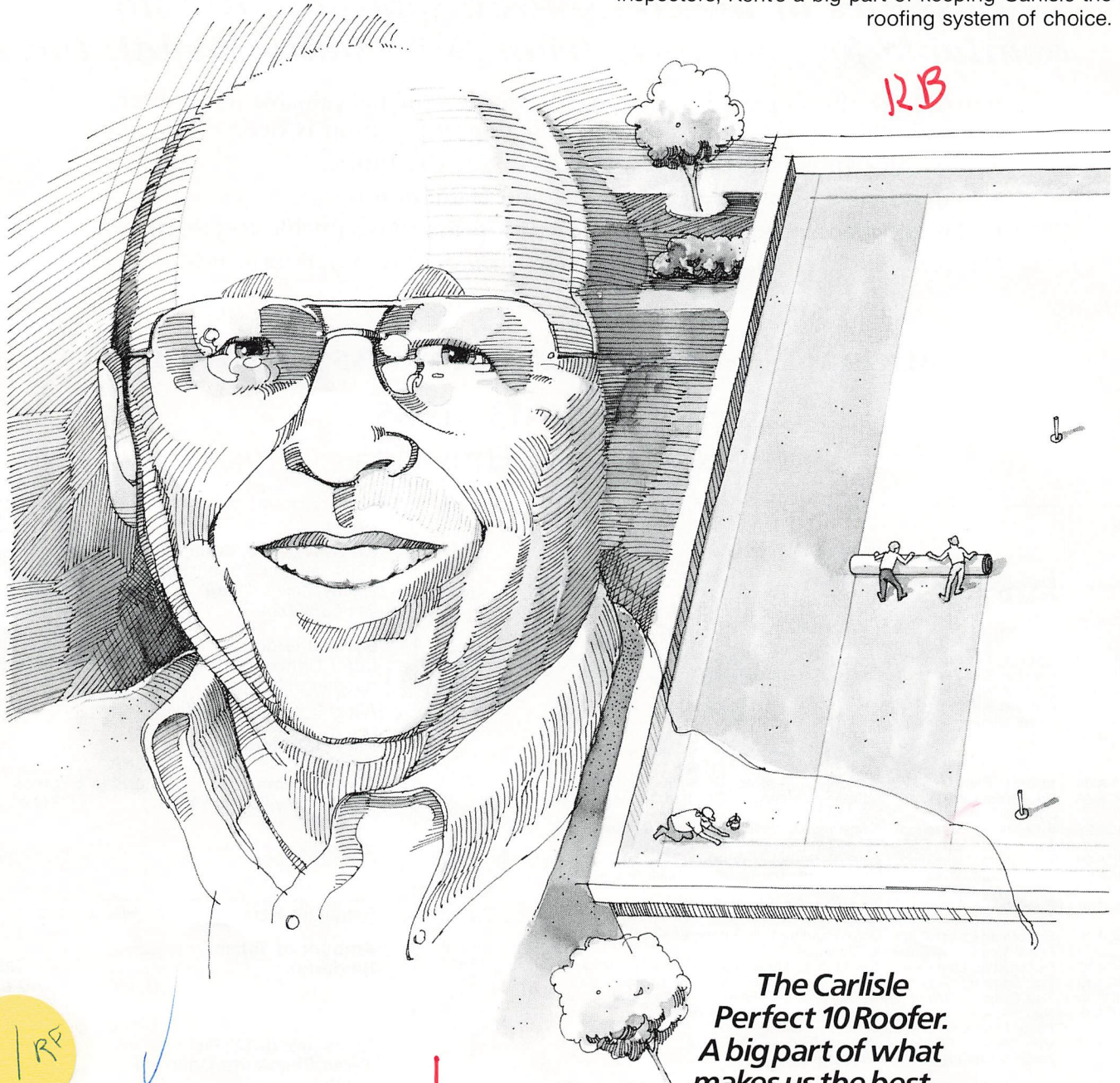
**"14 million square feet
of Carlisle roofing
and no failures--
that's the accomplishment
I'm proudest of."**

W. Kent Nielsen, President
CURRAN V. NIELSEN CO., INC.
Minneapolis, MN

For over fifty years, the Nielsen family has built its business reputation on quality. Kent Nielsen calls it a "quality work ethic." And it's reflected in the company's people, salesmanship, service, workmanship and its product line. That's why today, Kent Nielsen remains committed to Carlisle Sure Seal® roofing systems.

"Minnesota weather is very tough on roofing," explains Kent. "Building owners and managers have suffered through failure after failure. But we offer a roofing system that holds up." And that's contributed a lot to the company's success story.

Likewise, Kent's quality orientation has contributed a lot to Carlisle's success story. As an installer of over 150 perfect roofs, as judged by Carlisle technical inspectors, Kent's a big part of keeping Carlisle the roofing system of choice.



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A big part of what
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CARLISLE

Carlisle SynTec Systems

Division of Carlisle Corporation, P.O. Box 7000, Carlisle, PA 17013

Check #7 on Reader Service Card

Manufacturers' marketing programs: producing pros—or collecting them?

For a couple of years now the term professional roofing contractor has been thrown around the industry. It appears on billboards and promotional brochures, and it's heard on radio advertisements. It has also become, dare we say, a sales tool for manufacturers. Granted, manufacturers are disseminating valuable information to their customers, but are they turning them into professionals?

What exactly is a professional roofing contractor? The National Roofing Contractors Association (NRCA) describes the pro as well-established, skilled and knowledgeable; committed to education and safety; insured, bonded and licensed (where appropriate). NRCA also says professionals "use quality materials and stand behind their work."

Bird, Inc., a shingle manufacturer, says that to be certified by the company as a professional residential roofing contractor one must:

- be in the residential roofing business for three consecutive years immediately before application;
- provide three business references;
- provide 10 homeowner references;
- agree to be licensed as required by state and local authorities;
- provide homeowners with a full written warranty covering workmanship for at least two years;
- agree to use clear, written estimates and contracts;
- agree to complete all work in a timely and professional manner;
- have performed a minimum of 25 shingle installations per year during the past three years;
- have a business telephone number listed in the white or yellow pages;
- agree to carry insurance covering workers' compensation, personal injury and property damage;

Would
the real
pro
please
stand up

by Kathleen Aharoni

- follow application standards as recommended and published by the Asphalt Roofing Manufacturers Association (ARMA) and instructions printed on Bird's shingle wrappers;
- subject work to a quarterly inspection by Bird representatives;
- have a reputation as a competent, reliable roofing firm (based on interviews with at least three customers from the past 12 months);
- conduct business in accordance with Bird's Code of Ethics and Professional Practices;
- provide continuous service to customers by operating on a fulltime, all year; and
- be recertified each year.

Education vs. certification

Unlike Bird, the Owens-Corning Fiberglas Corp. has no contractor certification program. They do, however, sponsor professional development seminars and have not ruled out the possibility of instituting a certification program in the future, according to Jim Worden, Owens-Corning's marketing communications manager for residential roofing.

Does a certification program produce a better contractor than a seminar program? And would a contractor that meets NRCA's or Bird's description of a professional contractor need a company's certification anyway?

Whether or not contractors expect manufacturers to have certification programs is uncertain. However, according to a study that Owens-Corning commissioned when it first broke into the residential roofing business in 1978, contractors do expect manufacturers to give them selling tools as well as good products. These survey results, along with contractor requests, are the basis for the corporation's three-year-old professional development program for residential roofing contractors.

The heart of the workshop was a creative approach to taking advantage of frequently missed selling opportunities.

Owens-Corning Fiberglas' Professional Contractor Workshop focused on frequently missed selling opportunities. In this video scene, shown at the workshop, a contractor asks a homeowner's permission to post his site sign during the project.

In April, *Roofing Spec* attended an Owens-Corning professional training seminar in Chicago. It was a beautiful spring day and only about 15 contractors showed for the program. The majority of the participants said that they already use most of the sales techniques the program described, but they came to see what tips they could pick up from their colleagues.

Workshop teaches marketing

The program, "Get to the heart of successful selling," was the theme of the Chicago seminar as well as nearly 100 others nationwide held during February, March and April. All the seminars were co-sponsored by Owens-Corning's Residential Roofing Division and local roofing distributors. Each workshop was conducted by Owens-Corning sales representatives with audio-visual support, including slides and videotape. The reps at the Chicago workshop were experts at generating audience participation.

The workshop included an overview of today's competitive market, a look at the manufacturing process, a product information update, a how-to on taking advantage of selling opportunities, and a description of selling tools and merchandising aids.

Bob Vila, host of public television's "This Old House," was an integral part of the workshops. As a personality known to consumer audiences and a successful remodeling contractor, Vila provided an overview of what homeowners are looking for when hiring roofing contractors.

Vila, on video, kicked off the workshop by describing market trends and talking about how contractors might competitively merchandise their services. He took workshop participants on a video tour of Owens-Corning's shingle plant in Irving, Texas. During the tour, participants learned the latest techniques for making glass fiber shingles. Contractors also saw how quality control is monitored in the manufacturing process.

The heart of the workshop was a creative approach to taking advantage of frequently missed selling opportunities. A series of videotaped scenes, humorously staged in TV-soap-opera style, provided the focal point for discussion about selling techniques.

Titled "Missed Opportunities," the video scenes divided the selling process into four stages:

- the inquiry call from the homeowner;
- the face-to-face sales call;



Illinois passes licensing act for roofing contractors

The State of Illinois has passed a licensing act for roofing contractors to protect consumers from gypsy contractors, said Kathy Campbell Lynch, Illinois Department of Regulations and Education's rules and sunset coordinator. The act will become effective July 1, 1985. All persons performing services on roofs (except for personal use) will be required to be licensed. Contractors are being granted a 120-day grace period.

Although licensing requirements are not yet final, Lynch said contractors will most likely need to provide:

- general liability insurance;
- workers' compensation insurance;
- unemployment insurance; and
- a surety bond of an as yet undetermined amount.

The bill was sponsored by Representatives Josephine Oblinger and John D'Arco. Apparently, a group of gypsy roofing contractors recently passed through Springfield, Ill., leaving houses improperly roofed and even unroofed; they also left many retired homeowners wondering where they would get enough money to pay someone to finish the jobs,

Lynch said. Representative Oblinger, who is very active in the American Association of Retired Persons, decided something needed to be done to prevent this from happening again.

The bill's major proponent was the AFL-CIO, Lynch said. Many individual union members also supported the bill.

For an application or more information about the Act, contact the Department of Regulations and Education, 320 W. Washington, third floor, Springfield, Ill. 62786; call 217/785-0800.

- the installation; and
- the follow-up.

At each of the four stages a contractor was shown missing selling opportunities with his customers. Following each scene the tape was stopped for discussion. Workshop participants analyzed what the contractor might have done to turn the situation into a sale; the scene was repeated on videotape showing how the contractor could have taken advantage of the missed opportunities.

"Our intent was to provide a forum for sharing ideas. We knew that a lot of these contractors have been in the business for a long time. We wanted to provide the right environment to stimulate discussion and input from them. After looking at the 'wrong way' scenarios, they were able to identify and decide how to take advantage of missed selling opportunities."

