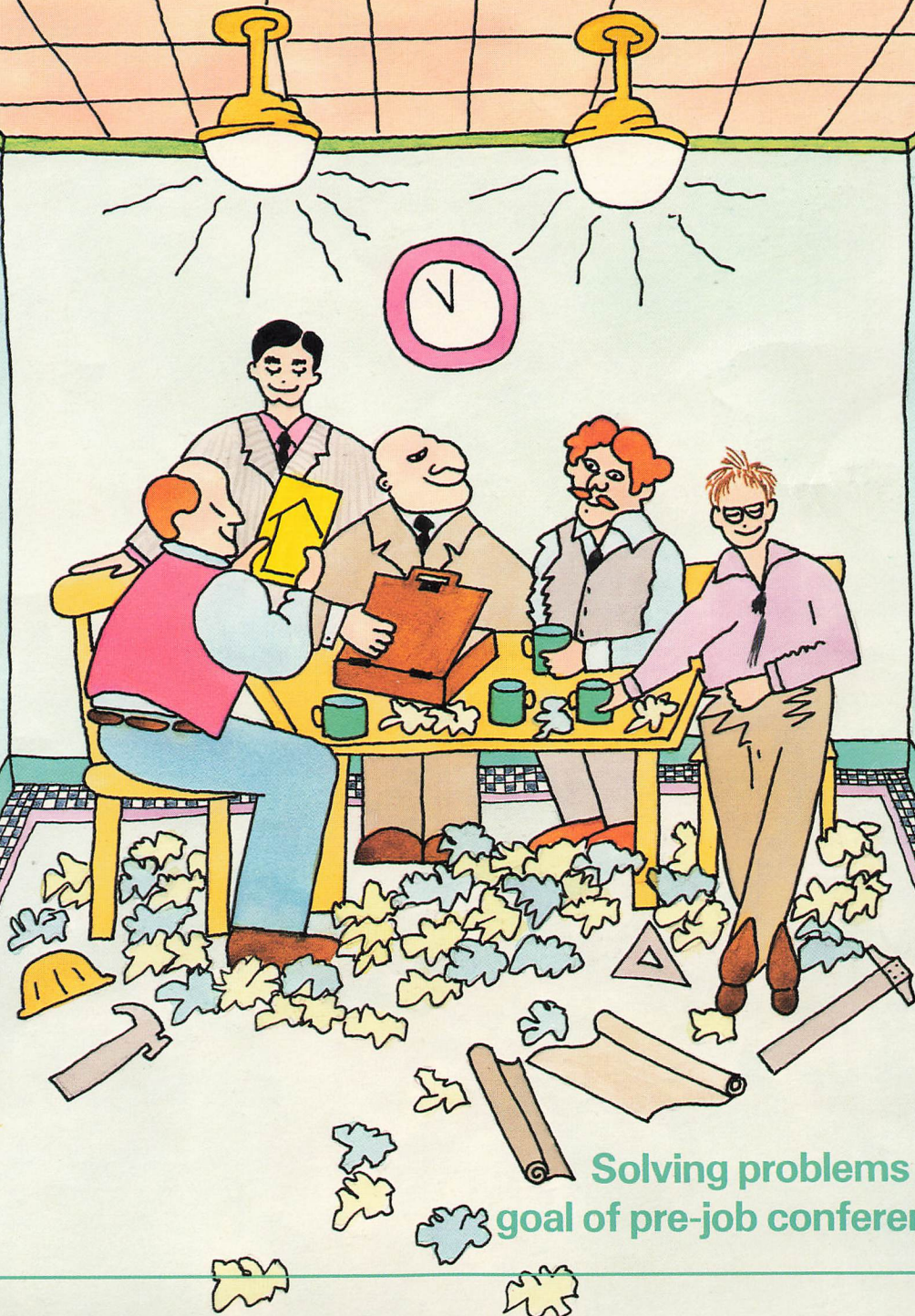


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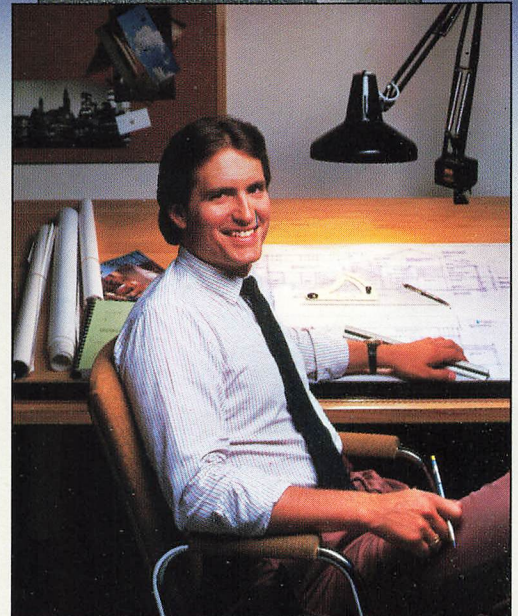
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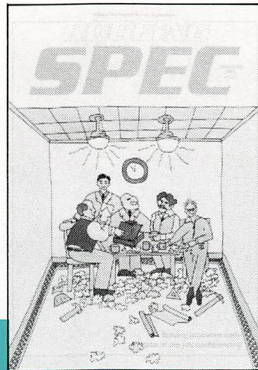
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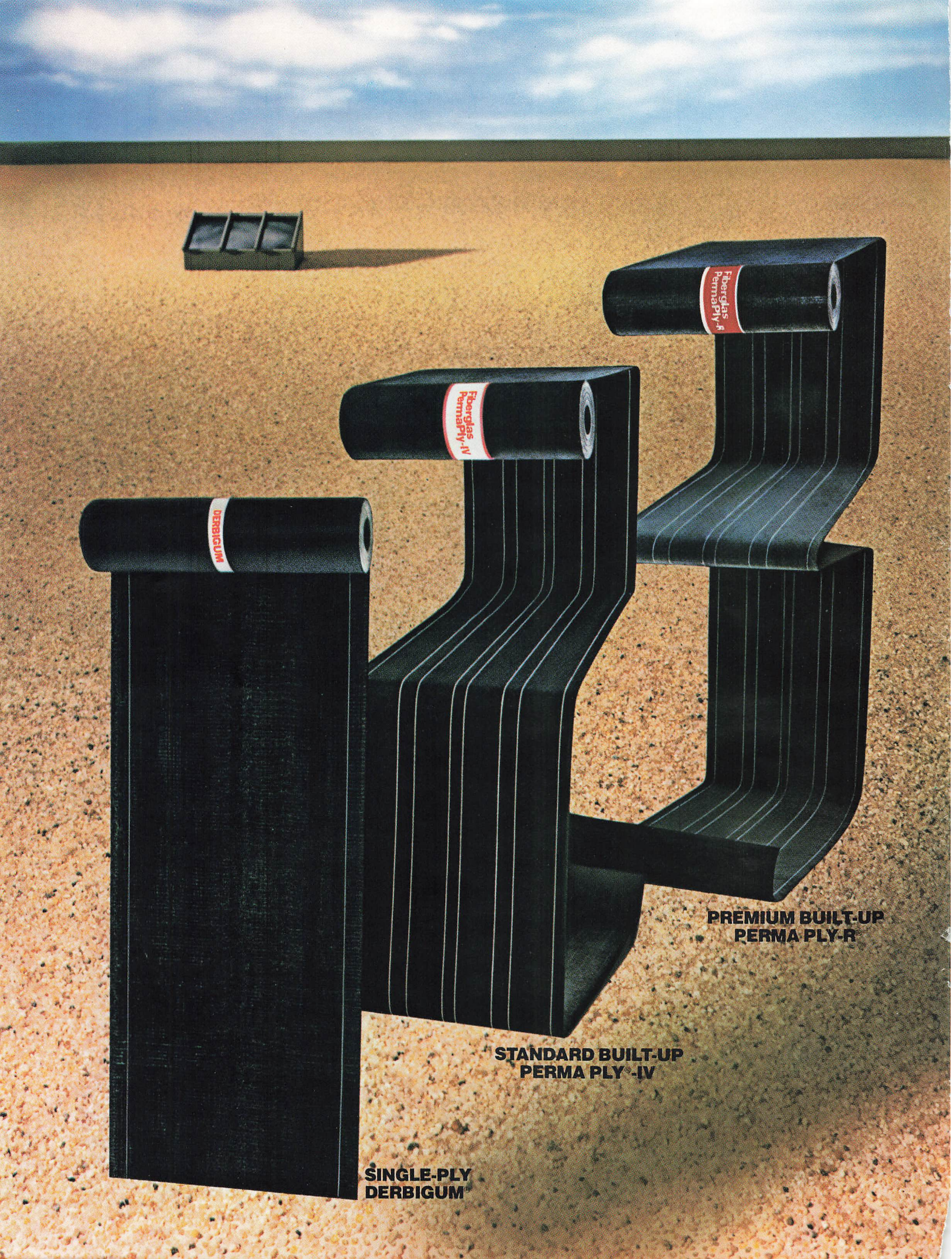
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Consultant claims resaturants can be useful

Dear Editor:

The article in the August 1985 *Roofing Spec* by Martin Eastman titled "Roof resaturants: can the claims be true?" weighs both the pros and cons about the use of resaturants, but both sides overlook the following case.

During a recent roof investigation, I found a 15-year-old roof that consisted of two plies of #15 nailed to a gypsum deck, and three plies of asphalt felt mopped in and surfaced with slag that had been placed in hot asphalt.

At first glance, the roof looked like it was in excellent condition for its age. However, on further examination I noticed the usual wind scouring effect at the corners, some curled edges from unstuck laps, and a few large bare spots. These could be easily repaired by conventional means.

On closer inspection of the surface, though, I found that some of the slag had disappeared. Somehow, it had flaked off, leaving tiny areas of felts exposed. There were literally thousands of places, measuring $\frac{1}{4}$ inch to 1 inch in diameter, where there was no surfacing.

If left unrepaired, the small dimples of bare felt would rot out in three to five years. In order to repair these many locations, it would be necessary to completely remove the gravel down to the felt surface, patch all the digs and gouges that were present where the felt had been worn through, then apply a new pour coat of bitumen and re-gravel the surface.

Unfortunately, when the owner was confronted with the cost of this work, he did not feel that such a large appropriation was warranted just to extend the life of the roof.

The question that the owner balked on was how long this roof would last. Examination of some of the bare dimples showed that one ply, and in many places two plies, had rotted out. This meant that there were potentially many locations where only one weatherproofing ply was available to prevent leaking through the membrane.

The installation of an overlay roof was considered risky because of the presence of moisture in the membrane. An overlay roof would be subject to blistering and, therefore, have a questionable service life.

The low-cost solution we recommended was to broom and remove all loose slag, vacuum clean the surface, coat the surface with a sprayed-on cold primer, allow the primer to dry and coat the entire roof area with a cold, spray-applied top coating and gravel. The recommended solution

would cost less than one-third of the cost of total gravel removal and replacement, and would still give at least a five-year service life.

The mechanically fastened roof in this example is stable structurally and has good impact resistance. However, it does suffer from exposure of the felts due to weathering. By covering the worn exposed felts with an inexpensive primer and top coat, those vulnerable dimples in the roof membrane can be protected for several years.

If I had found unstable areas and splits in the roof, stabilizing them and patching them with other means prior to the installation of the primer and coatings would have been necessary.

Herbert B. Fishman
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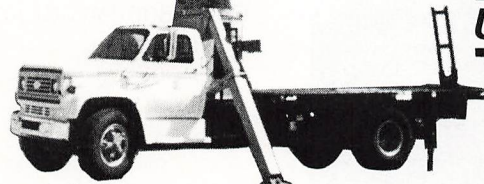
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Visual exam not enough for modern roof testing

Dear Editor:

Upon receiving the August 1985 issue, the first article I read was "The roof survey: getting back to basics" by Michael Dhunjishah, P.E. As president of Roof Leak Detection Co., which specializes in non-destructive testing, I am always interested in learning what is new in testing flat roofs for water penetration.

After reading the article, however, I still do not know if the author is for or against instrument testing because most of his emphasis is on the visual inspection.

He begins by saying, "The newer approaches cannot replace the basics—a systematic and visual survey based on knowledge and experience." Part of our report includes a visual report, but modern roof testing cannot stop here.

I would also like to inform the author that when testing with sensitive instruments, many of the leaks that we locate have never been reported, especially if a good vapor barrier was applied on the cement slab before applying the roof.

Another statement made in the article is, "While you will learn much about a roof through a surface inspection, it has been my experience that roof test cuts should be made." He fails to say how to determine where they should be made. Since the main function of non-destructive testing is to notify the roof consultant where to cut plugs, the guesswork is eliminated and plugs are made where the tests indicate.

Now for the punchline—the statement that really confused me was the closing paragraph: "After the condition of the roof is assessed, additional tests using non-destructive detection devices may be desirable. These tests can pinpoint moisture that is not readily detectable by visual examination.

However, the usefulness of non-destructive tests is limited by the operator's expertise, the type of roof system being tested and the interpretation of the results. The advent of sophisticated non-destructive moisture detection equipment may seem like a roofing problem panacea, but a systematic survey in conjunction with the use of all available data and roofing knowledge still remains the key to determining the causes of roof problems." My comment to this statement is this: if this test equipment is so much better than a plain visual, why not have the test done as a preliminary step to all flat roof evaluations?

I agree with the author's last paragraph about non-destructive testing, but it is too bad he did not begin his article with this paragraph.

Theodore McConnell, president
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Torch use training available from company

Dear Editor:

Roger D. Lyon, Owen & Gupton Roofing, Inc., made a very important statement in his letter defending torch-applied modified bitumens. In his letter, printed August 1985, he states, "The most common problem with all technical trades is lack of instruction, training and hands-on management supervision."

At least one U.S. roofing torch manufacturer strongly agrees with Mr. Lyon and is attempting to do something about it. Flame Engineering, Inc., has produced a 45-minute slide presentation covering selection of equipment, LP-gas properties and torch safety.

This presentation is available for materials manufacturer's training seminars, distributor open houses, state conventions, etc.

When used in conjunction with hands-on torching equipment experience, the slides provide the best torch training currently available. Flame Engineering hopes that every individual who is involved or will be involved in torching modifieds will have the opportunity to receive this training.

Readers who would like more information about the program may contact Flame Engineering, West Highway 4, PO Box 577, LaCrosse, Kan. 67548; 800/255-2469; in Kansas, 913/222-2873.

Bill Shultz, marketing manager
Flame Engineering, Inc.

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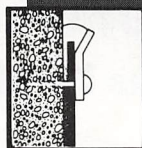
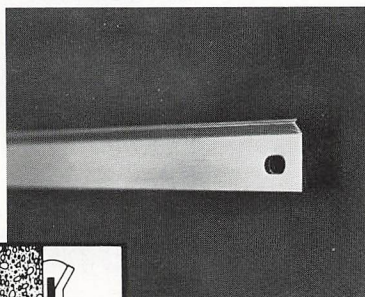
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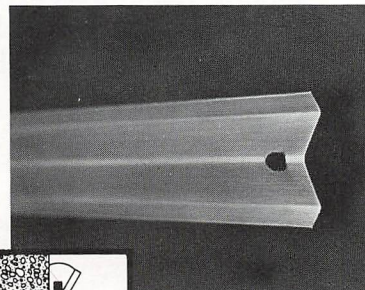
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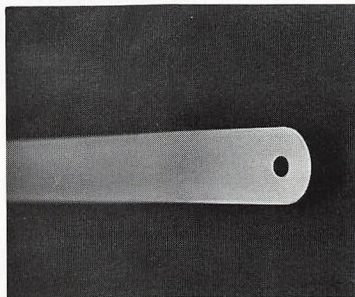
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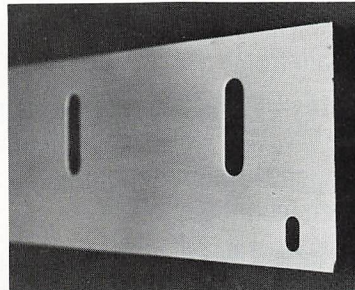
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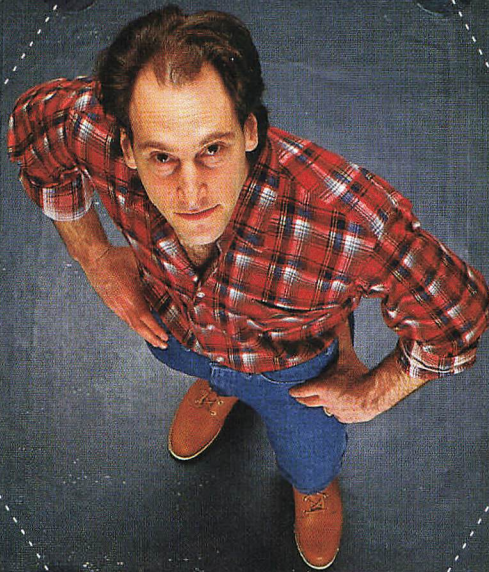
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Many unhappy with dual-shop amendment

Sticking out like a sore thumb in these times of diminishing union power, H.R. 281 is one of the few bills before Congress that bears the unions' stamp of approval.

The bill, known as the Construction Labor Law Amendment, attempts to eliminate dual-shop operations by making both arms of a dual shop subject to the union side's labor contract conditions.

The Amendment is currently winding its way through the legislative process. In the House, where it is under consideration this session, it has 142 of the 218 co-sponsors needed for passage. But in the Senate, Republican leadership has stated that the Amendment will not be considered during the current 99th session. Should the 1986 elections produce a Democratic-controlled Senate, however, the Amendment could still be very much alive when the 100th Congress convenes in 1987.

The Amendment is also under investigation by the National Labor Relations Board's general counsel to determine its legality.

Bill would change NLRA

The Construction Labor Law Amendment seeks to change the National Labor Relations Act (NLRA) in two fundamental ways. Presently, the NLRA allows owners of construction firms to operate both open shops and union shops simultaneously, as long as day-to-day operations, management and labor relations, and general management are kept separate. Owners who fail to maintain this separation are considered "single employers" and all of their operations become subject to their union sides' collective bargaining agreements.

The Construction Labor Law Amendment would redefine "single employer" as any two or more construction firms having "direct or indirect common ownership, management or control." Employers fitting this description, which would be virtually all dual shops in operation now, would be subject to the same NLRA rules as other "single employers."

The Amendment would also make binding any union/management agreements reached prior to the actual hiring of workers for a construction project. These "pre-hire" agreements, which set wages, hours and conditions, would be binding regardless of the wishes of the employees actually hired, according to the Amendment.

Under well-aimed fire

According to House sponsor William Clay, D-Mo., the Amendment is designed "to increase the stability of collective bargaining in the building and construction industry." Yet, even though these measures are favored by the unions, the bill is coming under well-aimed fire from almost every side.

The American Subcontractors Association (ASA) states that the Amendment would do the unions' cause more harm than good by making dual shops choose between being all union or all open. The economic realities of the marketplace would actually force many dual shops into the non-union sector, according to ASA, even though

most union contractors would prefer to remain union.

