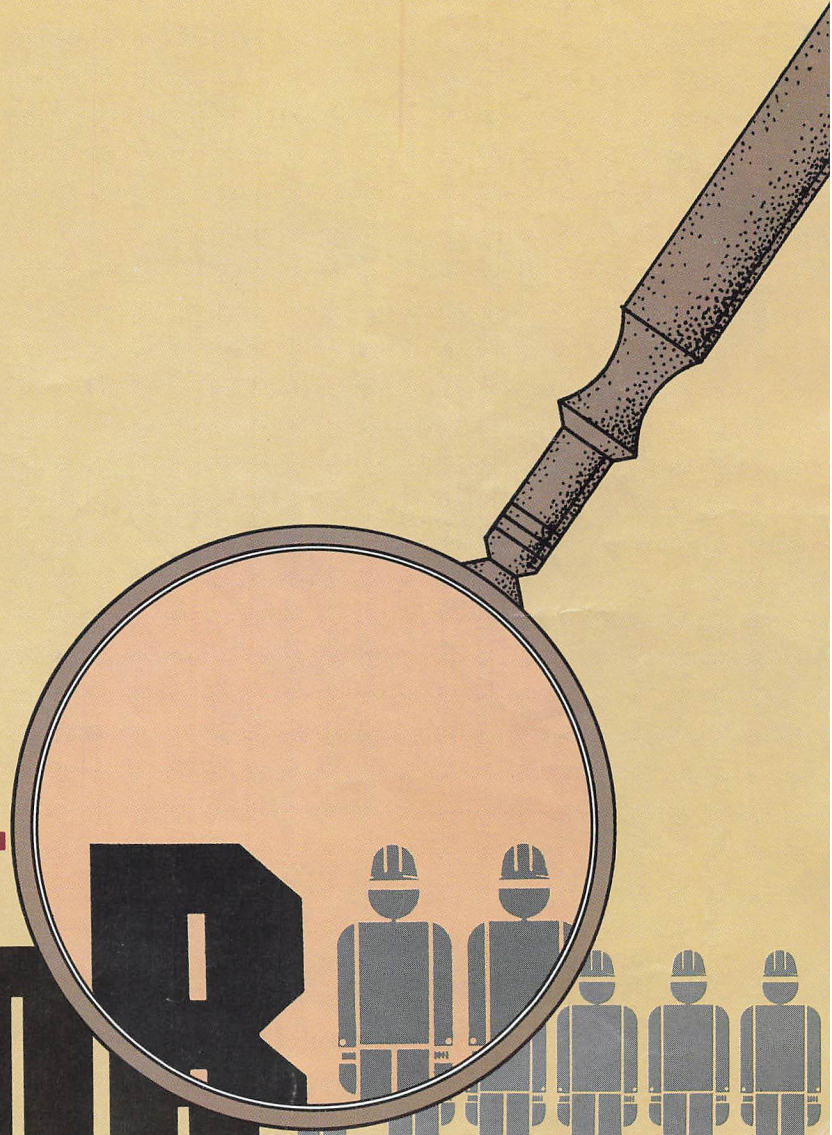


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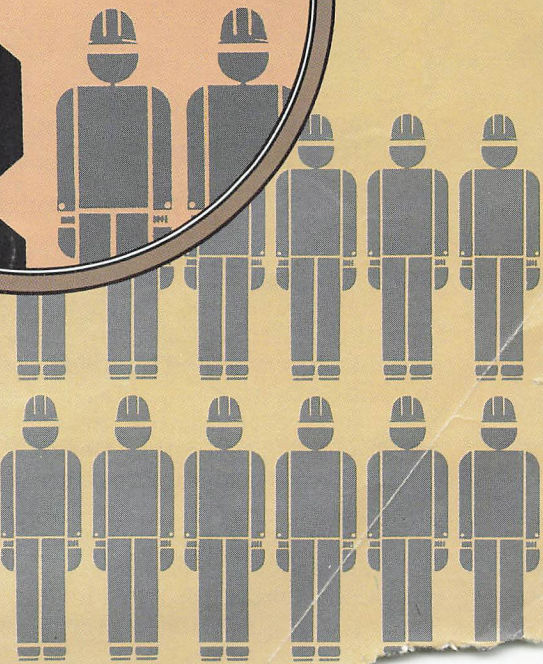
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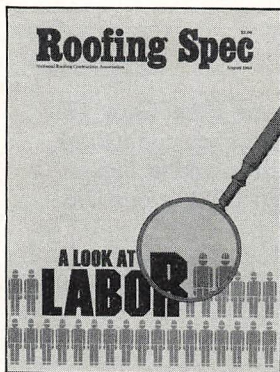
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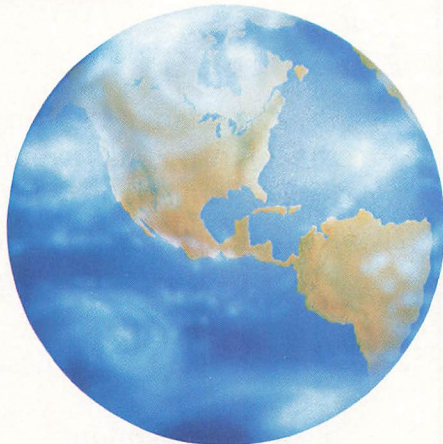
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NATIONAL NEWS

Construction contracts hit all-time high

Construction contracting surged in May to an all-time high of \$21.9 billion, the F.W. Dodge Division of McGraw-Hill Information Systems Co. announced.

May's strong advance of newly started construction projects brought the seasonally adjusted Dodge Index to a record 165 (1977=100), up 14 percent from the April rate of contracting.

"Rising interest rates are expected to slow the sizzling pace of the building industry before much longer, but it clearly hasn't happened yet," said George A. Christie, vice-president and chief economist for F.W. Dodge.

"Housing, the part of the construction industry most vulnerable to rising interest rates, is still clinging to the high 1.9 million unit level starts reached early in the year. But it was large building and public works construction gains that made May a record-breaking month," Christie pointed out.

Contracts for non-residential buildings (commercial, industrial, and institutional structures) were valued at \$7.2 billion in May, up 23 percent after seasonal adjustment.

All major categories of commercial and industrial projects—stores, shopping centers, offices, and factories—showed solid gains over April's rate of contracting. However, May's biggest improvement was in the previously weak area of institutional buildings, where starts of educational and hospital facilities were up sharply.

"The closely watched office building market, which is widely viewed as overextended after a several-year-long building boom, was very much alive, if not well, in May. A near-record volume of new office space was started during the month," the Dodge economist noted. The latest month's crop of new offices included four in the \$50 to \$100 million size range.

Non-building construction contracts (for public works and utility projects) were up a seasonally adjusted 29 percent in May when a total of \$3.9 billion of new work was started.

"Highway and bridge construction, which represents roughly half of all non-building value, has been unusually erratic during the first

May's 1.9 million housing starts, an unusually high proportion.

"Single-family units have shown remarkable stability since the beginning of this year, never straying out of the narrow 1 million to 1.1 million range. During January, February and May, the best housing months of 1984, multi-family starts soared above 800,000 units," Christie noted.

MONTHLY SUMMARY OF CONSTRUCTION CONTRACT VALUE

Prepared by F. W. Dodge Division
McGraw-Hill Information Systems Company

	May, 1984 Construction Contract Value (000,000)	Seasonally Adjusted Percent Change From Previous Month	
Nonresidential Building	\$ 7,211.8	+23	
Residential Building	10,799.2	+ 8	
Nonbuilding Construction	3,937.4	+29	
Total Construction	\$21,948.4	+14	
	5 Mos. 1984 (000,000)	5 Mos. 1983 (000,000)	Cumulative Percent Change
Nonresidential Building	\$28,108.4	\$23,368.9	+20
Residential Building	42,644.1	34,434.0	+24
Nonbuilding Construction	14,477.6	16,551.3	- 13
Total Construction	\$85,230.1	\$74,354.2	+15

DODGE INDEX

(1977 = 100, SEASONALLY ADJUSTED)

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half of 1984, owing to interruptions in the disbursement of federal highway funds. May's highway/bridge contracts, which were up nearly 50 percent from April's unusually low rate, helped to lift 1984's highway construction back to the high rate of contracting that was reached shortly after the new five-cent fuel tax went into effect," Christie explained.

The value of new residential building started in May was \$10.8 billion, an increase of 8 percent over April's amount after seasonal adjustment. Multi-family units were 45 percent of

May's construction gains were concentrated in the Northeast (up to 28 percent) and the South (up to 19 percent). Both areas showed strong increases in non-residential building and public works construction. The Midwest and the West yielded below-average gains of 9 percent and 7 percent in the latest month.

At the end of five months, the value of all new construction started in 1984 was \$85.2 billion, a gain of 15 percent over the same period in 1983.

continued on page 7

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NATIONAL NEWS

continued from page 5

ASA offers slide program on direct disbursement

A new slide program explaining direct disbursement has been introduced by the American Subcontractors Association (ASA).

ASA Payment Practices Committee Chairman Allan Burke said, "The slide show is designed to educate specific target audiences—owners, lenders, architects, general contractors and subcontractors—about the benefits of direct disbursement."

When direct disbursement is practiced, an owner's agent pays firms directly from an escrow account for labor and materials. Both progress and final payments approved by the general contractor are made in this manner.

"Direct disbursement just makes plain good sense," explained Burke, who noted a recent ASA survey that

shows that the payment method was used in ten states in 1981.

"The requisition and approval process of the conventional system is retained to preserve the authority of the general contractor, but disbursements are made by an owner's agent—often the title company—directly to all primes and first-tier subs and suppliers. Such disbursement meets the need for prompt payment, while assuring the owner of a lien-free building," said Burke.

The slide show, along with an ASA manual titled "Direct Disbursement: Alternative to the Conventional Construction Payment System," may be borrowed from ASA, 1004 Duke St., Alexandria, Va. 22314-3512. Copies of the manual may be purchased from the same address.

RIC/TIMA welcomes members

Membership in the Roof Insulation Committee of the Thermal Insulation Manufacturers Association (RIC/TIMA) has swelled to 13 insulation manufacturers and five raw material suppliers.

Five new manufacturers of polyurethane and polyisocyanurate roof insulation and five raw material producers joined the Committee recently.

The Roof Insulation Committee sponsors research projects, addresses technical questions and promotes the effective use of polyurethane and polyisocyanurate roof insulation. In the past, the Committee has worked on polyurethane and polyisocyanurate insulation standards, insulation conditioning procedures and the promotion of the aged R-value concept.

NLRB rules on worker rights

Unions can no longer prevent their members from defecting during strikes, according to a National Labor Relations Board (NLRB) ruling.

The ruling states that workers have the right to refrain from any or all union activities, including the right to resign from the union at any time.

The current ruling overturns a 1982 NLRB ruling that upheld the unions' right to impose a 30-day waiting period on members wishing

to resign and go back to work during a strike.

A 1981 case brought the issue before the Board. In that case, a member of the Machinists Union resigned to return to work during a strike and was fined \$2,250 by the Union. His employer, a car dealer, filed suit with the NLRB, charging unfair labor practices.

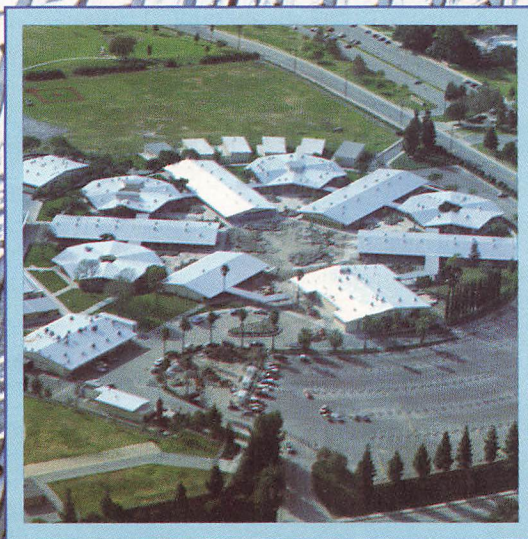
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continued from page 7

Recovery program helps unions get work

A market recovery program is helping unions and union contractors capture work from the non-union sector, according to *Construction Labor Reports*.

The program is sponsored by the AFL-CIO Building and Trades Department and the National Construction Employers Council (NCEC). Eliminating certain work rules and delays caused by jurisdictional or collective bargaining disputes is the program's key goal.

Target teams from the program's Washington, D.C. headquarters have been visiting local groups to promote market recovery. The teams do not get involved in local bargaining, but they do provide tips for regaining lost markets.

At a recent workshop held as part of the Federal Mediation and Conciliation Service's Labor-Management Conference, Jim Sheets, research director for the Laborers International Union spoke about the recovery program. According to Sheets, the target teams have met with some resistance from the locals. "It's hard to get organizations to give up authority given to them in union construction. Cutting through 100 years of labor

rhetoric is not easy," Sheets said.

Recent bargaining agreements are showing a change in attitude, however. Lower wages have been contracted, restrictive language has

been removed from some agreements and mixed skilled and semi-skilled laborers are being used more often, according to *Construction Labor Reports*.

Computer show slated

A new construction tradeshow will introduce computer and management products and services to the construction industry.

CMC '84, the Computer and Management Show for Contractors, is scheduled for Nov. 13-15 at the Expo Center in Chicago. The show will combine 300 exhibits with a variety of educational conferences conducted by the Fails Management Institute. General, specialty and sub-contractors, designers, engineers, constructors, developers, building owners and construction managers are invited to attend the Show.

continued on following page

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Administration's stance is "race neutral"

The Reagan administration has pledged to "foster the development of minority businesses without discriminating against others in soci-

ety," according to Assistant Attorney General William Bradford Reynolds.

Reynolds made his remarks to nearly 400 construction industry leaders at

the 1984 National Construction Industry Council (NCIC) Legislative and Leadership Conference.

According to Reynolds, "Affirmative action schemes that prefer one racial group over another because of skin color—and regard proximity to proportional representation (in racial terms) as the measure of success—run counter to the colorblind principle on which all our laws are based."

Reynolds warned municipalities, counties and states to craft Minority Business Enterprise (MBE) set-aside provisions carefully to avoid programs that fail to tie the benefits to the actual victims of a contracting authority's past illegal discrimination.

Reynolds concluded by promising that the Reagan Administration "will continue to press for the adoption of MBE programs that adhere to...race neutral principles."

He also said the administration is fully committed to programs that help minority entrepreneurs better marshal their talents and skills. "Only when minority businesses are allowed to compete fully and fairly in the construction industry and other industries will they meaningfully secure the benefits of our economic system," he said.

NAPHCC and ASC submit wish list to Republicans

Elimination of retainage was on the top of a wish list presented to the Small Business Advisory Council of the Republican National Committee.

The testimony was presented by Kenneth E. Krauska, chairman of the Legislative Committee of the National Association of Plumbing-Heating Cooling Contractors (NAPHCC).

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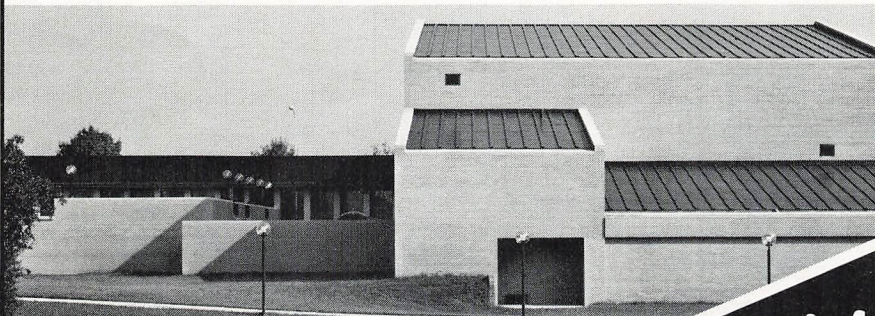
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Krauska spoke to the GOP Council on behalf of NAPHCC and the Associated Specialty Contractors (ASC).

Krauska urged the Republican National Committee on Government Procurement to include in the GOP platform elimination of retainage, prompt payment of progress payments and increased contracting out. He explained that retainage is an unnecessary duplication of protection because contractors already post performance bonds to assure completion of work.

NAPHCC also believes that the government should prohibit retainage on construction funded by federal loans, grants and loan guarantees. Current policy prohibits retainage only on federal construction. The Association also wants prime contractors to be required to pass along full payments to their subcontractors.

Krauska also suggested that the Prompt Payment Act should apply to construction progress payments and that government agencies should contract out for work that the private sector can perform more efficiently.

BLS conducts wage surveys

The success of a pilot project may determine the Department of Labor's (DOL) prevailing-wage determination methods.