The scenarios focused on reinforcing 12 selling tips:

- Make sure your phone is answered by someone who knows how to answer correctly and take messages. If you don't have a secretary, use an answering machine to take messages when you are out of the office.
- Don't give estimates over the phone. Arrange a visit for a complete roof inspection.
- If a customer calls without a referral, suggest he or she visit a job you've done in the neighborhood.
- Be punctual and neatly dressed for sales calls. Bring your appointment calendar with you.

- Sell up and emphasize quality. Discuss the benefits of higher-priced shingles. Compare installation, costs and product warranties.
- Put your estimate in writing. Include start and completion dates.
- Don't deliver shingles too far in advance of the job.
- Start the job on time and instruct the crew to be courteous.
- Ask permission to post a site sign before the job begins and remove it after the job is completed.
- Clean up the worksite after each day's work and when the job is completed.
- Go to the home to deliver the bill or pick up the final payment and give the customer his warranty.
- Ask if you can photograph the home for your portfolio and offer the owner a free copy of the photo.

Although Owens-Corning still has no plans to institute a professional contractor certification program, the company does plan to continue its development workshops. The program for 1986 still has not been finalized, Worden said. The two previous year's programs concentrated on personality evaluations and how to communicate more effectively, and how to price for profit and give proper estimates.

The more professional the contractor, the more receptive he or she is to the certification program.

Owens-Corning still has no plans to institute a professional contractor certification program.

Bird-certified contractors receive special marketing aids for themselves and their customers.

Bird flies with certification

Bird's certification program is in its second year, although its education program is in its third year. Thus far, Bird has certified 2,000 residential roofing contractors as professionals. In fact, Bird has found such a market for its programs that it has formed a new division, Bird America, to market products and services to professional contractors and distributors serving the housing market.

"Bird America is an aggressive marketing organization designed to address the needs of contractors and distributors to effectively operate and expand their business," said Bird's chairman, George Haufler. Bird America will provide an extensive program of contractor services, including the certification program.

The certification program is based on survey, market research and seminar feedback that indicated that contractors wanted to enhance their image and reputation, said Charles B. Fletcher, Bird's vice president of marketing for the Roofing Products Group. "Professionals want recognition and they want to be set apart from the moonlighters," he explained.

Who applies for the Bird certification program? "The more professional the contractor, the more receptive he is to the program," Fletcher says. He added, however, that all levels of contractors are involved.

According to Haufler, "By providing professional roofers with a competitive edge, based on their hard-earned reputations, and by supplying expert business guidance, Bird will help roofers increase their business, become more profitable and add to the overall productivity of the roof-

ing industry."

Thus far, Bird has sponsored two educational seminars as part of the program. The first seminar covered basic marketing skills and information for contractors to better position themselves in the market. The second seminar discussed upgrading sales on a good-better-best strategy. Contractors were taught to build into their estimates different profit margins for different product grades.

The third phase of the education program, dealing with computer applications for contractors, will begin in California this winter. The entire certification program began in California and has been instituted in different regions of the country at different times. The Midwest, Southwest and Northwest have just been introduced to phase one of the education program.

What's in a logo?

In addition to their educational programs, both Bird and Owens-Corning distribute various sales and promotional aids to their contractors to use with customers. For instance, Bird supplies its certified contractors with pamphlets that explain to customers why it is important to deal with professional contractors and introduce the contractor as a certified professional. In addition, Bird will supply its contractors with business cards, letterheads and envelopes; proposal forms; jobsite signs; and caps, T-shirts and aprons (at cost) showing that the contractor is certified in the Bird program.

Owens-Corning provides its seminar attendees with residential roofing product sample boards for contractors to take with them on sales calls, business cards, door-knob hangers, yellow page advertisements and site signs—all, of course, with the Owens-Corning logo.

Owens-Corning is also publishing for seminar attendees a newsletter that will be distributed quarterly. The newsletter will contain product information, seminar follow-ups, research, how-to articles and profiles on contractors putting seminar tips to use.

According to Jim Worden, Owens-Corning and Bird are the only two manufacturers that have professional development programs or certification programs for residential roofing contractors.

Time will tell who will reap the benefits of these professional contractor programs—the manufacturer, contractor or customer. Maybe all three.



Crumbling walls and leaky roofs make Bob Vila a celebrity

Bob Vila is different from most contractors who specialize in building renovation. When Vila goes to work, millions of people across the country are right there to watch.

As host of the Public Broadcasting System's (PBS) popular home-restoration program, "This Old House," Vila and his ensemble crew of expert carpenters, plumbers, paperhangers and roofers guide millions of viewers week after week through a haze of plaster dust and a maze of pipes and wiring. The program traces the renovation of derelict homes from their initial state of disrepair to their final rehabilitation. Each week a different aspect of the renovation work is highlighted.

"At the beginning of the program, I had the feeling that the audience was made up of people who were 'old-house people' as well as all sorts of men and women who had nothing to do with old houses but were taken in by the drama. You know, 'Are those guys crazy or what?' 'Can they transform the wreck in thirteen weeks?' Now I think we also hook a group of people in the trades who say, 'Let the kids stay up late tonight. I want them to see what I do.'"

Vila believes that some of the show's appeal is derived from the tight economy and the tight housing market. People are buying down; they are fixing up houses they can afford. Or they aren't moving but are making do with what they have, and renovating what they have to suit their needs. By showing them one contractor's endeavors as he works with subcontractors and other trades people, "This Old House" offers potential home renovators the problem-solving and how-to tactics they'll need to get the job done.

Down-to-earth roofing advice

Vila shows viewers how they, as homeowners, can be a part of the renovation team. He tells people they can get involved in roofing their homes "as long as it does not involve physically climbing up on the roof."

"This Old House" brings contracting to network TV

Bob Vila

Vila believes the roof is one of the most complex elements of any building and requires a trained professional to make sure it's properly applied. He adds, "Some minor stripping or applying of shingles may be handled by capable amateurs, but for most, it's best if they participate more in the clean-up by hauling the replaced materials off to the dump. That, in itself, can save the homeowner one or even two hundred dollars," Vila claims.

A low-key star

At age 35, Vila is every bit as low-key and down-to-earth on the phone as he is on television. He is straight-forward and approachable, with a kind of gentle humor.



**Vila is becoming
the Dear Abby of
home repair.**

Since "This Old House" first aired in Boston six years ago, Vila has gone from being a contractor, one of hundreds listed in Boston's Yellow Pages, to a prestigious developer and celebrity. Yet even as a well-known television personality, Vila does what he has always loved—designing and building—but on a larger scale.

"I think my thing about houses was always there," Vila says. "I grew up in one in Miami that was not an old house. It was built by my father during World War II, and it was always in the process of being enlarged and repaired."

Among his many building credits, Vila has supervised the upgrading of a run-down urban Victorian; transformed into five condominiums a historic estate that was designed by Henry Richard Hobson; worked a miracle make-over on a 1950s ranch house; and introduced a wine cellar and such amenities as a sauna and media center into an 1850s farm house.

Vila contracts his way to fame

Vila's career can be traced back to the University of Florida, where he studied architecture briefly before switching to journalism. He spent time in the Peace Corps, worked abroad for four years, and moved to Boston in the early 1970s, where he started his contracting business. He lived in relative obscurity until 1975, when he and his wife, a graduate of the Harvard Business School, bought and renovated a "junker" in a Boston suburb.

That house was written up in the *The Boston Globe Magazine*, a Sunday supplement of the *Globe* newspaper. The article caught the eye of Russ Morash, a successful producer of many fine programs on Boston's public broadcasting station, WGBH-TV. Morash was in the market for a host of a "nuts-and-bolts" program about home renovation. Within a year after Vila and Morash met, "This Old House" was on the air and drawing raves in the Boston area.

The program began to be distributed nationally in 1979. Today, more than 260 public television stations across the country air "This Old House," and Vila's remodeling tips reach an estimated 6 to 7 million viewers.

For the last five years, Owens-Corning has underwritten "This Old House," paying the lion's share of the program's production expenses. The company has also recently begun to use Vila as a spokesperson, although he doesn't help Owens-Corning merchandise specific products. Vila was an integral part of the company's professional contractor workshops. Dur-

ing a videotaped segment of the workshop, Vila gave participating Owens-Corning residential contractors an overview of what homeowners are looking for when hiring a roofing contractor.

Vila is also becoming the Dear Abby of home repair. Each week, more than 750,000 subscribers to the *Chicago Tribune* get the chance to read Vila's advice to homeowners troubled by flaking paint and leaking roofs. Vila's column appears in the paper's home section and features his answers to four or five homeowners' questions.

Restoring confidence

With "This Old House," Vila reaches a broad audience, and he does his utmost to show them the possibilities inherent in their environment. When he travels to home shows, as he does frequently, people want to talk to him, share the details of their latest home project, and shake his hand. He gets the distinct impression that thanks to him, scores of new quarry tile floors have been laid and countless skylights have been installed by virgin do-it-yourselfers.

One couple in Florida told Vila that "This Old House" gave them the courage to cut a house in half, move it and completely renovate it. "They showed me pictures; it was great," he recalls. "Of course, I hear from husbands who wish their wives wouldn't watch the program as well."

But Vila doesn't underrate something he calls "the soap opera element." Viewers watch week after week, just as they do with "Dallas" or "Dynasty," to discover how "this old house" is faring. Can the heating system be installed within the budget? Will the kitchen cabinets fit? Should the sash cords be replaced? How much insulation can the attic take? "There's only one way to find out," says Vila. "Tune in next week . . ."

Some portions of this article were excerpted with permission from the July 1983 edition of Dial, the magazine of public television station WGBH, Boston.

Steep roofing alternatives look better to homeowners all the time

The non-asphalt shingle business is looking up. For many architects, designers and homeowners the steep roofs over their heads are no longer just simple, practical necessities, but design elements that can complement or enhance their homes' appearance. For these consumers the standard three-tab asphalt shingle may not be the best choice. Although asphalt shingles remain the largest product group in shingle roofing, a number of people have turned to slate, wood or tile for more distinctive textures and colors.

Although the costs of these products may have been prohibitive in the past, shifting prices and a concern for durability are making them more attractive to the cost-conscious homeowner. While the increasing cost of oil has driven up the price of asphalt products over the last few years, the prices of some non-asphalt materials have come down. When the longer life-spans of some of these roofing alternatives are figured into the equation, the cost per year for a non-asphalt shingle roof starts to fit well within many a homeowner's budget.

The products currently being marketed in non-asphalt residential roofing fall primarily into the following five categories: slate, tile (concrete and clay), metal shingles, wood (shingles and shakes) and simulated wood products.

Slate—all natural roofing

Clark Hicks, president of Evergreen Slate, Inc., Granville, N.Y., says that his high-grade Vermont roofing slate products "possess a quality that makes them suitable for reroofing all types of buildings. Slate is a product of nature, obtainable in neutral or colorful, permanent or weathering tones, which quickly assume the characteristics of the surrounding environment." The naturally colored Evergreen products are available in greens, greys, purples, blacks and reds.

**Non-asphalt
roofing
combines
good
looks
and
durability**

by Mike Major

Evergreen quarries the slate material from natural deposits. The company then hand-splits the slate to specified thicknesses and hand-trims the tiles to size. Thicknesses available include 1/4-inch, 3/8-inch, 1/2-inch and 3/4-inch. Each tile is machine-punched for two nail holes.