Enactment of the Construction Labor Law Amendment would lead to other repercussions as well, ASA believes. The Association claims that the Amendment violates the employees' right of self-determination and desecrates the principle that unions must demonstrate majority support before they become the bargaining agent for employees.

The Amendment also discriminates against contractors by not allowing them to invest in open-shop companies, ASA claims. Other companies are free to invest in open-shop firms without first reaching a collective bargaining agreement with that firm, the Association points out.

The Amendment would also leave the industry vulnerable to jurisdictional disputes. Under the Amendment, one contractor's agreement could be imposed on other firms owned by the same "single employer" even when these firms already have bargaining agreements with other unions, ASA says.

IN BRIEF

■ **Roofing Spec launches new quarterly department.** Frequently, government regulations and legislation will have a direct impact on your business. To keep you up-to-date on bills before Congress or proposed regulations, *Roofing Spec* has added a department that focuses on government activity. Each quarter, the "Government Relations" page will explore a government-related topic in depth, and present brief updates on other government activity.

■ **Alliance asks for continued PUHCA funding.** The Alliance for Fair Competition, a coalition of organizations representing 4.5 million small businesses, has written to members of the Senate Appropriations Committee to ask for continued funding for the enforcement of the Public Utility Holding Company Act (PUHCA). The PUHCA, which is in danger of being repealed through the appropriations process, helps protect small businesses from the unfair and anticompetitive activities of utilities.

"We totally oppose the gutting of PUHCA by eliminating funding for enforcement," the Alliance's letter states.



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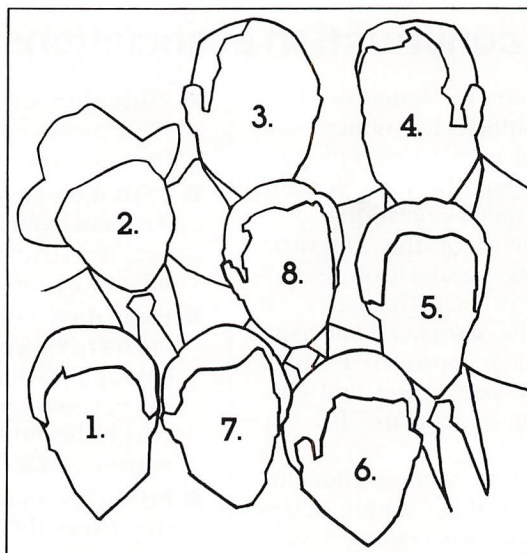
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Amy Kassel

PAS releases craft wages survey; larger contractors give lower benefits

Open-shop contractors anticipate a 5.3 percent increase in their craft employees' wages during 1985. The rate of increase will be down slightly from 1984, when wages rose an average of 6 percent. However, open-shop workers' wages will still rise by a larger percentage than union workers' wages rose last year. In 1984, union-negotiated raises averaged only 2.9 percent, according to the Bureau of Labor Statistics.

The information on craft wages was collected by Personnel Administration Services, Inc., (PAS) and released in a report titled *PAS Merit Shop Wage and Benefit Survey*.

The average wage paid to merit-shop journeymen roof mechanics, according to the 1985 edition of the PAS survey, was \$7.81 per hour. The median wage for roof mechanics was

\$7.65 per hour. Wage figures for all merit-shop crafts combined show a median wage of \$9.37 per hour for journeymen and \$11.44 per hour for foremen. On the average, merit-shop journeymen performing heavy construction earned more than journeymen working in the single-family home trade.

The survey also found that benefit packages were generally lower among the larger contractors. Of the firms with more than \$50 million in revenue, 61.6 percent said they granted paid holidays, 69.6 percent provided paid vacations, 37.1 percent had a craft bonus plan, and 90.1 percent provided a health insurance program. Performance-appraisal systems for craft employees have been instituted in 41.3 percent of the larger companies, according to the report.

Leading construction associations set model payment schedule

A model payment schedule that establishes deadlines for money flow throughout the construction process has been endorsed by three leading construction trade associations.

Representatives of the American Subcontractors Association, Associated General Contractors of America and the Associated Specialty Contractors have approved a schedule of billings, certificates and payments, setting a standard for the industry.

The agreement stems from the mutual problem that "undue delays by owners, architects/engineers, general contractors, subcontractors and sub-subcontractors in processing amounts due . . . or in making timely payments of these amounts impose hardships and improper financing burdens on the contractors and suppliers and amount to extensions of credit by the contractors and suppliers to their respective higher tiers."

The following is an example of the schedule the three groups are promoting:

- **20th day of the month:** sub-subcontractors request payment from subcontractors;
- **25th day:** subcontractors request payment from the general contractor for themselves and sub-subcontractors;
- **First day:** contractor submits to the owner's representative an itemized application for payment with the necessary supporting data that covers the monthly progress of the entire contract being performed;
- **Fifth day:** the owner's representative issues the certificate for payment to the owner for the amount requested;
- **No more than seven days after receipt:** the contractor pays each subcontractor the amount received from the owner on his account promptly, but not later than seven days after receipt;
- **No more than seven days after receipt:** each subcontractor pays each sub-subcontractor the

amount received from the contractor on his account promptly, but not later than seven days after receipt;

- **10th day of month or sooner:** the owner makes payment to the contractor for the amount certified by the owner's representative.

The three groups agreed that the schedule should be adjusted by making appropriate billings and payments on the last working day prior to any listed Saturday or holiday, and that commencement begins immediately following the day that payment was due.

They also agreed to urge all local chapters of their organizations to "make efforts singly or cooperatively where possible to persuade all owners, architects/engineers, general contractors, subcontractors and sub-subcontractors to adopt and adhere to this policy in the conduct of their business."

Future uncertain, says Christie; July rebound not indicative

Contracting for new construction rebounded 16 percent in July, largely erasing the effects of June's sharp setback, announced the F. W. Dodge Division of McGraw-Hill Information Systems Co.

A spurt in non-residential building brought July's new construction starts to a seasonally adjusted annual rate of \$231 billion.

The seasonally adjusted Dodge Index (1977=100), which remained in the low 160s during the spring months, fell to 142 in June, but recovered to 164 in July.

"Sluggish economic activity and falling interest rates are the reasons why the building market wants to go down and up at the same time, and that's what it seems to be doing," commented George A. Christie, vice president and chief economist for F. W. Dodge. "Now that July's rebound has canceled June's sharp dip in contracting, the industry is back where it was a few months ago—edging sideways in an environment of uncertainty," he said.

July contracts for non-residential construction grew a seasonally adjusted 23 percent, for an annual value of \$81.3 billion. Contracts for residential buildings, at \$112.5 billion in July, were up 20 percent. Non-building construction (public works and utilities), however, declined 7 percent in July to an annual rate of \$37.2 billion.

Construction contracting improved throughout the country. The West, with a 23 percent advance, showed the most improvement, while the Northeast gained 16 percent, matching the national average. The North Central and South posted gains of 14 and 11 percent, respectively, which were slightly below the national average.

The unadjusted total contract value of newly started construction at the end of seven months was \$130.6 billion, a gain of 4 percent over the same 1984 period.

Monthly Summary of Construction Contract Value

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

	MONTHLY CONSTRUCTION CONTRACT VALUE Seasonally Adjusted Annual Rates, In Millions		
	July 1985	June 1985	Percent Change
Non-residential Building	\$ 81,268	\$ 66,086	+ 23
Residential Building	112,514	93,496	+ 20
Non-building Construction	37,218	40,192	- 7
Total Construction	\$ 231,000	\$ 199,774	+ 16

	YEAR-TO-DATE CONSTRUCTION CONTRACT VALUE Unadjusted Totals, In Millions		
	7 mos. 1985	7 mos. 1984	Percent Change
Non-residential Building	\$ 44,845	\$ 42,141	+ 6
Residential Building	62,056	62,051	**
Non-building Construction	23,734	21,372	+ 11
Total Construction	\$ 130,635	\$ 125,564	+ 4

THE DODGE INDEX (1977 = 100, Seasonally Adjusted)

May 1985	162
June 1985	142
July 1985	164

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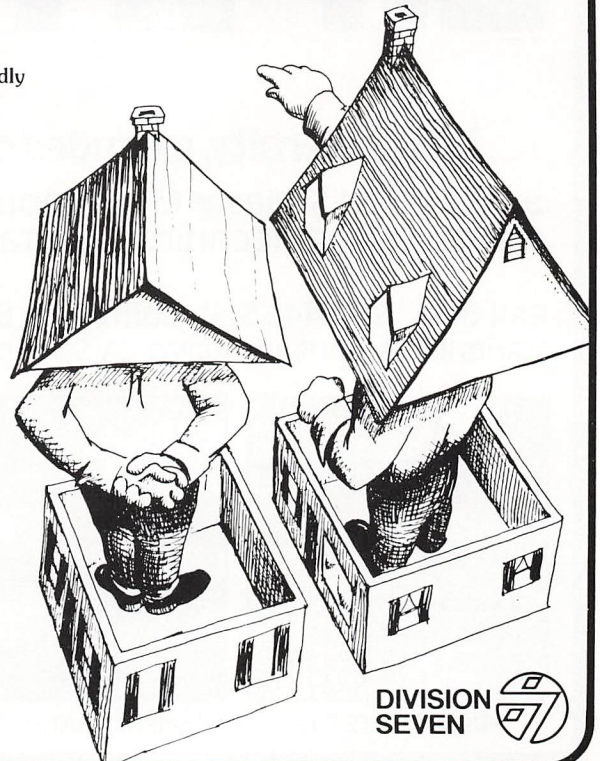
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LIA gives boost to lead use with new publicity program

Lead sheet use for roofing and flashing applications is showing signs of a resurgence, according to the Lead Industries Association (LIA), which is currently publicizing the revival of sheet lead roofing for commercial and residential buildings.

The Association's market development organization points to several recent trends that they believe indicate that lead sheet usage is on the rise:

- In the Southwest, roofing contractors are deploying lead sheet to flash abutments and other intrusions on tile roofs such as chimneys, skylights and vents. They are finding that lead sheet can easily be shaped to fit tile ridges.
- Great Britain's lead contractors association reports a surging demand for lead in construction during the last four years. Construction now accounts for 25 to

30 percent of the United Kingdom's total lead consumption.

- In California, residential builders are using sheet lead to meet the roofing requirements for custom-built homes.

LIA offers technical advice and

construction guidance to contractors interested in lead as a roofing and flashing medium. For free literature write to: "Lead Sheet Brochure," Lead Industries Association, 292 Madison Ave., New York, N.Y. 10017

Continued funding allows NBS to maintain fire research and building technology centers

Congress has cleared and the President has signed a fiscal 1986 authorization for the National Bureau of Standards (NBS). The bill authorizes \$127 million in fiscal 1986 for NBS and related agencies. The same amount was provided in fiscal 1985. Even though the Senate had approved a higher funding level for fiscal 1985, the House voted for the funding freeze.

The bill's passage keeps alive two agencies the administration sought to

abolish: the Center for Fire Research, with a budget of \$5.8 million; and the Center for Building Technology, with a budget of \$3.9 million.

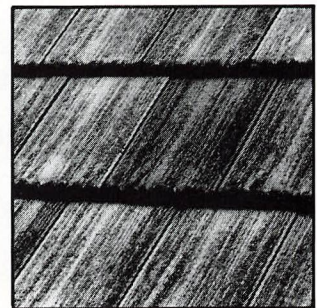
A Senate provision allowing NBS to investigate structural failures, such as the one that caused a skywalk to collapse in the Hyatt Regency Hotel in Kansas City, Mo., in 1981, was also accepted, with the understanding that NBS's role would be investigatory, not regulatory.

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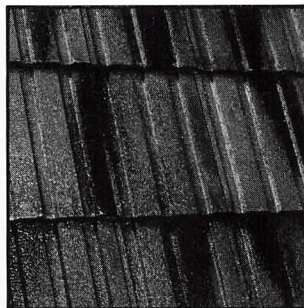
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GSA cancels federal specifications in favor of ASTM standards

The General Services Administration has canceled federal specifications where industry specifications are available. The following is a list of canceled federal specifications that have been replaced by industry standards issued by the American Society for Testing and Materials.

Group I—Canceled Fed. Specs and Replacements			
Fed. Spec.	FSC	Title	Replaced By
HH-I-521	5640	Insulation Blanket, Thermal	ASTM C 665
HH-I-524	5640	Insulation Board, Thermal (Polystyrene)	ASTM C 578
HH-I-526	5640	Insulation Board, Thermal (Mineral Fiber)	ASTM C 726
HH-I-529	5640	Insulation Board, Thermal (Min. Aggreg.)	ASTM C 728
HH-I-530	5640	Insulation Board, Thermal, Unfaced	ASTM C 591
HH-I-551	5640	Insulation Block & Boards (Cellular Glass)	ASTM C 552
HH-I-573	5640	Insulation, Thermal (Flexible Unicellular Sheet)	ASTM C 534
HH-I-574	5640	Insulation, Thermal (Perlite)	ASTM C 549
HH-I-585	5640	Insulation, Thermal (Vermiculite)	ASTM C 516
HH-I-1030	5640	Insulation, Thermal (Mineral Fiber)	ASTM C 764
HH-I-1252	5640	Insulation, Thermal (Reflective)	None
HH-I-1972/6	5640	Insulation, Board (Thermal)	None
HH-R-595	5640	Roofing Felt	ASTM D 227
Type 15C			ASTM D 226
Type 15A & 30 A			ASTM D 2823
SS-A-694	5610	Asphalt Roof Coating	
SS-A-706	5610	Asphalt, Petroleum	ASTM D 946
Penetration Grade			ASTM D 3381
Viscosity Grade			
SS-C-160	5640	Cement, Insulation, Thermal	
Type III			
Grade U			ASTM C 195
Grade F			ASTM C 449
SS-C-161	5610	Cement, Keene's	CID A-A-909
SS-B-755	5640	Building Board, Asbestos Cement	
Types F & U			ASTM C 220
Types A & B			ASTM C 221
SS-C-1960/GEN	5610	Cement & Pozzolan (Gen. Requirements)	None
SS-C-1960/1	5610	Cement, Masonry	ASTM C 91
SS-C-1960/2	5610	Cement, Natural	None
SS-C-1960/3	5610	Cement, Portland	ASTM C 150
SS-C-1960/4	5610	Cement, Hydraulic, Blended	ASTM C 595
SS-C-1960/5	5610	Pozzolan, For use in Portland Cement Concrete	ASTM C 618
SS-L-30	5640	Lath and Board Products, Gypsum	
Type I			ASTM C 37
Type II			ASTM C 79
Type III			CID A-A-2304
Type IV			ASTM C 442
Type V			ASTM C 3318
Type VI			ASTM C 588
Type VII			ASTM C 630
Type VIII	5630	Pipe, Concrete	None
SS-P-381	5630	Pipe, Concrete	None
SS-P-00450	5610	Plaster	CID A-A-1272
SS-R-630	5650	Roofing Felt	
Class 1			ASTM D 249
Class 2			None
Class 3			ASTM D 3909
Classes 4 & 5			ASTM D 371
LLL-B-810	5640	Building Board	CID A-A-2243
LLL-I-535	5640	Insulation Board, Thermal	
Class E, Style 3			ASTM D 2277
Class I,			ASTM C 532
All Other Classes			ASTM C 208
R-P-381	5610	Pitch, Coal Tar	None
Group II—Partially Canceled Fed. Specs.			
HH-I-558	5640	Insulation, Blocks, Boards, Blankets, etc.	
Classes 1, 2, 3, 4, and 5			ASTM C 612
Class 6			ASTM C 553
Classes 7, 8, and 9			None
Classes 10, 11, 14, and 15			ASTM C 592
Classes 12, 13, 16, and 17			ASTM C 547
Group III—Fed. Specs. Proposed for Cancellation With Replacement by ASTM Standards			
Fed. Spec.	FSC	Title	Will Be Replaced By
HH-R-590	5650	Roofing Felt (Asbestos)	ASTM D 250
SS-A-666	5610	Asphalt, Petroleum (Built-up Roofing)	ASTM D 312
SS-A-671	5610	Asphalt, Liquid	ASTM D 2027 & 2028
SS-A-701	5610	Asphalt, Petroleum (Primer)	ASTM D 41
SS-C-153	5610	Cement, Bituminous, Plastic	ASTM D 2822
SS-C-450	5650	Cloth, Impregnated	ASTM D 173
SS-R-501	5650	Roofing Felt	ASTM D 224 & 2626
SS-R-1781	5610	Roof Coating, Asphalt Based Emulsion	ASTM D 1227
SS-S-346	5650	Siding, Asbestos-Cement	ASTM C 223

McGraw-Hill Dataline features Dodge and Sweets reports

Two of McGraw-Hill Information Systems' divisions will soon be delivering data to their customers via computer. The company's F.W. Dodge division will be making its Dodge Reports available online to subscribers with personal computers through its new Dodge Construction Dataline, while the Sweet's division is developing an electronic database of building product information.

"Our computer services will fundamentally change the way those in the construction industry conduct business," said E.P. Jannott Jr., executive vice president of McGraw-Hill's Construction Information Group. "Over the next five years the impact will be felt by all those involved in the

industry—architects, engineers, contractors, subcontractors, and those who manufacture and market building products."

The Dodge Construction Dataline will contain the same information as the printed Dodge Reports. A contractor will be able to tailor Dataline reports to meet the particular needs of his or her business by filling out a subscription profile when signing up for the service.

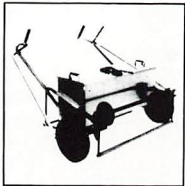
Several options will be available to contractors who wish to customize the reports they receive from Dodge. Report data can be limited to a particular area of the country or a particular type of project such as office, road or hospital construction. Reported projects may also be selected by building materials used, total dollar valuation or the involvement of a specific architect, developer or construction firm.

Another feature of the service will alert a contractor immediately when the status of a particular project changes.

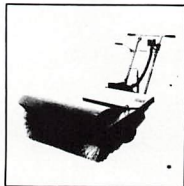
Dodge plans to test a prototype of its online delivery system this fall in selected large contracting and building product manufacturing firms.

Sweet's database will be designed to be used in conjunction with Sweet's catalog files. According to the company, the database will enable architects and engineers to electronically search for products that meet their specific design requirements. The multi-million-dollar database project is a major undertaking for Sweet's over the next three years, the company said.

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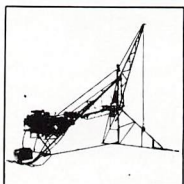
Model 86 Sweeper



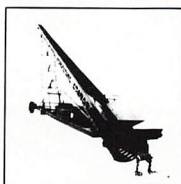
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FHA drops building codes; says state and local codes enough

The Reagan administration's efforts to deregulate the U.S. housing industry should be completed by December, when the Federal Housing Administration (FHA) intends to do away with its building standards for single-family and two-family homes.