The project is being conducted by the Bureau of Labor Statistics (BLS) in Cobb County, Ga. BLS will be conducting wage surveys there using two different methods. One method calculates prevailing wages according to the number of workers in an area. The other method uses the hours worked for its calculations. Both methods will sample wages paid during a selected week and a two-month period to see which is

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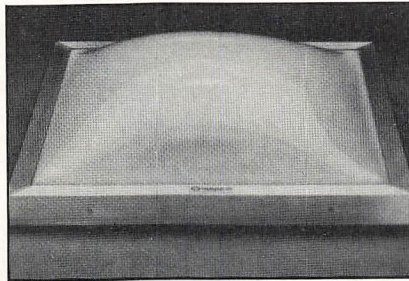
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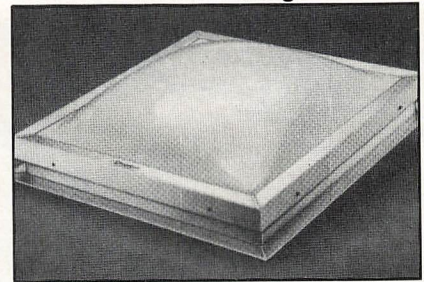
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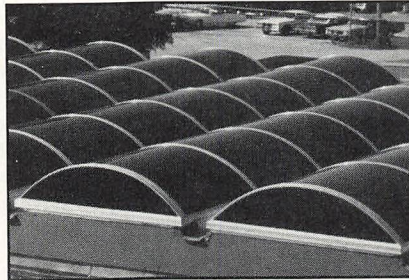
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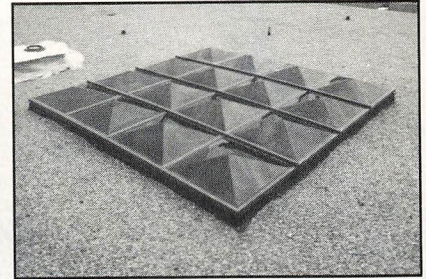
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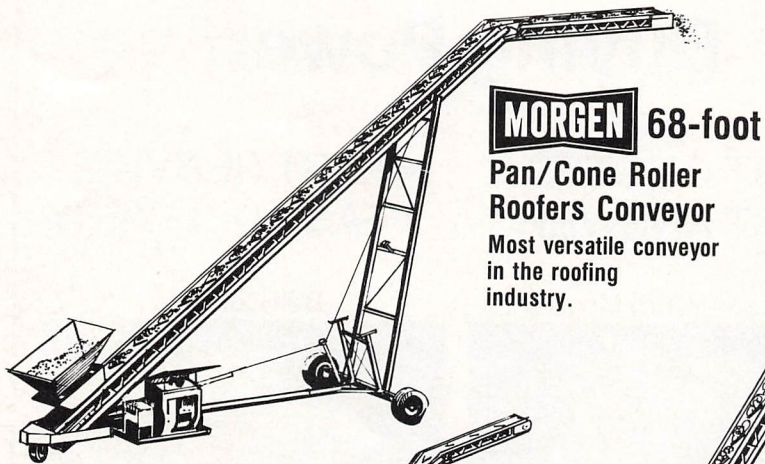
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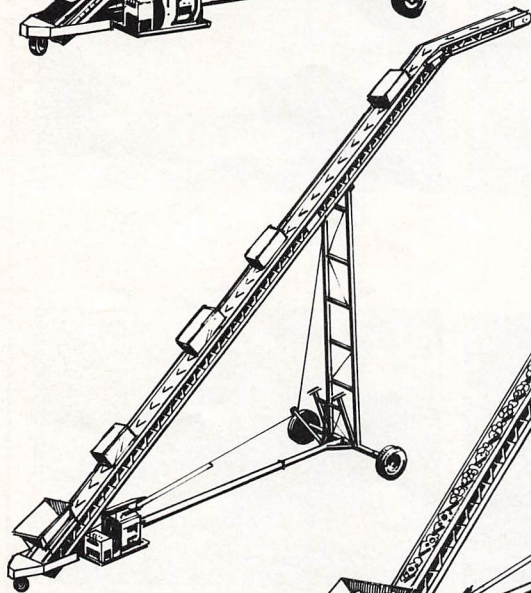
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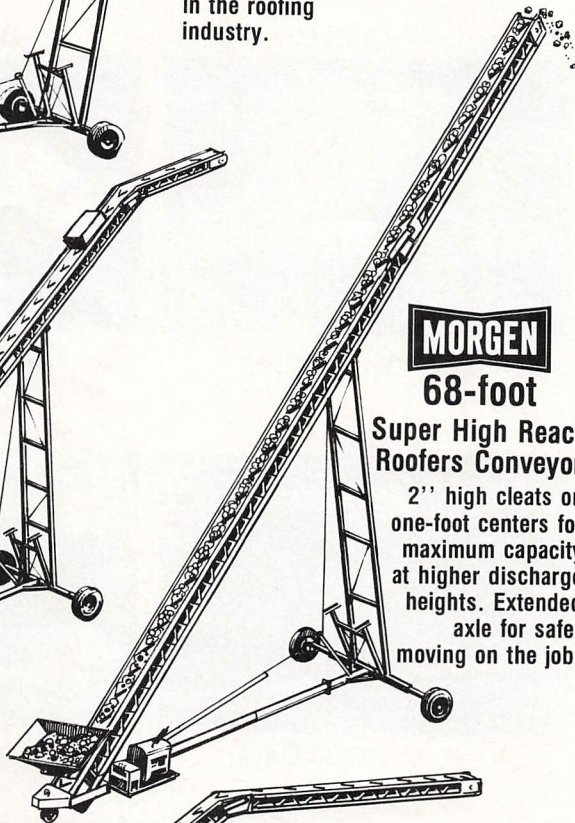


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NATIONAL NEWS

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workable and statistically superior. Data from these two methods will be compared to the standard peak-weak census. Under the census type of study, wage and fringe-benefit information based on a peak weak is obtained from all contractors in an area. A peak weak is a weak when each construction project is fully staffed. The two methods being studied by DOL obtain information from only a sample of contractors.

BLS hopes contractors will balk less at participating in a sampling, knowing they won't be called on every time the Bureau does a survey.

RMA releases rubber specs

The first industry-sponsored specifications for rubber roofing membranes have been published by the Roofing Council of the Rubber Manufacturers Association (RMA).

The specifications have been released in three volumes:

- IPR-1/1984 "Minimum Requirements for Non-Reinforced Black EPDM Rubber Sheets for Use in Roofing Applications;"
- IPR-2/1984 "Minimum Requirements for Fabric-Reinforced Black EPDM Rubber Sheets for Use in Roofing Applications" and
- IPR-3/1984 "Minimum Requirements for Fabric-Reinforced Black Polychloroprene Rubber Sheets for Use in Roofing Applications."

The Roofing Council's Technical Committee, which developed the specifications, is composed of manufacturers with an interest in roofing standards. The Committee is also developing rubber roofing weathering test standards and application methods.

The specifications may be obtained from RMA, 1400 K St. N.W., Washington, D.C. 20005.



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Associate News

GenCorp reorganizes

GenCorp, formerly the General Tire & Rubber Co., will incorporate its Chemicals/Plastics/Industrial Products Group under the name of DiversiTech General, Inc.

GenCorp will function as a parent company with four operating subsidiaries. Aerojet General and RKO General are separately incorporated and the World Tire Group will be incorporated as General Tire, Inc.

Schoedinger acquires Wescon

F. O. Schoedinger, Inc. has acquired Wescon Materials, Inc., Portland, Ore. Wescon will continue to operate as a subsidiary corporation to Schoedinger.

Wescon distributes construction materials in Oregon, Washington, Idaho and Alaska.

Lutravil opens Carolina plant

The Lutravil Co. recently opened a manufacturing plant and company headquarters in Durham, N.C.

The company is a joint venture of two textile firms, Freudenberg & Co., Weinheim, Germany and The Kendall Co., Boston, Mass.

The plant will manufacture a variety of spunbonded, nonwoven textiles for the North American market.

The plant's 100,000-square-foot building is located on a 165-acre site in the Eno Industrial Park. The plant currently employs 67 people. Executives from both Freudenberg and Kendall have relocated to the Durham area.

Wydra joins W. R. Grace

Wally W. Wydra has joined W. R. Grace & Co. Construction Products Division as Midwest regional sales representative for Polycel™ sealants.

Previously, Wydra was owner-president of the W. & W. Construction Co., Itasca, Ill. He was also an industrial educational instructor in Chicago-area schools.

TAMKO hires Leesman and promotes Ogle

TAMKO Asphalt Products, Inc. has announced several changes in its commercial roofing division.

John Ogle was promoted to central regional manager. Prior to the appointment, Ogle was residential sales territory manager.

Ogle is now responsible for sales, distribution and application of TAMKO commercial roofing materials and systems in Oklahoma, Kansas, Nebraska, North and South Dakota and portions of Minnesota, Iowa and Missouri.

Tom Leesman was named regional manager. He is responsible for sales, distribution and application of TAMKO commercial and residential roofing materials and systems for the metro Chicago area and portions of Illinois and Wisconsin.

Leesman has been involved in sales and management for commercial roofing and other residential and commercial building products for nine years.

Genstar names Lambden president

Genstar Corp. announced the appointment of Richard L. Lambden as president of Genstar Roofing Products Co.

Lambden joins Genstar from the Pittsburgh-Corning Corp. where he served as chief operating officer.

Gardner opens West Virginia plant

Gardner Asphalt Corp. has opened a manufacturing plant in Hurricane, W. Va.

The new 15,000-square-foot plant produces the entire line of Gardner products. It features a 10,000-gallon mixing capacity and has a 30,000-gallon storage capacity. A quality-assurance lab tests each product batch before filler runs.

Gardner operates plants in Alabama, North Carolina, Illinois, Ohio, New Jersey, Delaware, Kansas, Florida and Texas.

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Affiliate News

Local campaign promotes Louisville's top contractors

Cloyd Tucker of the Cloyd Corp., Louisville, Ky. says the Greater Louisville Built-Up Roofing Industry Fund "wanted to get a jump on" the NRCA's national public relations campaign. The result is a well-orchestrated local advertising effort that includes radio spots, billboards and sponsorship of one leg of the Olympic torch's trip to Los Angeles.

The Fund was organized as a result of a collective bargaining agreement. It is composed of 10 contractor members who contribute to it on a regular basis.

Earlier this year, Tucker and the Fund's three other trustees decided to launch a promotional program that would tie in with NRCA's public relations theme, "Insist on a professional."

Gulf State Advertising Agency, Houston, Texas coordinated the group's media purchases. Those purchases include billboards, placed in three different locations for 60 days each, and one-minute radio spots currently running during prime drive time on a station serving the Louisville community and surrounding area. Both billboards and radio commercials refer consumers to "Louisville's Top 10 commercial roofing contractors" and provide a local phone number.

"We've got three good locations on the billboards," Tucker reports. "One is up now at a place called Spaghetti Junction, where three roads come together. Everyone can see it."

The Fund also sponsored the local running of the Olympic torch bearer. David Wagner, Tucker's estimator at Cloyd Corp., carried the torch.

"We didn't get as much mileage out of that as we thought we would," Tucker comments. "It was kind of a bust."

"If NRCA continues its promotion efforts, it will be a big help to us here," Tucker says. "There's a good chance that we'll just repeat these advertisements next year." The materials are good, he adds, and have the potential for creating a public awareness of roofing contracting that previously did not exist.

So far, the Fund has spent \$1,650 on billboard space, \$12,600 for the radio spots and \$3,000 for the Olympic torch run, Tucker reports.



Spaghetti Junction billboard promotes local contractors.

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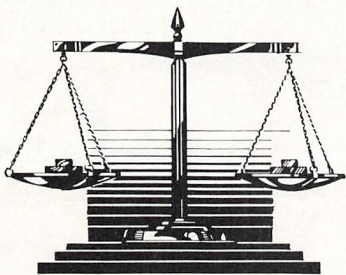
Unlike single-ply systems, there are no application headaches. No special training. No special tools or equipment. And Flintlastic carries a 10-year Limited Warranty. Plus, it comes in the specs you need.

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To get your hands on a sample of our revolutionary roofing product, get your hands on a pen or pencil and circle the response card in the back of this book. We'll send a kit to you right away.



Independent management stressed for double-breasted operations



In a double-breasted company or open shop, the day-to-day operations of two related companies are managed independently. One company operates as a union shop while the other operates as an open shop.

This arrangement can open up job possibilities for the open-shop owner. Attorney Peter Spanos says in a November 1982 newsletter of the National Roofing Legal Resource Center (NRLRC) that the market for open-shop construction is growing and firms that do not have open-shop capability may be missing out on jobs.

To make an open-shop arrangement work, however, the two companies must be independent. If the companies are too closely related, the open shop may find itself bound by the union shop's labor agreement.

This independence is determined by the National Labor Relations Board (NLRB) and the courts after hearing testimony and weighing several factors. According to Spanos, if

the NLRB or the courts find:

- common ownership and financial control;
- common day-to-day management and control;
- interrelated operations or
- common control of labor relations policies

the two companies may be ruled a single bargaining entity.

- the bargaining history of each company;
- the functional integration of operations among the companies;
- the differences in types of work and skills of the employees;
- the extent of centralized management and supervision, particularly in labor relations;
- the control of day-to-day operations and

Common ownership and financial control do not automatically jeopardize the dual shops' independence if none of the other three conditions are present.

Common ownership and financial control do not automatically jeopardize the dual shops' independence if none of the other three conditions are present. The ruling on a 1976 case liberalizes this criteria even further. In *South Prairie Construction Co. vs. Local No. 627, Operating Engineers*, 425 U.S. 800 (1976), the U.S. Supreme Court found two companies to be a single employer but remanded the case to NLRB to determine if the two companies also constituted a single "appropriate bargaining unit."

NLRB looked at six criteria to decide this question:

- the extent of interchange and contact between the groups of employees.

These criteria overlap the separate employer requirement and can be a second line of defense for dual shops that are not separate employers, according to Spanos. In the *South Prairie Construction* case the Board found the two companies could not be integrated into a single bargaining unit even though the Supreme Court had already ruled the companies a single employer.

A more recent NLRB finding clarifies the *South Prairie Construction* ruling.

In the case, the Carpenters Union accused Acoustics, Inc. and Sumon Corp. of unfair labor practices. According to the Union's complaint filed with the NLRB, the two com-

This arrangement can open up job possibilities for the open shop owner.



panies operated in Colorado as a single integrated business enterprise and a single employer. The complaint states that a majority of Acoustic's employees voted to be represented by the Carpenters. It does not mention union representation for the Sumon employees.

In the complaint, Acoustics and Sumon are referred to as the respondent. The complaint accuses the respondent of refusing to meet and bargain with the Union and refusing to honor the collective bargaining agreements in its dealings with Sumon employees or make fringe benefit payments to the Union on behalf of the Sumon workers.

Acoustics and Sumon never responded to the Union's accusations. Because of this, NLRB accepted the facts presented in the Union's complaint as true.

The Union requested a summary judgment against the companies. NLRB delegated the authority for this decision to a three-member panel. The panel denied the request for a summary judgment by a three-one vote and the case was remanded to the courts.

In its ruling, the panel said the Union failed to establish the impropriety of past bargaining arrangements. While the complaint did state that Acoustics operated as a union contractor and Sumon operated as a non-union contractor it failed to assert that such arrangements are inappropriate, according to the panel majority.

The ambiguity of the complaint when it refers to Acoustics and Sumon as the respondent was also criticized by the panel in its ruling because, in the panel member's opinion, this puts the Union's allegations

of unfair labor practices in question. "It is unclear whether such allegations are intended to apply with respect to employees of Acoustics only, or to employees of both Acoustics and Sumon. Hence, we are unable to find those violations as alleged in the complaint without engaging in speculation," the ruling stated.

The one dissenting member of the panel believes the majority misinterpreted the South Prairie Construction ruling. It is his opinion that it is unnecessary for the Union to assert that the present bargaining units are inappropriate. It is enough that the complaint asserts that the employerwide unit is the appropriate one. "Because this allegation is not answered, we must deem that the respondent admits the truth of it," he says in his written opinion.



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State of the Union

Roofers' man in Washington: Roy Johnson talks about labor's troubled times

By Christine Nolen Taylor

“F. I.S.T”, a film about a Hoffa-like character's ruthless climb to the top of the labor ladder, aired on a major television network last month. It told the story of Johnny Novak, played by Sylvester Stallone, who clawed his way up through the ranks of the Federated Inter-State Truckers to the union presidency. He gradually forgets the altruistic motives that inspired his earlier organizing efforts and concentrates on amassing the personal power that has become his passion...

When I walk into Roy Johnson's Washington office to interview him for *Roofing Spec*, I am half expecting a steely-eyed Stallone who will cagily field my questions, repeatedly check his watch and then hustle me out the door in time for his meeting with The Big Boys. What I find is a tall, distinguished-looking, gray-haired man who shakes my hand warmly and spends two unhurried hours talking to me about the United Union of Roofers, Waterproofers and Allied Workers, of which he is president.

Johnson repeatedly stresses the cooperative working relationship that exists between the Union and

**“We have to make
our contractors
competitive.”**

NRCA. This is not quite the wary encounter I had envisioned.

Roy Johnson is friendly, somewhat shy, deeply devoted to his organization—and, I suspect, a street-smart labor leader who can size up a situation and cover all bases faster than you can say polyvinyl chloride.

Stallone might have been easier to interview.

In the beginning

Johnson's private office is spacious, with dark wood paneling, thick carpeting and wing-back chairs. A large Mondale button hanging from a small metal stand is prominently displayed on his desk. Although the temperature and humidity in Washington passed 90 hours ago, Johnson looks

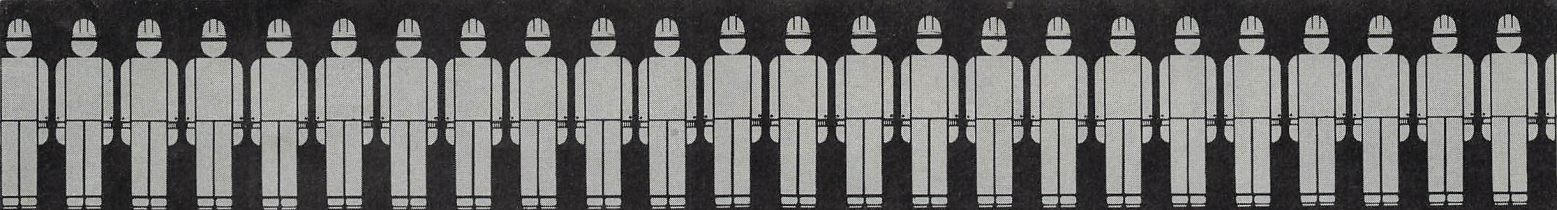
cool and immaculate in a light-colored suit, white shirt and burgundy-striped tie. He wears a striking gold ring on his right hand, a horseshoe studded with diamonds.

Johnson hasn't always been surrounded by plush appointments. In 1945, he was just another unemployed ex-GI.

“When I came out of the war I was pointed in the direction of the unemployment office, like many of us,” Johnson recalls. “One of the local union shops in Trenton, where I was born and raised, needed roofers. I liked to work outdoors, and I thought it would be a challenge.

“It was supposed to be a temporary situation. But the employer liked my work and I liked the job. I became involved with Local 108 in Trenton and advanced through the chairs to president,” he says. Johnson went on to serve as president of the local building trades council and other American Federation of Labor groups in the area.

In 1971, Charles D. Aquadro, president of the Union from 1942-1974, tapped Johnson for his assistant in the Washington office. “He told me I might have the opportunity to sit in



his chair some day," Johnson recalls, "but I knew it would be a tough act to follow. That man made great strides in this Union."