Hicks describes his product as being "a dense, hard stone, non-disintegrating and permanent, which is fire-proof, storm-proof and cannot warp or curl." One of slate's big advantages as a roofing material, according to Hicks, is its durability. "You need roof only once in a century with Vermont slate, as opposed to maybe five times with asphalt, cedar shakes or imitation slate."

Hicks says that if the roofing contractor's crews do not already have the necessary slate application skills or tools, they can easily acquire them. The workers may already be familiar with some slate roofing tasks. "The installations of valleys, hips and flashings are comparable with other roofing," Hicks says. To work on slate roofs Hicks recommends that the contractor "should have the proper slate cutter, hammer and ripper."

Demand for Evergreen's slate, which is marketed nationwide, "has increased tremendously over the last 10 years, with its natural characteristics continually specified by architects," Hicks says. He anticipates a 20 percent yearly sales increase over the next five years.

Ryser believes that marketing conditions favor the increased growth of not only clay tile, but also all non-asphalt roofing.

Concrete offers wide selection

Gory Associated Industries, Inc., Ft. Lauderdale, Fla., markets concrete roofing tiles in four basic shapes: Spanish S for nail-on or mortar application, a Bermuda-style flat tile and a mission-style barrel tile for mortar applications, and another flat tile for nail-on applications. A selection of four different surface treatments and 100 different colors, including white top and grey, is available for each style.

W. E. Ortloff, Gory president, says, "The wide variety of color and surface treatment combinations make it able to meet any desired architectural effect and fulfill all code requirements."

Concrete tiles are made through a high-pressure extrusion process that results in a dense, strong tile. "It's fireproof and will not burn, which gives it a big advantage over wood and similar products," says Ortloff.

Ortloff's company provides a brief training program on installation technique. Designers and contractors used to working with asphalt shingles will notice some differences, primarily in the underlayment system and the proper way of marking off the roof prior to laying the tile, he says.

Concrete tile's current market area is Florida, though Gory also ships to Texas and the Southeastern states. "We have definite plans to expand from our current marketing areas, principally into the Sun Belt and along the coastal areas," Ortloff says. "We anticipate our production doubling within the next five years."

Clay tiles' colors unlimited

The clay tile produced by Ludowici-Celadon, New Lexington, Ohio, may be made in virtually any color desired, according to Ed Ryser, the company's vice president and general manager. "Twenty percent of our sales are for restoration or remodeling work where we have to match existing or old colors," he claims. The company's products also come in four basic shapes: an S tile, a shingle tile, an interlocking tile and a barrel tile.

Ludowici-Celadon's tile is prepared from rock clay. After the material is extruded or pressed into the desired shape it is kiln-dried, and then kiln-fired to 2,100F before being packaged for shipment.

Ryser says the application of his product should not present any special difficulties to an experienced roofer. "The main difference is understanding how to line up the roof and how it fits together; this information is provided in the manufacturer's instructions," he says. "And different cutting tools are involved—mainly a masonry saw."



Metal steep roofing is available in a variety of shapes. This aluminum-zinc coated style from Metal Sales Manufacturing Corp. simulates clay tile.

Ludowici-Celadon sells nationally, with some export sales. But the largest sales concentration per capita is Florida. "Florida tends to use hard roofing material rather than asphalt or shakes," Ryser says. "It goes with the architecture, and there's no degradation from the sun, termites or similar factors."

Ryser anticipates his company will continue to maintain its present growth rate of 6 percent per year, and says this is in line with national clay tile growth. Ryser believes that marketing conditions favor the increased growth of not only clay tile, but also all non-asphalt roofing. "All the indications are that asphalt prices are climbing dramatically in terms of what other roofing materials are costing," he says. "As the price of asphalt gets closer to clay tile and other materials, non-asphalt products will gain an increasing share of the market. Soon it's not going to be very practical to put on an asphalt roof that will last for only 15 years." When it comes time for homeowners to replace their asphalt roofs they will be looking for more permanent products, according to Ryser.

Not-so-heavy metal

Metal shingles are another durable alternative to asphalt roofing. Metal Sales Manufacturing Corp., Louisville, Ky., offers a 20-year warranty on its Stile metal shingles. The product also meets the most stringent fire codes and has excellent resistance to wind uplift, according to Product Manager Terry Lacer. Another advantage, Lacer adds, is Stile's light weight. "Compared to clay tile, metal is much better," he says. "In a retrofit-type system, metal is about one-tenth the weight of clay tile."

Stile shingles are made from 26-gauge stock. Each 1-meter-wide shingle can vary in length from 1 to 16 feet. Metal Sales markets the product in one profile. Colors available include Spanish clay, Tudor brown, ocean blue, slate grey and Riviera sand.



Metal shingles are fairly simple to put down, according to Lacer. "The only problems a standard roofer might have would result from his inexperience in working with metal," he says. Because it is necessary to cut profiles for the hips and valleys of a Stile roof, someone accustomed to working with metal should be part of the roofing crew. "A standard roofer could put it up like metal flashing, using a screw gun and metal shear," Lacer says.

Metal Sales markets Stile shingles throughout the country. It has had its best luck in the Sun Belt and coastal areas, however, primarily because the product complements the regions' Spanish-style architecture.

Wood shingles and shakes appeal to the small number of homeowners looking for higher-priced, premium roofing materials.

Wood shingles and shakes are not in a growth pattern.

The Stile product was developed in Sweden, where metal roofing commands an 80 percent share of the market. "Metal roofing is just starting to be accepted in the United States," Lacer says. "It now represents only about 1 percent of the market, but with more exposure more people will be asking for it. My guess is that its market share will double this year and continue to rapidly grow."

Wood finds its niche

Wood shingles and shakes are not in a growth pattern. The limited availability of Western red cedar, consumer concerns about the fire safety and durability of the products, and the high cost of wood compared to other forms of roofing have put a damper on wood roofing sales. Yet Marshall Ritchie, market manager for the Red Cedar Shingle & Handsplit Shake Bureau in Bellevue, Wash. explains, "Cedar roofing has its niche in the marketplace. It's usually more expensive; for a custom-type home; frequently architect-designed."

The two basic wood roofing products are shingles and shakes. Shingles are sawn on both sides, resulting in a smooth, uniform and tailored appearance. Shakes have sawn backs and natural split faces for a more rustic-looking, irregular exposed surface.

Ritchie says shingle and shake application is routine enough for the average roofer, though care should be taken that the roof is designed with minimum pitch and that fasteners used in humid climates are corrosion-resistant.

Red cedar roofing is currently marketed throughout the United States, but sales are concentrated on the West Coast. Though no market expansion is predicted for the immediate future, new technology may spur sales. Ritchie says that the industry is currently researching ways to incorporate fire-retardant and wood preservative chemicals into the products. This may eventually lead to the pressure-treating of other species, a technique that "would make available tremendously greater volumes of natural resources and would render the industry capable of much greater volume," according to Ritchie.

Simulated wood ready for growth

One non-asphalt roofing category that does not have to look to the future for rapid growth is simulated wood. Rick Madonia, director of marketing for the Masonite Corp., Chicago, says, "If we're able to meet our goals from a pricing and cost standpoint, we think that within just a few years there could be a demand that could give us at least 10 percent of the marketplace."

The Masonite roofing now on the market is called Woodruf Traditional, a 7/16-inch-thick hardboard made from wood shavings. Masonite turns the raw wood shavings into a cellulosic-type fiber and, after adding resins and bonding agents, sends it through the presses to produce a roofing shingle with a 25-year warranty.

This product is designed to simulate cedar shingles, although its larger size makes it easier to install, Madonia claims. Each foot-wide Woodruf module is 4 feet long and has a 9-inch exposure. One module covers the same area as 10 to 15 wood shingles or shakes, Madonia explained, reducing the amount of work necessary to cover an entire roof.

In summing up the changing steep roofing market for his own, as well as other alternative roofing products, Madonia says, "There's a growing desire by designers and homeowners to see the roof as an architectural design element. To do this you have to be able to look at something other than just plain asphalt."

Industry groups examine plywood decking changes

With increasing frequency, decking manufacturers and builders are deviating from the standard practice of using plywood with a minimum 1/2-inch thickness as roof decking. In May 1983, NRCA learned from representatives of the American Plywood Association (APA) that manufacturers were marketing plywood decking with a nominal thickness of 15/32 inch. At the time some contractors expressed concern that the 15/32-inch decking was not fire-rated by Underwriters Laboratories (UL) and that the thinner panels would deflect excessively.

After numerous meetings with concerned industry organizations and a battery of performance tests by both APA and UL, it was determined that many 15/32-inch boards performed as well as the 1/2-inch panels. APA said that the U.S. Department of Commerce Product Standard PS-1-83 now includes performance standards that allow 15/32-inch panels to meet the same 32/16 span rating under which many of the 1/2-inch panels were trademarked. The span rating means that the thinner panel could be used in spans of up to 32 inches on roof decks and 16 inches for flooring.

Non-veneers come on board

Recently, NRCA has received reports of another roof decking change that is causing concern among roofing contractors. According to these accounts, builders are beginning to use oriented strand board and waferboard in place of all-veneered plywood in steep and low-sloped roof assemblies.

APA and UL approve use of non-veneered panels

by Bob LaCrosse,
NRCA associate executive
director

Oriented strand board is made of compressed strand-like wood particles arranged in three to five perpendicular layers and bonded with phenolic resin. Waferboard is made of compressed wafer-like wood particles or flakes bonded with phenolic resin. Waferboard flakes may range in size and thickness and may be either randomly or directionally oriented. In some cases, the wafers may also be arranged in layers according to size and thickness. Both waferboard and strand board differ from plywood, which consists of an odd number of cross-laminated wood veneers arranged in one or more plies.

ARMA and APA explain ridging

Contractors have reported that when these non-veneered products have been used in steep roofing instead of plywood, both the glass fiber and organic shingles installed over them have buckled or formed ridges because of decking movement. Releases circulated recently by the Asphalt Roofing Manufacturers Association (ARMA) and APA have attempted to explain this problem. The explanations don't always agree, however.

In the ARMA bulletin, "Plain Facts About Buckled Shingles," the problem is blamed on the movement of the roof deck. The bulletin says this movement is caused by changes in the decking's moisture content; moisture gains cause the panels to expand, while moisture losses cause them to shrink. "A change in the dimension of the deck will cause the fasteners holding the shingles to the deck to move with the deck and force the shingles closer together or farther apart," the bulletin says.

ARMA's suggestions for preventing shingle buckling include:

- Use only non-veneer decking or approved exterior-grade plywood properly conditioned to be at moisture equilibrium with the jobsite's environment.
- Prevent non-veneer or plywood decking from getting wet before and after application.

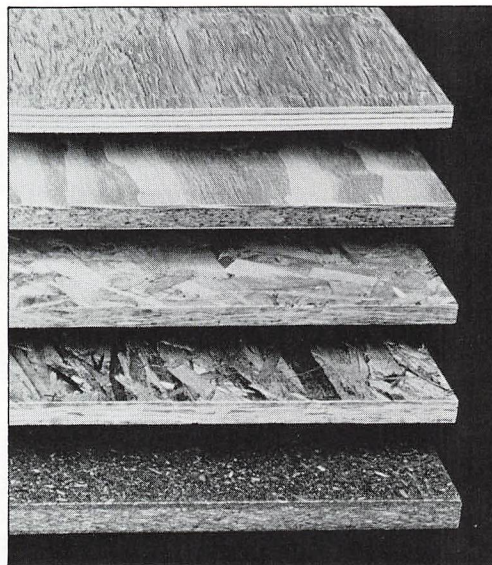
While panel thickness is important, the panel's span capability is key.