Bruce Ingersoll of *The Wall Street Journal* reported that the FHA's Minimum Property Standards, the national building code standards for about half a century, are being rescinded in favor of state and local regulation. The agency already has abolished its standards for multiple-family housing.

"It's the duplication of regulations that we're trying to eliminate," said Janet Hale, acting FHA commissioner.

Administration officials contend that the federal standards, adopted under the National Housing Act of 1934, have outlived their usefulness. They have stifled creativity in home design and increased construction costs. Hale, although unable to provide estimates of cost savings, claims that deregulation will reduce housing costs for new home buyers and new apartment renters.

Hale doesn't foresee any drastic changes in the nation's housing. "The bulk of the nation is covered by some kind of code, state or local. Lots of them are modeled after the federal code," she said.

But there are critics inside and outside of the Department of Housing and Urban Development (HUD). "This means building standards will go down," said Al Louis Ripskis, a recently retired HUD official. "Builders will be taking shortcuts to

increase their profits. Quality will suffer. We will be getting shoddier housing."

Many housing experts believe that the administration's deregulation plan would produce greater diversity in the appearance and quality of housing, particularly in the Southwest, where state and local building codes are generally less stringent than in the Northeast.

Michael Sumichrast, chief economist for the National Association of Home Builders, said that federal standards for single-family and two-family homes brought uniformity to building practices in the 1930s and 1940s but are "no longer important to protecting the consumer." Instead, builders "need some freedom now to provide some innovation in housing," he claims.

The FHA's standards were designed to apply to federally subsidized housing and housing purchased with mortgages guaranteed by the FHA, the Veterans Administration and the Farmers Home Administration.

Among other things, the standards require sound foundations, leak-proof roofs, natural light and ventilation, privacy, and sanitary conditions. The FHA has decided, however, to retain its minimum standards for thermal insulation, according to Hale, at the urging of lobbyists for home-insulation manufacturers.

Barring opposition from Congress, which Hale does not anticipate, the deregulation will take effect sometime in November.

ASTM appoints Joseph O'Grady president

Joseph G. O'Grady has been appointed president of the American Society for Testing and Materials (ASTM). His term begins immediately. O'Grady joined the ASTM staff as executive vice president in January 1984.

As president, O'Grady will direct

ASTM's efforts to serve the needs of its 140 technical committees and 30,000 members worldwide.

O'Grady previously was a member of ASTM's Board of Directors. From 1973 to 1981 he served the Board as a volunteer. He was elected chairman of the Board for the 1978-1979 term.

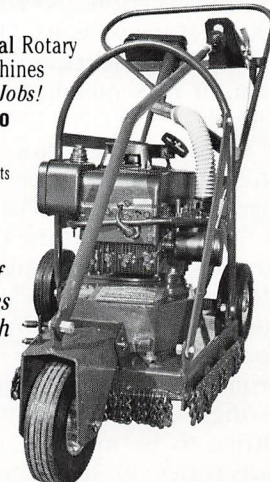
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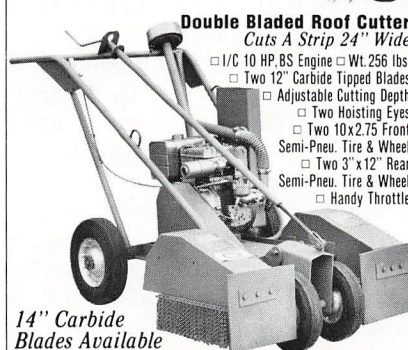
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NAWIC elects Morrow president; group to expand marketing in '86

The National Association of Women in Construction (NAWIC) installed Jean J. Morrow as its 31st president during the Association's annual convention in September in New York City.

According to Morrow, during 1985-86 NAWIC will focus on expanding its marketing programs. The year's theme is "NAWIC Beyond the Ordinary." As part of the group's plans, explains Morrow, "NAWIC will exhibit in major construction trade shows across the country, develop new membership promotion aids, and expand telephone listings for the NAWIC Executive Office to be included in telephone directories in major metropolitan areas."

The Association hopes to capitalize on last year's success in chartering new chapters. It will continue to concentrate on membership recruitment and will expand liaison efforts with other construction groups.

Morrow has served as president, vice president and secretary for the Knoxville, Tenn., NAWIC Chapter 61. On the national level, she has served as Region 2 director for two terms, national vice president, chairperson of the Membership Eligibility Committee, National Forum supervisor and member of the NAWIC/Business Roundtable's Construction Industry Cost Effectiveness (CICE) Committee.

Morrow is corporate secretary/treasurer and office manager for American Technical Associates, Inc., a design engineering firm in Knoxville. She is also a member of Toast-mistress International.

The NAWIC convention, titled "NAWIC-New York . . . Be A Part Of It," focused on professional seminars directed to women employed in construction.

Among the convention's speakers were: Arnold K. Jones, vice president of real estate and construction, IBM, who spoke about methods large companies are using to implement the Roundtable's CICE project; George S. Goldberger, project director of the Grace Commission, who discussed the Commission's findings on the president's Private Sector Survey on Cost Control; Richard Valeriani, NBC national affairs correspondent, who

reported on foreign affairs; and Mary Jo Jacobi, special assistant to President Reagan for public liaison, who addressed the future economic and political climate for women's advancement and opportunities.

Industry related seminars included: "How to Calculate the Value of Your Business" and "Selling Your Business for a Profit," con-

ducted by David Hoods; "Restoration of the Statue of Liberty," led by Phil Kleiner; "Insurance Review," presented by John Curtin; "CPM Scheduling," directed by Robert E. Brehm; and "Tradeswomen," a seminar led by Doris Specht that addressed the special problems encountered by women in the construction trades.

Football team goes straight to the top; holds practice on roof to escape wet field

Who says roof space can't be put to good use? Certainly no one on the Brown University football team in Providence, R.I.

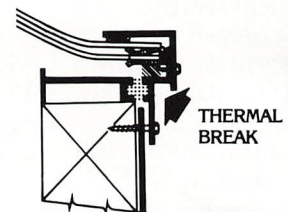
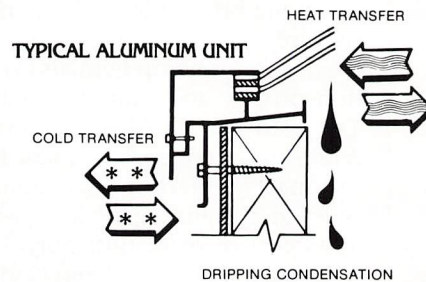
With the regular practice field soggy from rain, the Brown University Bruins took to the AstroTurf-

coated roof of the Olney-Margolies Athletic Center for their first fall workout.

The Bruins hope the rooftop practice is a good omen that they'll be closer to the top of the Ivy League. They finished fourth last year.

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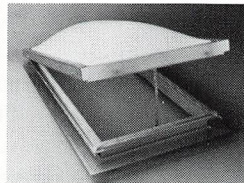
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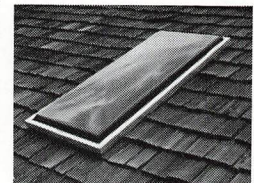


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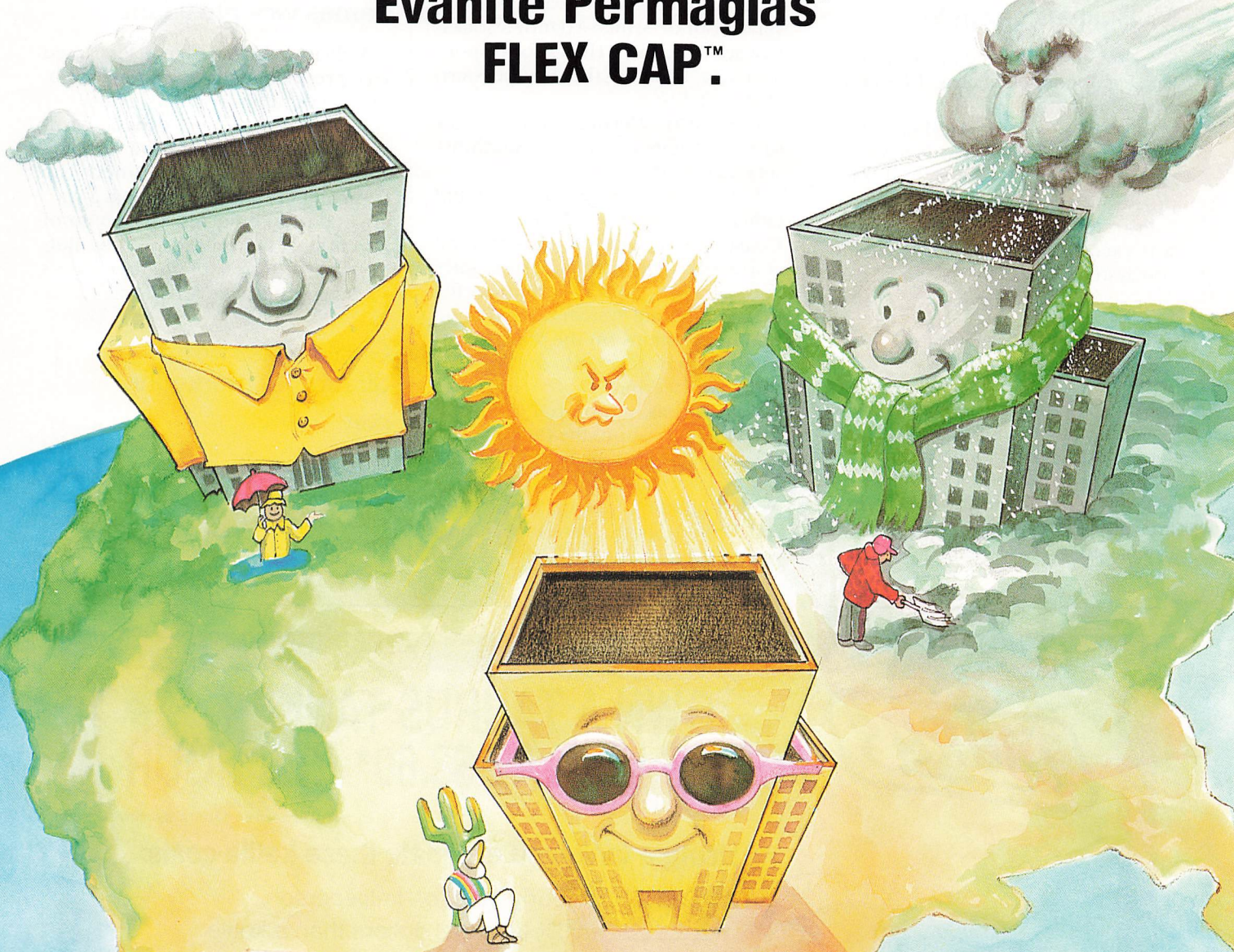


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Syenergy hires Mulligan as controller

Syenergy Methods, Inc., of Cranston, R.I., has appointed Michael J. Mulligan corporate controller.

In this position, Mulligan will oversee and implement Syenergy's financial, administrative and data processing procedures.

Prior to joining Syenergy, Mulligan was executive vice president at Sencon Systems, Inc.

Zimmerman named Armco president

James A. Zimmerman has been named president of Armco Atlantic, Inc. He succeeds Herman J. Oellerich.

Zimmerman joined Armco in 1954 as a sales engineer for the former metal products division in Middletown, Ohio.

In other personnel changes at Armco, J. Pat McGuine was appointed supervisor of Armco Atlantic's Southeast service center. He will be responsible for sales in the Southeastern United States.

Previously, McGuine was a sales service engineer at the Southeast service center.

Richard W. Layding was appointed general manager of Armco's West Coast profit center. He will be responsible for manufacturing, sales and service center activities for Armco Building Systems and Atlantic Building Systems on the West Coast. Layding was formerly manager of order engineering.

Armco has appointed Frank P. Petrek supervisor of the Central service center. He will be responsible for sales service and order processing for Armco Building Systems in the Central United States. Petrek was promoted from engineer.

H.B. Fuller names vice president

William Palmatary has been named vice president of the H.B. Fuller Co. of St. Paul, Minn.

Palmatary has been general manager for Fuller's Foster Products division since 1978. He joined the company in 1961 and has held a variety of positions, including director of purchasing and manager of the Buffalo, N.Y., district of the company's packaging adhesives division.

Gory names Botoff director of marketing

Gory Associated Industries, Inc., Ft. Lauderdale, a subsidiary of the ELCOR Corp., has appointed Richard S. Botoff director of marketing and sales. Botoff was previously a market manager for Owens-Corning Fiberglas Corp.



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American Hydrotech announces staff changes

Ed Tierney has joined the Technical Services Department of American Hydrotech, Chicago.

Tierney will work with all phases of American Hydrotech's roofing and waterproofing projects, and will answer technical questions about the products.

Lorraine Jossick has joined the company as a customer service representative. She will handle order processing and customer service inquiries. Initially, she will work with American Hydrotech's Lite-Top Hypalon and Hydro-Seal EPDM single-ply roof membrane.

Ed Jarger has been named technical services manager. He will be responsible for technical service and support for Hydrotech's single-ply and liquid membrane products. His duties will include managing the current technical staff and expanding the department.

Ron Rediger has been appointed central regional sales manager. Rediger will add to and support the firm's sales reps in Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas and Nebraska. He is responsible for the Hydrotech line of roofing and waterproofing products.

Construction Fasteners opens service center

Construction Fasteners, Inc., Wyomissing, Pa., has announced the opening of a new service center in New Brunswick, N.J.

According to the company, this new location will serve Northeast customers' fastener needs for Weather Gard metal buildings, Confas masonry anchor and Dekfast roof insulation fastening systems.

Atlanta Armco shakes up technical services group

The technical services group of Armco Atlantic, Inc., in Atlanta has been reorganized.

Ray C. Ruble, supervisor of product integration and consolidation, will be responsible for the product service function in addition to reporting product integration and consolidation.

John W. Grubb will be supervisor of systems support and will be responsible for all user and application software development and maintenance.

Bill C. Pearson will be supervisor of corporate systems service. Computer hardware, system communication and operation and networking will be under his direction.

Paul A. Seaburg, general supervisor of product development, will direct all product research and development activities.

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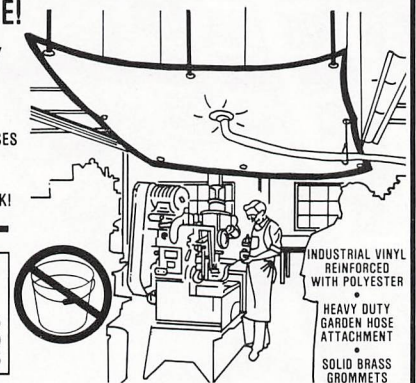
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Keep the buckets out of sight - liability claims are there already.

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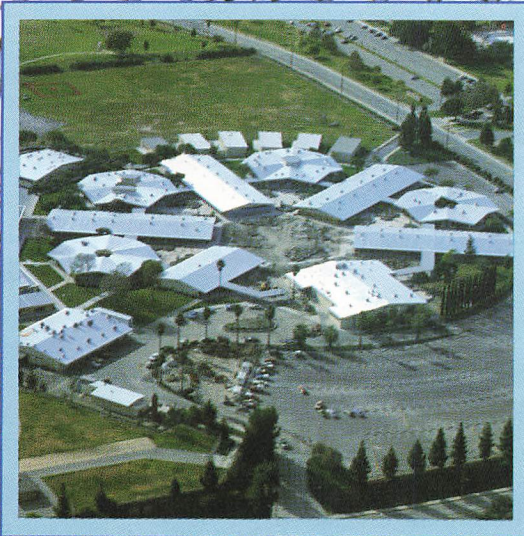
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Aeroil appoints v.p. and general manager

Aeroil Products Company, Inc., South Hackensack, N.J., announced the promotion of Gordon Moerdyk to vice president and general manager. He will be responsible for all manufacturing and sales of the company's complete line of construction machinery.

Moerdyk has been with Aeroil for five years in various management positions.

American Hoechst moving and expanding market

American Hoechst Plastics is moving its HDPE sales, marketing and technical development group from Leominster, Mass., to Bayport, Texas, where the manufacturing facilities are already located. Expandable polystyrene business units relocated a year ago from Leominster, Mass., to Chesapeake, Va.

"By strategically locating our business units at one site, we can respond to customer needs and industry changes quickly and efficiently," President William J. Gort stated.

Sense named Versigard sales engineer

Goodyear's roofing systems division announced the signing of agreements with two California firms that will expand availability of Versigard roofing products throughout the western United States.

Goodyear added Pacific Supply Co., Sacramento, and Southern Distributors Corp., Garden Grove, to its distribution network.

Pacific Supply's outlets will distribute Versigard materials in northern California, Utah and Nevada. Southern Distributors Corp. has branches that will serve the areas around San Diego, Las Vegas and Ontario, Calif.

Goodyear named Stanley B. Sense as Versigard field sales engineer for the western United States. Sense will be based in Stockton, Calif., and will provide technical service and assistance to contractors in the western states.

Goodyear names Kendall v.p. and general manager

Ned G. Kendall, general manager of Goodyear's Versigard Roofing Systems Division, has been appointed Division vice president and general manager.

Kendall joined Goodyear in 1960 as a sales trainee in the Industrial Products Division. He held field sales posts in the Northeast and Midwest and was marketing manager for hose products when he was named director of general products for Goodyear in Europe in 1975.

Cooley hires Northwest sales manager

Donald L. Jacobsen has been named Northwest regional sales manager for Cooley Roofing Systems. Jacobsen will be responsible for overall sales and technical support management in Washington, Oregon, Idaho, Montana and Alaska.

Jacobsen joins Cooley from the W.R. Grace Co., where he was field advisor for the building products division.

DuPont's neoprene reaches milestone

The DuPont Co. announced production of the 12 billionth pound of neoprene, the first commercially produced synthetic rubber, which was developed by scientists 54 years ago.

The milestone was celebrated at the Company's Louisville plant, where neoprene is produced.



Super 6
(Garlock/Reeves)

Super 7
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Check #31 on Reader Service Card

VARC tracking problems with unqualified inspectors

The Virginia Association of Roofing Contractors (VARC) has asked its members to report any problems they have experienced with inspectors on state projects. The Association is attempting to track abuses of Directive 33-B, a state document that requires the presence of a qualified inspector whenever a roofing contractor is on the job.

VARC has received reports that unqualified inspectors are being used in some cases. This has led to undue contractor harassment, overzealous reporting and attempts by the inspectors to supervise rather than monitor the work, according to VARC president Robert McKee.

Directive 33-B defines a qualified inspector as one who has five years experience as an inspector and who has attended three formal, industry-

recognized roofing training schools or seminars.

McKee says that one suggestion that has been verbally endorsed by the director of Virginia's Division of Engineering and Buildings is for contractors to request a resume of the inspector's qualifications before the pre-roofing conference. Time should also be set aside at the conference to review the functions and limitations of the inspector's job.

In the August issue of VARC's newsletter, Association members were given a form that lets them check off the inspector abuses they have experienced. The members were asked to send the completed forms to VARC headquarters so that the Association can determine the extent of the problem.