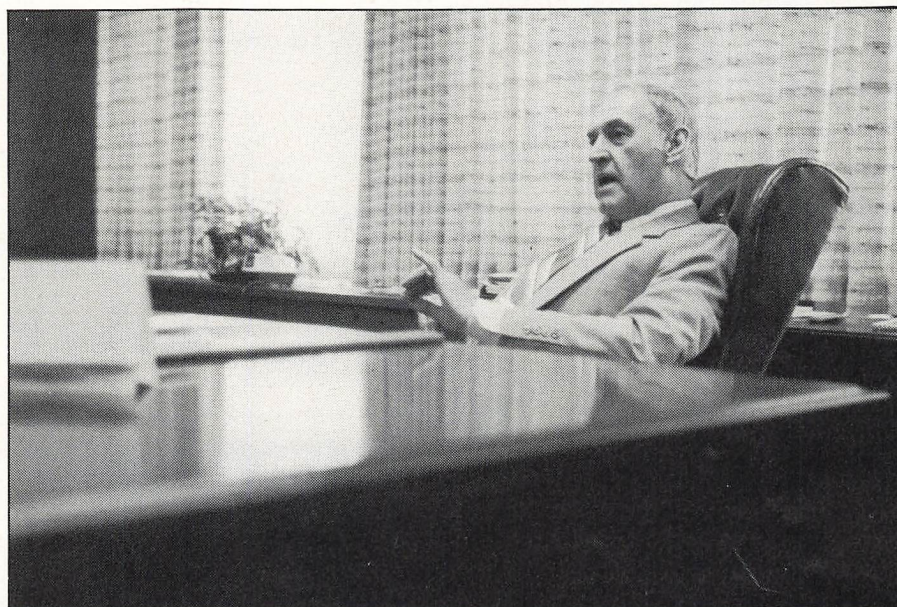
Aquadro retired in 1974, and Johnson was named his successor. He was re-elected in 1978 and 1983. "I've been in the Union since I was 22 years old," he says proudly. "Next year will be the 40-year mark for me."

"I gave some thought to leaving about a year ago. You know, when you get to my stage in life you think about doing other things," Johnson says. "But the Executive Board didn't see it as a good time to even think about a change, with labor's current problems."

Thick and thin

As he talks about the Union's challenges and the current economic climate, Johnson's concern for the members and the organization is evident. He speaks rapidly and intensely and leans forward in his chair.

"When I first got involved with the Union, we were coming out of the war and things were really moving along. There were plenty of job opportunities. We were able to come on strong with programs for our members," he says. "Before that, many people had no hospitalization program. One illness could have wiped out a worker's meager savings. We were able to provide health benefits and improve wage structures," he states.



"The number one problem was with the suppliers of petroleum," Johnson says. The 1970s oil shortage "put a damper on things," he adds, and led to drastic economic and industry changes.

"I just saw in the paper that interest rates are fast approaching 14 percent. That stops construction," he says flatly. "President Reagan doesn't seem to think it has any effect. I think it will be one of the biggest stumbling blocks in getting him re-elected. We may wake up one day and find the same thing happened that did with Thomas Dewey.

"If we Democrats do our home-

Because tough times and a crawling construction industry affect everyone in the roofing business, Johnson is a strong supporter of a team approach to solutions. He apparently does not ascribe to the us-against-them, labor-vs.-management mentality. "We have to make our contractors competitive," he says emphatically. "We have to reevaluate our situation. We have had to take drastic cuts, as we have been doing in the last 18 months. We have to sit down at the negotiating table and cut what is bad out of collective bargaining agreements. If we do that, if we remain competitive, I'll stake our chances against any open shop there is. The bottom line is efficiency and reliability. And the end result is a good product."

Single-ply strategy

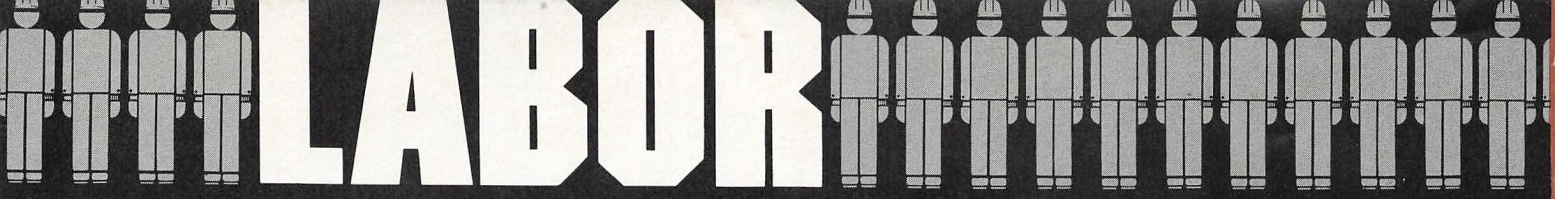
According to Johnson, the proliferation of single-ply products and their distribution and application may interfere with that end result. Single-ply systems and their unique

continued on following page

"I'll stake our chances against any open shop there is. The bottom line is efficiency and reliability."

So what went wrong? What factors led to the current labor picture in which, according to some sources, non-union projects comprise more than 50 percent of contract construction work?

work, we have a good chance of putting our man in the White House," Johnson concludes. "And let's face it—the person from the Democratic party has been the best for the worker. The results are there."



Johnson

continued



challenges top Johnson's list of the Union's major concerns today.

"Until about five years ago, 90 percent of roofs or better was traditional built-up roofing, plus shingles, slate, tile. Now in some parts of the country, 80 percent or more of the market is single-ply. In the past, we've been dealing with three or four major manufacturers in BUR. Now, the listing of single-ply manufacturers is unbelievable," he says, spreading his arms wide. "These manufacturers are not content to make a product and put it on the warehouse shelf. They have to get it out into the market. Some of them are not so concerned about how they're going to do that.

"They have no problems with bypassing the legitimate roofing contractors, contractors we've known and done business with for years. The contractors are aware of this and concerned. The contractor's professional image must be emphasized.

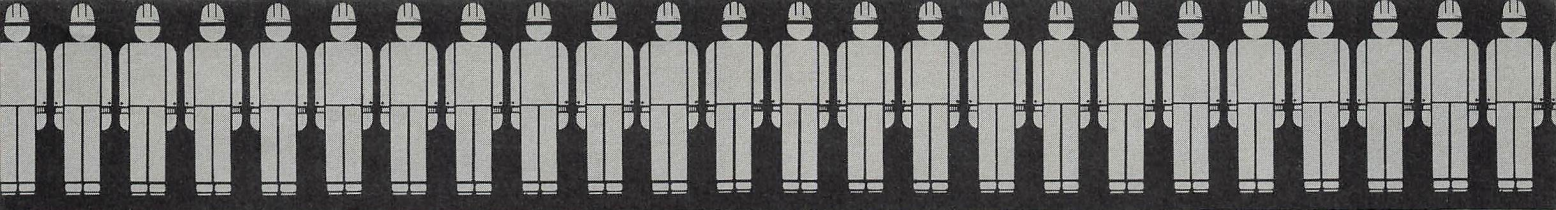
"And that's our team approach again," he says. "A professional contractor? That means he needs professional people working for him. We supply apprentices, qualified journeymen. We have training programs. We know what the contractor wants.

"Whether the smallest homeowners or the largest manufacturing plant owners, people know when they deal with these professionals, they are going to get the best roof for their dollars," Johnson says with certainty.

Programs of pride

The Union's apprenticeship and training program is considered by many to be one of its most valuable services. Recently, a non-union roofing contractor received federal funding for his own apprenticeship program. It is thought to be the first of its kind in the country, and I ask Johnson about it.

"You're telling me something I am



not aware of," he says with some surprise. "But you're talking about one employer who is taking care of his immediate needs. That's the thing about the Union's program with its signed contractors. We move indentured workers around to several contractors for years. The workers see a cross-section of roofing jobs. I think we turn out a better mechanic," he says.

let's let them know about it.

"The NRCA has the same concerns we do," Johnson asserts. "This has been indicated to us in meeting after meeting with the officers. They know the safer we can make the job-site, the lower their bottom-line costs. That's why we've co-authored various health and safety articles, and will continue to."

"Where there are hazardous chemicals, we want to be aware of this. If people are in a dangerous situation, let's let them know about it."

Johnson goes on to comment specifically on a common complaint of contractors: the transient nature of roofing mechanics and the difficulty in finding and keeping experienced, qualified employees.

"If there's a large drop-out rate, it's when the workers first start—the first 18 to 24 months," he says thoughtfully. "But we regularly send out 25-, 30- and 40-year membership cards. I would say the majority of them dedicate themselves to the industry."

A profitable shop with experienced workers is not the only goal of the Union's training programs; proper education also means a safer workplace. And the roofing mechanic's safety is of prime importance to the organization. The Union is working with NRCA and the Single-Ply Roofing Institute on assuring the safety and health of mechanics working with single-ply systems.

"We know that single-ply has arrived, and we want to be the ones to apply it. But we must do that in the safest manner feasible," Johnson says. "Where there are hazardous chemicals, we want to be aware of this. Some containers of chemicals don't have proper warning labels. If people are in a dangerous situation,

Ladies on the roof

It is worth noting that, in talking about the Union's programs, Johnson refers to its members in non-sexist terms, or specifically describes a roofer as "a man or a lady." I can't help but acknowledge his effort to include both genders in his responses.

"The majority of our locals have a sprinkling of women in them now," he reports. "We've had them in our apprenticeship program, although they tend to skip over to other fields, like electrical work. It's tough for a lady to hang in there," Johnson says. "It's tough for many men. I think roofing has become a little more attractive to them with the newer roofing products, though."

"I have an article in my files about a lady in Boston," Johnson suddenly says. He hasn't smiled very often since we started talking, but a broad grin lights his face now. "She was working on a roof when a barge in the harbor below exploded. She was one of the people who saved this guy's life." I read the article; the woman was lowered into the water at the end of a ladder held by her fellow roofers because, as she explained, "I'm the lightest." The newspaper account of the incident obviously tickles Johnson.

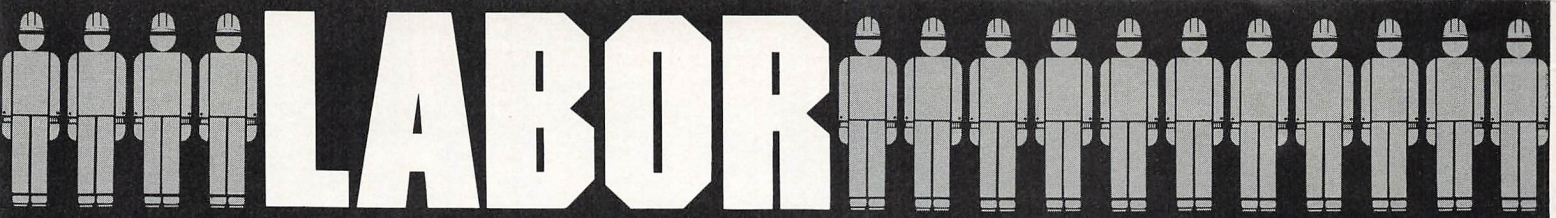


The roofer's man

As he discusses the Union's programs and activities, Johnson speaks in glowing terms of NRCA members with whom he has worked: Fred Good, Wayne Mullis, Bill Steinmetz, Bill Branson, Bob Linck, Jim King, Bob Osterholt. Clearly, this is not a man who is out to grab all the glory for past accomplishments. He exhibits the most passion not when he is talking about himself but about the Union—its dedication to its members and its need for strong leadership.

"You know, everybody talks nega-

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Johnson

continued

tively about unions," he says. "I don't think we have adequately projected all the good we have done over the years. That's why we're so enthused about NRCA's public relations program.

"If you look back into people's families, you'll see that almost every one of them have family members who have earned their livelihoods as union members.

"These people in open shops don't realize that they are getting benefits because of unions," he says with some heat. "It's overflow. If those contractors weren't faced with any opposition, you can better believe they're not going to take care of these people. You need the protection of someone behind you," he says

"Dedication is the key—dedication to a cause, to the union, to the people and to their families."

earnestly.

Johnson says he would try to convey the sacrifices and responsibility labor leadership requires to people interested in working for the organization.

"It takes a lot of hours," he empha-

sizes. "It means meetings at night away from the family, a lot of extra time. You have to keep your people informed, make a point to be on the job-sites, talking to stewards, alerting them to what's going on. You need the best background, the best education you can get. Dedication is the key—dedication to a cause, to the union, to the people and to their families.

"You have to have compassion. I am a giver. I'm proud of our health and pension programs, but they aren't monuments to me," Johnson says.

He searches for words for a moment. "I want to be remembered as Roy Johnson, the roofer's man. The man who never forgot where he came from."

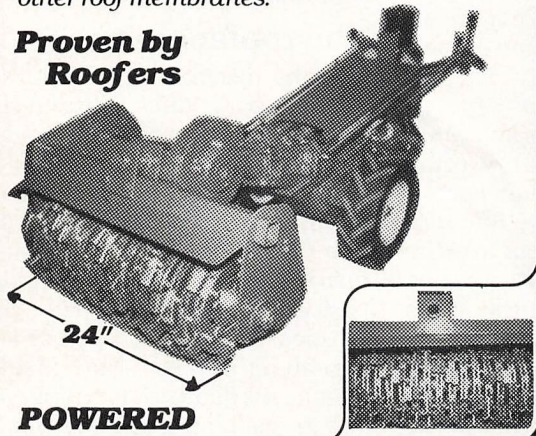


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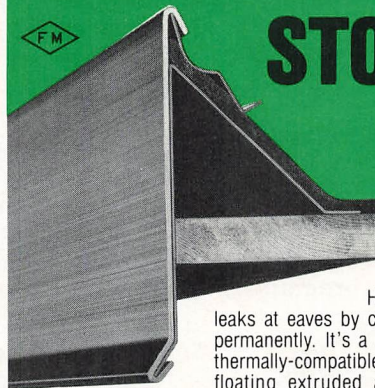
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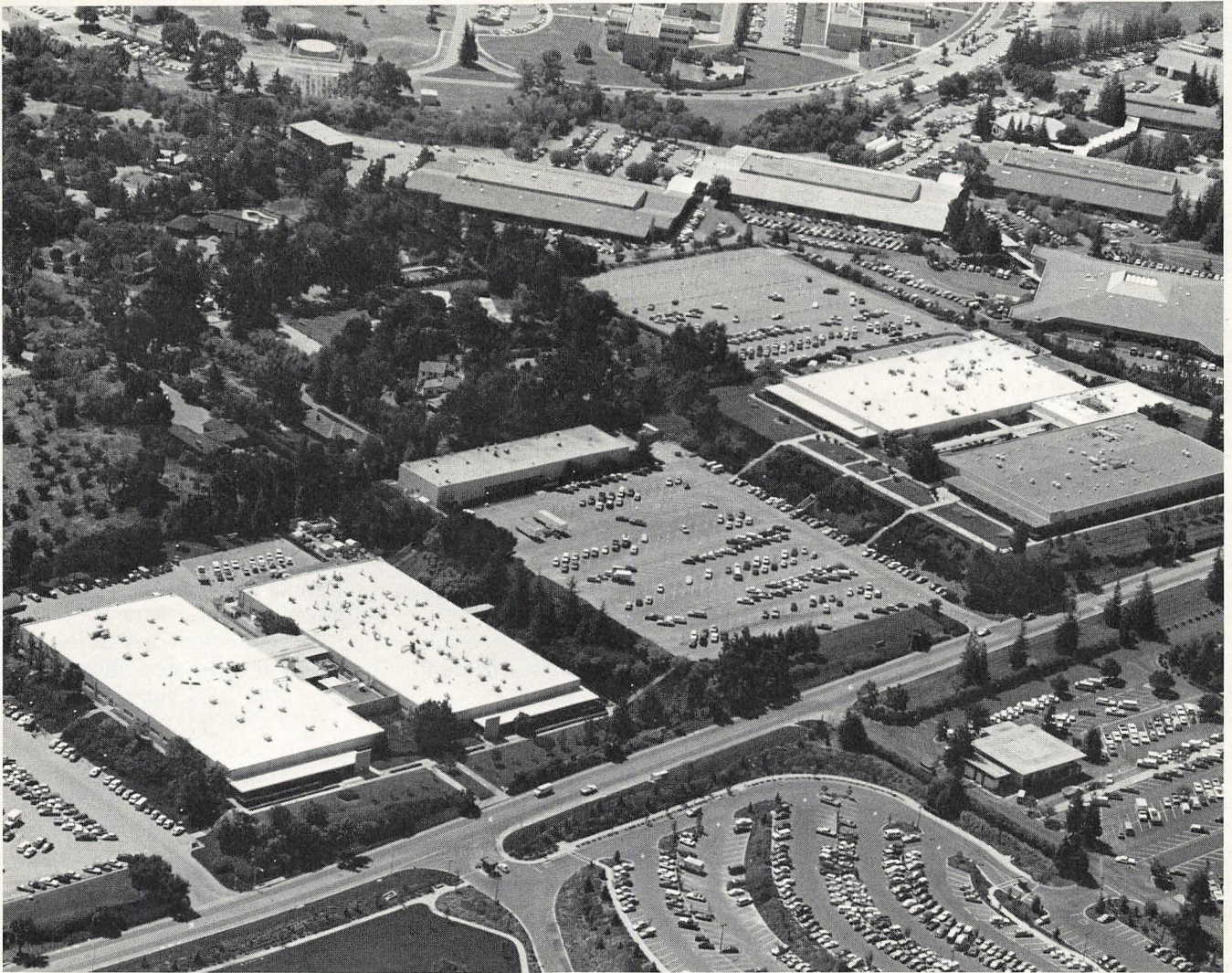
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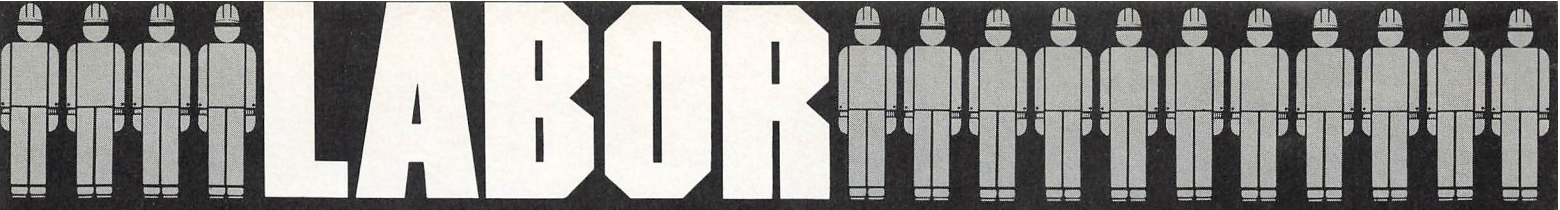


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It's time to get a handle on slot machine unionism

By Edward Carlough

The era that extended from after World War II until the mid 1970s has been referred to by one nationally syndicated labor columnist as the generation of "slot machine unionism."