The different types of APA performance-rated panels are (from top to bottom): plywood, COMPLY (composite), waferboard, oriented strand board and structural particle board.

- Cover wood deck with asphalt-saturated felt shingle underlayment or with No. 15 non-perforated asphalt-saturated felt before applying shingles.
- Ensure adequate attic ventilation based on the Federal Housing Administration's minimum requirements.
- Apply shingles in accordance the manufacturers' recommendations.

APA says in its release, "Ridging of Roof Coverings," that buckling may be caused by movement of either the deck or the roof covering. The release also suggests that buckling problems may be caused by recent changes in the manufacture of roofing products. "Ridging is not a new phenomenon, particularly with built-up roofing, but is now reported more frequently with shingles as their weight and composition have changed," the publication says.

Like the ARMA bulletin APA's release also recommends using decking panels that have been conditioned to a higher ambient moisture content before installing the roof covering. "Panels will become conditioned in a matter of a few days where moist air (80 percent to 90 percent relative humidity) is free to circulate over the entire panel surface," according to the APA release.



Both the ARMA and the APA publications suggest roof designs that incorporate good ventilation to avoid the buildup of moisture in the deck. The APA release adds, "A vapor retarder on the warm side of the ceiling will reduce the ventilation requirements."

APA states position on non-veneers

NRCA recently requested information from the plywood association that would outline APA's position on the use of wood-based, structural-use (non-veneer) panels for roof decks. Daniel H. Brown, manager of APA's Engineering Technology Department responded to this request and sent NRCA the following statement.

Wood-based, structural-use panels, including oriented strand board, waferboard, COMPLY and structural particle-board that are performance rated by APA are suitable for use under all types of roof coverings. These products are tested and rated under conditions specifically designed to evaluate their performance as roof decks.

APA's ratings begin with PS 1

To better understand APA's performance-rating concept it's necessary to go back a few years. The first edition of PS 1, the manufacturing standard for plywood, was issued in 1966. Under this new standard panels were marked with an index that indicated the maximum roof and floor spans possible for that particular panel. New products such as non-veneered panels are also marked with span ratings.

When considering a panel's performance it is important to remember that while panel thickness is important in some applications, the panel's span capability is the key. Because of differences in the species of wood used, and the panels' orientation and density, the same span rating can be applied to several different thicknesses. Table 1 shows, for example, that a panel having a 24/16 rating may be either 7/16 inch or 1/2 inch thick. Both thicknesses would be expected to perform comparably because each has met the performance requirements for a 24-inch roof span and a 16-inch floor span. Note also that these panels can be used over their full 24-inch rated roof span without edge support. Where edge support is required it can be provided with panel edge clips, tongue-and-groove edges or lumber blocking.

APA RATED SHEATHING		ROOF									
PANEL SPAN RATING	PANEL THICKNESS	MAXIMUM SPAN(in.)		ALLOWABLE LIVE LOADS(psf)							
		With Edge Support ²	Without Edge Support	Spacing of Supports Center-to-Center (inches)							
Roof/ Floor Span	(inch)			12	16	20	24	32	40	48	60
12/0	5/16	12	12	30							
16/0	5/16, 3/8	16	16	55	30						
20/0	5/16, 3/8	20	20	70	50	30					
24/0	3/8, 7/16, 1/2	24	20 ³	90	65	55	30				
24/16	7/16, 1/2	24	24	135	100	75	40				
32/16	15/32, 1/2, 5/8	32	28	135	100	75	55	30			
40/20	9/16, 19/32, 5/8, 3/4, 7/8	40	32	165	120	100	75	55	30		
48/24	23/32, 3/4, 7/8	48	36	210	155	130	100	65	50	35	

NOTE 1. The allowable spans were determined using a dead load of 10 psf. If the dead load exceeds 10 psf then the live load should be reduced accordingly.

NOTE 2. Tongue-and-groove edges, panel edge clips (one between support, except two between supports 48 inches on center), lumber blocking, or other.

NOTE 3. Twenty-four inches for 1/2-inch panels.

Rated panels must meet standards

APA's performance standards involve extensive testing to evaluate a panel's resistance to concentrated loads, uniform loads and impact loads. Load tests are conducted on both dry and wet panels.

It is also important for roof decking to be able to resist fastener withdrawal. APA evaluates the fastener pull-out resistance of panels that have been kept dry as well as panels that have been wetted and redried. Lateral nail-bearing tests are also conducted.

For panels to qualify for a span rating they must exceed certain minimum requirements that are comparable to the minimum requirements of regular plywood with the same span rating or based on actual loading requirements.

APA's standards also set a limit on the amount of linear expansion a panel may experience. This limit governs how much a panel's length and width may change as it picks up moisture. A degree of bond durability is also specified in the standards. Under these standards, non-veneered panels are expected to perform comparably to regular plywood.

These standards are recognized by the nation's model code groups through a report issued by the National Evaluation Service. Copies of the report, NER-108, are available from APA.

Fire tests also conducted

To evaluate different deck panels' influence on the fire-resistance of various roof coverings, Underwriters Laboratories, Inc. conducted a number of tests on different combinations of decking and covering. Results indicated that 7/16-inch, APA-rated sheathing with 24/0 and 24/16 span ratings can be used under Class A roof coverings without affecting the classification. Thicker panels with greater span ratings can also be used. It should be emphasized that this conclusion applies to all Class A roof coverings regardless of whether they are for low-slope or steep roofing.

Non-veneered panels are expected to perform comparably to regular plywood.

Table I. Allowable uniform roof live loads for APA-rated sheathing installed with long dimension perpendicular to supports and continuous over two or more spans.¹

Effective performance of any roof decking depends on proper handling and installation.

Span-rated non-veneered decks ok

APA's and UL's tests indicate that if non-veneered panels such as oriented strand board and waferboard are span-rated to show their performance capability, they can be safely used in accordance with the rating under all types of roof coverings. As with all types of decks, the roofing manufacturer should be consulted for specific requirements.

Effective performance of any roof decking depends on proper handling and installation, however. Good practice dictates that panels, which can be very dry when they leave the mill, should be allowed to condition, or increase in moisture content, before the roofing is installed. Because the amount of linear expansion that may take place is a function of the initial and final moisture content of the decking, conditioning will prevent an undue amount of dimensional change once the decking is on the roof. If panels increase in length or width after installation, the gap between adjacent panels will close, possibly causing a ridge or buckle to develop in the roof covering. This can happen with any type of roof panel, including oriented strand board, waferboard, or regular plywood.

Once conditioned, APA structural-use panels install the same way as regular plywood panels. They should be spaced $\frac{1}{8}$ inch apart at end and side joints. This allows the panels to expand in length and width if they pick up moisture after conditioning. Structural-use panels are fastened to the framing with the same size nails and spacing that are used with plywood panels of the same thickness.

UL also gives blessing to non-veneers

NRCA had received reports that oriented strand board and waferboard were being used in low-sloped roof systems that had not been tested or approved by UL for use in any fire-rated roof assembly. In response to these reports, NRCA contacted UL representatives in April. UL said it had completed its APA-sponsored tests on these

products and found them to be suitable substitutes for $\frac{15}{32}$ -inch plywood. UL's test report will not be available for a couple of months, however, so with APA's permission, NRCA requested a letter from UL stating its approval of these products.

UL's letter said in part, "We have completed the UL 790 fire tests on various roof coverings applied to $\frac{7}{16}$ -inch thick non-veneered roof decks identified as oriented strand board, waferboard, wood particle-board and COMPLY.

"All test results complied with the requirements specified in our Standard UL 790. Accordingly, these results indicated that the above-mentioned four non-veneered materials are suitable substitutes for $\frac{15}{32}$ -inch-thick plywood as roof deck material for roofing systems that are UL-classified or UL-listed for resistance to external fire.

"When the test report has been prepared and released to the American Plywood Association—the sponsor of this investigation—we shall revise our Guide Cards for both prepared and built-up roof covering materials to indicate that these four APA-approved $\frac{7}{16}$ -inch thick roof deck materials are permissible substitutes for APA-approved $\frac{15}{32}$ -inch-thick plywood."

If contractors still have questions or problems involving the use of these non-veneered roof decking materials, they should contact NRCA's Technical Services Department for more information.

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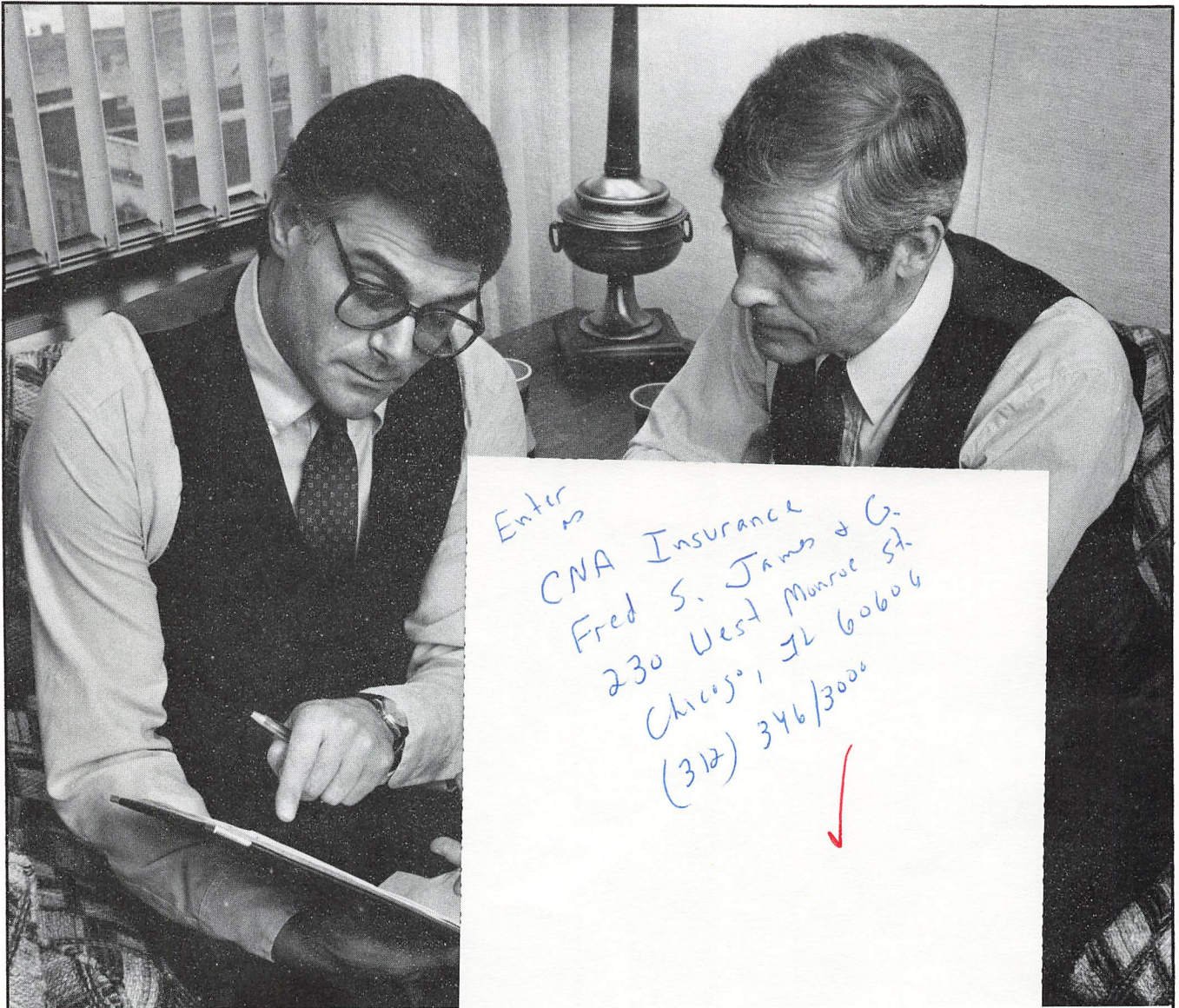


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Having a problem with your insurance? Welcome to the club. As NRCA predicted in February, 1985 is turning out to be a bad year for policy holders. But even our crystal ball couldn't foresee the dismal situation many contractors are facing.