Bay Area pensioners get hefty benefit increase

The sound financial standing of the Pacific Coast Roofers' Pension Plan

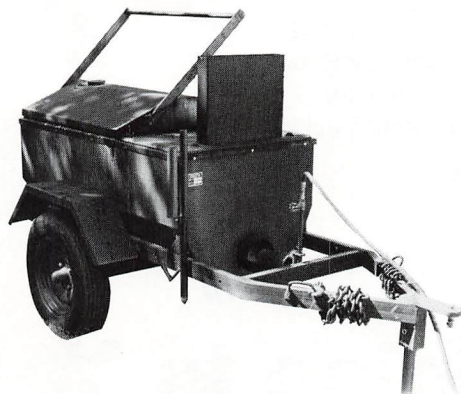
has allowed the Plan's Board of Trustees to increase benefits. The Plan is the retirement program of the Bay Area Counties Roofing Industry Promotion Fund.

Improvements to the Plan include a retroactive benefit increase of 22.2 percent to Plan participants and increases in the pre-retirement death benefit. The trustees also approved a 10 percent across-the-board increase to current retirees effective Aug. 1, 1985.

Plan trustee John Banister, executive director of the Associated Roofing Contractors of the Bay Area Counties, credited conservative management and sound investing for the increases.

The Plan was founded 25 years ago by the Associated Roofing Contractors of the Bay Area Counties and Roofers' Locals 40, 81 and 236. Today the Plan includes other geographical areas in California and Portland, Ore.

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Check #3 on Reader Service Card

Southern California RCA hosts panel on warranties

Warranties and test cuts were the topics under consideration at a recent panel discussion sponsored by the Southern California Roofing Contractors Association.

Panel members included moderator Johnny Zamrzla, president of the Western Pacific Roofing Corp.; Ray LaTona of Simpson, Gumpertz & Heger; Larry Brown of Owens-Corning Fiberglas; Bob Lilleston of Genstar Materials; and Bill Ricketts, president of Lunday-Thagard Co.

All of the panelists agreed that warranties were used primarily as sales tools by the manufacturers. True

responsibility for roof performance rested primarily on the contractor's shoulders, they said, because proper application was the most critical factor affecting roof longevity.

The discussion then turned to test cuts as a way to monitor the contractor's application. Some of the panelists' companies endorsed test cuts while others did not. Owens-Corning does believe in test cuts, the panel's audience was told, however, Genstar is not in favor of them. Lunday-Thagard thinks test cuts are valid but overrated, and Simpson, Gumpertz & Heger believes test cutting is only one of many ways to determine a roof's condition.

All believed that test cuts should only be used when there is time to correct any problems the cuts reveal. The panelists also advised against condemning an entire roof on the basis of test cuts.

Virginia group elects officers and directors

The Virginia Association of Roofing Contractors elected Thomas G. Petty of Whitley Roofing Co., Richmond, president at its recent annual meeting.

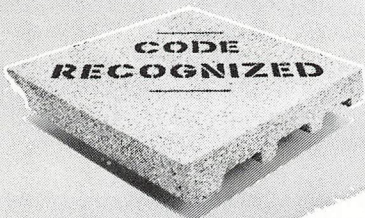
Other officers elected at the meeting were First Vice President Jerry M. Sare of Rose Roofing Co., Arlington; Second Vice President Jim Davis of A.S. Pugh, Inc., Danville; and Secretary/Treasurer Joe P. Burmer Jr. of Karl H. Frye, Inc., Bluefield, W.V.

Association members elected to serve on the Board of Directors include C.T. Meredith of Valley Roofing Corp., Roanoke; Joseph D. Miles Jr. of J.D. Miles & Sons, Inc., Chesapeake; Cindy Shelor of John T. Morgan Roofing & Sheet Metal Co., Roanoke; and Elmer Dunn of American Associated Cos., Richmond.

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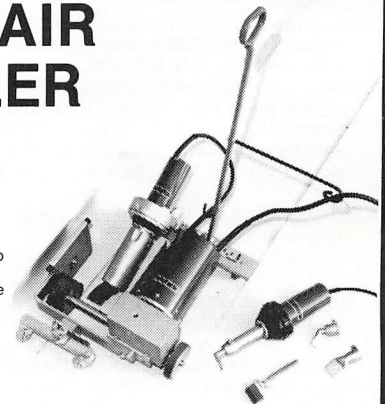
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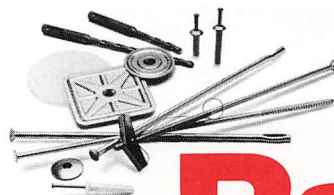
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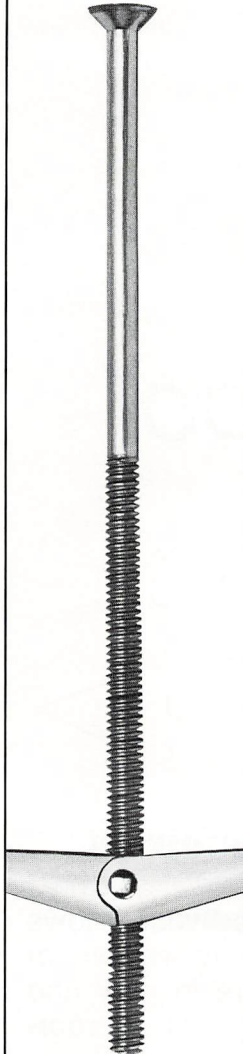
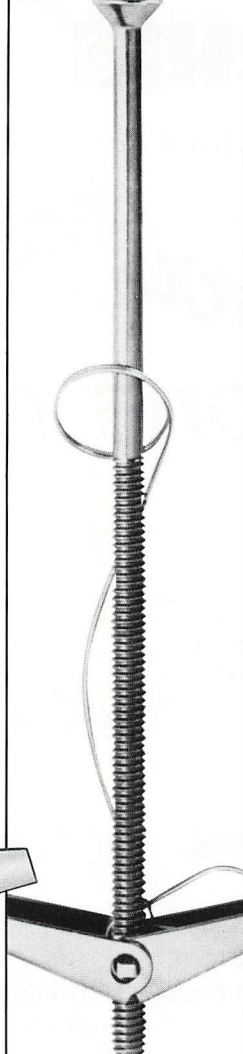
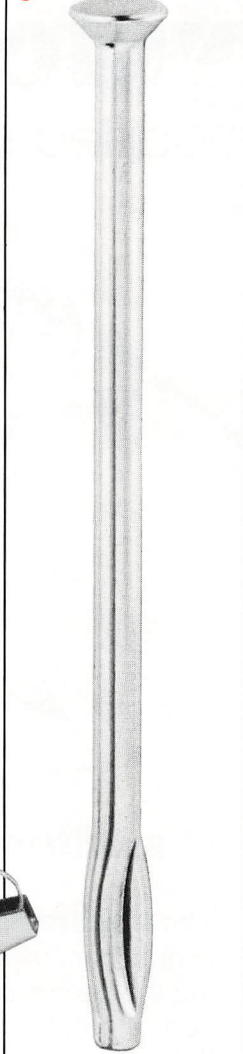
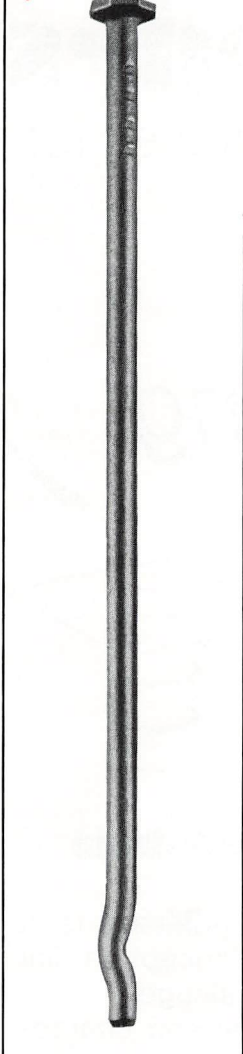
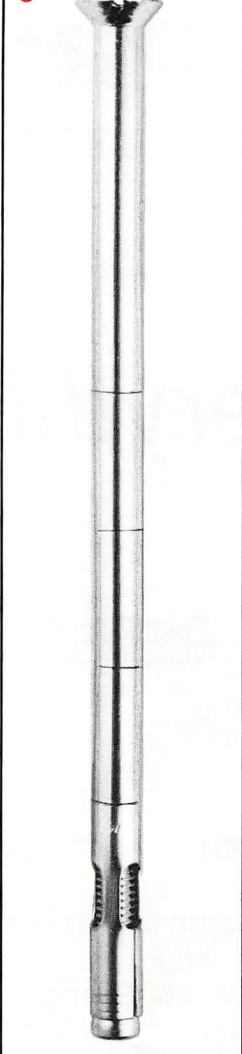
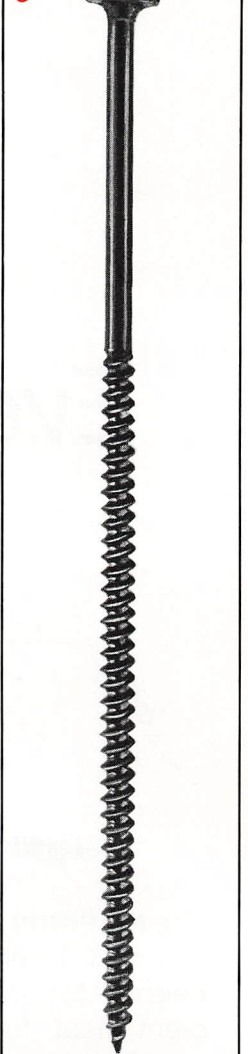
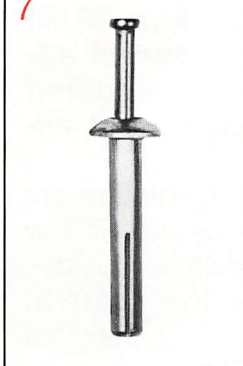
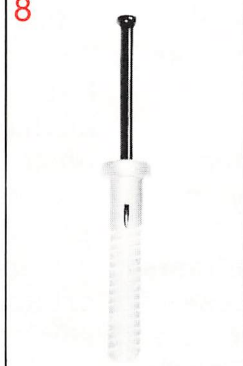
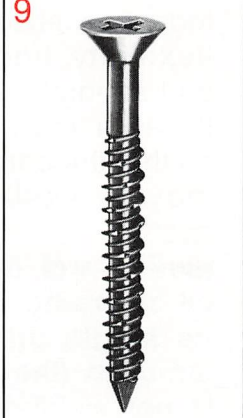

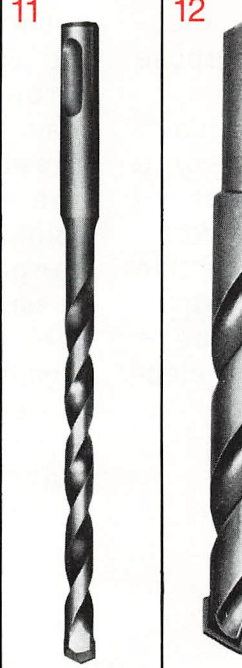
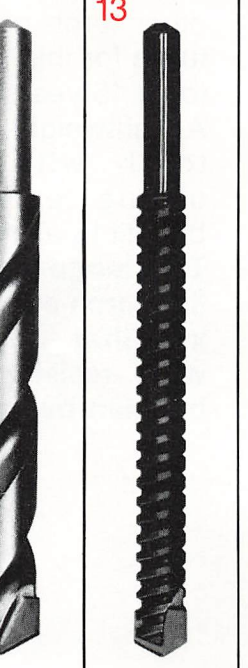





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3. Rawl-Drive. One-piece anchor for fast installation and tremendous holding power in concrete, dense brick and stone. Wind-lift and vibration resistant. Used with stress or lap plates, batten bars, and for wood blocking. Made of tempered grade 8 (150,000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

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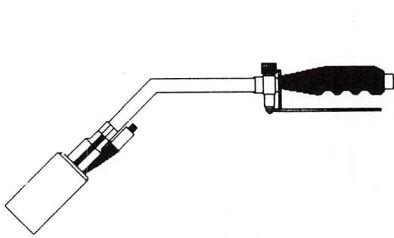
Rawl

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<p>7</p>  <p>Rawl Zamac Nailin</p>	<p>8</p>  <p>Rawl Nylon Nailin</p>	<p>9</p>  <p>Rawl Tapcon® Fastener</p>	<p>10</p>  <p>Rawl Hammer Drive Pin</p>	<p>11</p>  <p>Rawl SDS Carbon Drill</p>	<p>12</p>  <p>Rawl Straight Shank Rotary Carbide Percussion Drill</p>
<p>15</p>  <p>Rawl Galvanized Steel Stress Plate</p>	<p>16</p>  <p>Rawl Galvanized Steel Lap Plate</p>	<p>17</p>  <p>Rawl Polyethylene Stress Plate</p>	<p>14</p>  <p>Rawl Self-Drilling Screw</p>		
<p>18</p>  <p>Rawl EPDM Sealing Washer</p>					

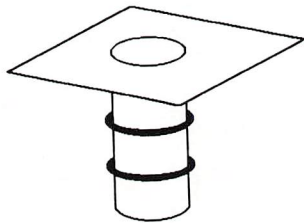
modi-systems

accessories for modified bitumen

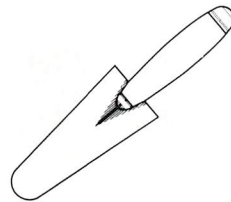
Everything ~~under~~ ^{over} one roof



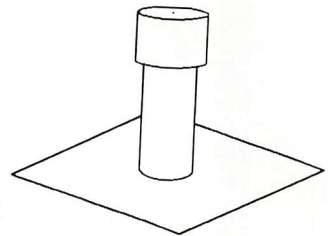
magnum



modidrain



moditrowel



modivent

The **magnum** torch is the first torch engineered for fast, efficient heat fusing of modified bitumen membranes. It has been used longer than any other torch manufactured for this purpose (over 15 years).

A lightweight, quality torch with some unique features of benefit to all roofers.

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

The **modidrain** is a new concept in flat roof drainage.

Material and characteristics make it a safe and functional element for any application from new roofing construction to reroofing and roof maintenance.

The modidrain unit is one piece flange/spigot and the ribbed flange face ensures positive adhesion to the waterproofing membrane.

It is economical, easy to install and the installation costs are very low.

The **moditrowel** is the proper tool for troweling the seams of modified bitumen.

It is the number one trowel for modified bitumen in the world today because of its flexibility, lightness, and strength.

It has a round point, so that the compound moves easily and evenly.

moditrowel outlasts all others because of its single unit construction (the handle is not welded to the blade).

The **modivent** allows the evaporation of moisture in new and existing built-up roofing systems.

It has been especially made for modified bitumen and BUR, having a perfect adhesion to modified bitumen and hot asphalt.

It keeps insulation dry and does not allow the moisture to decrease the thermal efficiency of the roof insulation.

It is resistant to UV rays and weather.

modi-systems
accessories for modified bitumen

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

Solving problems early goal of pre-job conferencing

The long-standing feud between architects and roofing contractors has at times made the Hatfield and McCoy quarrel look like a minor tiff. Architects, according to the contractors, were a bunch of ivory tower types too lost in their airy aesthetics to be bothered with practical matters such as effective roof design. Contractors, the architects countered, were a common lot all too ready to waste the designers' time with mundane details. Such animosity made it impossible to imagine an architect and a roofing contractor discussing an upcoming job without the aid of a referee.

But more and more of these adversaries are putting away their longrifles and sitting down together to discuss designs, specifications and roofing techniques before the work begins. Both architects and roofing contractors are discovering that a pre-job meeting can be an excellent place to bring the expertise of the entire building team to bear on construction problems instead of letting those problems become major headaches on the job.

Getting it out on the table

According to those who have tried pre-job conferencing, the meetings allow mutual communication and understanding to take place between building team members. This exchange of ideas can be useful for jobs of any scale, they say, although the need for pre-job conferencing may be less pressing on smaller projects.

The information that is offered at a pre-job conference "lets us know that the contractor understands the specifications and gives him the opportunity to indicate how he'll carry out the requirements," says architect Chuck Sumner, a partner of Johnson-Graham Associates, Billings, Mont. "We've found that there are different ways of doing things and different contractors have different approaches. The pre-job conference allows us to share in that process."

Michael Major is a free-lance writer living in Yelm, Wash.

**Trick
is
making
ends
meet**

by Michael J. Major

Contractor Zachary Ellis, president of Ellis Roofing Co., Kenner, La., says a pre-job conference "gives everybody involved a chance to get a clear view of the specifications and allows the roofer to express how he'll do the job in step-by-step detail. Getting it all out on the table this way is a very important part of the job."

Small changes

Others say the pre-job conference is the best and least costly place to make changes in plans, specs or procedures. It can also alert the roofing contractor to design modifications that might affect the roofing installation. For instance, construction problems might force an architect to relocate roof drains, making it necessary to adjust the taper of the insulation panels that direct water to these drains. If the contractor learns of the relocation at the pre-job meeting, he will have plenty of time to make the necessary changes before the first panel is cut.

Contractor Dick Unrue, vice president of Pacific Rainier Roofing, Inc., Seattle, Wash., likes to use the pre-job conference to determine the appropriateness of the roofing specification. "If there's something in the specs that doesn't apply or another [spec] that is better in that situation, that's the time to make corrections," he says.

Architect Dean Read, who recently designed a roofing membrane over a parking deck, says that none of the 30 hours he spent in pre-job conferencing were wasted. "It's helpful when you start talking, for you find yourself thinking about all sorts of things you don't normally think about," he says.

One of the problems Read was able to discover and correct during the parking deck pre-job meetings concerned his flashing specs. "We found that what we thought at first was good flashing was susceptible to ultraviolet rays, so we saved a lot of time by starting out with the right type."

Contractor Dick Unrue likes to use the pre-job conference to determine the appropriateness of the roofing specification.

Read says that he was at first confused by the products that contractors were proposing to use for the parking deck. But the pre-job conferences gave him the chance to discuss the products with the contractors, and he was able to determine which were most suitable for his application. "We also saved money in taking off the old membrane," he says. "We were going to use jackhammers, but found out by talking to the people who put it on that we could save \$4,000 by torching it."

Some suggest reroofing meetings

Some contractors also believe that a pre-job conference can help a reroofing job run more smoothly. Pete Stanley, president of the Stanley Roofing Co., Woodinville, Wash., says that there are always things that aren't addressed in the specs that must be discussed before reroofing can begin.

But contractor John Bradford, Bradford Roofing & Insulation, Billings, Mont., doesn't believe the need to conduct a pre-job meeting is as great in reroofing. He says that pre-job conferences are held for only 50 percent of his company's reroofing projects, while more than 90 percent the company's new construction begins with a pre-job meeting. "The reason we don't do more on reroofing is that we are the ones who write the specs," Bradford says. "Only the owner, and no other professionals are involved. We tell the owner what we intend to do and work out with him where to set the materials and other details."