According to this columnist, a whole generation of union members grew accustomed to putting a coin (union dues) into a slot machine (the union), pulling the handle (strike or threat of a strike) and scooping up the benefits merrily with both hands as they gushed out. The slot machine, of course, was built by the efforts and sacrifice and, yes, blood of generations of trade unionists who have gone before.

They built the machine for those who followed. Many of those build-

ers never got to pull the handle. Many who later pulled the handle and got the benefits never quite understood that or perhaps never cared to understand.

That era is over

It has ended at different times for different unions and for different reasons.

For the mineworkers, it was automation, competing energy fuels (nuclear and others), changing environmental attitudes and instability in the union leadership. All of these factors and others led to an explosive growth in wildcat operations and non-union competition. The UMW had 450,000 members a little more than 20 years ago. The number today

is estimated at 150,000.

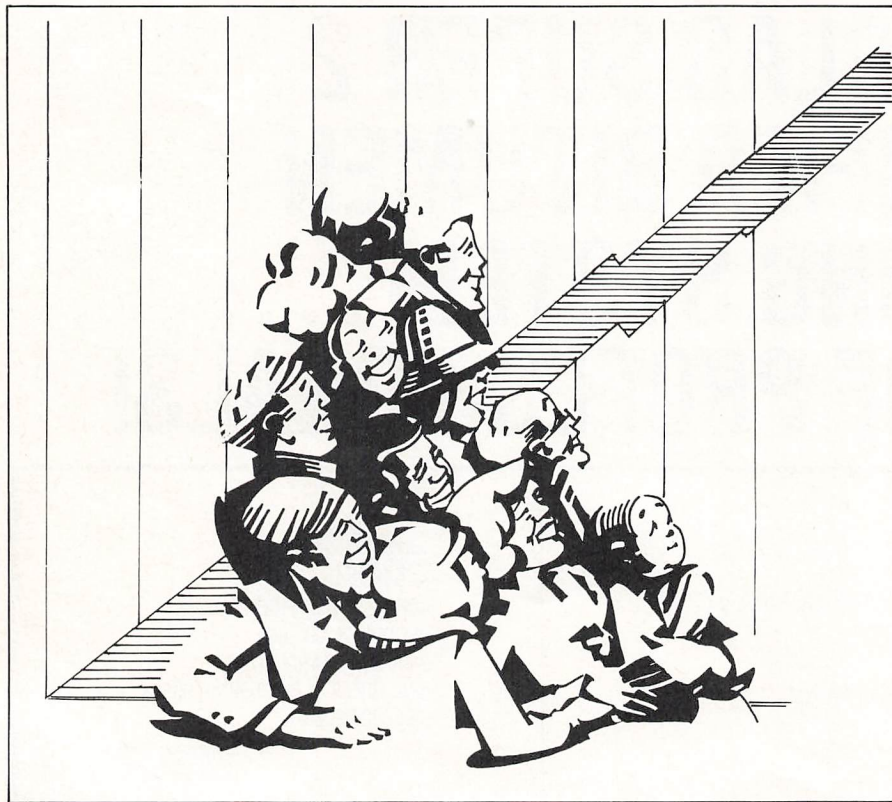
For the basic industrial unions it was, and is, foreign competition and the abject failure of complacent management to modernize its productive facilities in the face of this competition. Ten years ago, steel, auto and rubber workers' unions had a combined estimated membership of 3,036,000. By 1983, that number was 2,746,000. Forty percent of Steelworkers members are today out of work. Many have been out of work a long time. Many of them will never be reemployed in that industry.

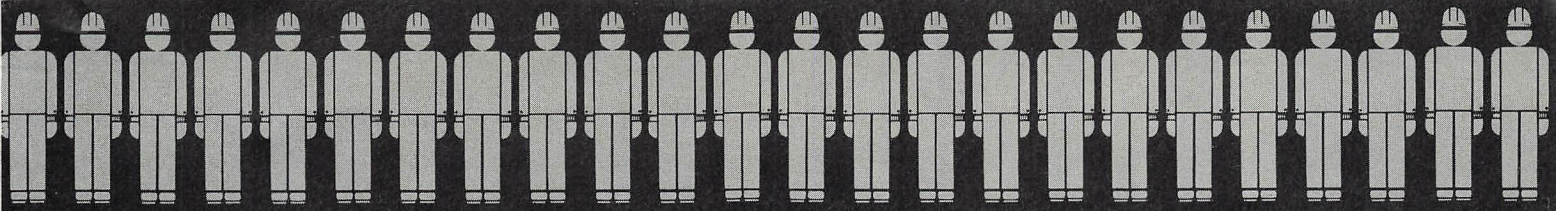
Construction unions have been the historic backbone of the trade union movement, both in the United States and in Canada. We have also been among the leading practitioners of slot machine unionism. In fact, show me anyone who played that game better than we did, and I'll tip my hat to them.

For a long generation, the union construction industry struck at the drop of a hat, engaged in jurisdictional warfare among its members (and pretended to like it), developed featherbedding (pay for no work) practices and merrily kept pulling the handle.

Construction is the only major industry to show a decline in work productivity every year for ten straight years. (That decline ended last year.)

Meanwhile, the political climate changed, the courts and government agencies severely limited our right to picket and the non-union element not only grew, but it organized itself. The result of all this? Fifteen years ago, 23 percent of all contract construction work was non-union. Today, that figure is over 50 percent—and growing. One of five sheet metal workers is unemployed in the United States, and it is worse for us in Canada.





Now for the bad news

There are still some union members who don't understand that the trusty old slot machine is broken. They're still trying to get their business agents to pull the handle. Union leaders are sometimes accused of living in an ivory tower. The only people in that ivory tower today are members with their hands still on the handle.

What do you do when the machine is broken? You fix it, or you build a new one. We're building a new one. We've been building it for some years. Article X to reduce strikes; National Training Fund to increase productivity; energy management to create a whole new world of future job opportunities; contract changes, including use of preapprentices to make union contractors more competitive in a world where competition, quality and price are the new—and only—bottom lines.

And, Resolution 78, our newest weapon adopted at our last Constitutional Convention. There isn't any mystery to 78. It mandates locals and the International to go out and get the work for our members using any tool at their disposal.

For the last quarter of 1983, affiliated local unions produced almost 1 million man hours of work for the membership using 78. That's a million man hours that would have gone non-union if business agents had just sat back and done nothing. It's a tribute to them and to you. We will increase that record using 78 during the first quarter of this year.

Just before we went to press, we were informed that 78 had scored its most spectacular success to date. Through an effort coordinated by the International among some of our major contractors and four of our lo-

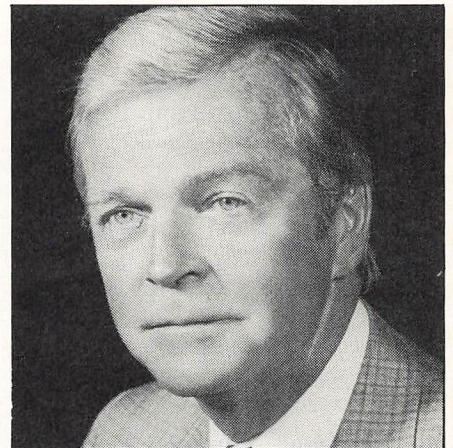


cal unions, a union contractor was awarded a \$10 million sheet metal job at R.J. Reynolds. Where? Would you believe North Carolina? It's the single largest union sheet metal construction contract ever won in that union-busting state.

We were one of the few unions that even tried to bid the job. Our competition was all of the major non-union contractors in the Southeast. We competed on the basis of quality and price, and we won.

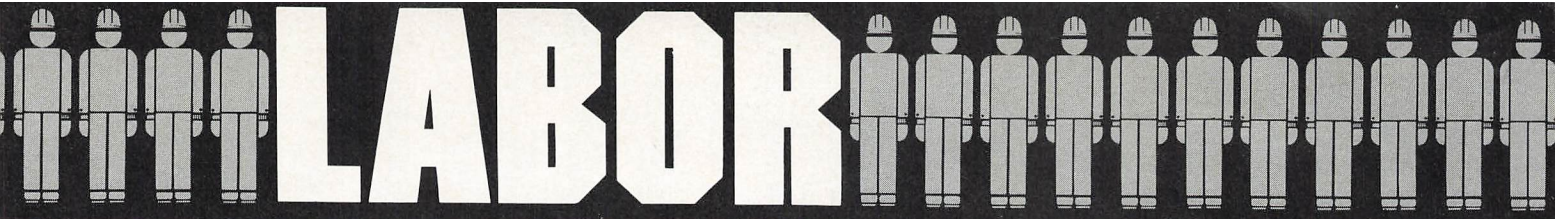
If we can win in North Carolina, we can win anywhere. We are building that new machine. With the support of union-minded members we will build it better than the old one. It is not just another challenge. It is survival itself. And we will survive—and then some.

I was never one for slots anyway.



Edward Carlough is the general president of the Sheet Metal Workers International union. His thoughts originally appeared in the March issue of the union's publication, Sheet Metal Workers' Journal.





Midwest bank commissions study on area's industrial future

By Martin Eastman

When the 21st century was nearly a half-century away, the future seemed like a marvelous place. Americans in the 1950s believed the mighty smokestack industries of the industrial Midwest would have no trouble forging a new world from gleaming tail fins and robot butlers.

Thirty years later, those visions seem dangerously naive. New worlds are no longer forged in powerful factories, it seems, but etched in pastoral valleys onto silicon chips no bigger than the eye of a needle. High technology and changing consumer tastes have slowly forced once invincible Midwestern industries to close up shop and head for warmer climates.

While some Midwesterners have followed the jobs, resettling in the Sunbelt, others have stayed behind to search for ways to revitalize this once dominant economic area.

Cleveland's AmeriTrust Corp. is one of the region's survivors and one of its leading banks. It calls its home MidAmerica, a territory comprising Wisconsin, Illinois, Indiana, Michigan, Ohio and the Buffalo and Pittsburgh areas. The bank has invested in the future of the region and has watched with understandable consternation as MidAmerica's steel, auto and other heavy industries weakened.

The bank commissioned the management consulting firm SRI International to survey the status of and prospects for MidAmerica. SRI's report to AmeriTrust pinpoints the region's problems and broadly outlines the initiatives

required to put the region back on its feet.

The report suggested two kinds of initiatives: actions MidAmerica must take on its own and policy changes the federal government must make to give the area a fighting chance. Throughout the report the tone was positive and optimistic; with some hard work and concerted effort the region might once again take its place as a major business center.

With this good news in hand, AmeriTrust set out to find disciples. It held a meeting to which the captains of industry and the leaders of national trade organizations like the National Roofing Contractors Association came to discuss MidAmerica's revival.

Bill Good, NRCA's executive

unemployment. Those traditional enemies of full employment, recession and foreign competition, accounted for only 40 percent of MidAmerica's job losses, the analysts found. Domestic competition seems to be the real culprit, robbing the region of 45 percent of its jobs.

"If MidAmerica had maintained its share of U.S. manufacturing, it would today have about one million more manufacturing jobs and in total two million more jobs," the analysts state in "Choosing a Future."

The report goes on to assess the damage economic disappointments have caused to the region's key industries. For the roofing industry, much of this information may not be pertinent. But one com-

New worlds are no longer forged in factories, but etched onto silicon chips.

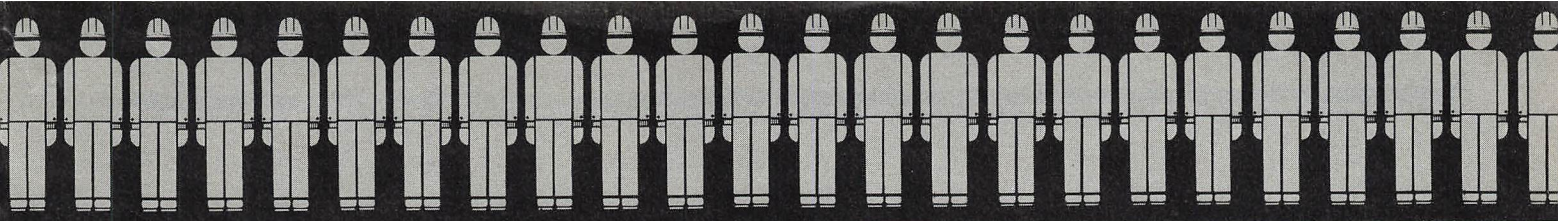
director, attended the meeting. Though he wasn't surprised by the information that was presented, he did come back with some new insights into the region's problems.

Good also received a booklet summarizing SRI's findings. The booklet is titled "Choosing a Future: Steps to Revitalize the MidAmerica Economy Over the Next Decade." Like any good apostle, Good has passed the word along, distributing copies of the booklet to NRCA's Midwest affiliates.

The affiliates may be surprised by some of SRI's report, such as the reasons it gives for the region's high

ment made about the auto industry may help contractors anxious about an uncertain and rapidly changing future. "Once regarded as the region's albatross," the report states, "this industry can in fact serve as a guide to others because it has made more progress with technical, managerial, labor-management and training innovations than most other MidAmerican industries."

The auto industry gets good marks from SRI because it has excelled in the four areas the analysts have found most important for regional survival. In its strategies for the next decade, "Choosing a Future" lists better technology use,



better labor-management relations, more education, training and retraining and improved management as "major actions to help revitalize the region."

Better technology use includes employing the latest advances in computers, materials, biotechnology and communications. "The effective application of these technologies will play a major role in determining what companies, regions and nations will lead the world economy," the report says.

Using the new technologies will actually increase employment as it cuts down the number of workers needed to produce a unit of output, according to the analysts' logic. The increased productivity will make the region more competitive, they claim, and a more competitive region will gain a larger market share, creating more jobs than were lost in the retooling.

Those new jobs may not pay what they once did, however. Vital and dominant industries could afford wages 50 to 100 percent above the national average, but high labor costs "simply do not fit with competitive reality," according to the

report. More flexible compensation is needed, the analysts say, with lower base salaries coupled with various bonus and incentive systems.

Fringe benefits must also be brought into line. Industries should offer cafeteria-style packages that help employers contain benefit costs and allow workers to choose the benefits they want.

In addition to compensation adjustments, work rules will have to be changed to increase productivity if MidAmerican industries want to compete in the world market.

While workers may lose some pay and fringe benefits in the future, they may gain in company involvement. The report suggests that workers be given a greater say in the quality of their work life and the quality of the product. Training and retraining employees, another key recovery strategy, is a further responsibility MidAmerican industries must accept to improve their human capital.

Management must adapt to a changing world as well. It must strip away layers of executives to save overhead and speed decisions.

And it must emphasize the human side of its business, attracting, keeping and motivating talented people on the inside and establishing communications with its customers on the outside.

A healthy management will also be technically sophisticated, decentralized and sensitive to foreign markets, according to the report.

Changes in public policy will also aid and speed MidAmerica's recovery, the report claims. The study discovered several areas in federal, state and local governments that presently hinder the region's growth.

The analysts pinpointed one particularly vexing problem with the federal tax structure. "Federal taxes on MidAmerica still provide large new subsidies to the South and West. These regions still receive enormous subsidies for federal water and electric power projects and account for a disproportionate share of defense expenditures," the report says. Federal policies must take MidAmerica's needs into account to correct this injustice.

The analysts also call for more long-range economic planning by state governments. Smokestack-chasing states must not become silicon-chip chasers, the report warns, but must promote a competitive mature industry sector, a strong small-business sector and a well-trained workforce among other business climate improvements.

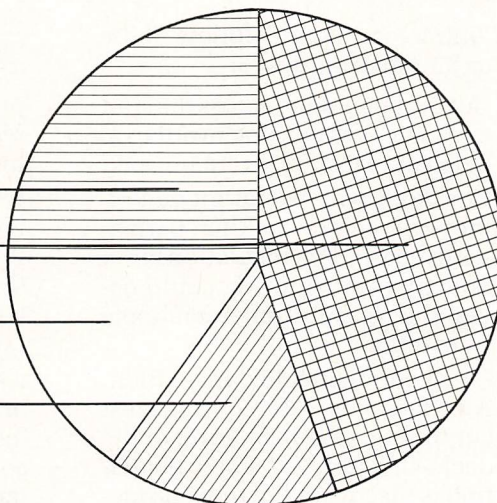
Local governments are urged to remove inappropriate regulations and bureaucratic obstacles, target local resources and use their clout to lobby state and federal governments for needed changes.

"Choosing a Future" goes into much greater detail about the problems and opportunities facing the industrial Midwest. The report is not suggesting an easy road, but one filled with hard work, agonizing decisions and drastic changes. The end result may not be the future once envisioned but it will still hold a prominent place for the region.



CAUSES OF LOST EMPLOYMENT

RECESSION	25%
DOMESTIC COMPETITION	45%
FOREIGN COMPETITION	15%
RESTRUCTURING	15%



Part II of II

BUR maintenance: what every owner should know

By B. Jack Williams, Twin City Roofing, Inc.

The built-up roof membrane is prone to four problems that can lead to leaks and roof failures: splits, punctures, blisters, and ridges. Splits and punctures, which may cause the membrane to rupture, are the most severe problems.

Splits, created by a membrane's tensile failure, may be caused by thermal movement, substrate strain or structural strain. They usually occur in the same direction the felts were run. I have observed cross-felt splits only three times in 28 years.

Thermal movement occurs when an attached membrane and the substrate underneath contract at different rates as they cool. If thermal movement is a split's suspected cause, the contractor should determine if the membrane possesses low tensile strength. A weak membrane may need only the installation of extra felts, a simple repair technique, to correct the problem. But if the assembly's insulation exhibits high movement potential, more substantial repairs must be made.

Applying organic felts across the split adds strength to the membrane. Organic felts are generally twice as strong in the machine direction. Glass-ply felts are equally strong in the machine and the cross direction.

Splits, punctures, blisters and ridges: what to do about them.