Insurance rate increases are responsible for much of the roofing industry's woes. Some insurance companies are increasing the costs of their premiums by astronomical amounts. One contractor in Wisconsin reports an increase in his liability coverage from \$18,000 annually to \$84,000. A West Coast contractor was recently quoted \$80,000 for coverage costing \$17,000 the year before. Some members from Colorado and Ohio have been hit with 500 percent increases and more modest hikes of just 100 percent have been reported from many sources.

Insurers looking for quick cure

Though it may be little comfort to the contractors who must pay increased premiums, there is a reason for the rise. The insurance companies have raised their rates to compensate for weakening invest-

ment income, previously low rates, and the worst underwriting losses in history.

For the last six years, the insurance industry has cut premium prices intensely to reap investment dollars. But with falling interest rates, those investments are making less money, and the insurers are finding themselves with underwriting losses exceeding their investment income. The dramatic premium rate increases are symptoms of an industry that wants to get well quickly by bringing premium income in line with costs and losses.

The underwriters aren't necessarily picking on roofing contractors. It's just that the professions most immediately affected by the increases are those high-risk businesses such as roofing that present the possibility of severe, expensive claims.

Market tightens

But increased rates aren't the only difficulty that contractors are encountering. Because insurance companies must maintain a specific balance between premium dollars written and surplus on hand, insurance capacity has tightened. What this means in practical terms is that most com-

Insurance crisis leaving contractors unsure

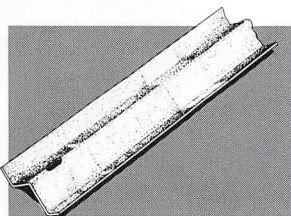
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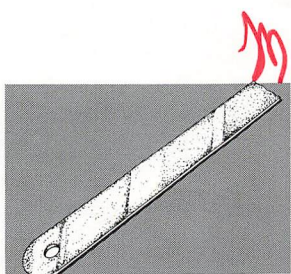
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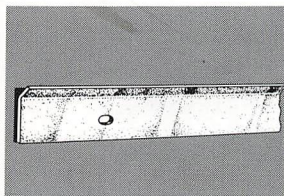
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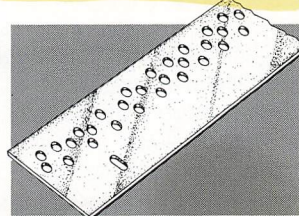
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Check # 18 on Reader Service Card

At least eight major carriers have curtailed or altogether stopped writing insurance for contractors.

mercial insurers are considering dropping or have already dropped their coverage of riskier types of businesses. As of this writing, at least eight major carriers have curtailed or altogether stopped writing insurance for contractors. They are: Hartford, Aetna, Chubb, Argonaut, Transport Indemnity, Industrial Indemnity and Commercial Union.

As might be expected, the withdrawal of these companies, as well as some of the smaller ones, has resulted in a tight insurance market. Many contractors are finding that their carriers are refusing to renew policies. And those contractors lucky enough to have insurers that still want to carry them will have to pay whatever rates those underwriters ask.

In some cases, insurers base their refusals to reinsure on overall evaluations of their premium capacities. This is often coupled with a closer scrutiny of contractors' safety practices and/or claim records. When, after examining these factors, an insurer does decide to cancel a policy, the contractor can be left scrambling for insurance in a very inhospitable market.

Playing it safe

What are you, as a contractor, to do? If your policy is up for renewal this year, it's time to confer with your insurance broker to get an idea of renewal costs. You will have to build these increased costs into your own overhead expenses. It is also advisable to check with your broker early so that you will be forewarned about non-renewal. The more time you and your agent have to search for alternatives, the better off you'll be. In some cases, NRCA may be able to help; if you have a problem contact the Association office at 312/693-0700.

This present insurance crisis emphasizes the importance of loss prevention. Now, more than ever, your company's safety practices will directly impact your pocket-book and, perhaps, even your ability to stay insured. By tightening your company's safety controls, you will be able to show your broker that you are taking active steps to prevent catastrophic losses. In the present climate, with insurers more eager to cancel policies than re-insure, projecting the image of a company under control can give you an important edge.

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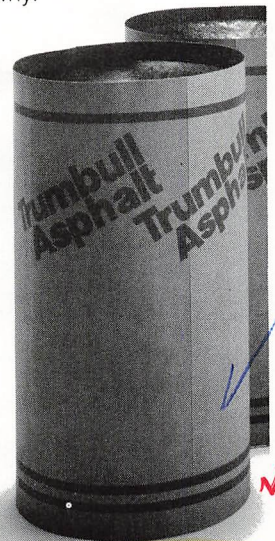
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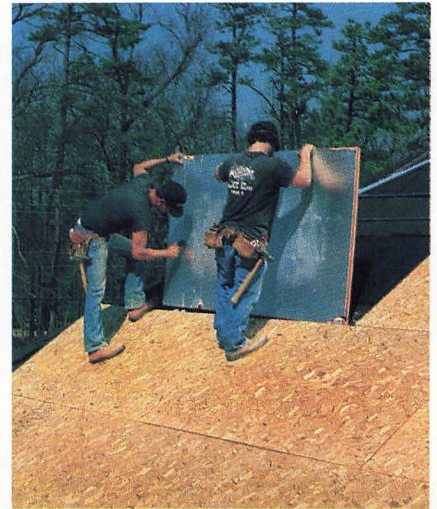
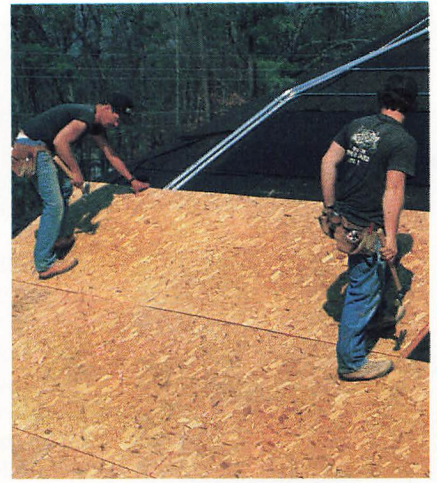
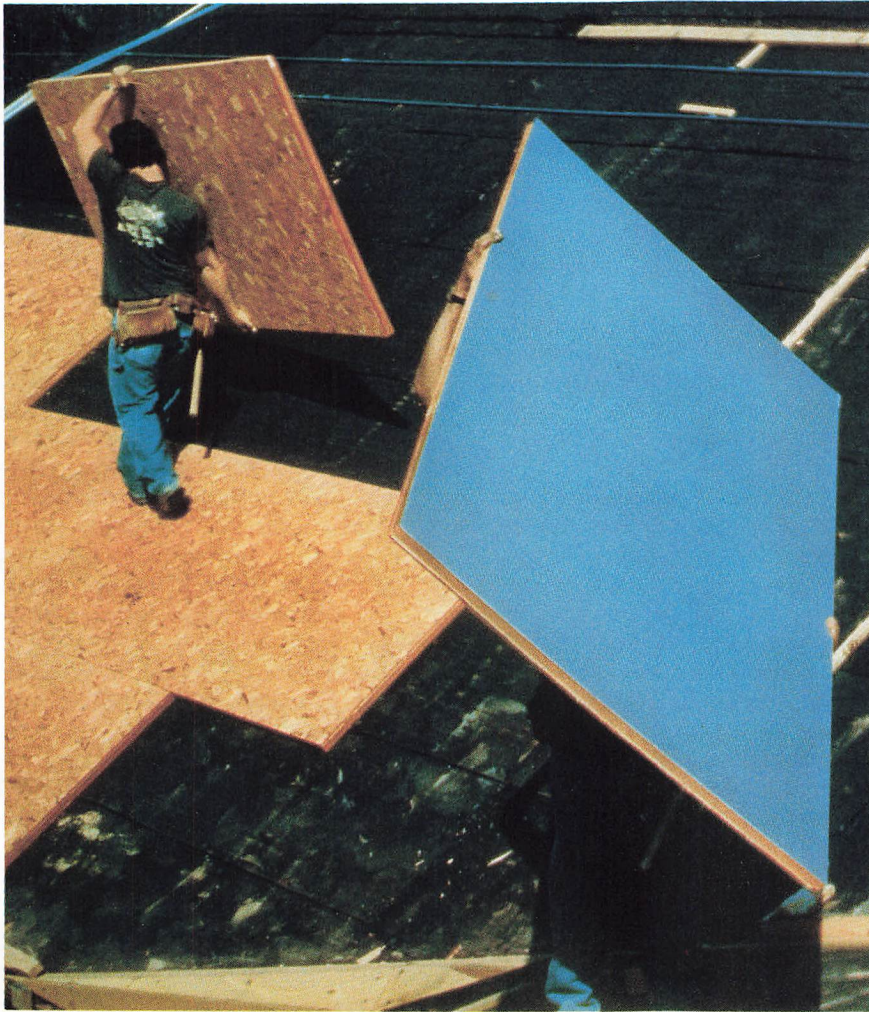
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Among the more than 300 specialty contractors that gathered in Washington for the conference were NRCA members and staff Patricia Appelhans of NRCA's membership department; Grady Barr of Barr Roofing Co.; K. W. Brown of Brown Roofing & Sheet Metal; Earl Cain of Hamada, Inc.; Vearyl W. Dodson and Kenneth W. Dodson of Dodson Brothers Roofing, Inc.; Fred Good, NRCA executive vice president; Charles N. Griffiths Jr. of Binghamton Slag Roofing Co.; A. A. Houblik of Midwest Roofing Co.; Meg Jacobsen and Mary Jacobsen of the Western Washington Roofing Contractors Association; Clifford Johnson of Empire Roofing & Insulation; Steven L. Kruger of L. E. Schwartz & Son, Inc.; Clarence O. Lewis of Moisture Protection Systems Analysts; Lloyd McChesney of L. W. McChesney, Inc.; O.C. Smith Jr. of the Roofing Contractors Association of Texas; Ralph Stonebraker of Slatile of Valparaiso, Inc.; John D. Van Wagoner of Prospect Industries, Inc.; and John Zamrzla of Western Pacific Roofing.