Hopping on the bandwagon

From these glowing reports it seems clear that pre-job conferencing is an idea whose time has come. Many in the industry, including professional organizations such as NRCA and the American Institute of Architects (AIA), are getting behind the concept. A booklet jointly prepared by NRCA and the Associated General Contractors of America (AGC) and reviewed by AIA and Production Systems for Architects and Engineers says, "It is our joint recommendation that a pre-job conference be required well in advance of the time a roof deck and roofing work begins, and this requirement should be included in the specifications." AIA is also promoting the use of pre-job conferences to the 3,500 architects and engineers who subscribe to its *Masterspec* service.

The realities of modern construction practices have also made pre-job conferences necessary. As architect Read explains, "Roofing has grown so complicated, it's hard to keep up, and so hard to imagine someone not being for the pre-roof conference."

Unrue gives perhaps the most telling reason for the growing use of pre-job conferences. He says, "Up to now, something like less than 2 percent of the construction budget was dedicated to roofing, but an excess of 70 percent of the litigation began there. People are finally beginning to look beyond the first line of defense in terms of weather penetration."

The malice of absence

But before we paint too rosy a picture, we should mention that there are still some small pockets of resistance. "It bothers me that some architectural professionals don't take the conferences seriously enough to come themselves, but instead send their understudies," Unrue says. "I don't like going into a pre-job meeting having to educate the architect on proper roofing techniques."

And contractor Bruce Martin, president of AN-CO Roofing, Inc., Woodinville, Wash., says, "Sometimes you can have too many people at the conference, but not the key person authorized to sign a check, which just means you're going to have to have another conference anyway."

Others complain of a certain amount of foot-dragging due to the time pre-job conferencing involves, especially when it conflicts with other commitments.

But by and large, almost everyone agrees that pre-job conferences are a good idea. The problems that do occur generally center around getting a particular architect, owner or contractor to a particular meeting.

Architect Tim Kirby, senior associate and chief of specifications at Thompson, Ventulett, Stainback and Associates of Atlanta, has one way to get obstinate building team members to attend a pre-job conference. "We put it into the specifications so that it's mandatory," he says.

Contractor Melvin Kruger, of L.E. Schwartz & Son, Inc., Macon, Ga., also has a method of encouraging attendance. "If we're absolutely stonewalled, we'll document that the pre-job conference was declined, and then do our own unilaterally," he explains. "We'll put in writing all the things needed to be done prior to roofing, insisting that all openings and penetrations be done. We then set out our requirements before the other crafts. If they don't object, it becomes a part of the record. But this usually gets their attention and then we call a meeting."

The invitation list

To make sure all the right people attend the pre-job meeting, it is, of course, necessary to invite them in the first place. Contractor Bradford says the guest list should be fairly extensive. "In addition to the roofing contractor, the general contractor should be involved," he advises, "because he's the one who will make sure all the decisions will be carried out, especially in terms of the electricians and plumbers and all the other subcontractors whose work will impact the roofing."

Bradford also says that, if the architect is not the owner's representative, another person should be present who can make sure the interpretations of the specifications and the changes made at the meeting coincide with the owner's intentions. Others agree that having someone at the meeting to protect the owner's interests is important. Stanley says the owner's input "allows everyone to set up equipment in a way that won't upset the owner or interfere with the way he conducts his business."

The presence of manufacturers' reps from the companies producing the major materials used in the project is also important, according to Bradford, so that someone will be there to answer questions about the products' warranties and guarantees.

The deck contractor should also attend the meeting to ensure that the deck will be properly aligned and reasonably free of imperfections, Bradford says. But because the deck contractor is not a structural engineer, he should not be required to make decisions about the structural integrity or stability of the roof.

Choosing a leader

The person chosen to conduct the pre-job conference should have the ability to anticipate problems and keep the participants in line. Kirby says, "Typically, we require the general contractor to conduct the conference. If there is any reluctance among the subcontractors, he can require they be there. The general contractor conducts the meeting, keeps the minutes, records the sequence of procedures and the logistics of different people bringing their equipment on site in an orderly way."

Choosing the right time to conduct the meeting can be as important as choosing the right person. Though a few say the pre-job conference should take place before any construction begins, most say that it should wait until some of the structure is up. "It doesn't do much good unless you have the foundation on the ground," says Martin. Before a reroofing pre-job conference begins, Ellis says, "You should walk the roof, and also the inside of the building to check for water damage from previous roof leaks so at the end of the job you're not hung with stained tiles or other damage."

What should you talk about?

Most conferences will focus on the problems that might crop up once work gets underway. There are some other topics, however, that are equally important and should be discussed. One topic is the logistics of the entire operation. "Normally, there's a number of points that need clarification," says Bradford, "such as where materials should be stored, and where the general contractor or owner wants the equipment set up. Without this type of communication it's difficult for a job to run smoothly. For instance, if you choose a spot to set up, and it's been claimed, then someone has to move, and that's costly."

The person chosen to conduct the pre-job conference should have the ability to anticipate problems and keep the participants in line.

AIA is promoting pre-job conferences to the 3,500 architects and engineers who subscribe to its Masterspec service.

Day-to-day scheduling of work should also be planned at this meeting as well as the time each day when work is to be terminated. Protecting the roof against the weather at night should also be a topic of discussion.

Keith Rupert, senior project architect and principal at CTA Architects/Engineers, Billings, Mont., likes to have tangible items to talk about at his conferences. "Samples not only of the roofing material are brought in, but also many of the materials used by plumbers, electricians, flashers or anyone else who will affect the roof," he says. "Having everybody seeing and touching everything that will be involved helps everyone understand exactly what's going on."

The project's insurance requirements should also be reviewed at the pre-job meeting to ensure that the finished roof will achieve the desired rating. Any Factory Mutual or Underwriters Laboratories requirements that are part of the specifications should be examined at this time to resolve conflicts between the requirements and the architect's or manufacturer's specifications.

The NRCA/AGC pamphlet on pre-job conferencing also suggests that the meeting be used to review applicable federal and local regulations. These include Occupational Safety and Health Administration rules; and federal, state or local environmental control laws. Once all parties understand their respective responsibilities concerning these regulations, they can come to some agreement about methods of compliance.

Pre-job conference discussions needn't always center around mundane details, however. Some time may also be devoted to satisfying the architect's aesthetic sensibilities. Rupert says that a little conversation can

improve the looks of the roof and add to the overall quality of the project. "Often there are slick ways of cutting corners or lapping over mechanical curves in a way to end up with only one seam," he says.

Preparing an agenda

Once the topics of discussion have been chosen, the person conducting the meeting should list the topics in the order they are to be discussed and distribute this list to the meeting's participants. By preparing an agenda such as this, the conference leader can keep the meeting on course and make sure no questions are left unresolved. A follow-up letter that summarizes the meeting's key points should be sent to all participants after the conference.

This is the procedure architect Ray K. Parker says his company, Cromwell, Trumper, Levy, Parker, Woodsmall in Little Rock, Ark., follows with good results. "For any larger job, we go in with an agenda that proceeds point-by-point," he says. "Then we do a follow-up with a memorandum. The agenda covers all areas of concern, and the memorandum covers what was discussed."

Unrue seconds Parker's point. "I like it when someone is responsible to record the meeting and then gives copies of what transpired to all the parties involved. These notes take on a special meaning when referenced to something that comes up later. Nobody can then say they were misrepresented in what they said verbally."

A point of agreement

The idea that pre-job conferencing can be a valuable construction management tool is one point on which almost everyone on the building team agrees. Both roofing contractors and architects can name several specific instances where pre-job conferencing saved them time and money by clarifying specifications, clearing up misunderstandings and correcting problems early. As Martin describes it, it's "a way to get the BS out of the way before the job starts."

"It's the lack of this communication mechanism which can always be pointed back to as the cause of the problem," Kruger says. "The pre-job conference is an absolutely essential idea."

San Antonio sights to complement MRCA meeting

Behind the walls of the Alamo, on the lanes of La Villita, and down the Mission Trail, stroll the ghosts of legends. Everywhere you turn in San Antonio you are reminded of the American and Mexican heroes who have left their indelible mark on this city and on America's past.

San Antonio will host the Midwest Roofing Contractors Association's (MRCA) Annual Convention and Trade Show Nov. 10-13. Attendees should find the colorful and historic sights of this city a perfect complement to the meeting's own inspiring business programs and dazzling exhibits.

Business before pleasure

Business program topics for this year's Convention include:

- **A contractor information exchange.** These sessions will feature group discussions hosted by a panel of contractors and manufacturers' reps, who will focus on built-up, modified bitumen, EPDM and PVC systems. Each session will be offered twice.
- **Estimating.** MRCA members will be given the chance to bid on a hypothetical job before the Convention begins. During the estimating business program, these bids will be analyzed and discussed.
- **Contractor profiles.** Large and small contractors' shop and field operations will be discussed at this program. Profiled contractors will also discuss their most interesting new or reroofing projects.
- **Financial reports.** A certified public accountant with expertise in the construction industry will explain what bank and bonding companies look for in financial reports. Possible tax changes and their effects on contractors will be discussed as well as the repercussions of the recent rise in liability insurance premiums.
- **Reroofing tall buildings.** This program will address the unique demands reroofing tall buildings places on field operations.

Roofing's future discussed amidst relics of past

- **Modified bitumen systems.** Responses to a pre-Convention questionnaire that was sent to modified bitumen marketers will be analyzed at this session. Among the topics discussed will be each system's compliance with MRCA's MB-30 performance criteria. Session leaders will also cover the proper techniques of modified bitumen heating.
- **Contracting with computers.** This session will explore the use of computers for estimating and job costing.
- **The thermal performance of insulation.** The aged thermal value of plastic foam insulations will be the chief topic of discussion at this session.
- **Roof management and contract maintenance.** The National Bureau of Standards' roof management and maintenance study and recommendations will be reviewed during this session as well as contract maintenance issues.

Luncheon speakers provide diversion

To inform and amuse Convention participants in between business sessions and trade show visits, MRCA has lined up two interesting and entertaining speakers.

Hugh Sidey, whose column, "The Presidency," appears in *Time* magazine, will open the Convention with a talk about his experiences as a Washington journalist. He will be speaking at the Welcome to San Antonio luncheon in the Marriott Hotel on Monday, Nov. 11 at 12:15.

Sidey's 25 years covering the American presidency is the longest anyone has spent on that beat. He has followed the winners and losers of every presidential primary and election campaign since 1960, and has become familiar with the last seven presidents, interviewing them in the Oval Office and in their living quarters. Sidey has been a witness to many dramatic world events. He was with Nixon during his triumph in Peking, and he was with Kennedy when he was assassinated in Dallas.

Tuesday's Exhibitor Luncheon will feature Jim Bouton, an all-star pitcher, 20-game winner for the Yankees and a World

Hugh Sidey will open the Convention with a talk about his experiences as a Washington journalist.

Series hero. Bouton amuses audiences with stories of his years in baseball, told in the same funny and irreverent style that made his 1970 book, *Ball Four*; a best-seller.

Bouton retired from baseball in 1970 to become a sportscaster for WABC-TV in New York. There, he helped the news program climb from last place to first in the ratings. In 1978, he became the first athlete to successfully return to a major league sport after an eight-year absence.

Since then, Bouton has appeared on talk shows, published articles in national magazines, written several books and starred in a network situation comedy that was based on one of his works. Today, he operates his own product development company, where he has pioneered such commercial successes as Big League Chew—shredded bubble gum in a tobacco-style pouch.

Don't forget the Alamo

Visiting the beautiful and fascinating city of San Antonio without sampling at least some of its sunshine and sights is consid-

ered a crime in several Midwestern states.

Many of the sights for which this city has become famous are located within walking distance of the Convention Center. The best known attraction is, of course, the Alamo, where 187 men, including Davy Crockett and Jim Bowie, fought and died in the name of Texan independence. Nestled in the heart of the downtown area, the Alamo is just a few blocks from most of the hotels.

The Paseo del Rio (the Riverwalk), La Villita (the Little Village); El Mercado (the Mexican marketplace); and HemisFair Plaza may not be as famous or dramatic as the Alamo, but each offers its own brand of excitement to the adventurous wanderer.

■ **Paseo del Rio.** The Riverwalk is an oasis of peace and quiet 20 feet below the hustle and bustle of downtown San Antonio. As the walk follows the winding San Antonio river, it passes a colorful collection of sidewalk cafes, specialty

MRCA exhibitors list

ACA Products, Inc.
Booth 507

Aeroil Products Co., Inc.
Booths 109, 110, 111, 112, 113, 114

Alkor, Division of Hedwin Corp.
Booths 700, 701, 702

Allroof International, Inc.
Booth 338

American Associated Cos.
Booth 213

American Hydrotech, Inc.
Booths 438, 440

American Roof
Booth 585

American Roofing Corp.
Booths 101, 102

Apache Building Products Co.
Booths 310, 312

Architectural Materials International
Booths 591, 606

Architectural Roof Metals
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Associated Foam Manufacturers, Inc.
Booth 200

Atlas Bolt & Screw Co.
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Barra Corp. of America, Inc.
Booth 703

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Bond Cote Systems
Booths 246, 248, 250

Bostitch Division of Textron
Booth 471

Buildex Division of ITW
Booths 261, 263

Burners, Inc.
Booth 447

Cant Products, Inc.
Booth 546

Carlisle SynTec Systems
Booths 104, 105

Carpenters Insulation
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The Celotex Corp.
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Clearfield Conveyors, Inc.
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Cleasby Manufacturing Co., Inc.
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Columbine International, Ltd.
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Consolidated Fiber Glass Products
Booths 483, 485, 582, 584

Construction Fasteners, Inc.
Booths 401, 403, 500, 502

Contractors Guide
Booth 422

Contractors Insurance Exchange of Texas
Booth 604

Cooley Roofing Systems, Inc.
Booths 376, 378

Dibiten USA
Booths 204, 206

Diversitech General Building Systems
Booths 254, 256, 258, 273, 275, 277

Dow Chemical U.S.A.
Booths 237, 239

Dow Chemical U.S.A./Tyrin CPE Group
Booths 220, 222

Duro-Last Roofing, Inc.
Booths 232, 234

Dynamit Nobel of America
Booths 539, 541, 543

Elastic Materials, Inc.
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Elco Industries, Inc.
Booths 551, 553

Elk Corp.
Booths 516, 518

Evanite Permaglas, Inc.
Booths 344, 346

Fabco Fastening Systems
Booths 473, 475

Fashion, Inc.
Booth 223

Firestone Building Products Co.
Booths 253, 255, 257, 352, 354, 356

Flame Engineering, Inc.
Booths 515, 517

Foremost Manufacturing Co., Inc.
Booth 229

Futura Coatings, Inc.
Booth 587

boutiques, nightclubs and restaurants with international cuisine.

■ **La Villita.** Also along the banks of the river, this original San Antonio settlement is home to local artists who sell their wares and demonstrate their crafts in restored historic stone houses. La Villita also has a quaint collection of shops, restaurants and night-time gathering spots.

■ **El Mercado.** This bustling Mexican marketplace is a cobblestone pedestrian mall complete with arts and crafts shops, clothing boutiques, jewelry stores, restaurants and a farmer's market—all with a "south-of-the-border" flavor. At most times of the year, the market's activities are spiced with the sounds of traditional Mexican mariachi bands or other musical groups.

■ **HemisFair Plaza.** Home of the 1968 World's Fair, this sight features the 550-foot Tower of the Americas. From the revolving restaurant or observation deck at the Tower's summit, one can see

the city spread below. Also located at the Plaza is the Institute of Texas Cultures, where 27 different ethnic cultures are represented.

San Antonio also boasts a world-class zoo, which is located in Brackenridge Park; a 17th century Spanish Governor's Palace; restored Victorian mansions in the King William historical district; Oriental-style sunken gardens; and a variety of museums.

Dining San Antonio-style

For some travelers, eating is simply a way to fuel up; for others it's a way to explore. The short sampling of San Antonio eateries here is for Convention attendees with more adventurous palates.

■ **Arthur's,** 4001 Broadway on the Boardwalk; 826-3200. The Tabatabai brothers have succeeded in making this one of San Antonio's outstanding haute cuisine restaurants. The emphasis is on freshness, with the finest ingredients prepared for the most discriminating

Visiting San Antonio without sampling at least some of its sunshine and sights is considered a crime in several Mid-western states.

GAF Corp.
Booths 309, 311, 313, 408, 410, 412

Gaco Western, Inc.
Booths 511, 513

Garlock Equipment Co.
Booths 459, 461, 463, 465, 467, 558, 560,
562, 564, 566

Gates Engineering Co., Inc.
Booths 385, 387, 484, 486

Genstar Roofing Products Co.
Booths 439, 441

Georgia-Pacific Corp.
Booths 153, 154, 155

Globe Industries, Inc.
Booths 324, 326

The Goodyear Tire & Rubber Co.
Booths 449, 451, 453, 455, 548, 550,
552, 554

Goss, Inc.
Booths 404, 406

W.R. Grace & Co.
Booths 231, 233

Greenstreak
Booth 372

Guaina Corp. of America
Booths 571, 573

Hi-Spec Polymer
Booth 583

Humane Equipment Co.
Booth 115

IVS, Inc.
Booth 411

Impex, Inc.
Booths 260, 262

Insulation Systems, Inc.
Booth 343

International Permalite, Inc.
Booths 429, 431, 528, 530

Jimco Products, Inc.
Booths 226, 228, 230

Karnak Chemical Corp.
Booth 100

Kelly Energy Systems, Inc.
Booths 353, 355, 357, 452, 454, 456

The Kendall Co.
Booths 345, 347

Kirby Fiberglass, Inc.
Booth 242

Kold King, Inc.
Booth 202

Koppers Co., Inc.
Booths 330, 332

Lift Conveyor
Booths 150, 151, 152

Liquid Asphalt Systems, Inc.
Booths 460, 462, 464, 466

Little Giant Industries
Booth 549

Lucas Sales Co., Inc.
Booth 380

The Lutravil Co.
Booths 348, 350

MM Systems Corp.
Booth 415

MacLean-Fogg
Booth 281

Manville
Booths 329, 331, 333, 428, 430, 432

Marathon Roofing Products, Inc.
Booth 214

W.R. Meadows, Inc.
Booth 221

Metal-Era, Inc.
Booth 328

Midwest Sales Co.
Booths 442, 444, 446

Milliken & Co.
Booth 520

Mineral Fiber Manufacturing Corp.
Booth 240

Modi-Systems, Inc.
Booth 224

Monsey Products Co.
Booths 340, 342

Morgan Manufacturing Co.
Booths 122, 123

N.T.B. Fastening Systems, Inc.
Booths 423, 425, 427

National Roofing Contractors Association
Registration area

Nord Bitumi U.S., Inc.
Booths 575, 577

Olympic Fasteners Corp.
Booths 120, 121

Owens-Corning Fiberglas Corp.
Booths 373, 375, 377, 379, 381, 472, 474,
476, 478, 480

Paneltherm, Inc.
Booth 567

Petersen Aluminum Corp.
Booths 435, 437

Phillips Fibers Corp.
Booth 362

Pittsburgh Corning Corp.
Booth 336

Politex U.S., Inc.
Booth 526

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For some travelers, eating is simply a way to fuel up; for others it's a way to explore.

palates. The restaurant has received a Travel/Holiday Fine Dining Award. Expert service and stylish surroundings complement the imaginative preparations of seafood, beef and fowl. The Cabaret Bar is a favorite watering hole for locals and visitors who enjoy contemporary jazz. Price range: expensive. Happy hour 4 p.m. to 7 p.m.