Contractors should follow these steps for repairing splits:

1. Cut the membrane across the split and check for missing headlap to determine if all plies are present.
2. Check for wet insulation and remove it before making permanent repairs. Wet insulation is not effective and splitting could occur due to substrate-membrane interaction.
3. Check for unattached insulation. An attachment test requires a test cut through the insulation to the deck. If poorly attached insulation is discovered, it must be mechanically refastened if possible. If all but a small portion of the insulation is attached well, membrane stress will be concentrated at the poorly attached site.

4. Replace insulation with the same type of material. The patch insulation should be 1/2-inch thicker than the existing insulation to avoid a depression in the patch area.

5. Remove roof gravel 36 inches out from the split and spud the bitumen flood coat down to the membrane to avoid adhesion problems. A thick bitumen coating may cause excessive membrane movement.

Many repair manuals suggest priming the existing roof at the repair site. This is unnecessary for two reasons. First, the primer may be incompatible with the patching bitumen. Second, the primer dries slowly, increasing the unfinished roof's exposure to bad weather.

6. Install enough roofing plies to equal or exceed the existing membrane's tensile strength. Tensile tests are not necessary, but the contractor should be aware of different roof membrane strengths. Tie-in widths should be 18 inches or more.

Organic felts can run crosswise if desired. I don't believe in feathering, or starting, each ply

I don't believe in feathering, or starting, each ply back from the one below.

back from the one below. The bottom ply is the patch interface, and its quality determines the repair's quality.

Patching bitumen should be very hot and not applied excessively. The applicator should scrub the mop into the tie-in area to fill all interstices.

7. Re-apply surfacing over the area; do not reuse dirty or moist aggregate.

If structural movement caused the split, the split's repair will generally require an expansion joint to alleviate membrane stress. Structural movement can often be detected by examining walls and other building components. Movement can always be expected at deck direction changes and building additions.

If an expansion joint is added, it may inhibit drainage or cut it off altogether. New drains may have to be installed or other provisions made. Do not attempt to run water through or over an expansion joint.

To install an expansion joint, the contractor should follow NRCA Roofing & Waterproofing Manual details. The membrane and roof insulation should be cut down to the roof deck directly over the joint location to encourage joint movement.

When installed, the expansion

joint's sides should be able to move independently. Expansion joints should be raised above the roof's surface. Flush joints should be used only as a last resort or when encountering a drainage problem. To finish the repair, the contractor should follow the same repair process as outlined for splits.

Blisters are the most frequent BUR problem. One cause is the latent moisture contained in some decks. Solar heat pressurizes this moisture and produces roof-wide blisters.

This latent moisture may not be readily evident. Heavyweight concrete, perlite or vermiculite concrete or gypsum decks may hold moisture even after curing moisture is gone and the deck appears dry. The com-

continued on following page

CONTRACTOR:
"Is the wood nailer, insulation and seal strip typically supplied by the curb manufacturer?"

SPECIFIER:
"What is the proper fastener spacing for base flashing and counterflashing at curb?"

ARCHITECT:
"What is the NRCA recommended curb height?"

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CURB DETAIL FOR ROOFTOP AIR HANDLING UNITS

Labels in diagram: 2" WOOD NAILER, 16 GA. MIN. FRAME, INSULATION SUPPLIED BY CURB MANUFACTURER, SEAL STRIP, COUNTERFLASHING FASTENED APPROX. 18" O.C. SUPPLIED AND INSTALLED BY SHEET METAL CONTRACTOR, FASTENERS APPROX. 8" O.C., BASE FLASHING, 2" NOMINAL, WOOD BLOCKING FASTENED TO DECK, FIBER CANT STRIP—SET IN BITUMEN, ALTERNATE FR. LOCATION FOR HEAVY UNITS, 14" NOMINAL WFGD HEIGHT, 6" MIN.

NOTE: THE CURB, WOOD NAILER, INSULATION AND SEAL STRIP ARE TO BE SUPPLIED BY THE CURB MANUFACTURER. THE NOMINAL 14" CURB HEIGHT IS EFFECTIVE AS OF JANUARY 1, 1981.

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BUR repair

continued

monly used asphalt-pour test will not indicate deck dryness; it is actually only an adhesion test.

Some blisters may occur over high-moisture-content areas such as swimming pools or locker plants. High internal vapor pressure forces moisture into the roofing system. If

base sheets or spot- and strip-mopping should be encouraged.

Some blistering problems may be impossible to correct. If blisters are widespread, their repair may damage the roof's continuity. If internal or deck moisture caused the blisters, the problem will probably recur in

require attention.

Ridging may also occur at insulation joints. When temperature changes cause the membrane and the insulation to move at different rates, it places the membrane in compression and displaces the joint.

In single-layer insulation systems, ridges and blisters may be first cousins. When moisture is deposited in the insulation joints, it can be absorbed into the membrane. With absorption, the membrane swells and distends, creating a ridge blister. In its most severe form, ridge blistering occurs above all four edges of the insulation board and is known as picture framing. If a membrane ridge runs in two directions it is probably caused by blistering rather than compression.

The two-layer, staggered-joint insulation system recommended by NRCA will deter ridge blistering. When mild blistering does occur, it can often be repaired successfully by removing the joint insulation and filling the space to form a tighter joint. Asphalt should never be used as the filler, however.

Rigid insulation material with high compressive strength and a high expansion coefficient can

Some blistering problems may be impossible to correct. If blisters are widespread, repair may damage roof continuity.

no vapor barrier is present, this moisture condenses in the system where solar heat pressurizes it and creates blisters.

Moisture can be trapped in a roof system when materials are installed wet or exposed to bad weather before the roof is complete. In phased construction, when only one phase of the roof is finished, the rest of the system is exposed to rain or dust. By the time the final felts are applied, moisture is trapped in the system and blisters result.

Some insulations can cause blistering when BUR membranes are mopped directly to them. NRCA recommends a buffer insulation between these insulations and the membranes.

A blister's location in the roof assembly may indicate its cause. If the blister occurs between plies, phased construction or damp felts could be the reason. If the blister occurs between the insulation and membrane, the problem could be wet insulation, internal or deck moisture, or blister-inducing insulation.

To prevent irreparable blistering, action must be taken during installation. While many disagree, I believe that if insulation is to be used over decks containing latent moisture, a vapor barrier should be installed.

Contractors should also install materials with techniques that assume the materials are wet. Venting

in spite of repairs.

If repairs are attempted on a blistered membrane, all blisters should be removed to avoid damage from foot traffic, debris or hail. The standard repair technique is to make an X-shaped cut on the blister. The edges of the cut are folded back and resecured to the existing plies.

I prefer removing the membrane down to the insulation around the blister. With this method, the insulation's moisture content can be checked and latent moisture can be eliminated. Once the blister has

Years after the first puncture, when the membrane's plies have deteriorated, a leak may occur.

been removed, the same repair techniques outlined for splits are used to patch the roof.

Ridging is another common BUR problem. Membrane ridges are 1/2 to 4 inches high and tentlike. Several thermally induced conditions may cause ridges.

Thermal movement will produce ridges when heavy base sheets are used for the first ply. The low ridges run across the machine direction and are no longer than the base sheet's width. Most base sheet ridging problems are minimal and do not

cause compression ridges. As the insulation boards expand, they are forced against each other and the joint rises. This is an insulation problem, and a more stable insulation may be required to correct it. If the ridging occurs in a two-layer system, more space between the insulation boards is required.

If a ridge involves all plies, it is usually stiff and will not puncture. I prefer to leave stiff ridges if they do not inhibit drainage. If necessary, surfacing over the ridge can be removed and reinforcement plies in-

stalled. To resurface a ridge, use steep asphalt.

Punctures are caused by foot traffic, workers' tools, debris or hail. Unless the membrane is completely penetrated, a puncture may not produce immediate leakage. However, a puncture that penetrates one or two plies will eventually cause problems. The bitumen will crack at the puncture, allowing the membrane to absorb moisture and age. Years after the first puncture, when all of the membrane's plies have deteriorated, a leak may occur.

To avoid this problem, the roof must be checked periodically. The problem is more prevalent but easier to recognize on smooth-surfaced roofs. With aggregate surfacing, punctures are less likely but very difficult to spot.

As a further precaution against punctures, building maintenance personnel should be familiar with the damage roof traffic can cause.

Punctures occur frequently in loose flashings. Although all specs call for tight flashing installations, flashings don't stay tight. Membrane contraction and wall movement can pull flashings loose.

Blisters are also susceptible to punctures. The problem is aggravated when traffic is allowed on the roof in cold weather. In the winter, when the membrane over a blister is brittle, the blister is especially vulnerable to roof traffic damage. All blister locations should be marked so that they can be avoided.

Debris may puncture the membrane when the wind moves it around or it is dropped by careless workers. To be safe, a roof should be free from tree limbs and planks and should not be used for storage.

Mechanical equipment installed after the roof invariably cause punctures. Often, the damage does not appear until later. Trained observers should mark equipment penetrations for future inspection. When rooftop mechanical equipment is repaired, plywood should be laid on the roof as a working platform. Walk-

ways built into the roof system can also prevent traffic damage.

The first rule for puncture repair is to check for wet insulation. A moisture-laden piece of insulation or membrane should be removed. Flashing punctures can be repaired with trowel-applied materials and reinforcement. Because damage often occurs very low on the flashing, aggregate may have to be removed. Feather all patching materials to remove ledges.

The roof membrane must be patched with materials similar to the

flashing problem. The solution is an expansion-flashing detail to eliminate longitudinal flashing strain. The expansion flashing must be combined with a tight-fitting metal counterflashing not attached to the base flashing.

A sub-flashing must be attached to the wall at the top of the blocking to waterproof the base flashing. Vinyl and adhesives work well for this purpose. This type of detail must be used where precast concrete units form parapets because the flashing's top cannot be mechani-

Too often, the top of the base flashing is left exposed, and when snow and rain enter behind the counterflashing it infiltrates the base flashing as well.

existing roof's materials. The repairs always require aggregate removal.

BUR flashings may require more extensive maintenance and repair than any other roof component. They receive the most stress and are subjected to the most abuse. While a contractor can't eliminate the stress without expansion flashings, he can allow for building and membrane movement by installing metal reglets and counterflashings.

Building movement is recognized by tenting at the flashing base, where the membrane pulls it from the cant strip. Diagonal tenting indicates the wall and the membrane are moving in opposite directions. Counterflashings contend with building movement by flashing the flashing. I recommend extending the counterflashing down to the roof line.

Even with the counterflashing, the base flashing must be watertight. Too often, the top of the base flashing is left exposed, and when snow and rain enter behind the counterflashing they are able to infiltrate the base flashing as well.

Diagonal wrinkles are a common

cally attached.

It is necessary to mechanically attach the flashing's top whenever possible. The mechanical fasteners resist the flashing's pulling and sagging. Flashings facing the sun, which are the most susceptible to high heat buildup and sagging, need a reflective coating for further protection.

A badly sagging flashing must be removed before replacement flashing is installed. Replacement is not necessary when slippage has been less severe; the flashing's top can be re-anchored and resealed. Mastic and reinforced mesh are the most common sealing materials. Metal or plastic bars can be anchored into a dense substrate to hold the flashings in place.

Metal gravel stops and gutters, while not recommended, are sometimes used because they're cheap. Joint problems are inevitable with the metal-to-roof connections, however, and a raised-edge detail may be a better choice. When metal gravel stops and gutters are used, there are

continued on following page

BUR repair

continued

several techniques that will minimize problems:

- Make sure all membrane plies are laid before accessory installation.
- Lay flanges in a heavy bed of roof mastic and nail them closely on 3-inch centers.
- Drive caulk into the joint of the gravel stop. I prefer a metal caulk to a mastic for this purpose.
- Use the more resilient mastic to prime the flange.
- Apply the felt flashing strips in bitumen.
- Seal the raw felt edge along the vertical rise with mastic.
- Raise gravel stops above the waterline where possible.

Use the same techniques to repair leaking gravel or gutter joints.

Flashings at roof membrane penetrations are susceptible to leaks and should be inspected periodically. Watch for flashing damage caused by roofing system movements. Other problems to look for are lead flanges around plumbing vents damaged by the vent's movements and rain hoods distorted by winds.

Pitch pan flashing penetrations are another major problem source and require constant maintenance. The penetration expands and contracts, exerting pressure on the waterproofing. Rain hoods clamped to pipe penetrations and crowned mastic will protect pitch pans from moisture, but it might be better to flash the penetration without pitch pans. The *NRCA Manual* contains several superior flashing details.

Excessive ponding will damage a roof system and make repairs difficult. To eliminate ponding, a new drain should be installed in the center of the spans where structural deflection is greatest. This provides a natural slope to the drain. Horizontal feeders can bring water back to the original leader.

Minor ponding is nothing to worry about. The roofing industry has worked so hard for adequate drainage that it sometimes goes overboard in its concern about ponding, espe-

The biggest fallacy in the construction industry is that masonry is waterproof.

cially in retrofits. If the original roof is 25 years old, a slope-to-drain retrofit may not be essential. If the roof is five years old, a slope-to-drain retrofit may be a good idea.

Alligatoring may be a problem for a smooth-surfaced roof, especially if excess roofing asphalt has been applied. The membrane may require resurfacing during its lifetime. If asphalt is used as a recoating, it should be applied in very thin hot-moppings. Cold materials may be better for an alligatorated surface, but they are more expensive. Emulsions seem to work the best, but they must be applied above freezing temperatures and allowed to cure before they are subjected to bad weather.

Aggregate-surfaced roofs generally don't require resurfacing except in spot locations such as wind corners. Regraveling with bitumen requires a clean substrate for adhesion. The new bitumen should contact the existing bitumen and not the aggregate. This may require spudding the gravel at these locations. Removal of aggregate for entire roof regraveling is not recommended; the danger of membrane damage during spudding is too great.

Resaturants must be used with caution. As long as the contractor considers the resaturant a coating, can afford it and can clean the roof thoroughly, a resaturant's use is acceptable. The contractor who believes the resaturant will penetrate the membrane, soften it and bring back its original properties should forget about using it.

When searching for sources of water infiltration, the contractor should

not forget other building components. Walls, windows and doors should be inspected periodically.

Major wall cracks probably indicate structural movement. Expansion joint installation through the crack location will alleviate the stress. Minor cracks should be caulked. More water infiltrates through minor wall cracking than through major cracking due to capillary action. Only wind-driven water enters a wide crack.

The biggest fallacy in the construction industry is that masonry is waterproof. Even heavyweight, poured concrete will absorb moisture. And, as this water freezes and expands, it can cause extensive damage. No masonry should be subjected to standing water.

A precast concrete wall contains several possible moisture paths. When water enters the wall it can corrode the reinforcing steel. Once this starts, destruction is inevitable. Bricks spall or effloresce with moisture entry.

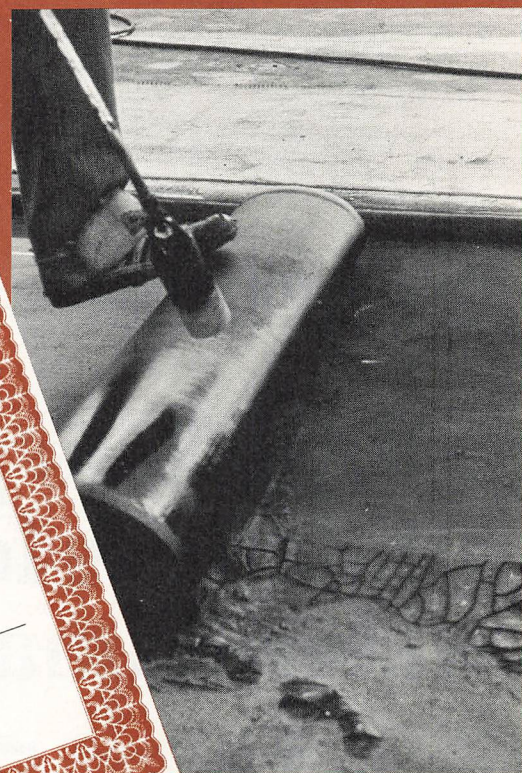
I believe that all masonry should be waterproofed with a penetrating material unaffected by ultraviolet light. Because the waterproofing can't be inspected periodically, the material should have proven durability. A very small number of the available waterproofers qualify.

Windows and window flashings should also be inspected periodically. Glazing is particularly susceptible to deterioration because of its glass-bonding requirements. The windows' metal-to-masonry or metal-to-metal connections are subject to differential thermal movements. The joints must be caulked with material that can withstand the stresses this creates.

With these hints and techniques contractors can help building owners obtain full and useful lives from their roofs. With proper maintenance and repair a built-up roof can withstand the heat, cold and humidity of both the natural exterior environment and the controlled interior environment.



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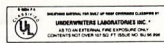
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See ICBO Report No. 3502 and National Research Board Report No. 1060 (1972) and 1480 (1974) for details and/or conditions presented in these documents. They are subject to re-examination, revision and possible cancellations.

Don't get soaked

CNA offers practical guidelines for avoiding water-damage claims

Roofing contractors experience more water-damage property claims than necessary. A review of insurance company records reveals 63 percent of all general liability claims involve water.

Effective job-site controls can reduce the number of these claims. To help contractors institute protective measures, the NRCA Insurance Committee and CNA Insurance Co. have developed a water-damage safety program based on actual cases. As part of this program, NRCA sent the booklet "Practical Guidelines to Control Water Damage" to its contractor members and has made additional copies available from its Chicago headquarters.

The program outlines water-damage safety responsibilities for all phases of a roofing job. Management can lay the groundwork for this program by preparing and disseminating company rules—with minimum water-damage safety guidelines included—to its employees. These rules should become familiar to everyone working for the company. By monitoring job-sites, especially during reroofing jobs, management can insure that company rules are being followed.

Another essential foundation for



Effective job-site controls can keep you—and your customers—covered.

the program is the availability and use of the equipment and materials needed to protect roofs and building contents from water damage.

An effective water-damage program begins at a job's planning stage. During the job's initial estimate/survey, the program suggests the use of a written inspection checklist. Also, any pre-existing external or internal building damage, particularly if it was caused by water, should be photographed at this time.

On the job, water-damage prevention becomes the supervisor's responsibility. Before the actual work begins, the supervisor should understand all potential water-damage problems. As the job progresses, the supervisor should be present during critical stages of installation, maintenance or repair.

The supervisor should inspect roof tear-off work every evening and after weekends to make sure it is watertight. Tear-off work should be completed and all exposed areas tied off at the end of each day.