Herbert R. Jacobson, ASC chairman, stressed ASC members' common interests in his opening address at the Opening Break Session, April 15: "We members of the ASC represent a wide range of construction trades. Nevertheless, the issues at this conference affect all of us alike, even those of us who may compete and disagree with one another at other times and in other places. The IRS regulations on the taxation of company vehicles for personal use are just as burdensome to me, as a mechanical contractor, as they are to any electrical or sheet metal contractor, and to our employees. Any plumbing or roofing contractor who does work for the federal government is just as concerned as I am about such issues as prompt payment, elimination of retainage and minority set-asides."

It was significant that the conference was held over April 15—tax day; one of the meeting's most controversial topics was the new IRS rules for taxing employees' use of company vehicles. Senator Malcolm Wallop, R-Wyo., one of a number of senators and representatives who spoke to the contractors, sharply criticized the new IRS rules. "The U.S. Treasury," the senator said during a panel discussion on taxes and subcontractors, "approaches the business world as if it's the enemy of the people."



*"We ought to put all our muscle into trying to figure out a way to reduce the federal deficit"—
Sen. Dole.*

Wayne Mullis, NRCA immediate past president, briefs congressional reps on ASC views.

Since the conference, both congressional houses have approved separate bills removing the stringent recordkeeping requirements for company vehicles, one of the concerns expressed at the conference. Wallop authored the amendment to the Senate bill repealing the vehicle taxation provision. However, Congress is still considering another tax code provision that caused uneasiness among the subcontractors, the commute fringe benefit tax. This provision would require employees who take their service vehicles home, to pay a tax on the fringe benefit.

Conference attendees also heard about the federal deficit and the waning power of the unions at other sessions. Keynote speaker Senate Majority Leader Robert Dole, R-Kan., told participants, "We ought to put all our muscle into trying to figure out a way to reduce the federal deficit."

During a panel discussion, Betty Southard Murphy, a Washington attorney and former chairman of the National Labor Relations Board and Senator Don Nickles, R-Okla., claimed that membership in labor unions as well as their effectiveness in Washington is on the decline. "Some anti-doublebreasting legislation has been introduced," Nickles said, "but I don't see it going anywhere in the House. It definitely won't go anywhere in the Senate."

Roofing contractor goes with flow; solves roofing problem

Roofing the Anthony G. Bacich School in Marin County, Calif. was enough to give a contractor shingles. The roof has a hexagonal, folded-plate design with ridges and valleys radiating from the cupola to the eaves.

Gary Little of Booth & Little Roofing Contractors, Greenbrae, Calif., found that the unusual roof design did not lend itself to standard application techniques for fiber glass shingles. The numerous slopes and angles inherent in the design required a specialized shingle arrangement. With the help of Manville's engineering and technical service personnel, Little designed a custom roofing system to meet the unique requirements of this innovative roof design.

The school was originally roofed with rolled, painted neoprene applied over a plywood deck. According to Dennis Makemson, the school's maintenance supervisor, the 18-year-old roof had been a problem for years. When the school was eight years old the prime coat started to separate from the deck. "We patched the roof and put a urethane coating over the

surface," Makemson said. "Two years later, the roof began to flake."

The roof's deterioration was attributed to two major factors: age and traffic. "Normal wear had caused the roof to leak and crack," said Makemson. "Also, the shape and surface of the roof made it popular as a bicycle and skateboard surface for local youngsters."

Officials of the Kentfield School District, responsible for reroofing the school, established specific criteria. They wanted a durable roof that would meet or exceed California's stringent fire regulations; a system that would be economical to apply and maintain; and a roofing material that would make the surface unsuitable for recreation. The school district's officials also wanted an attractive roof that would blend with the residential aesthetics of Marin County.

According to Little, another neoprene roof was considered but ruled out because of its high cost—estimated at between \$70,000 and \$100,000. "We also thought of using a conventional built-up roof," says Little. "However, BUR's require continual

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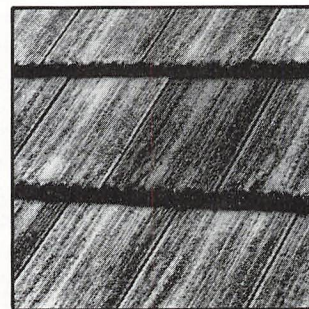
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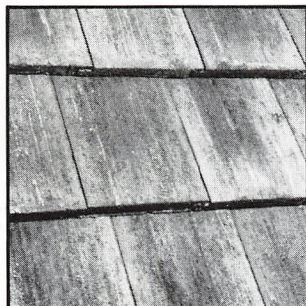
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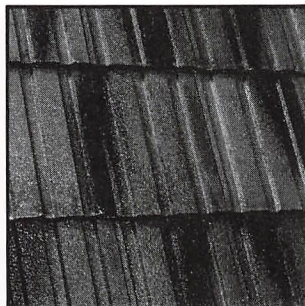
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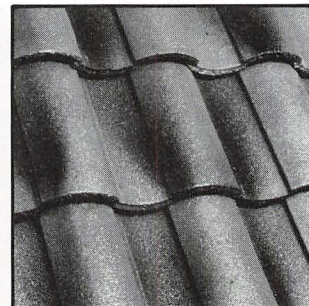
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ON THE ROOF

maintenance and the school board wanted a roof that was virtually maintenance free."

Little recommended that the project be done with Manville's Woodlands fiber glass shingles. "The shingles met all of the Board's requirements," Little said.

After Little selected the shingles, he had to devise a system for applying them to the existing structure. The original plan was to apply the shingles in a pattern that would radiate out in concentric circles parallel to the eaves. However, after studying the roof, Little had serious doubts about this method. A shingle roof works on the principle of gravity. Shingles must be placed perpendicular to the water's flow for water to drain over the roof.

Little and Makemson, together with local Manville roofing experts, conducted experiments to determine the roof's true water flow pattern. "We tried rolling marbles and nickels down the roof," said Little, "but got the most conclusive results by dumping buckets of water and observing the flow patterns." They found that two factors contributed to the water flow—the roof's slope from the cupola to the eaves, and the roof's slope from the ridges to val-

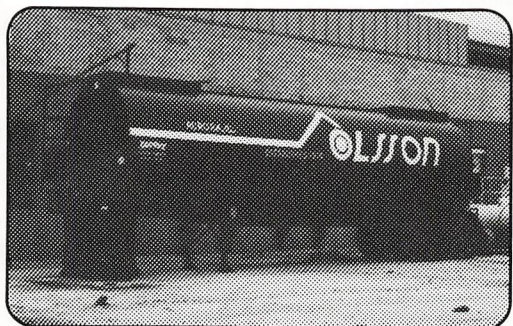
leys. "Had we shingled the roof according to the original plan," Little explained, "water would have flowed diagonally over the shingles and been trapped between the joints."

Little worked with Manville's engineering and technical service personnel to develop a better shingle arrangement. "We snapped a chalk line from the base of each valley at the eave to a point 22 feet up on each adjacent ridge. The chalk line indicated the water flow," said Little. Shingles were then placed perpendicular to the chalk line. The resulting pattern was not only visually striking but it also insured the effectiveness of the water shedding system, he added. Now, water flowing from the various slopes and angles passes over the shingles and drains into the valleys.

Kentfield School District officials are happy with their new Woodlands fiber glass shingles. "We have a Class A roof," Makemson said, "which is warranted to last." As an added plus, Makemson noted, "we no longer have a vandalism problem because the rough surface keeps the youngsters off the roof and on the ground."

The pattern was not only visually striking but it insured an effective water shedding system.

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COMING EVENTS

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June 9-12

AIA National Convention
 American Institute of Architects
 San Francisco, Calif.

June 9-15

11th Annual Convention & Trade Show
 Western States Roofing Contractors Association
 Reno, Nev.

June 12-15

Convention
 Florida Roofing S/M and A/C
 Contractors Association
 Orlando, Fla.

June 14-15

Annual Summer Meeting
 Iowa Roofing Contractors Association
 Des Moines, Iowa

June 21-23

29th Convention & Exhibit
 Construction Specifications Institute
 Orlando, Fla.

June 24-26

D-8 Committee Meetings
 American Society for Testing and Materials
 Los Angeles, Calif.

June 25

Asphalt Used in Roofing
 American Society for Testing and Materials
 Los Angeles, Calif.

July 22-26

Hughes Probye Infrared Course
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August 19-23

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Duross urges roofing education

George H. Duross, Inc., has released two publications that provide information on roof maintenance and inspection procedures.

The company's *Roof Maintenance Procedures* outlines general recommendations for maintaining a file of roof-related specifications, warranties, inspection reports and correspondence. Suggestions on conducting roof inspections, with step-by-step procedures for inspecting BUR systems, single-ply roofs and coated roofs, are also included.

How to Avoid Costly Mistakes in Roofing suggests ways to choose and work with a roofing contractor.

Duross also conducts seminars on roofing problem prevention. For more information, contact the company in Philadelphia.

Check #38 on Reader Service Card

Promis software aids in planning

A new software package for contractors is available from the Strategic Software Planning Corp.

Promis™, a project management integrated system, offers scheduling, resource management, tracking, budget and cost control functions as well as report writing and graphics capabilities. The program can be used to monitor progress, contract changes and progress payment reports. The package also features database architecture and password protection.

Promis will run on IBM and IBM-compatible microcomputers, including the IBM PC/AT. Free software updates are available to the buyer for one year after purchase, with additional upgrades available at nominal cost.

Check #39 on Reader Service Card

If your project is forcing you to make promises you can't keep...

...here's one you can keep: **PROMIS**, the Project Management Integrated System.

Whether your project involves long range strategic planning, resource management, budgeting, tracking, or scheduling, PROMIS is the answer. PROMIS is a powerful, integrated project management system that can help you manage your business more effectively. PROMIS is available on IBM PC/AT and compatible microcomputers. PROMIS is a powerful, integrated project management system that can help you manage your business more effectively. PROMIS is available on IBM PC/AT and compatible microcomputers.

PROMIS features include:

- Scheduling and resource management
- Budgeting and cost control
- Progress tracking and reporting
- Database architecture and password protection
- Free software updates for one year after purchase
- Additional upgrades available at nominal cost

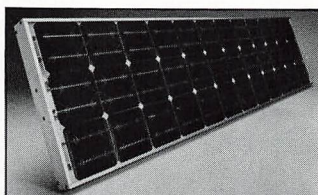
Solar modules receive UL approval

ARCO Solar, Inc., has announced that Underwriters Laboratories granted its seal of approval to Arco's M53 and M73 photovoltaic modules.

UL evaluated the solar electric modules' materials and components separately and together as units. The laboratory tested the design and materials of the products' wiring and current-carrying materials and assessed the safety of their components. Performance testing included temperature, voltage and current measurements as well as evaluation of the products' electrical conditions and environmental stresses.

The modules carry 10-year warranties.

Check #40 on Reader Service Card



Hickman offers roof-edge catalog

The W.P. Hickman Co. has released its 1985 roof-edge products catalog.

The publication contains details on the Safeguard and Slimline fascia/cap gravel stop systems. Information on Hickman reglets, molded roof drains, roof expansion joint systems, fascia panels and the Permasnap® coping system is also included.

The Econosnap® extruded roof-edge system for single-ply roofing is also featured, along with details on Econosnap II, a system designed for adhered, mechanically fastened or ballasted single membrane systems.

The catalog also carries a selection of formed products such as coping, brick cap, gravel stop, extender, gutter and false batten fascia/mansard systems.