■ **Fig Tree Restaurant**, 733 Riverwalk/Paseo De La Villita; 224-1976. Housed in the last private dwelling in La Villita, this restaurant is recognized as one of the best in the city. Crown rack of lamb, beef Wellington, quail and white veal are some of the specialties. Russian caviar; oysters sauteed with bacon, onion and sour cream; smoked salmon; the Fig Tree's very special hors d'oeuvres and other gourmet fare are offered as appetizers. Entrees are served with a demitasse of broth and sorbet. Price range: expensive.

■ **La Fogata**, 2427 Vance Jackson; 340-1337. Host Jesse Calvillo takes justifiable pride in his restaurant, which has been honored by both *Gourmet* and *Texas Monthly* magazines. Calvillo claims it is the only restaurant in San Antonio that serves exclusively Mexican cuisine. Among the popular favorites are tacos al carbon, quesada flameado, chicken flautas, cebollas al carbon, chicken mole, carne a la Tampiquena and a delicious alambre al carbon (Mexican shiskabob). Guava and mango empanadas and flan are wonderful dessert specialties. Price range: inexpensive.

■ **Old San Francisco Steak House**, 10223 Sahara; 342-2321. When San Antonians want to impress out-of-state visitors with the quality of Texas beef or special seafood selections, this is where they bring them. Live piano music. Price range: moderate to expensive. Reservations suggested.

Poly Fab Industries, Inc.
Booth 323

Polyseal/Division of Ital-Fintex Corp.
Booths 424, 426

Portals Plus, Inc.
Booths 419, 421

Power Marketing Group, Inc.
Booth 349

Publishers For Conventions, Inc.
Booth 308

RMAX, Inc.
Booths 305, 307

The Rawlplug Co., Inc.
Booths 579, 581

Reeves Roofing Equipment Co., Inc.
Booths 265, 267, 269, 364, 366, 368

Reimann & Georger, Inc.
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Designers reap benefits from use of brand name specs

The use of brand name or proprietary specifications has long been a matter of controversy. On federal projects and many other public projects, the use of these types of specifications has been prohibited as anti-competitive. Even on private projects, architects, engineers and specification writers are frequently under pressure to allow open competition in the hope of reducing prices. And yet, the use of proprietary specs is becoming more common, especially in the roofing industry where an unusually large number of roofing materials and systems, coupled with rapid advances in roofing technology, has created increased competition between manufacturers and systems.

As proprietary specs become more prevalent, specifiers and contractors are finding their use offers both advantages and disadvantages to the bidding process. There are also legal ramifications that must be considered before specifiers include proprietary specs in their work or contractors bid on jobs containing them.

Getting specific

A proprietary specification is one that in some way directs, encourages or limits the bidder to a particular brand name or product. This can be accomplished in many ways. A specific brand or type of material or product may be specified. Or, several brand names may be listed or "approved equal." (A specification might read, for example, "Acceptable manufacturers will be ABC Co., XYZ Co. or approved equal.") Some specifications, even though they do not contain brand limitations, may still be "written around" the size, functions or capabilities of a product in such a way that true product competition or substitution is virtually impossible.

Joseph H. Kasimer is a partner in the Washington, D.C. and northern Virginia law firm of Kasimer & Ittig, P.C. The firm limits its practice to construction contract matters.

More contracts make substitutions difficult

by Joseph H. Kasimer, Esq.

Any one of these techniques may effectively restrict the bidder's options. A recent study has indicated that when a particular manufacturer's brand is specified for use, the named brand is actually installed nearly nine times out of 10.¹

From the designer's point of view, the use of proprietary specs offers numerous benefits. By limiting specifications to certain brands or types of products that have been deemed to establish high levels of durability, appearance or performance, proprietary specs may help ensure the quality of the project.

Proprietary specs may also allow the designer to limit the choice of products to those he or she knows. If the specifier is familiar with a product's size, properties, capabilities, functions and track record, he or she will be better able to coordinate other sections of the specifications with the product and more accurately estimate the cost and other consequences of the product's use.

Limiting the choice of products also gives the specifier the ability to simplify and streamline the drafting of specifications, allowing the use, in many cases, of the manufacturer's recommended specs.

There are, however, many disadvantages to the use of proprietary specs. These include:

- increased construction costs;
- the lack of opportunity for new products to be accepted;
- decreased competition, particularly in roofing, where many contractors are not approved applicators of the specified products and may be discouraged from bidding, or who prefer to work with certain products and may not bid on an unfamiliar project; and
- the added risks to the prime contractor, including project delay, if the submission of a non-specified product brand is considered.

Proposing a substitution may expose the contractor to additional problems.

Pinch-hitting products

Virtually all contract documents, proprietary or not, allow the contractor to submit substitute or "equal" products for those that are specified with the knowledge (or hope!) that the substitution will be accepted. However, there are many problems associated with the acceptance process.

The first and most apparent problem is obtaining approval for the substituted or allegedly equal product. Many architects and engineers, particularly on private projects, are very resistant to changes in the specs. Indeed, on a private project there is little incentive to make changes because a lump-sum bid for the work has already been obtained, and the changes offer little benefit to the owner in exchange for a host of potential problems.

On federal, state and other public projects, contractors may have a greater ability to obtain acceptance of substitutions because of the regulations that require free competition and approval of equal products. Nevertheless, some resistance exists even on these projects.

Often, the specifier is reluctant to accept a substituted product because he or she is concerned that the supposedly equal product is, in fact, inferior and is being submitted solely to save the contractor money. Also a matter of concern is the possible liability to which the specifier will be vulnerable if he or she approves a product as a substitute or equal and it is later discovered that the product conflicts with other portions of the installation, cannot be obtained in time to meet deadlines or creates some other unforeseen problem.

Architects and specification writers are also unhappy with the amount of research they say is required to make sure the proposed substitution or "equal" product is compatible with the remainder of the contract documents. This research places undue risk and unnecessary expense on the architect or specifier, they say.

To shift some of the burden from the designers to the contractors, more and more contracts are containing clauses which ask contractors to warrant that any changes or substitutions made will not delay the project completion date, that the contractor will ultimately submit no claims

arising directly or indirectly from the substitution, and/or that the contractor will pay the cost of any redesign occasioned by the substitution.

Seeking approval

To obtain approval for a substitution, the contractor should be prepared to make a full and complete presentation of all relevant matters. Some of the key points that should be covered in the presentation include:

- Equivalency must be clearly documented and proven. This can be accomplished through the manufacturer's literature, standardized tests on the product, certifications, successful installations at other facilities, etc.
- Where appropriate and practical, a tour of other projects where the product is currently installed should be scheduled.
- Justifications should be prepared for price differences between the specified product and products that are substitutions rather than "equals."
- Other benefits to the owner and architect (such as faster delivery, longer warranties, cheaper maintenance procedures, etc.) should be emphasized.
- The specified product should not be denigrated. A better approach is to attempt to show why the substituted product is either equal to that specified or has other benefits.

The contractor should recognize that proposing a substitution may expose him or her to additional problems. Commonly, a request for a substitution or approval of a product as equal may take a significant amount of time while information is reviewed and transmittals are passed between building team members. Regardless of the approval process' outcome, the amount of time lost during this procedure can greatly impact the overall project schedule and may affect the contractor's ability to complete the contract in a timely manner. While the substitution is being reviewed, the contractor may also be prevented from taking advantage of favorable weather, forcing the roofing work into a less productive and more expensive season. Such delays generally lead to costly arguments about who's to blame.

Notes

¹ Specification Prospective: "A Manufacturer's Guide to the Holding Power of Specifications," can be obtained from Kathryn J. Flannigan, Sweets Division, McGraw-Hill Information Systems Co., 1221 Avenue of the Americas, New York, N.Y.

NRCA Convention attendees will get more than just deserts

The entrepreneurial spirit lives in Vegas.

Without it, the Strip would be just another barren, dust-blown, silent stretch of land, and the tumbling tumbleweeds would be the only action in town. But a group of individuals who saw opportunity where everyone else saw desert used their keen business sense and a combination of timing, marketing and moxie to turn this piece of forsaken real estate into one of the glitziest, most frenetic, 24-hour-a-day entertainment spots in the world.

It's the kind of setting shrewd, hard-working businesspeople feel at home in, and the perfect location for NRCA's 99th Annual Convention and Exhibit.

Setting the stage

Las Vegas will host the Association's meeting Feb. 9-12, 1986. The theme of the 1986 assembly is "Setting the Stage for Centennial," in recognition of the Centennial activities that are planned throughout the following year. The celebration will build to a climax at the 100th Convention to be held in San Francisco in February of 1987.

1986 show leaves nothing to chance

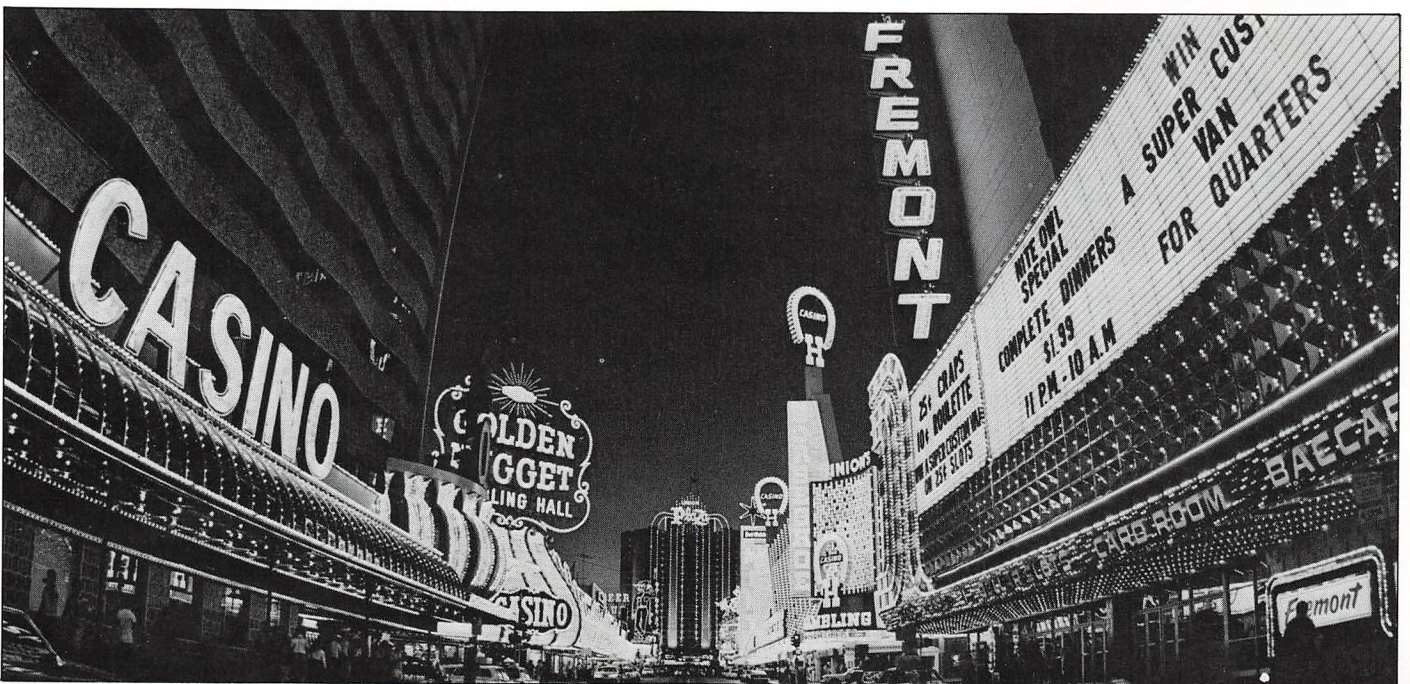
The Las Vegas Strip beckons visitors with neon-tinted nightlife.

The Association was begun in 1886, making it the grandfather of construction industry trade associations.

Speak to me

A diverse speaker line-up will help generate excitement at the Vegas meeting. Henry Kissinger, former secretary of state and assistant to the president for national security affairs, and recipient of the Nobel Peace Prize, will address the Opening Luncheon audience Monday, Feb. 10. Willard Scott, the *Today* show's enthusiastic weatherman, will speak at the Member Breakfast on Tuesday. Scott plans to discuss his rather irreverent approach to forecasting. (He is perhaps best known for appearing on *Today* dressed as Carmen Miranda to raise funds for the U.S.O. Even annoyed NBC executives admit he made broadcasting history.)

Kurt Carlson, a roofing contractor from Loves Park, Ill., will talk at Wednesday's Recognition Luncheon about his experiences as a hostage in the recent hijacking of TWA Flight 847. Carlson, a major in the Army Reserve, was on assignment in Cairo when the plane was captured by terrorists.



Sam will be waiting to get you a drink and play it again, and the French Foreign Legion will be present to make sure you stay in line.

Learn as you earn

You can bet on taking home some practical approaches to business problems by attending the general sessions and workshops that are part of the Convention program. For an Early Bird Workshop on Sunday, Feb. 9 titled "Hot Stuff: a Candid Look at NRCA's *Quality Control in the Application of Built-Up Roofing*," registrants will be transported to a nearby television studio. There they will view a lively panel discussion, which will be filmed along with the audience's feedback for Monday's segment of "Roofing Today," NRCA's closed-circuit TV show. Other Early Bird sessions will feature discussion and critique of contractors' sales presentation styles, and a lecture on the ins and outs of gaming—in other words, how to improve your odds at the tables.

Philip Kuehl, associate professor of marketing at the University of Maryland, will lead Monday's general session on "Planning for Small Business." Dr. Kuehl will talk about exploring the roofing contractor's strengths and weaknesses in the marketplace, and how to develop and use strategic planning assumptions.

Other educational and rap sessions will focus on such topics as computers, insurance, sales force motivation, bonding, health and safety, and coal tar overruns, among others.

Stop, look and listen

Once again, you will have two methods of keeping abreast of everything that's happening at the meeting: *Convention Spec*, the Association's daily newspaper delivered to your hotel room door, and "Roofing Today" (formerly NRCA TV Today), the television show produced especially for NRCA Convention attendees and broadcast each day at 6, 7 and 8 a.m.

The best floor show in town

The NRCA Exhibit is an integral part of each Convention; this year more than 300 companies will display the most recent industry innovations in the Las Vegas Convention Center.

As usual, the grand opening of the exhibit hall on Sunday evening will be an extravaganza. Who would believe roofing products could be this exciting? You might, when you see the local performers glittering with sequins welcoming attendees or when you step inside to enjoy food and drink while you wander among the booths. This event always instills a sense of camaraderie and celebration in attendees that prevails for the rest of the week.



A still from the movie *Casablanca*.

A little night music

Of all the gin joints in all the towns in all the world, you have to walk into Rick's. You really do!

For everyone who has ever seen the film "Casablanca" (and isn't that *everyone?*), Monday night will be a journey into the past as Rick's Cafe Americain is recreated down to the last detail for NRCA's annual Convention theme party. Rick, Ilsa and (of course) Sam will be waiting to get you a drink and play it again, and the French Foreign Legion will be conspicuously present to make sure you stay in line.

The Convention culminates in the annual Dinner Dance Wednesday night. Comedian David Brenner will entertain at this semi-formal event. But the real star of the evening will be the recipient of the J. A. Piper Award, NRCA's highest honor. Come and share the anticipation.

We're accommodating

The headquarters hotel for the meeting is the Las Vegas Hilton, which is adjacent to the Convention Center. Attendees will also be staying at the Landmark, which is across the street from the Center, and at the Sahara, a short bus ride away.

Mark the Convention dates on your calendar, and contact the NRCA Meetings and Conventions Department for more information.

International experts gather to discuss common roofing concerns

As building designs have become more universal, the differences in roofing practices from country to country have diminished. At the same time, rapid advances in roofing technology have made the need to exchange information vitally important to building owners, contractors and designers around the world.

Both the universality of roofing concerns and the global roofing community's need for information were in evidence at the Second International Symposium on Roofing Technology. The Symposium, which was co-sponsored by NRCA, the National Bureau of Standards (NBS) and the International Union of Testing & Research Laboratories for Materials and Structure (RILEM), was held Sept. 18-20 at NBS' facilities in Gaithersburg, Md.

The meeting attracted 917 roofing experts, some coming from as far away as the People's Republic of China and Australia. They came to learn from each other and share their roofing experiences and discoveries as well. They gathered both informally to discuss their concerns with colleagues from around the world, and formally to hear the presentation of 80 juried papers on the science and technology of roofing.

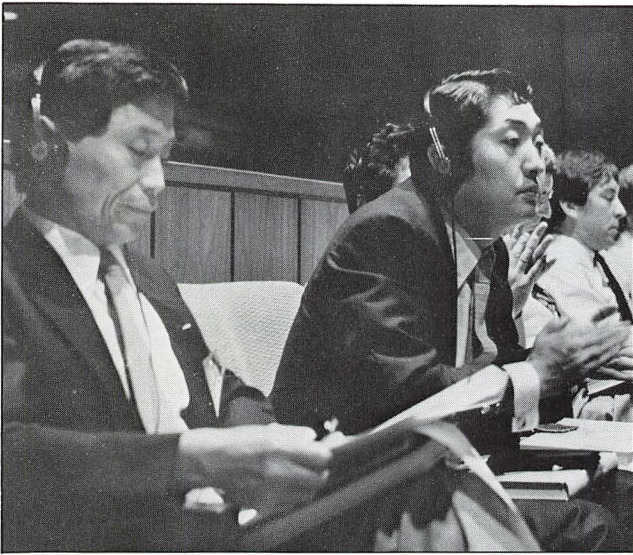
As the participants registered, they were each given a fat packet of materials and a thick hardbound book containing all of the Symposium papers being presented. Carrying this cumbersome load from session to session for three days made them all "built-up" roofing experts by the end of the meeting.

Einer M. Paulsen's paper, titled "Aging Characteristics for Polymeric Roofing Sheets," was inadvertently omitted from the hardbound *Symposium Proceedings*. Interested parties may obtain a copy of this paper by contacting NRCA. Address your request to Paulsen Paper, NRCA, 8600 W. Bryn Mawr, Chicago, Ill. 60631. This request may also be made by calling NRCA at 312/693-0700.