When rain is predicted, the supervisor and crew should be ready to protect the job-site. Work that cannot be completed or properly protected should not be started. The crew should not attempt roof tear-off

work if showers threaten. During and after a rain, the job-site should be inspected for water infiltration.

Once the work is completed, the supervisor and owner or owner's agent should inspect the entire job and record their evaluations on an inspection checklist.

A contractor's representative should also inspect a roof during and after the first rainfall following installation or repair. This is not time-consuming and builds customer goodwill and satisfaction.

CNA urges contractors to review the NRCA guidelines for more comprehensive information and then implement a formal water-damage-control program.

While the safety program may help contractors avoid water-damage problems, there are still some questions remaining about the proper actions to take if water damage occurs.

What weather-related, water- or ice-damage claims are typically covered by an NRCA member's insurance?

There are four potential areas of coverage available to the roofing contractor that may apply to such losses:

- The operations-premises section of the roofing contractor's comprehensive general liability policy can defend the contractor from property-damage claims during construction. This policy will not cover damage to the roof itself.
- A builder's risk policy or installation floater policy may insure the roof during construction. This depends on the specific policy form used; such coverage may exclude water damage or be subject to a deductible.
- The completed operations section of the roofing contractor's comprehensive general liability policy can defend the contractor against property-damage claims following roof completion. This coverage also does not apply to roof damage.
- The roofing contractor's umbrella

excess liability policy would cover claims beyond the limits of the comprehensive general liability policy.

How can the roofing contractor be sure that one or more of these coverages apply?

That can only be determined by examining the specific insurance policies in force. The builder's risk or installation floater policy would have to be a broadly drafted all-risk type to cover construction-related damage.

Will contractor coverage under one of these policies keep the property owner happy after the work is completed?

No, the property owner may seek relief from damages that the contractor's insurer may say were not the contractor's fault. In this case, the owner would not be able to collect from the contractor's insurance.

Will the owner's permanent property insurance cover this damage?

Some owners will be protected by their property insurance. It depends on the specific policy wording. Even where such first-party property insurance is available, it is not unusual for the owner's insurer to attempt to recover its loss from the roofing con-

tractee reported to the comprehensive general liability insurer.

If the claimed damages exceed primary policy limits, the umbrella excess liability insurer should be contacted.

The contractor should consult his insurance representative and legal counsel whenever he has questions

More coverage available

A new coverage, available through the NRCA-sponsored program, reimburses the insured for 90 percent of normal and customary labor and material costs incurred replacing installed roofing damaged by the insured's negligence. This special endorsement is added to the comprehensive general liability policy. The annual aggregate limit of liability is \$25,000, with a \$250 deductible per occurrence.

A hypothetical case can illustrate how this coverage protects the contractor. During the course of a roof installation, a fire breaks out, causing \$8,000 worth of damage to the installed roofing. If the fire was caused by the contractor's negligence, the insurance will pay all but \$250 of the labor and materials needed to replace the roof.

It is important to remember that the contractor must be negligent for

CNA urges contractors to review NRCA guidelines and then implement a formal water-damage control program.

tractor if the insurer believes the contractor was negligent.

What should a roofing contractor do when presented with a water-damage claim?

If the damage occurred during construction, the contractor should report the claim immediately to his builder's risk or installation floater and comprehensive general liability insurer.

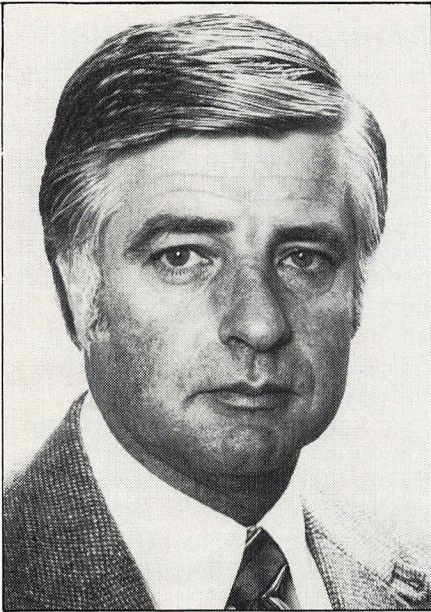
If the damage occurred after completion of work, the claim should be

this coverage to apply. Some accidents, such as those caused by inclement weather, would not be covered because the contractor would not be legally negligent.

This protection is beyond what is normally available in the insurance marketplace. CNA can provide this type of coverage. Interested contractors should get in touch with Walter Derk or Dick Lietz at Fred S. James & Co., 230 W. Monroe St., Chicago, Ill. 60606.



Zamrzla: "we did not need a third party to achieve our goals"



Johnny Zamrzla, Western Pacific Roofing Corp.

Western Pacific is the outgrowth of a small family-owned roofing company that began in 1949. During its early years of operation and up until 1977 it operated as a signatory firm. Its employees were members of a union and the company competed in a market that historically had a blend of both union and non-union contractors.

During the 1970s, we heard new terms such as open shop, double-breasted and merit shop. Roofing contracting decreased while non-union work increased. Union contracts escalated wages and fringes faster than any cost of living index. We experienced increasing work rule restraints as a union contractor, and at the same time, we felt the growing concern from our clients to hold down costs.

Our firm decided that we could no longer pass on the added costs of being union to the marketplace. Our firm was competing less and less ef-

fectively with non-union contractors on re-cover projects and we were losing out on new construction as well.

We carefully and thoroughly considered the direction we wanted to go in the reroofing market. Our review included discussions with key employees. We discovered that good employees resented working alongside non-productive workers and/or workers that did not hold a high regard for their work or take pride in it.

What surfaced was that good applicators could not justify in their own minds why questionable employees in like categories of experience received the same rate of pay and benefits. Good mechanics wanted to be compensated on their own merits, performances, qualifications and track records. Key employees and management had the same philosophy and we did not need a third party to help us achieve our goals.

Management investigated the ABC Merit Shop philosophy. We found that for the most part we agreed with them. The company and management wanted to provide a proper working environment, a chance for personal growth and satisfaction, good wages and benefits and the opportunity to grow and improve ourselves.

In 1977, we made a choice to disassociate from any union and operate under the Merit Shop philosophy. We found that change is never easy or without problems. From 1977 until late 1983, we learned a great deal about labor law, labor attorneys, the National Labor Relations Board, Health and Welfare plans, withdrawal liability under ERFISA, the Ninth District Court of Appeals, Supreme Court decisions and our rights in general to make lawful management decisions in these

United States of America. Truly an educational process that we had never envisioned.

We counted on one thing to bring us through besides our own fortitude—good people. Keeping good people, adding good people and developing better people was not only our goal, but would be our most important asset.

We have had no problems at all perfecting our application of conventional roofing systems while looking for the best new and unconventional systems. Our commitment to be full service contractors required that we employ and train top people.

We have accepted the fact that we must train our own forces, an endeavor that most likely will never end. As we grow, this training process will become a larger financial commitment.

As we moved into new systems, such as modified bitumens and metal roofing systems, our commitment to training paid off. We don't take a back seat to anyone when it comes to having well-trained, qualified craftsmen.

Although we do not focus on government-funded work we do bid and perform on jobs that come under Davis-Bacon. This antiquated law drives up government construction costs and also creates problems for the merit/open shop contractor. Prevailing wages in our radius of operation are higher than we would expect to pay.

We believe this law is not representative of the majority. For our firm and its employees, Davis-Bacon inflates the cost of our subcontract, does nothing to improve the quality of the

continued on following page

Carlson: "the Union protects our market area and acts as watchdog"

Carlson Roofing Co., Rockford, Ill. has been involved in a collective bargaining agreement for as long as I can remember. The fact that the number of our Local was 6 is some indication of how long it has been organized. The Union was formed about 1935.

I said "was" number 6 because this Local was recently merged with Roofers Local Number 11, which covers a much larger geographic area, including Chicago, Joliet and Aurora, Ill. The merger, which was ordered by the International Union, was effective on Jan. 11, 1984. The workers continued to operate under the existing agreement until it expired on May 31, 1984.

Beginning June 1, we became party to the collective bargaining agreement that was negotiated one year ago between the Chicago Roofing Contractors Association and Roofers Local Number 11. This contract runs for another two years.

There were a few fundamental differences between the old and the new contract. As is usually the case when a contract is renegotiated, the new contract will cost the company more in direct out-of-pocket expenses. Some contract changes could benefit the contractors, but this remains to be proven over the next two years. One advantage is the larger geographical area the Local includes. This will allow more flexibility and travel freedom within this area.

Despite all the lip service to the contrary, there are some advantages to being a union shop contractor. Usually a consistent and experienced labor force is available from the Union. This can be beneficial when more people are needed quickly to meet project deadlines. Like most other contractors, we have a

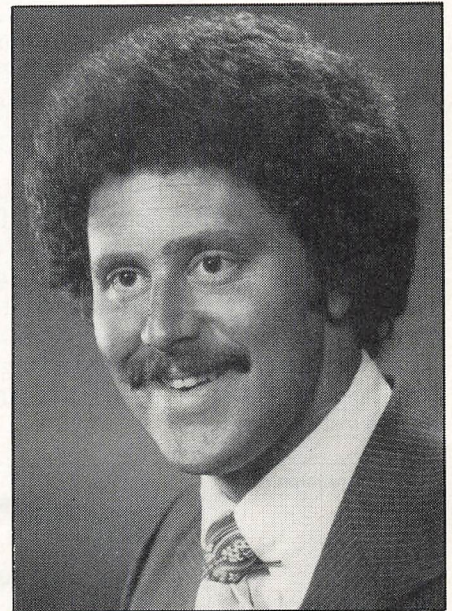
base group of people that work with us all the time. During the work season's peak, we are able to tap the resources of the Union for additional experienced roofers. Also, when traveling into other areas (with different Union locals) we can hire experienced men and women to work for the duration of the project.

Most unions have apprenticeship and training programs that teach the basics to people just starting out in the trade. The classroom experience works hand-in-hand with on-the-job training to provide a well-rounded education to these beginners. Most apprenticeship programs also offer refresher courses for journeymen and foremen to help keep them up to date on new techniques and industry changes.

Having a labor contract means having a clear-cut labor policy and structure. It generally means that everyone understands the scope of his work and the benefits he will derive from working with the company. It does not mean that problems won't develop. But if and when they do there will be a precise way of handling the situations.

The Union provides a widespread support group to promote professionalism and confidence in the industry. The Union helps protect our market area and acts as a watchdog by patrolling the area and making customers aware of contractors and groups that might not be capable of providing quality services. It has an interest in the longevity of union contractors and will promote the advantages of working with them.

Most disadvantages are not necessarily unique to union contractors. But they are probably more common in union situations because bargaining group members are more closely



Larry Carlson, Carlson Roofing Co., Inc.

attuned to the labor laws and the National Labor Relations Board's function. In other words, non-union contractors might find it easier to pull the wool over the eyes of their employees.

Having a labor contract means having a clear-cut policy.

The biggest disadvantage we have right now is the high union wage rate. This is very typical of unions across the country; many have priced themselves right out of the market. There are plenty of job openings for roofers at \$8 per hour and

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Zamrzla

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finished product and only confuses the workers by, in effect, paying them a bonus for working on these projects.

The bottom line is that the law is requiring our firm (and all others) to pay minimum "superwages" on federally funded projects that we don't pay on private projects. We would prefer that Davis-Bacon be removed from the books and the savings be used to create more construction for our company to compete for.

Today, we can bid most any project as an open shop merit contractor. We have had the good fortune to be in a growing market where open shop construction has been increasing its market share.

Management cannot blame everything on labor. Each company must carefully consider its future and not necessarily make changes for the sake of change. However, we should recognize the fact that we often fail to see the need for changes and we must accept the responsibility to make and manage such decisions when necessary.

For our firm, we see a bright and vigorous future since the shakeout occurred. The best is not behind us. The best is yet to come.



Carlson


continued

a few available for \$14 per hour. But there are fewer openings for roofers at \$20 per hour, the union scale today. This makes it exceedingly difficult to compete in the marketplace with companies that pay their employees much less. This should not be construed to mean that the men don't earn their wages. Roofing work is hard work and calls for strong, capable people, but the wage scale must conform to the law of supply and demand for us to survive.

This is not as great a problem for work that is subject to the provisions of Davis-Bacon (which requires payment of the "prevailing wage"). The prevailing wage in most areas is identical to union scale. This could be a big problem in the future if the prevailing wage for our trade is reduced to something less than union scale.

It's possible to debate the pros and cons of unions and unionism, but probably the more important question to ask is, "Are unions really necessary?" I think that depends on each individual company and the employees in the company. Some need unions, others don't. It can be as simple as that.





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On the Roof

Reroofing the Los Angeles Sports Arena, host to the 1984 Summer Olympics, was an olympic feat in itself. "You just don't find roofs much bigger than this one," says Gary Scholten of Scholten Roofing Service, specification developer for the arena. "I needed a lightweight membrane with good elongation and strength."

The obstacles presented by the 150,000-square-foot roof were overcome with Du Pont "Reemay" polyester. The reinforcing fabric is made of 100 percent polyester filaments bonded by heat and pressure. It is twice as strong as fiber glass, 1,000 times more flexible and 20 times more stretchable.

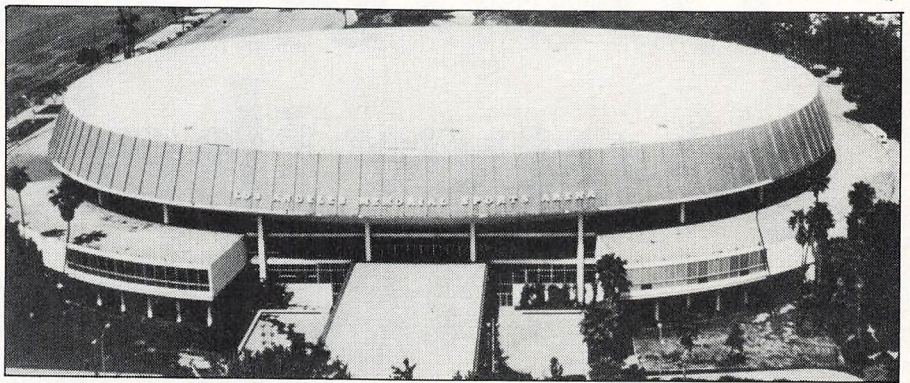
The membrane's light weight helped Scholten stay under the load-bearing capacity of the arena. "Reemay roofing fabric with cold asphalt provided the toughness we needed, along with excellent ther-

mal expansion characteristics and light weight," he said.

Scholten's four-person crew re-roofed the building in 20 days. After cleaning and repairing the old roof they resealed and reinforced the expansion joints. Once the old roof surface was prepared, a cold-asphalt emulsion was applied at a rate of five to six gallons per square. The crew

rolled the membrane into this emulsion and another layer of emulsion was applied over the assembly.

After letting the surface cure for three weeks, the Scholten crew finished the job with two layers of white elastomeric coating. The reflective surface will reduce heat absorption and help moderate interior temperatures.



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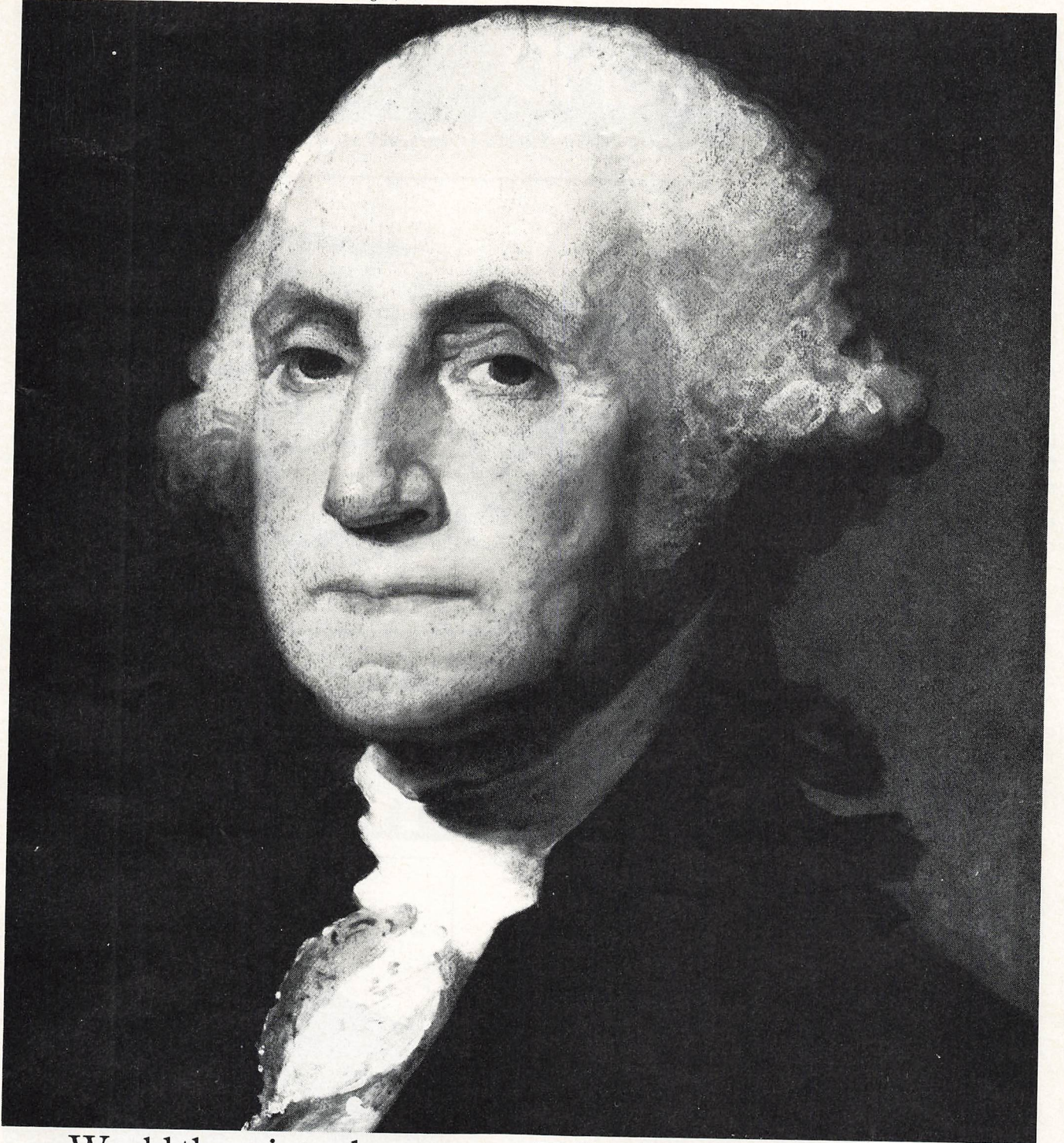
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SAFE & SOUND



Sound advice on roofing safety by the members of the National Roofing Contractors Association (NRCA).