Check #41 on Reader Service Card

Conglas develops venting base sheet

Consolidated Fiber Glass Products, Inc., has developed a new venting base sheet for use in BUR systems. The Pre-Base sheet can be applied as a venting base sheet over lightweight concrete or gypsum decks, as a buffer sheet over irregular surfaces in reroof applications or as a substitute base sheet over nailable and non-nailable substrates.

Conglas has also published data sheets for two other Conglas products. The Conform SBS-modified bitumen product data sheet outlines physical properties and details application techniques, and includes information on product precautions and limitations.

Check #42 on Reader Service Card

Georgia-Pacific releases catalogs

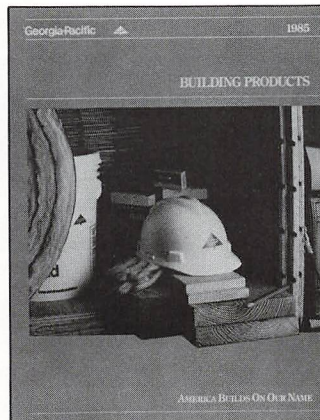
Georgia-Pacific has announced the availability of its *1985 Roofing Products Catalog* and *1985 Building Products Catalog*.

The 12-page roofing catalog describes Georgia-Pacific's organic and fiber glass-based shingle products and BUR materials. Reference charts for product sizes, standards and specifications are also included.

The *1985 Building Products Catalog* features specific product data on lumber, insulation, metal products, structural wood panels, gypsum products, paneling, roofing and siding.

Both publications are available at no cost.

Check #43 on Reader Service Card



Bureau publishes training calendar

The Crane Inspection & Certification Bureau (CICB), a division of United States Testing Co., has published a four-color brochure/calendar that provides complete schedule information on crane and rigging safety training courses.

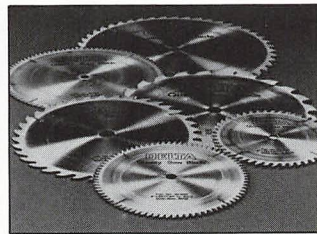
The calendar gives details on dates, locations, tuition fees and specific course contents for various safety-related programs.

CICB's courses cover mobile cranes and rigging overhead cranes, and product rigging. Its programs include NAVFAC P-300 and P-300 refresher courses and also cover manbaskets and overhead hoist handling. The programs include both classroom sessions and hands-on participation.

Attendees at regularly scheduled training programs are eligible for continuing education units.

The brochure/calendar also includes information on CICB's custom programs at clients' facilities.

Check #44 on Reader Service Card



Delta introduces saw blade line

Delta International Machinery Corp., formerly the Power Tool Division of Rockwell International, has introduced a family of 56 industrial carbide-tipped circular saw blades for use on all Delta saws and other comparable circular saws.

The blades are available in four tooth designs. The flat top grind blade has large gullets that enable it to accept greater chip loads and operate at higher feed rates. It is suitable for either single or multi-rip machines.

The triple-chip and flat-grind blade is designed for cutting brittle and/or hard, abrasive materials. Two tooth shapes on the blade allow dual-action cutting while also acting as rakers.

Delta's alternate top bevel grind blade is designed for across-the-grain cutting and/or cut-off and trimming operations on undefined grain work. The alternate top bevel and raker blade is used for cutting either with or across the grain.

Check #45 on Reader Service Card

continued on page 50

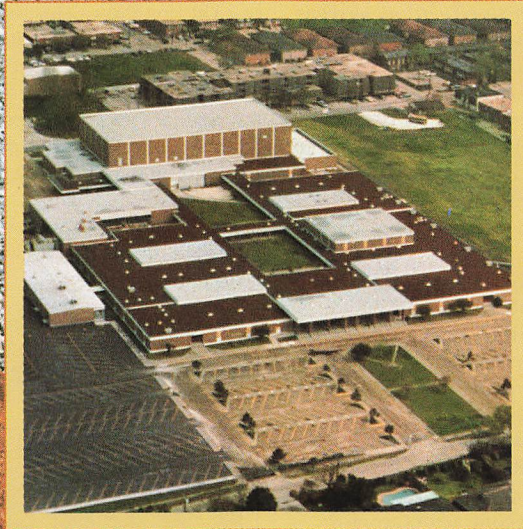
Elastomeric Design

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.

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SIPLAST

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Irving, Texas 75039



Company develops new single-ply system

The Innovative Formulations Corp. has developed a new roofing system that can be applied with a long-handled paint roller and a pair of scissors.

The Mirrorseal Superior Roofing System consists of a penetrating basecoat, a lightweight spunbond polyester fabric called Mirrorfab, and a white topcoat that reflects up to 82 percent of the sun's ultraviolet rays. The system features an amorphous, rather than crystalline, chemistry, with a fibrous molecular structure strong enough to support a footprint-sized weight of 3500 pounds.

The product is self-vulcanizing and self-flashing, and may be patched with a swatch of fabric, a container of Mirrorseal and a brush. The system is also self-extinguishing if exposed directly to flame; it has no flash point.

Check #46 on Reader Service Card

ARMA revises roofing manuals

A series of publications for BUR roofing contractors has been published by the Asphalt Roofing Manufacturers Association (ARMA).

ARMA's updated *Residential Asphalt Roofing Manual* is a new, 60-page edition that contains sections on roofing with metric-sized asphalt shingles and using pneumatically driven staples instead of roofing nails on a one-for-one basis. Current information on asphalt roofing products and correct application techniques is also included.

A Guide to Preparing Built-up Roofing Specifications also has been revised and now includes information on membranes and insulations. The *Guide* contains details on BUR components, the designer's and installer's responsibilities, maintenance and reroofing. A reference section and product directory are also included.

ARMA has also released a 12-page publications and audio-visuals directory for steep and BUR roofing professionals. The directory lists technical manuals and bulletins, magazine reprints and other literature available from ARMA. Sales aids and consumer brochures for residential roofing contractors are also included.

Check #47 on Reader Service Card

Asphalt Roofing
Manufacturers Association

A GUIDE
TO PREPARING
BUILT-UP ROOFING
SPECIFICATIONS

BUR
Built-Up Roofing, A System Above The Rest.

Edge markets flying cut-off saw

Edge Industries has added a flying cut-off saw to its product line.

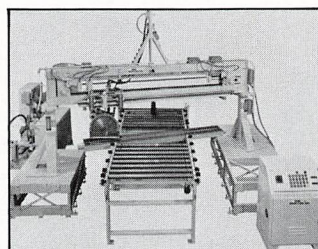
The saw is designed to cut rigid urethane foam, styrene foams and other panel-type products that are produced in a continuous web.

The saw uses a microprocessor controller to monitor the speed and length of the passing panel. The controller synchronizes the speed of the diagonally travelling carriage to produce a square cut while the web is moving. A hydraulically amplified stepper motor provides power for the carriage.

The saw allows a maximum product width of 50 inches, with a maximum product speed of 150 feet per minute. Minimum cut repeats are 3 feet at 60 feet per minute, 4 feet at 90 feet per minute, and 8 feet at 120 feet per minute.

A specification sheet and further information are available from the company.

Check #48 on Reader Service Card



Phillips revises Ruftac bulletin

Phillips Fibers Corp. has announced the availability of two publications covering the installation of Phillips products.

One publication is a revised installation guide for Ruftac®, a modified bitumen single-ply system. The guide contains updated information on installation techniques. Ruftac is a self-sticking modified asphalt membrane reinforced with non-woven polypropylene fabric. The guide also lists mastics that may be used to form end seals with Ruftac.

Phillips has also published a series of four specification guides that provide detailed information on the installation of Rufon® polyester mats. The mats may be used for tear-off roofs, cap sheets, retrofits and new roofs. Data on roof design, deck preparation and materials selection are included in the series, which may be stored in a three-ring binder.

Check #49 on Reader Service Card

Armco brochure outlines reroofing

Armco Building Systems has published a free eight-page color brochure outlining uses for the company's roof and wall systems in renovation and reroofing.

Among the products the brochure describe is Armco's Steelox® standing seam roof system, featuring panels that fasten directly to roof purlins with self-drilling fasteners.

The brochure also describes the Steelox CF roof system, which attaches to the framing with concealed fasteners that permit roof movement.

Armco's ARW-IV wall and roof panels and Kor/Met wall panels are also highlighted in the publication. Several examples of renovations using the roof and wall systems are presented along with additional information on the products.

Check #50 on Reader Service Card

Garon develops sealing butyl tape

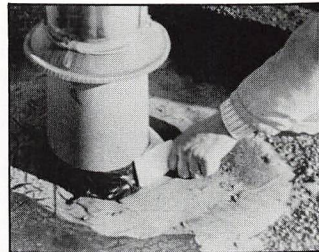
Garon Products, Inc., has added two products to its line of building materials—Press-Tape and Glas-Patch.

Press-Tape is a pressure-sensitive butyl rubber sealer designed to stop leaks and drafts. The tape is applied by cutting a strip from the roll, pressing it to the surface to be sealed and peeling off the paper backing.

The sealer can be applied to any surface and will mold to the required shape. The clear tape can be painted immediately after application with any water-based latex. Uses include weatherproofing windows, doors, gutters, vents and flashings.

Glas-Patch is a glass-fibered flashing cement that may be applied in temperatures from 0F to 120F. The cement adheres to any surface, including asphalt, concrete, metal and composition roofs. It may be applied by trowel to either dry or damp surfaces.

Check #51 on Reader Service Card



Owens-Corning converts plant

Production at Owens-Corning Fiberglas Corp.'s Compton, Calif. roofing plant has been shifted from standard-sized roofing shingles to metric-sized Saver™ shingles.

Saver shingles measure 13 1/8 inches by 39 3/8 inches, somewhat larger than the standard shingles' 12-inch-by-36-inch dimensions. The Saver's larger shingle size means that 66 shingles will cover the same roof area as 80 standard shingles—100 square feet.

Although Saver shingles are larger, they use the same number of fasteners as standard shingles, according to the company.

Check #52 on Reader Service Card

Lucas offers new insulation system

The Lucas Sales Co. is marketing a new tapered roof insulation system.

Lucas Lite is an extruded polystyrene roof insulation system that provides slope in flat roofs while increasing the roof assembly's thermal performance. The system is recommended for use with loose-laid single-ply systems and mechanically attached single-ply systems. It may also be used with BUR and modified bitumen systems if the insulation surface is properly protected.

The system consists of factory-fabricated tapered panels that are individually marked to indicate installation sequence and direction. The panels measure 2 feet by 8 feet, with slope on the 2-foot dimension. Lucas Lite is available in 1/8-inch and 1/4-inch incline systems.

Check #53 on Reader Service Card

Place a classified ad in *Roofing Spec* for 50 cents per word. There is a minimum charge of \$20. Boxed or display advertisements are available in the classified section for \$40 per inch (one inch minimum). Ads using blind boxes available at no additional charge to NRCA members; non-members add \$10 to total order. Send ad copy and payment to: Advertising Manager, *Roofing Spec*, 8600 Bryn Mawr Ave., Chicago, Ill. 60631

ROOFING MANAGER

Successful roofing contractor wants to communicate only with the best in the business. Candidates must have very successful experiences in industrial and commercial reroofing sales. Opportunities available on West Coast that are unique and lucrative. Send work history and objectives to Speranza Management Consultants Co., 66 Eastfield Drive, Rolling Hills, Calif. 90274.