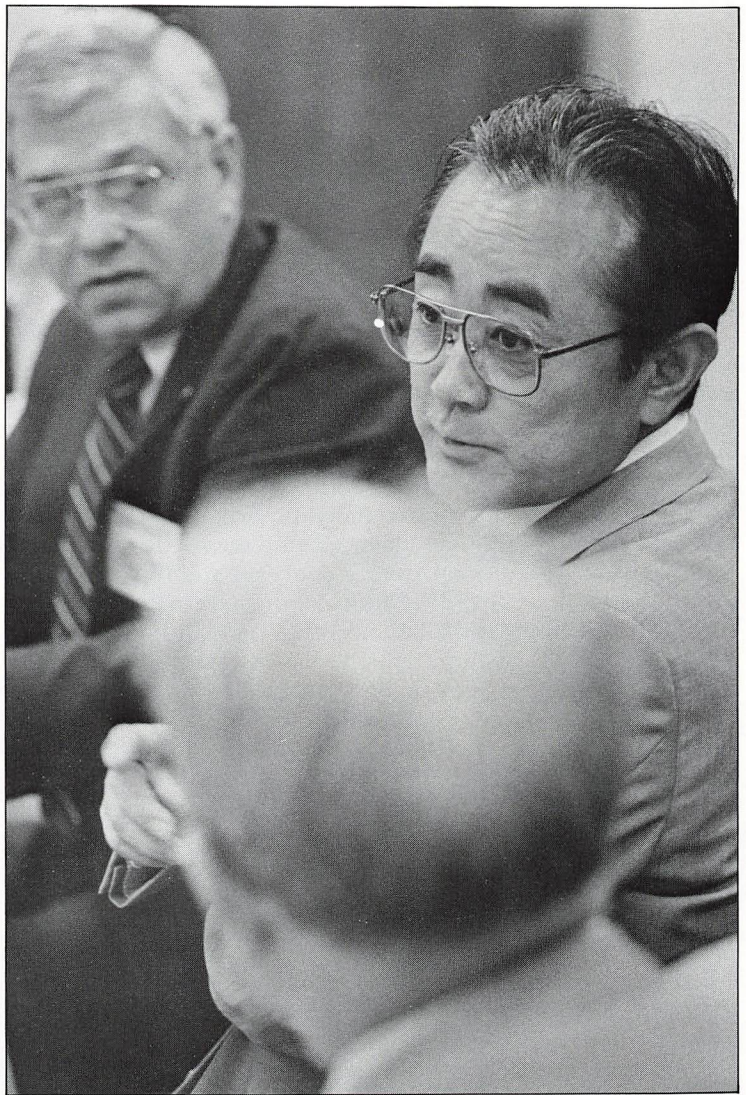


A translator sits in her booth (left) and interprets a French presentation for English-speaking attendees. Linda Methling (below) waits behind the Symposium registration table to answer questions or hand out materials to participants.

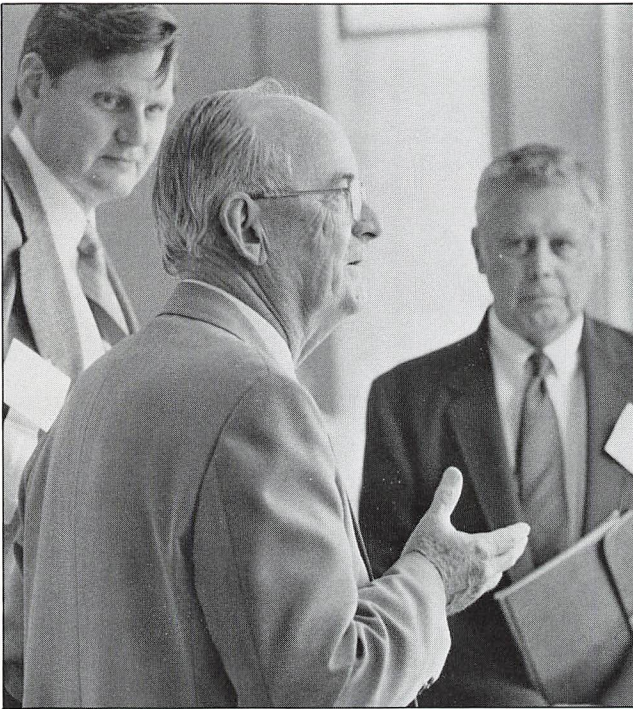




With translation headphones on and tuned to a familiar language, Symposium attendees (above) listen intently to a speaker's presentation.



Michio Koike, a professor at the Tokyo Institute of Technology (above, center), discusses roofing in Japan with fellow opening session speakers, William Allen of Bickerdike Allen, Partners, London, (with back to camera) and Melvin Kruger of L.E. Schwartz & Son, Inc., Macon, Ga. Three Symposium attendees meet outside the auditorium (left) for one of the many informal discussions that took place during the three-day meeting. (Below, front row, from right) Immediate Past NRCA President Wayne Mullis, NRCA President Country Harrison, Melvin Kruger, Michio Koike, Gerald B. Curtis and William Allen listen to RILEM President James R. Wright's presentation at the Symposium opening session.



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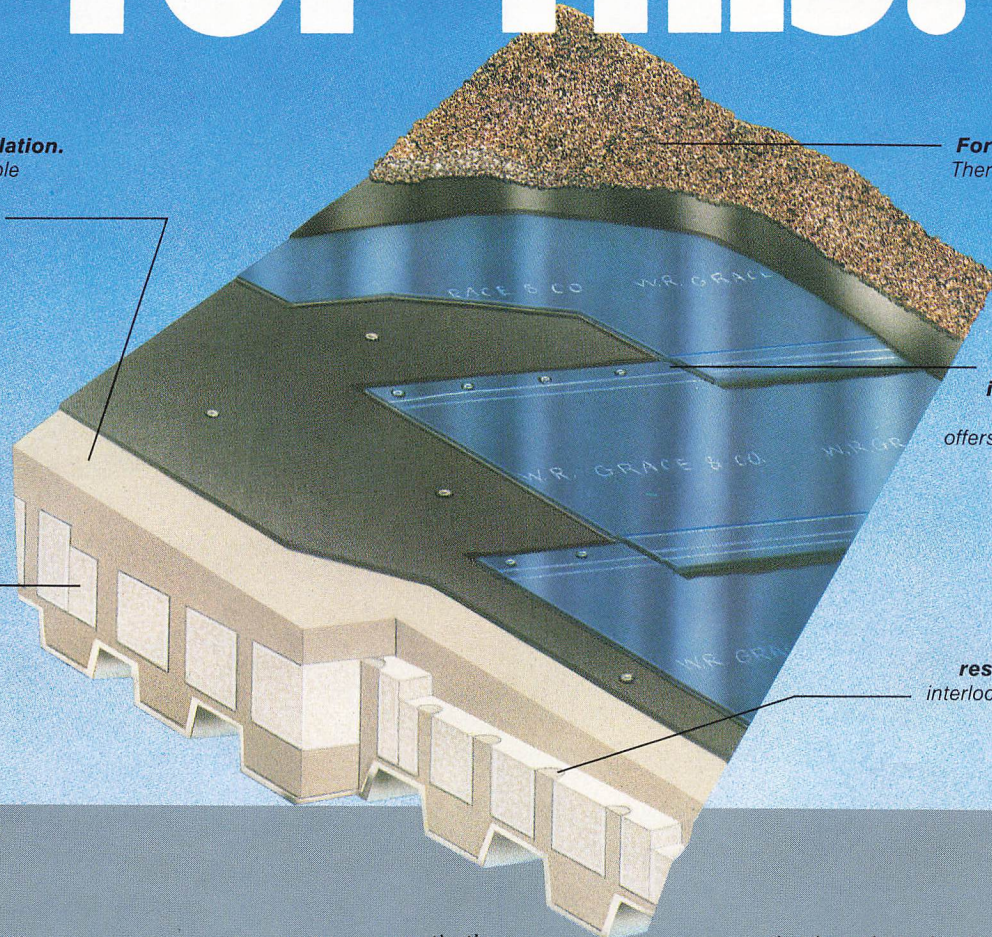
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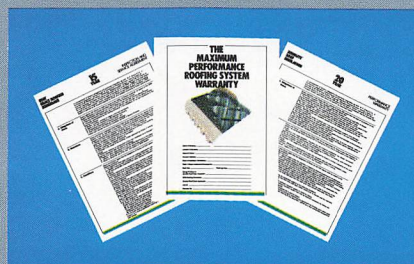
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Check #23 on Reader Service Card

Beginning in 1986, NRCA officers will go Ma Bell one better when they go "on the road again" to tell construction industry members about contractor professionalism.

Wayne Mullis, immediate past president, went days without seeing his old Arizona home last year so he could talk to roofing contractors about promoting their companies. This year, NRCA will concentrate on sending its representatives to a variety of meetings where other members of the construction community will be present.

"A building owner sees the roofing contractor in a much different light than, say, the general contractor," Executive Vice President Fred Good explains. "Certainly, everyone is interested in quality workmanship. But we are finding that groups define that quality in various ways, because their needs are different."

Construction industry surveyed

To help Association officers address pertinent topics, NRCA developed a survey that is being sent to a randomly selected group of construction industry members. "What is your criteria for choosing a professional roofing contractor?" and "What specific problems do you have in dealing with roofing contractors?" are typical survey questions. The responses will be used to develop individual speaker agendas, focusing on the needs of particular groups.

"So far, all the responses have clearly shown a need for better on-the-job communication, especially in the area of 'time of completion,'" Good comments. "Armed with this information, we can demonstrate to each group that we are aware of its concerns and are willing to work together to find a solution. This might help alleviate false expectations."

Survey results have also revealed that general contractors are concerned about scheduling roofing contractors efficiently

without disrupting or delaying other subcontractors. "All too often, contractors are asked to apply a membrane at the same time that another subcontractor is on the roof," NRCA Technical Services Director Bob LaCrosse says. "The result can be a small tear or bubble that goes undetected at the time, but can cause the entire roof system to fail later on. If we could make more general contractors aware of this problem, we would see a demonstrable improvement in the success rate of our current roofing systems."



The Association believes that discussion of this kind might very well help both parties establish a more effective working relationship. And, according to Public Relations Manager Rob Eiseman, information from these questionnaires will help the NRCA contractor prepare a more effective new business presentation, one that addresses the specific concerns of general contractors, building owners and other decision-makers.

**NRCA
spokespeople
to reach
out
and teach
someone**

**Wayne Mullis talks about
quality control at the Con-
struction Specifications
Institute Convention in
Orlando.**

The printed word can still pack a punch, but the impact of a message delivered in person will be greater—Mullis.

The personal touch

Mullis, possibly NRCA's most traveled past president, thinks that in the case of public speaking, the medium is truly the message. The printed word can still pack a punch, he says, but particularly in today's visual society, the impact of a message delivered in person will be greater.

"When you talk to people, you can monitor their reactions and make the proper adjustments in your presentation," Mullis says. "There are just too many uncontrollable factors when a person tries to read an article or story, not the least of which is time." In a live format, a speaker has a chance to interact with his audience, editing his remarks to address specific questions. The opportunity to discuss an issue openly will permit seemingly unrelated issues to surface that would not be included in an article on the speech topic, he adds.

A model for success

At the recent Construction Specification Institute Convention in Orlando, Mullis and

Vice President Mike Beldon addressed 400 specifiers, consultants and architects about the importance of pre-qualifying roofing contractors and the need for quality control throughout membrane application. A previous roundtable discussion sponsored by *Architectural Record* had revealed growing concern on the part of design community representatives that poor workmanship was causing a major number of roofing system failures. By facing this problem head on and discussing it, the two NRCA officers felt they were able to provide practical guidelines to assure better quality workmanship in the future, and establish a positive image of the Association.

The success of this kind of approach was the basis for NRCA's traveling speaker program.

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Check #21 on Reader Service Card

When Ronald Scott engineered a new roof for the Air Force Academy Chapel in Colorado, he had to work around both serious design problems and tourists. Scott said that when his Denver-based engineering firm, Rooftech Consultants, Inc., began work on the repair design, the Air Force emphasized that the work had to be completed without shutting the chapel down. "And the Air Force was equally emphatic that we not disturb the building's design," he added.

The Chapel's striking style makes it one of the top tourist attractions in Colorado. But its unique design is also a primary reason the roof is in need of repairs just nine years after its first renovation. The building consists of 17 sharply pointed spires, each 150 feet tall, reaching up into the clear-blue Colorado sky. The awe-inspiring structure is composed of aluminum, structural steel and glass.

A combination of building location, materials and design makes the structure vulnerable to thermal movement caused by atmospheric heat and shifting due to high winds off the Rocky Mountains. The motion is especially hard on the sealant holding the building's joints together.

"Silicon sealants have improved over the past decade so you generally can get 15 years from these kinds of repairs," says Scott. "But this roof is anything but typical.

Because of its style, the Air Force will probably have to fix the roof every 10 years or so."

After Rooftech completed its design for the reroofing job, the work was advertised for bids. This was the first time the job was open to all contractors since the chapel was completed in 1963. In the past, the same contractor did all the repairs because he was the only one who owned scaffolding capable of climbing the spires.

"One thing we're going to do to help the Academy save money is recommend they buy their own rig so they won't have to depend on one source for repairs," Scott says. "The construction documents don't require that the successful bidder own special scaffolding."

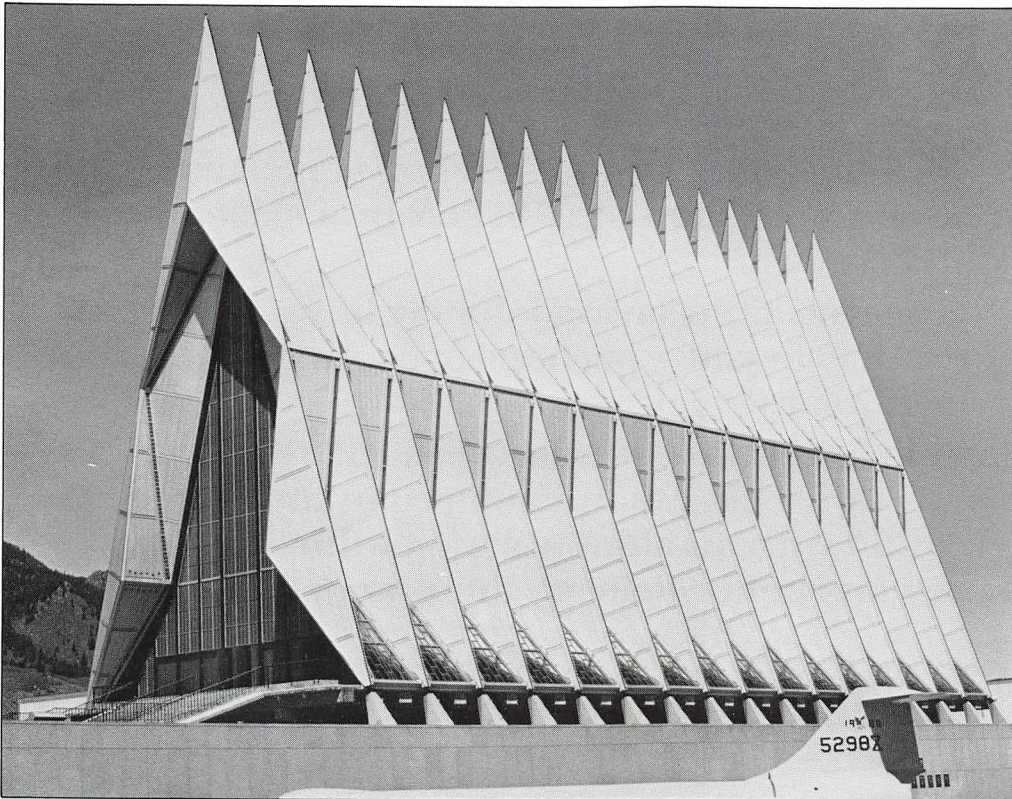
Scott also says that the design blueprints his company is providing will give the Academy a useful guide for minor roof work as well as future major overhauls.

Rooftech Consultants is an engineering firm that specializes in roofing, waterproofing and damproofing work for commercial, industrial and government buildings. It has also done work for such clients as the city of Boulder, the State of Colorado and the University of Colorado.

continued on page 51

Consultant designs reroofing around tourists

Colorado's Air Force Academy Chapel, with its 17 pointed spires, is a popular tourist attraction. However, its beautiful design attracts maintenance problems that must be corrected every 10 years.



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Check #6 on Reader Service Card

Tulsa's Eastland Mall is finally getting a roof. After the mall's original developers went bankrupt and abandoned the project, the half-completed structure stood empty for 10 years. Finally, the property was purchased by Melvin Simon & Associates, Inc., (MSA) of Indianapolis, one of the largest mall developers in the country. MSA has resumed work on the project, and it is scheduled for completion by spring of 1986.

Eastland's roof will get the standard Mel Simon treatment—a built-up system from Owens-Corning Fiberglas Corp. "The standing specification for Owens-Corning's built-up roofs is a result of our experience, since 1972, with the toughness of the product and its resistance to ultraviolet rays," says Ed Barstow, project manager at MSA. "It's a leak-proof roof."

Another advantage of an Owens-Corning built-up system is the guarantee the company offers if the roof is installed by an Owens-Corning Certified Roofing Contractor (CRC). In some cases Owens-Corning will guarantee the roof for up to 20 years.

The construction MSA specifies for its roofs is identified as the 43-IG roof. It consists of Fiberglas® roof insulation and four plies of Perma-Ply-R® continuous strand Fiberglas roofing felt with a gravel cover.

Eastland's 43-IG roof, which is being installed by Associated Roofing Co. of Fort Worth, an Owens-Corning CRC, will feature 2¼ inches of Fiberglas roof insulation. All flashing will be done with three plies of Fiberglas.

Another Simon project getting an Owens-Corning roof is the East Towne Mall in Knoxville, Tenn. The 1-million-square-foot structure is a joint venture of MSA and JCP Realty, Inc., of New York. East Towne's 43-IG roof has a 10-year Owens-Corning-backed guarantee.

Oak Ridge Roofing, a local CRC, installed the East Towne roof, which consists of 3 inches of Fiberglas roof insulation and four layers of Perma Ply-R secured with mopped-on hot asphalt. Derbigum® flashing was used around the edges of the skylights and mechanical units on the roof.

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Check #2 on Reader Service Card

Bob Renfroe, owner of Enterprise Roofing Services of Concord, Calif., was more than a bit baffled by a letter he received recently from the Environmental Protection Agency (EPA), according to a report in *From the Rooftops*, the newsletter of the Associated Roofing Contractors of the Bay Area Counties, Inc. The letter was sent to Renfroe's company after an EPA-retained engineering consultant inspected the company's grounds.

In its letter, EPA accused Enterprise of failing to comply with the Agency's spill prevention control and countermeasure regulations. The letter stated that the regulations "pertain to the prevention of oil spills from reaching the waters of the United States." Enterprise was at fault, according to the letter, because it had not taken adequate measures to prevent accidentally spilled asphalt from reaching Mount Diablo Creek. The creek is three-quarters of a mile away from the company's two bulk asphalt storage containers.

The letter also warned Renfroe that he could be fined \$5,000 for every day his operation was not in compliance with the regulations.