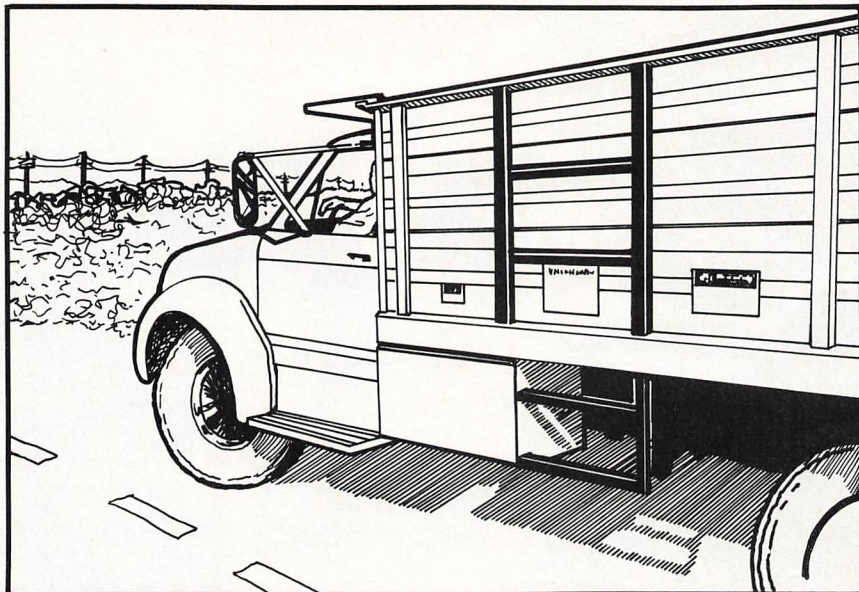
Truck Ladder

"Adding a ladder to the side of your dump truck will enable employees to safely climb up into the truck bed," says Walter F. Heinig, Beldon Roofing & Remodeling, San Antonio, Texas.

According to Heinig, workers often jump off the side of the truck and suffer sprained ankles or back injuries. The ladder will help eliminate those injuries by providing a safe and easy way to ascend and descend from the truck.

Inexpensive angle iron was used to make the ladder.

*Walter F. Heinig
Beldon Roofing & Remodeling
San Antonio, Texas*



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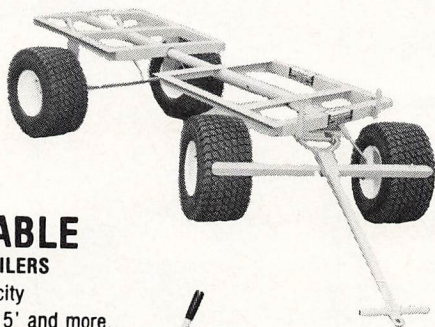
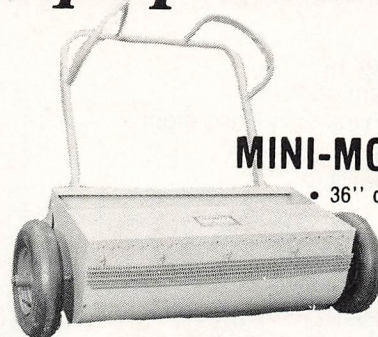


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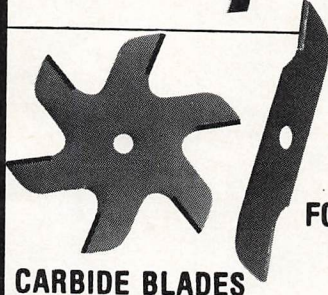
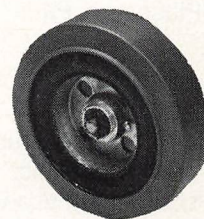
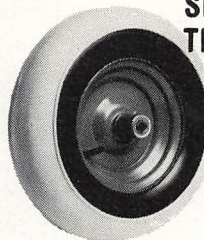
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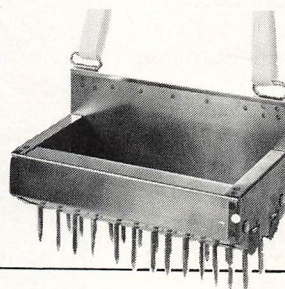
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Now available from NRCA is the worker training program *Application of the Built-up Roof: Felts and Surfacing*. The training package consists of a narrated audiovisual presentation and companion workbook specifically designed for training workers through in-house sessions in the contractor's shop. It is intended to introduce the roof mechanic to the basic components of the hot built-up roof, fundamental BUR membrane design and specifications, and critical application considerations and procedures.

The audiovisual program, available in either slide/cassette or videotape format, consists of 600 slides and 74-minute narration. It provides clear, step-by-step instruction in the application of bitumen, felts, and surfacing material, including job set-up, equipment-handling, and safety considerations.

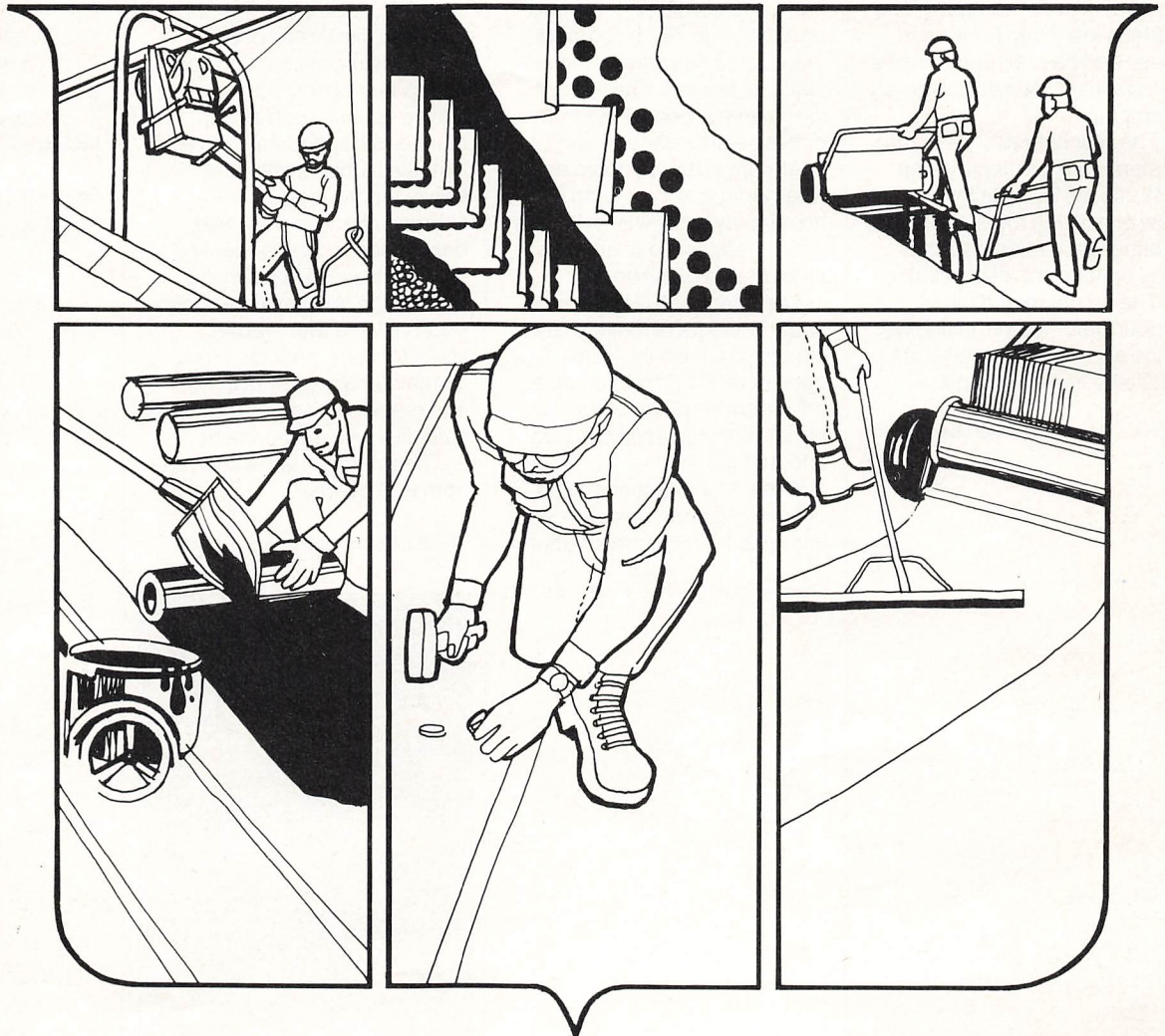
A comprehensive workbook contains a complete outline of the program plus quizzes, drills, and tests to gauge student progress and aid in instruction. A complete instruction guide is also available.

Up to nine hours of credit toward the requirements of the Academy of Roofing

Application of the Built-up Roof: Felts and Surfacings

Contractors program can be earned using this program.

For more information on the program, contact Alan Grayson, NRCA Director of Education, 8600 Bryn Mawr Ave., Chicago, Ill. 60631.



A New Products, Ideas, & Publications

Evanite offers brochure on battens

The Permaglass Division of Evanite Products Co. has published an illustrated brochure introducing Permaguard surface-mounted battens for single-ply, mechanically-attached roofs.

Permaguard surface-mounted battens provide a light-weight attachment system for buildings that cannot support the weight of ballasted single-ply, according to the company. The battens are made from a synthetic and natural rubber that is compatible with most single-ply membranes.

The brochure describing the system outlines step-by-step instructions for installation on new or existing roofs. Complete product packaging and shipping options are also included.

The brochure and other product information, including price and delivery details, are available from Permaglass.

Check #198 on Reader Service Card

Reading CE service body totes the load

Reading Body Works has developed a new, downsized CE service body to allow heavier loads on a mid-sized chassis.

The CE body is built of aluminum and weighs 635 pounds. It can carry a payload of more than a half ton on a 4,600-GVW chassis.

The body has seven compartments, each accessible from the outside, for tools and parts storage. Each compartment contains shelves and adjustable dividers. The interior cargo area is accessible from both side and rear openings.

All compartment doors are weathertight and secured by heavy-duty locks with cylinders guaranteed to the original owner for the life of the body.

The body itself is built on an understructure of multiple aluminum channels that have been braced and reinforced at critical stress points. The body panels are electrically welded into a single unit.

A rear step bumper and an overhead ladder rack are also available from the manufacturer.

Check #199 on Reader Service Card

Werner Co. catalog lists ladder options

A catalog describing Electro-Master non-conductive fiber glass ladders, accessories and options is being offered by R.D. Werner Co., Inc.

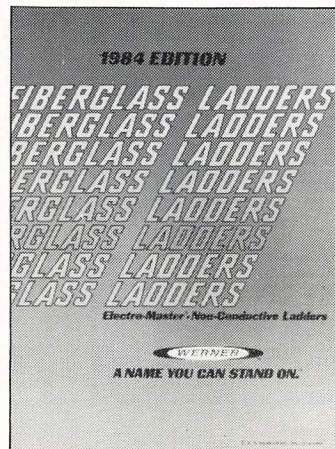
The 16-page color catalog lists and illustrates the Werner line of step, extension, platform, combination and special-purpose fiber glass ladders. An assortment of ladder accessories, including ladder guards, V-rung kits, cable hook kits and pole lash kits is also detailed.

In addition, the catalog contains a number of factory-installed options such as a double-pulley and rope, an adjustable ladder leveler and swivel-top V-rungs.

Some changes that have been made to the Werner line are described in detail in the publication. A special two-page section deals with Werner specifications, providing data on maintenance, refinishing and repair procedures and guidelines for replacement.

The catalog may be ordered from R.D. Werner.

Check #200 on Reader Service Card



ARC offers free samples of its products

The American Roofing Corp. (ARC) is offering free samples of its modified bitumen membranes to contractors, architects and owners.

ARC produces three types of membranes composed of bitumen and polypropylene resins with a reinforcement core of polyester. ARC Premium is plain-surfaced, ARC Granular has a mineral protective coating and ARC Aluminum is reinforced with a fiber glass mat and is bonded to embossed aluminum foil.

To obtain the samples, contact ARC.

Check #201 on Reader Service Card

Strong are the ties that bond with Norton Co.

The Norton Co. has introduced a product that improves bonding strength and quick-stick where adhesion may be a problem.

Tite-R-Bond adhesion promoters are designed for acrylic, pressure-sensitive adhesives, enhancing bonding where the chemical nature of the substrate resists adhesion. Tite-R-Bond also helps materials cling to irregular or curved surfaces and adds extra resistance to the penetrating action of cleaning agents.

The product is a free-flowing liquid that flash dries in 60 seconds. It is available in three types: for general use, with fluorescent dye for detection under black light and for use with polyethylene or polypropylene surfaces. All three types are available in one-gallon, five-gallon and 55-gallon units.

Tite-R-Bond is compatible with all Norton sealants and mounting products. More information on the product is available from the manufacturer.

Check #202 on Reader Service Card

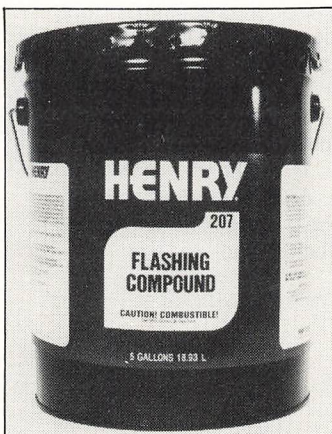
Henry compound designed for roof flashings

The Henry Co. has announced the development of a new flashing compound.

Henry #207 is a blend of asphalt, inert fibers and petroleum solvents. It is designed for use in bonding and sealing roof flashings. The compound may also be used for sealing around roof drains and scuppers, vent pipes, air conditioning units, air ducts and chimneys.

For information on Henry #207, contact a Henry distributor or the Henry Co.

Check #203 on Reader Service Card



Tru-Fast introduces fastening tool

A new roof deck insulation fastening tool has been introduced by the Tru-Fast Corp. The Tru-Drive Model 101 is compatible with virtually all power screwdrivers and weighs 6½ pounds. An operator using the tool can feed and drive screws standing up.

The Model 101 features positive action jaws and an O-ring assembly for smooth operation, Oilite bearings in the drive shaft, a lock-in screw depth adjustment and a rust and corrosion-resistant finish. The design allows for fast removal of the nose piece and assures correct alignment when the unit is reassembled.

Complete information on the tool is available from the Tru-Fast Corp.

Check #204 on Reader Service Card

Rail-Guard meets OSHA requirements

A portable guard rail system has been developed by American Abrasive Metals. The system, Rail-Guard 200, is the only portable guard rail system that meets OSHA requirements for both permanent and temporary industrial guard rails.

The system permits two unskilled workers to set up 250 feet of railing in one hour. The portable railing is completely free-standing and requires no fasteners or holes in the floor for support. The system is capable of supporting a 200-pound worker.

More information on Rail-Guard 200 is available from the manufacturer.

Check #205 on Reader Service Card

New Products, Ideas & Publications continued

Kenergy Corp. guarantees skylight system

The Kenergy Corp. has developed an integrated structural cluster skylight system for use in commercial, industrial and institutional buildings.

The cluster skylight system is custom made to fit modular-size openings with all structural supports in place. Designed, manufactured and installed by Kenergy, it is guaranteed against breakage for five years.

Three skylight shapes are available for use in the system: a free-form dome, a hyperbolic paraboloid and a pyramid. All are constructed from high-impact polycarbonate plastic with multiple insulating layers. The outer surfaces of the skylights are treated with Ken-Guard solar protective coating, which helps prevent hazing and screens out 96.5 percent of the sun's ultraviolet rays.

The cluster system incorporate Kenergy's FRP (fiber glass-reinforced plastic) curb. The one-piece curb is designed for rapid installation and provides zero air infiltration and an R-rating of up to 6.1 in the system.

For more information on the cluster skylight system, contact the Kenergy Corp.

Check #206 on Reader Service Card

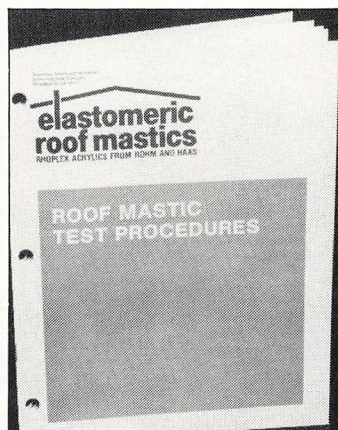
Rohm and Haas prints mastic testing brochure

A brochure that describes the testing procedures used to evaluate liquid-applied elastomeric roof mastics has been published by Rohm and Haas Co., supplier of acrylic polymers to the elastomeric roof mastic industry.

The brochure, "Roof Mastic Test Procedures," gives detailed descriptions of the testing procedures developed by Rohm and Haas Research Laboratories and includes photographs of the testing equipment used in the evaluations. This is the first test-methods brochure designed specifically for roof mastics.

Copies of the brochure are available from Rohm and Haas technical representation or directly from the company.

Check #207 on Reader Service Card



Composite by Tectum includes three layers

A roof deck composite approved for single-ply roofs has been introduced by Tectum, Inc.

Called Tectum III, the composite consists of three layers. The top layer is constructed of waferboard and provides a nailable surface. The center layer of Dow Styrofoam insulation is available in various thicknesses, depending on the insulation value desired. The bottom layer of Tectum provides a thermal barrier and sound absorption, as well as a finished interior textured ceiling.

Tectum III weighs from 4-1/2 to 5 pounds per square foot, depending on the thickness used. It is available in 3-1/2-inch, 4-inch and 5-inch thicknesses and in various widths and lengths ranging from 60 inches to 144 inches.

Additional information on the product is available from Tectum, Inc.