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ROOFING PLACEMENTS NATIONWIDE

I place roofing professionals with manufacturers, distributors, roofers and consultants. Fees paid by employer. All information handled in strictest confidence. Contact Buzz Taylor at 1-800/545-5900 or 214/741-3014.

FOR SALE:

BUSINESS, EQUIPMENT, REAL ESTATE

Business, equipment and real estate for sale. Warm, sunny, southern Arizona, near Tucson. Income for 1984 was \$310,000 in gross receipts, \$105,000 net profit. Largest volume roofing firm in a rapidly expanding market. Reasonable down payment. Owner financing and training assistance. Write or phone John A. Williams, broker, 550 West Fry Blvd., Sierra Vista, Ariz. 85635; 602/458-3636.

COMPANIES WANTED

We have cash to buy roofing and sheet metal companies. Should have sales of \$1 million. Will tailor buyout to suit seller. All responses kept confidential. Send replies to Box 4B, *Roofing Spec*, 8600 W. Bryn Mawr Ave., Chicago, Ill. 60631-3502.

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.

ROOFER SPECIAL HYDRAULIC TRUCK CRANE

New 1985 J.L.G. Series 800, 16,000-pound capacity; 95-foot boom; hydraulic hose reel and hydraulic clam bucket mounted on a 1985 GMC truck with new 16-foot body; 4,000 miles. Complete unit like new. We will sacrifice for \$57,500. Call Don or Dave at 414/761-2300.

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Scott Crane 8-ton capacity, 51-foot boom, and 18-foot body mounted on 1978 GMC truck. Ideal roofer crane. Call Don or Dave at 414/761-2300. \$17,500.

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EQUIPMENT TO SELL AND BUY

For sale: 10-inch, 18-gallon Wylson shear, \$750; 24-inch power cleat bender, \$800; 6-ton boom truck, 1966 GMC tandem, 40 feet, excellent condition, \$10,500. **Wanted:** 10-inch power bending unit and 4-foot, 10-gallon roller. Call Jim or Allen at 414/684-5559.

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Located in Ironton, Ohio, and established in 1973. Company needs a roofing salesman and estimator thoroughly experienced and successful in commercial, government and industrial roofing. Must be experienced in blueprints, single-plys and all phases of built-up roofing. Only energetic self-starters who are interested in a profitable and successful future through hard work should apply. Please send resume to Richard Botkins, R & R Roofing & Sheet Metal, Inc., P.O. Box 308, Ironton, Ohio 45638; 614/355-1535.

POSITIONED FOR GROWTH

Northern Indiana roofing contractor with more than 30 years experience and outstanding reputation; capable of servicing two major Indiana markets. Excellent acquisition for company interested in establishing Northern Indiana base of operations. Contact Business Resource Network, 219/234-4045.

COMMERCIAL ROOFING ESTIMATOR WANTED

Commercial roofing estimator with new and reroof experience required. Good salary bonus plan and company fringes provided. Excellent working and living conditions. Send resume to Universal Roofers, Inc., Attn: Dan Gorman, P.O. Box 20627, Phoenix, Ariz. 85036-0627.

SITUATION WANTED

Attention metal roof manufacturers. Nationally known, independently operated company store sales team run by veteran, award-winning industry innovator in architectural metal roofing is available to a standing seam and batten roof system manufacturer with appropriate resources and serious dedicated intent to gain a major portion of this fast-growing market in the Midwest. Installation capability. Send replies to Box 6A, *Roofing Spec*, 8600 W. Bryn Mawr Ave., Chicago, Ill. 60631-3502.

SUPERINTENDENT WANTED

A 106-year-old Milwaukee, Wis., roofing contractor is looking to fill a key position. We are a large, well-equipped commercial and industrial firm with heavy emphasis on reroofing. This is a unique opportunity with excellent potential. Send resume to E.J.A. Christiansen Roofing Co., Inc., P.O. Box 09461, Milwaukee, Wis. 53209.

ROOFING CONSULTANTS REQUIRED

National engineering firm is looking for qualified roofing consultants to manage regional office operations offering complete roof consulting/engineering services. Technical and management skills required. Excellent opportunity in several regional markets throughout United States. Call L. Platt at 1-800/323-7205 for details.

ROOF CORE

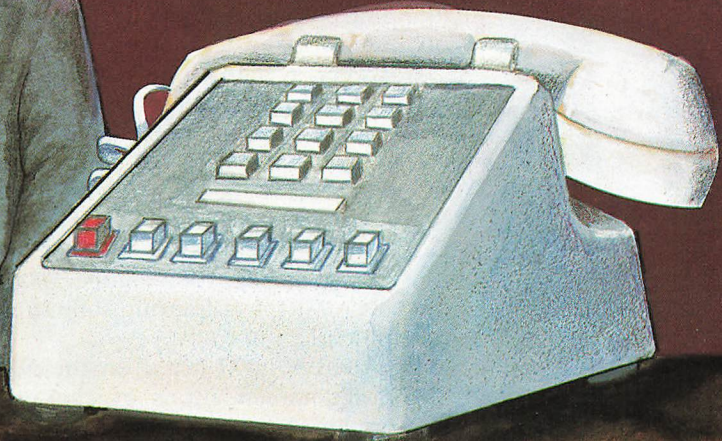
Roof core sampler; "C.R.R.E.L."—type; 17/8-inch core; hardened steel jaws; compact weight less than 6 pounds. \$135 plus \$8 shipping and handling. For details contact Autrey Steel & Machine, P.O. Box 40304, Tucson, Ariz. 85717. Phone 602/623-3444.

NO CALL-BACKS

on any BRAI® roofing jobs,

reports

Paul Marcums



Paul Marcums, President of Marcums Roofing, Inc., Pataskala (just outside Columbus), Ohio has been using BRAI roofing for over two years. He has applied approximately 6,000 squares during that time with no call-backs. As he says, "call-backs can ruin your bottom line."

BRAI roofing is a single-ply APP modified bitumen membrane system. It is applied by heat welding to assure weather tight bonding on all surfaces — penetrations, flashings, and slopes to and including vertical. BRAI membrane, when applied properly will not leak, and is backed-up by U.S. Intec, with up to 12 years' leakproof warranty. BRAI is applied only by reliable, professional roofers who have earned the U.S. Intec "Certificate of Merit". BRAI roofing has been approved by the major laboratories of the industry.

Hundreds of millions of square feet of BRAI roofing, the APP modified bitumen roofing/waterproofing, have been successfully applied throughout the U.S.A.

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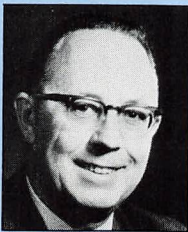
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Groups evaluate fastener rusting problem

by Bob LaCrosse



The consequences of the General Motors fire in Livonia, Mich. continue to affect the industry 31 years later. Since the 1953 catastrophe, which most believe was fueled by molten bitumen that had been solid-mopped to the deck dripping into the flames, the industry has been searching for a safer and more effective way to attach roof systems to buildings.

Shortly after the fire, Factory Mutual (FM) began to require that insulation be adhered to metal decks by strip-mopping the bitumen. FM believed that strip-mopping was less of a fire hazard than solid-mopping because it avoided large deposits of bitumen on the deck.

However, as high winds damaged more and more strip-mopped roofs, the industry realized that strip-mopping would not hold a system to the deck as securely as solid-mopping. NRCA and the Midwest Roofing Contractors Association (MRCA) joined to tackle this problem. After studying wind-caused roof damage for a number of years, the NRCA/MRCA task group submitted its recommendations to FM.

In May 1983, FM acted on the NRCA/MRCA recommendations by revising its loss prevention data sheet 1-28 on Insulated Steel Deck. The new data sheet stated, "Approved insulation fasteners are currently the only recommended manner of securing insulation to the steel deck," for approved Class 1 construction.

Problems not over yet

Requiring mechanical fastening has all but eliminated the problem of roof blow-offs caused by high winds, but the change has resulted in a number of unforeseen problems. The chief problem many are observing in the field is fastener rusting.

Members of one committee are reporting rusting problems with non-coated fasteners used in urethane applications. According to representatives of the Roof Insulation Committee of the Thermal Insulation Manufacturers Association (RIC/TIMA) who served on the joint RIC/TIMA-NRCA Roofing Insulation Technical Committee (RITC), moisture in roofing systems or condensation entering roofs from building interiors is causing fastener corrosion. The rusted fasteners eventually become so weakened that they break. The problem is most acute in reroofing jobs, committee members say.

Two representatives of a major nail manufacturer attended the November meeting of RITC to discuss the manufacturer's investigations of the fastener rusting problem and its use of coated fasteners to combat corrosion. The representatives described the tests the manufacturer is using to evaluate the rust-resistance of various types of fastener coatings.

According to the manufacturer's representatives, the company is experimenting with the Kesternich test and American Society of Testing and Materials' D117 Standard Method of Salt Spray (fog) to check fastener coatings. During a Kesternich test, samples are subjected to damp heat and an atmosphere containing sulphur dioxide for a specified period of time. The temperature and the amount of sulphur dioxide in the atmosphere inside the test chamber are varied during the course of the test.

RITC members also learned that the Single Ply Roofing Institute (SPRI) also has a fastener subcommittee working on a proposed new testing procedure to evaluate fastener corrosion and rusting.

Joint committee to seek solution

Because the problem of fastener corrosion and rusting is so widespread, involving both BUR and single-ply roofing assemblies over metal decks, efforts are under way to establish a joint NRCA, RIC/TIMA and SPRI committee to seek a solution. The committee would also include a number of fastener manufacturers. The committee's efforts could involve testing the rust-resistance of a variety of fastener coatings. Tests may also be conducted to evaluate the holding power of rusted fasteners.

Until NRCA and the other groups involved find solutions to the fastener rusting problem, insulation applicators should use only fasteners that have a corrosion- or rust-resistant coating that is backed by the manufacturer. This should reduce the possibility of fastener rusting, which causes roofing system failures.

BEYOND SINGLE-PLY ROOFING

Let's face it. Single-ply roofing simply beats the TAR out of built-up roofing. But with all the single-ply material out there, how do you pick the best for your roof? You have to go beyond single-ply.

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Your roofing system is engineered and custom fabricated. Up to 80% of all seams are done in our plant where quality is strictly controlled. Automated dielectric welders molecularly fuse our single-ply copolymer membrane into roof sections as large as 20' by 100'. These large panels, along with all custom made accessories like corners, sleeves and flashings are tagged and delivered for fast installation by Authorized Seal-Dry Installers. Less roof-top seaming makes installation up to 30% faster, maximizes leak proof protection, and minimizes call backs.



Automated Dielectric Welder



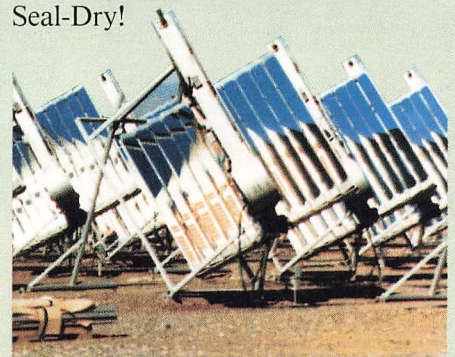
Custom Fastening Tab

Your Seal-Dry system is mechanically attached and all roof seams are heat welded.

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