Check #208 on Reader Service Card

Bilco catalog highlights its LadderUp post

The Bilco Co. has made available a catalog that gives details and specifications for its line of roof accessories. The publication also contains information on a new Bilco product, the LadderUp safety post, which is designed for use on fixed ladders under access hatches.

The catalog also includes product information on such items as roof scuttles, automatic fire vents, floor and pit doors, ceiling access doors and basement doors.

The free Bilco catalog is available from the company.

Check #209 on Reader Service Card

Synergy shows who's BOSS with new method

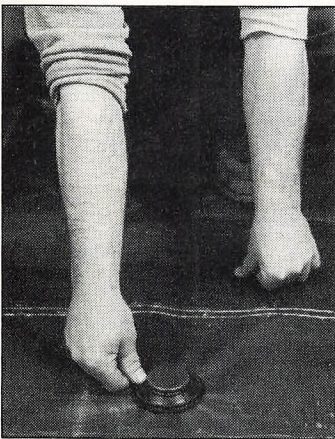
A new mechanical plate bonding system has been introduced by Synergy Methods, Inc.

The BOSS (Button On Synergy Single-ply) system features a mechanical attachment that does not penetrate the single-ply EPDM membrane. An 8-inch diameter base unit is attached to the existing substrate, and the rubber membrane is pinned over the base unit with a 3-1/2-inch diameter locking washer. The system eliminates the need for adhering the sheet to the substrate and requires no special tools for installation.

While the BOSS system eliminates the adhesive attachment, it preserves the 4-foot on-center fastening pattern of Synergy's partially-adhered, non-penetrating plate bonding system. Extensive testing of the BOSS system has recently been completed by the manufacturer.

Further information on the system is available from Synergy, Inc.

Check #210 on Reader Service Card



Thomas Industries develops lightest air compressor

The lightest twin-tank air compressor currently on the market has been developed by the Power Air Division of Thomas Industries, Inc.

The Air-Pac T-2817 is the latest addition to Thomas' line of air compressors. It delivers up to 3.4 CFM of air at 100 PSI.

The unit features oilless pistons and operates on a standard 115 volt, 15 amp circuit.

Applications for the unit, which weighs only 85 pounds, range from air-driven nailer/staplers to heavy-duty sand blast tanks and tire chucks.

Contact the Power Air Division of Thomas Industries for more information.

Check #211 on Reader Service Card

Index makes Testudo® available in U.S.

Testudo® modified bitumen membrane, a product of the Index Co. has recently become available in the U. S.

The membrane may be torch-applied or mopped into place with hot asphalt and carries a 10-year guarantee. It is available with a smooth finish or embedded granule surface.

The TechniCote Corp. is the U.S. distributor of the product.

Check #212 on Reader Service Card

Lion introduces asbestos-free formulation

Lion Protective Coatings has introduced two of its products in asbestos-free formulations.

The products, Nokorode Seal Kote and Al-Kote, are made from asphalts, filler and solvents. These asbestos-free coatings are used to protect insulation at industrial sites from moisture, chemical atmospheres and abrasion. They are also used to protect metal and concrete structures from corrosion and weathering.

Al-Kote is similar to Seal Kote in its performance but has a high aluminum pigment content for color and ultraviolet light reflectance.

More information on these products is available from Lion Protective Coatings.

Check #213 on Reader Service Card

Classified Ads

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 SUPERINTENDENT

Roofing superintendent for architectural and roofing consulting firm. Minimum 10 years field and technical experience. Ex-rep or retired contractor considered. C.B. Goldsmith & Associates, 13303 U.S. Highway 19 S., Clearwater, Fla. 33546, 813/536-0456.

ROOFING SALESMAN

Southern California Roofing Company, located in Los Angeles County, established 1926, is in need of a roofing salesman thoroughly experienced and successful in commercial, industrial and public works reroofing sales. Only energetic self-starters who are interested in a profitable and successful future through hard work should apply. Please send resume to: Harold R. Provin, C.E.O., Southern California Roofing Co., 9623 Imperial Highway, P.O. Box 158, Downey, Calif. 90241, 213/803-5583.

ROOFER'S CRANE WANTED

Wanted, used 7- to 7 1/2-ton roofer's crane, height around 70 feet. Phone 715/659-5114. Ask for Leon.

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., 12 Johns Canyon Road, Rolling Hills, Calif. 90274.

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Flexible, lightweight hoses for roof vacuum applications. Hoses are a proven success in the removal of pea gravel from the roof. Hose for vacuum machine to the roof is available in 4-in., 5-in. and 6-in. I.D. x 100-ft. lengths. Styles 180AR, 220RS and 110CL. Whip Hoses 4-in. I.D. x 100-ft. lengths. Styles 180BL or 155Gray. Hose is in stock for immediate delivery. We ship anywhere. For more information and pricing call 414/272-2141. Milwaukee Rubber Products, Inc., 1117 N. Water St., P.O. Box 92896, Milwaukee, Wis. 53202.

COMPANIES WANTED

We have cash to buy roofing and sheet metal companies. They would have sales of \$1 million and some profit. Will tailor buyout to suit seller. All responses kept confidential. Send replies to Box 7A, *Roofing Spec*, 8600 W. Bryn Mawr Ave., Chicago, Ill. 60631.

ROOFING SUPERINTENDENTS AND FOREMEN WANTED

Experience required in all phases of commercial and residential roofing. Must have knowledge in areas of BUR and single-ply. Must have extensive background in supervising men, materials, equipment and quality control. Must be willing to relocate to San Antonio. Top salary; full benefits. Send job experience or resume to 800 Wyoming, San Antonio, Texas 78203.

ROOFERS MART OF AMERICA

RMA is a new company recently organized to serve the roofing industry. We are actively engaged in the establishment of a nationwide network of roofing material and equipment distribution companies and are seeking qualified individuals to help implement this exciting new concept.

The ideal candidate will be skilled in all facets of managing a roofing or building materials distribution operation and be adept at communicating and teaching these skills to others.

For the right individual, we offer an attractive compensation package and an opportunity to get in on the ground floor of a concept that just might be the most exciting thing to hit the roofing industry in years ...the Roofers Mart Concept.

For consideration and additional information, please send resume and salary requirements in confidence to Roofers Mart of America, Inc., 111 West Port Plaza, Suite 523, St. Louis, Mo. 63146.

ROOFER'S CRANE FOR SALE

1974 Pettibone Hi Lift crane. 70 foot reach; pallet fork; Humpty Dumper tear-off box; Cummins diesel engine. Excellent condition. \$34,900. Call or write Giuffre Bros. Cranes, Inc., 9770 S. Ridgeview Drive, Oak Creek, Wis 53154; 414/761-2300.

PERSONNEL WANTED

Roofing and waterproofing salesmen/estimators, management positions (previous business owners preferred) and superintendents wanted. Growing Florida and Texas commercial roofing and waterproofing company seeking experienced personnel in all phases of commercial and industrial reroofing (hot and cold process and single-ply needed). Excellent opportunities for self-motivated individuals. Please send resume and salary requirements to Mr. Scott, 4420 N.W. 79th Ave., Miami, Fla. 33166.

MANUFACTURERS REPRESENTATIVE

Be a part of one of the fastest growing single-ply roofing manufacturers in the country. Duro-Last Roofing, Inc., the only totally custom-engineered roofing system, is seeking agents currently selling to roofing contractors, architects and building owners in the New England area as well as Oklahoma, Louisiana, Arizona, New Mexico and the Dakotas. Excellent growth potential. Please send resume and work history to Michael Gottron, national sales manager, 525 Morley Drive, Saginaw, Mich. 48601.

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WOOD FIBER DIVISION
UNITED STATES GYPSUM
BUILDING AMERICA



TECH TALK

by Bob LaCrosse, CAE, director of Technical Services
and Jeff Lowinski, manager of Technical Services

Test results on single-ply moisture accumulation to be reported at convention

Single-ply moisture

Moisture accumulation on the underside of EPDM and PVC single-ply membranes is a problem encountered by numerous roofing contractors.

Manville Corp. recently completed laboratory tests on various types of single-ply membranes to determine the moisture problem's cause. Plans are to report some of the findings at NRCA's 98th Annual Convention and Exhibition, Feb. 10-13, in New Orleans.

"We've been hearing complaints for a year," says NRCA Technical Director Bob LaCrosse. "And in March, we mailed letters to 30 PVC and EPDM manufacturers, asking them to investigate the problem."

LaCrosse received responses from about half of the manufacturers. Only Manville and two other companies are investigating this problem.

Two papers will address the moisture accumulation problem at the Second International Symposium on Roofing Technology, Sept. 18-20, 1985 in Gaithersburg, Md.

The papers are: "Field Survey of Moisture Gain Behavior Under Mechanically Fastened Single-Ply Roofs," by Rene Dupuis, Structural Research, Inc. and "Roof Condensation Computer Modeling of Elasto/Plastic Roof Systems," by Robert W. Walters, Manville Corp.

Single-ply manual

The NRCA Single-ply Committee will meet in June to put the finishing touches on the *Single-Ply Manual*. The draft will be presented to the NRCA Technical Operating Committee (TOC) in July.

"We want to pull together as much material as possible for review by TOC," says Technical Department Manager Jeff Lowinski.

The only items missing on this mammoth undertaking? "Illustrations, tolerances and some spec plates," Lowinski says.

FM data sheet

LaCrosse convinced Factory Mutual to meet and discuss problems with the revised FM 1-29 data sheet,

"Single-ply Membrane Roof Systems." The July 25 meeting will emphasize policy matters and document revision.

Coal tar overruns

The first phase of coal tar bitumen testing at Koppers' Pennsylvania research facility has been completed.

Koppers' representatives, LaCrosse, NRCA Research Associate Bill Cullen and Bob First, First Roofing Co., Lima, Ohio assisted in conducting the tests to determine the cause of frequent overruns.

LaCrosse says that the hand-mopped bitumen field test report will be available soon.

"We've also decided to go into a second phase of testing, using mechanical equipment for bitumen application," he says. The second series of tests is targeted to begin in August, according to LaCrosse.

Air conditioning document

The fourth draft of *Guidelines for Roof-Mounted Outdoor Air Conditioner Installations* will be finalized in August.

The NRCA, the Air Conditioner & Refrigeration Institute and the Sheet Metal & Air Conditioning Contractors National Association collaborated on the document. Committee members are optimistic for a fall publication date.

Hurricane Alicia

Lowinski will attend the two-day August conference, "Alicia One Year Later," in Galveston, Texas.

Sponsored by the American Society of Civil Engineers, the conference will focus on the ability of buildings to withstand design-level winds.

Other topics include: needed modification to codes, inspection procedures and design methods in coastal areas susceptible to hurricanes. Three sessions on roof and roof-related damage will be presented.

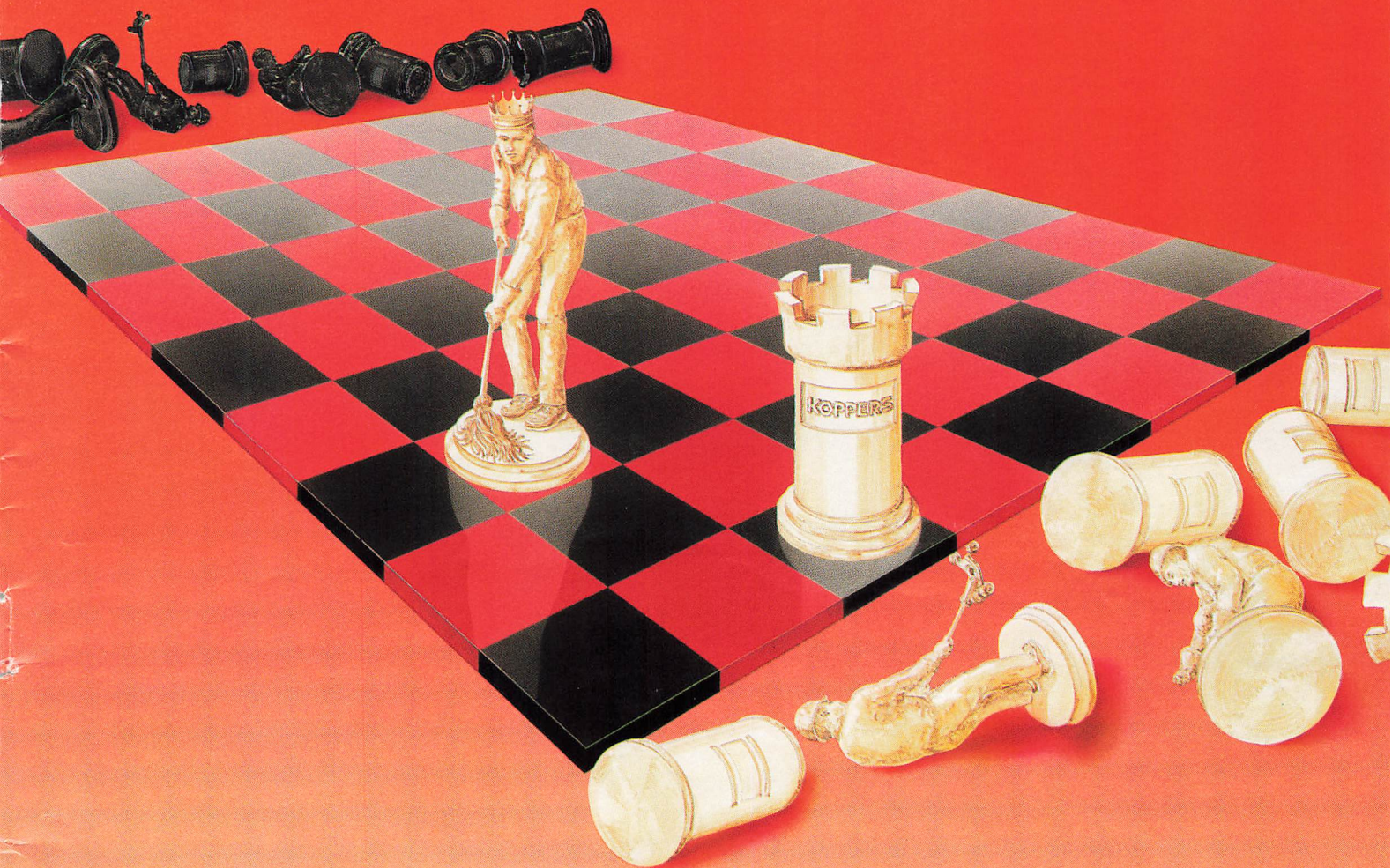
Steep roofing

The NRCA Steep Roofing Committee will begin work on a metal roofing manual in July.



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Company

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State

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Area Code

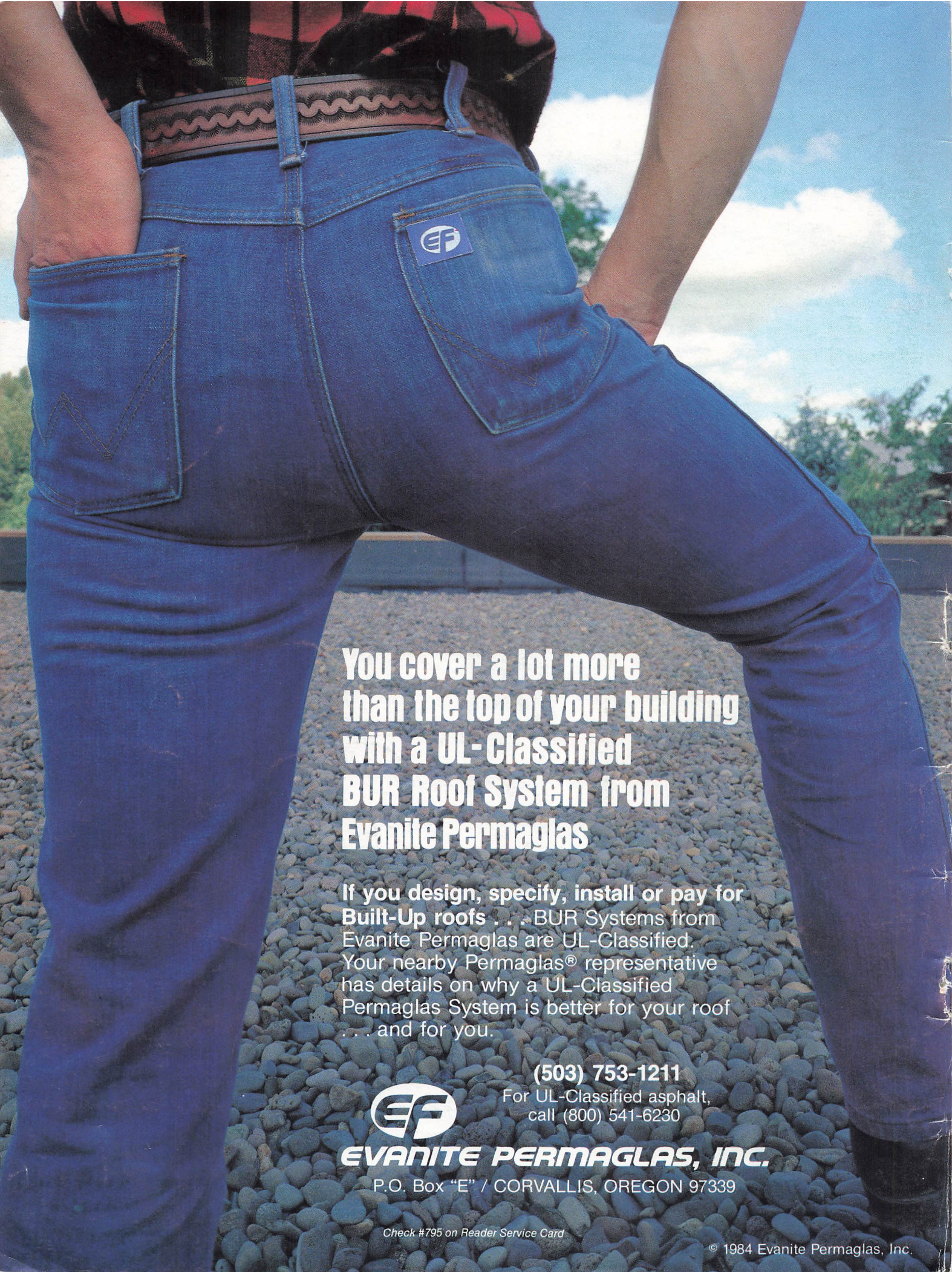
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