EPA wants Enterprise to protect the creek with a moat and berm system around the tanks to contain any potential spills. Renfroe expressed dissatisfaction with this solution, claiming it would be a costly and stupid move.

"The Agency does not seem to realize that roofing industry asphalt is a solid below about 300F, and could not flow to Mount Diablo Creek," Renfroe was quoted as saying in the newsletter. He went on to explain that if the tanks ruptured completely, the spilled asphalt would quickly become a solid, which could be removed with tools and machinery.

Renfroe contacted the Associated Roofing Contractors of the Bay Area Counties for help. John Upshaw, assistant executive director for the Association, called the EPA on Enterprise's behalf.

But even Upshaw's influence was not enough to sway the Agency. EPA representative Lauren Volpini told Upshaw that the asphalt is "a petroleum product, it's covered by the regulations . . . we have to protect ourselves." Volpini said that Enterprise had three choices: they could build the berms and moats, change the law or hire an engineering consultant to prove that the tanks did not pose a threat to U.S. waters. Enterprise chose the third course.

Professor Jerry Thomas of the University of California engineering school faculty was called in to analyze EPA's charges. He found several significant errors in the EPA site inspector's report. The most glaring error was the inspector's miscalculation of the bulk containers' capacities. The inspector believed the tanks held more than 1 million gallons of asphalt. The amount actually stored was 17,000 gallons.

However, the crux of the rebuttal Thomas prepared for Enterprise was the fact that asphalt spilling from the tanks would probably fan out in a radius of no more than 120 feet, far short of the 2,000 feet or more it would take to reach Diablo Creek.

Thomas had seen this fact demonstrated on a hot afternoon in Chicago several years before, when an asphalt tanker carrying 6,000 gallons of asphalt spilled its entire contents onto a flat city street. The asphalt fanned out 45 feet and solidified within that radius. Thomas used this incident as a basis for estimating the damage a spill at Enterprise would cause.

The EPA has not yet responded to Enterprise's rebuttal. It is anticipated that the Agency will retract its charges in the face of Thomas' testimony.

EPA fine irks contractor

IN BRIEF

■ **EPA issues new asbestos guide.** A guide to asbestos control recently issued by the Environmental Protection Agency (EPA) states that "the presence of asbestos in a building does not mean that the health of the building's occupants is necessarily endangered."

The EPA publication, which is formally called *Guidance for Controlling Asbestos-Containing Materials in Buildings*, but has been dubbed the "Purple Book," further notes that "material in good condition and with a low potential for future disturbance, damage or erosion may need no further action."

In his comments on EPA's new manual, John Welch, president of the Safe Buildings Alliance (SBA), said that asbestos removal often is unnecessary. He warns that unless the removal work is done by trained professionals it can actually increase exposures and risks to building occupants and removal workers.



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One day, I sat down and asked myself what the Kiker Corp. could do to create the image of a truly professional organization, a company respected and envied by the competition. I decided that to achieve this goal, everyone from the company's top man to the bottom would have to work together. A professional image, I realized, couldn't be gained overnight. As I continued to map out my strategy, I developed a checklist of qualities I consider important to a company's prestige.

As I see it, the first step toward achieving a professional image is for everyone to strive for top quality work and be concerned with being the best. But a truly professional organization doesn't stop there.

Keeping up appearances

I believe it is important for the entire company, including the office, warehouse and shop areas, vehicles, equipment, and personnel, to appear professional. This may sound corny, but I insist on wearing a tie to work. When I meet clients, I feel good because I am dressed as a professional. And, I can honestly say that this has made a difference in the way my presentations are received.

Kiker's operations have a professional shine both inside and out. Our office is kept clean, neat and professional-looking. It is carpeted, and believe me, there is no tar or roof cement on it. Our people are proud of the office. It has become everyone's habit to remove their shoes before entering the office area.

We keep our grass trimmed and maintain our flower beds. The warehouse and shop area are kept clean and orderly. We have a dumpster in the back for excess trash and garbage cans in the warehouse, so there is no excuse for pop bottles and lunch bags to be laying around. The employees also maintain a neat appearance, wearing uniforms that show the company name and color.

Kiker maintains a professional appearance even on the road. The company's entire vehicle fleet is periodically serviced and washed. All our trucks are painted alike with the same dark color to hide the spoils of our trade. The company's name and various other decals appear on the vehicles' sides.

I also think our phone manners say a lot. At Kiker, I am proud to say that the employees' phone manners have contributed much to our professional image. We also try to present our company professionally

on paper. We write letters on quality stationery, and we send proposals with a cover letter that includes commercial quotations and lists the company's previous projects, a little history and information about the firm, and a list of key personnel.

We stress to our personnel the importance of good customer relations while on the job. A little public relations work by the superintendent when he arrives on the job, before the work begins, goes a long way. We have not designed a company brochure yet, but I feel it is a good idea and plan to have one soon.

Community activities important

Another area I feel is important is participation in community activities and organizations. Bruce, my brother and secretary/treasurer of our firm, is past president of the University of Southern Alabama Alumni Association. He is volunteer director of communications for the Civil Defense and attends Kiwanis Club meetings every Wednesday.

Our office manager and secretary, Kathy Allums, is very active in the Jaycees. She has received numerous awards for her accomplishments both locally and nationally. She also recently participated in the Junior Miss America Pageant and is now working on the Alabama Deep Sea Fishing Rodeo. Of

Don McCrory is a member of NRCA and president of the Kiker Corp., Mobile, Ala.

**Success
depends
on
building
an image**

by Don McCrory

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Another area I feel is important is participation in community activities and organizations.

course, she has to take a little time away from the office for these projects, and many phone calls are made on company time to coordinate these activities, but look at the exposure she gains for our firm. These activities are a service to the community and a credit to Kiker. I am proud of her accomplishments and I will continue to encourage her.

Kiker is a member of the Associated Building Contractors, and I served as the group's membership chairman two years ago. We are also members of the Chamber of Commerce. I am active in the Abba Temple Shrine in Mobile and have served in the past as president of the greeters unit and chairman of the uniform units.

We also use the media for exposure. Besides regular radio advertising, we sponsor the University of Southern Alabama as well as the Atlanta Braves on radio.

These are my ideas for creating a professional image and gaining exposure. I hope some of them will help your firm as they have helped ours. In closing I would like to say: clean up your act, feel good about yourself and your company, and show yourself to be the professional that you are.

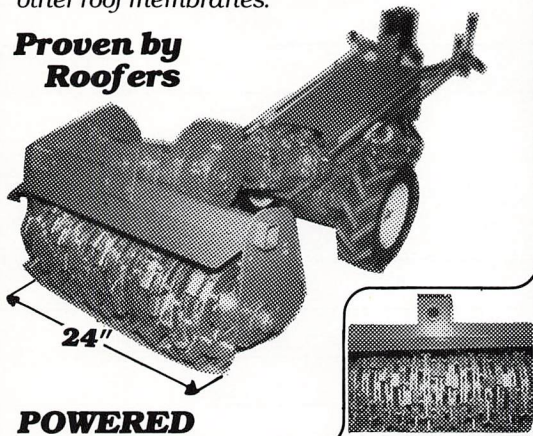
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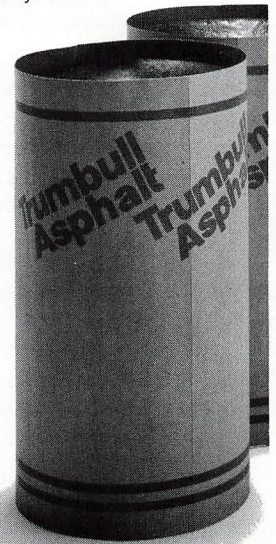
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Standing Seam Metal Roofing Systems
Roofing Industry Educational Institute
San Antonio, Texas

Nov. 19-22

Single-Ply Roofing Systems and Roof Inspection, Diagnosis and Repair
Roofing Industry Educational Institute
Nashville, Tenn.

Nov. 24-30

International Building and Construction Exhibition
British Information Services
National Exhibition Centre,
Birmingham, England

Dec. 2-5

Thermal Performance of the Exterior Envelopes of Buildings III
American Society of Heating, Refrigerating and Air-Conditioning Engineers
Clearwater Beach, Fla.

Dec. 4-6

Single-Ply Roofing Systems and Design Specifications
Roofing Industry Educational Institute
Phoenix, Ariz.

Dec. 4-10

Annual Convention
Associated Roofing Contractors of Maryland
Paradise, Nasau

Dec. 5

One-Day roofing seminar
WatPro Roofing Systems
Rutgers University
New Brunswick, N.J.

Dec. 6-7

Annual Meeting
Chicago Roofing Contractors Association
Bloomington, Ill.

Dec. 9-11

ASTM Committee Meeting
D-8 on Roofing, Waterproofing and Bituminous Materials
Nashville, Tenn.

Dec. 11-13,

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Bulletin describes urethane adhesives

Synthetic Surfaces, Inc., has developed a family of one-component curing urethane adhesives, which are fast-drying and feature an aggressive tack. The adhesives can be applied to one or both surfaces using high-speed production lines or by hand, and are suitable for indoor or outdoor application. The urethane adhesives self-cure at ambient temperatures and provide resistance to humidity, mildew, water, chemicals and heat.

The company has prepared a technical sheet, "Curing Urethane Contact Adhesives," which further describes the dual properties of the products.

Check #43 on Reader Service Card

Glas-Craft offers Maxi foam system

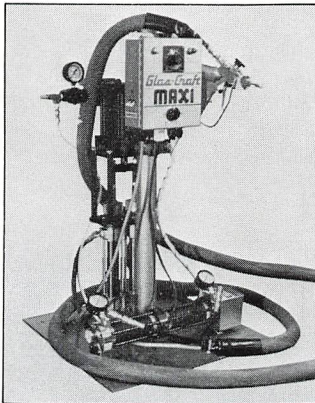
Glas-Craft, Inc., has developed a new spraying system for applying foam or dual-component coatings.

The Maxi unit operates at 1600 psi fluid pressure and delivers 14 pounds of material per minute. The system, which can be installed in 20 minutes, consists of the Maxi console, an air-purged prober gun with a flat spray tip, 60 feet of heated hose and a hose thermometer.

The Maxi system features two primary heaters that are regulated by solid-state controls. The heated hose is wrapped in nylon to help maintain application temperature of the material.

The company provides factory training for the Maxi system.

Check #44 on Reader Service Card



Institute releases slide presentations

The Roofing Industry Educational Institute has announced the release of a new series of roofing technology 35mm slide programs.

"Base Flashings for Membrane Roofing Systems" discusses flashing theory, materials and application methods for bituminous and single-ply systems. "Cap Flashings and Counterflashings for Membrane Roofing Systems" covers sheet metal used to cap or cover walls and other rooftop elements. Advantages and disadvantages of counterflashing materials and various types of construction and joints are discussed.

"Common Repairs for Membrane Roofing Systems" details repair procedures for many types of membrane roof problems. The program covers emergency, temporary and permanent repair procedures for single-ply and BUR systems.

"Fire Resistance and Wind Effects in Membrane Roofing Systems" examines the various methods of testing for fire resistance and wind uplift resistance in membrane roofing systems. The presentation includes information on building code and insurance requirements and discusses materials and construction methods that satisfy these requirements.

Each 20-minute program contains 80 slides, a cued audio cassette and a printed script.

Check #45 on Reader Service Card

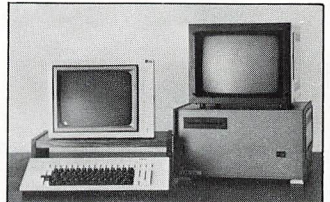
System analyzes thermal images

Inframetrics, Inc., is marketing a system for acquiring and processing infrared images from the company's line of TV-compatible thermal-imaging radiometers.

The IVS 190 Thermal Image Processing/Analysis System works with standard analyzer software to perform real-time image averaging. The system also provides multicolor isotherms with annotated temperatures and histograms of specific, user-defined areas on an image. The system can also plot temperature differences with time at any point on an image and create a temperature-vs.-position graph for any line through an image.

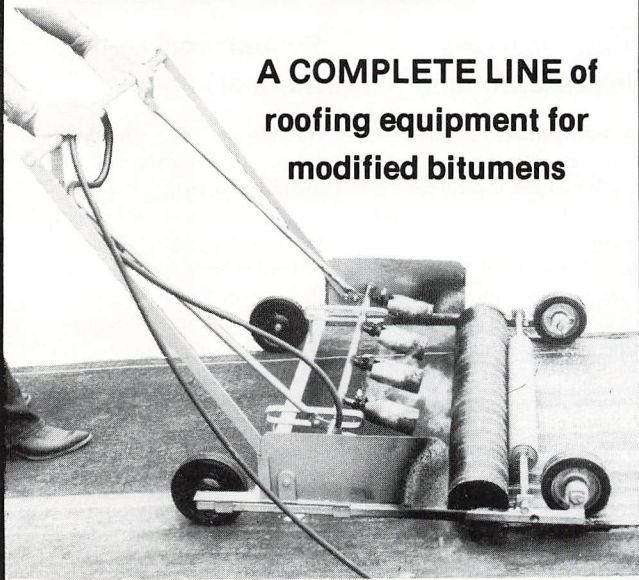
The system can process live or videotaped images. BASIC software options may be used to program for high-speed video operations. Included with the system are a keyboard, floppy disk drive, video store module, control module, menu monitor, RGB color monitor and software.

Check #46 on Reader Service Card



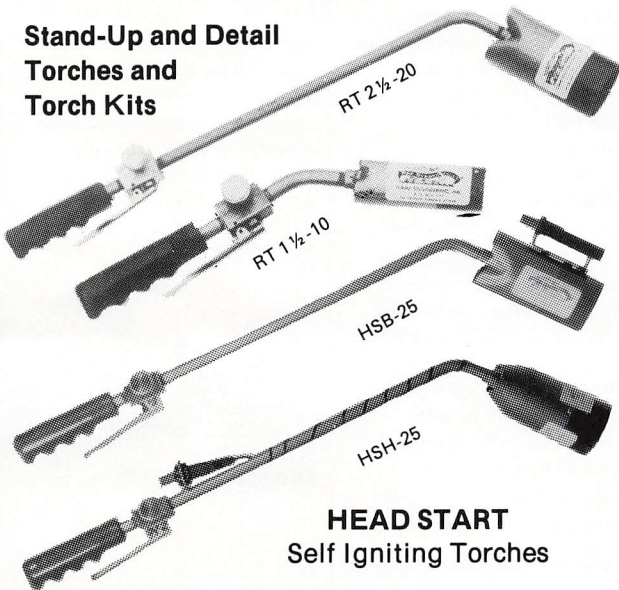
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Check #9 on Reader Service Card

NEW IDEAS

Company develops new shingle line

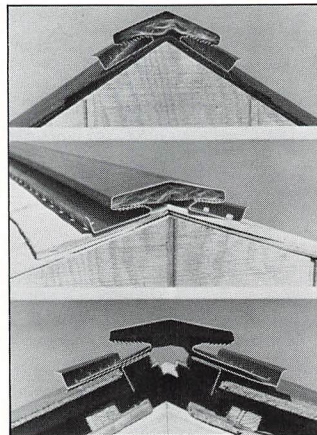
A new series of fiber glass-based asphalt roofing shingles has been introduced by Bird America.

The series includes PRC Wind-seal™, a standard weight three-tab shingle, PRC Master-Bilt™, a heavy-duty three-tab shingle, and PRC Wood-Line™, a laminated shingle designed to resemble wood shakes. All shingles in the PRC line are self-sealing and are available in a variety of colors.

The company has also introduced a line of professional ventilation products to complement the PRC line. PRC Ridge Univent™ is used on regular and steep-pitched roofs. PRC Unipeak Vent™ is designed specifically for use with contemporary roof designs. PRC Uniflash Vent™ is designed for placement at the junction of a sloping roof with a vertical wall.

The line is also available in zinc. All PRC Univent products feature a fiber glass weather filter designed to protect against water damage to the system.

Check #47 on Reader Service Card



Brochure features Uni-Clad metals

Copper Sales, Inc., is marketing a new prefinished architectural metal for metal roofing, mansard panels, fascia, coping, gravel stops, flashing, soffits and other exterior trim applications.

Uni-Clad is a G-90 hot-dipped metal sheet available in 24-gauge steel or 18-, 16- or 14-gauge aluminum. The product is covered with Glidden Nubelar® fluoropolymer coating. The factory roll-coated finish is available in dark bronze, Roman bronze, mansard brown, stone white and matte black. Standard width of the sheeting is 48 inches; standard lengths are 96, 120 and 144 inches. Custom colors, gauges and lengths may be ordered from the company.

Copper Sales is offering a full-color brochure that details specification, installation and warranty information on the Uni-Clad system.

Check #48 on Reader Service Card

NEW IDEAS

Wilson introduces polyester mastic

Wilson Distributing Co., Inc., is adding a new polyester mastic to its product line.

The Wilson polyester mastic, which is designed for use specifically with polyester cold BUR systems, consists of an asphaltic compound formulated from petroleum distillates and polymers. The product is available in 5-gallon pails and 55-gallon drums in brush and spray grades.

Wilson offers two types of polyester for use in cold BUR systems. Proveil is a smooth membrane used over smooth surfaces. It is designed for quick absorption of coatings. Poly-Soft is a soft membrane that conforms to gravel and other rough surfaces and cuts down on voids and gaps.

Check #49 on Reader Service Card



Pertec markets turnkey system

A full-color brochure describing *The Contractor* by Maxwell™, a turnkey system for construction information management, is available from Pertec Computer Corp.

The publication includes information on *The Contractor's* software features, which are designed to provide accurate job cost analysis. The software is designed for use by general contractors as well as special trades.

The brochure also highlights Pertec's multiuser, multitasking System 3200 cable computers.

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Check #41 on Reader Service Card

NEW IDEAS

Cleasby expands roof products line

Cleasby Manufacturing Co., Inc., has announced several additions to its line of roofing supplies. The company now carries a line of fasteners from Owens Corning Fiberglas, as well as Buildex roof plates, roof screws and stand-up insulation-fastening tools.

Other items added to the product line include Lexsuco roof clips, Spec Data large cap riv nails, Zonolite base-ply fasteners, Tile Tie Systems tile roof fasteners, and Tube Lok inserts.

Check #51 on Reader Service Card

Speeflo markets two new sprayers

Two new hydraulic sprayers have been introduced by the Speeflo Manufacturing Co., Inc.

The HydraMax 314 uses a small gas engine to power its hydraulic system, which is designed to deliver 6 gallons of material per minute at hose lengths of up to 300 feet. Compressed air is required only at the gun; this can be provided by a standard mounted compressor delivering from 15 to 25 cfm.

The sprayer also features the HydraTrol hydraulically operated surge controller, which stops the pump and relieves fluid pressure in the line when the operator stops spraying.

The HydraM 4000, a hydraulic sprayer powered by an 11-horsepower gasoline engine, is built for use with heavy materials such as block fillers, asphaltum mastics and elastomeric roof coatings. The unit delivers up to 3 gallons of material per minute at 4,000 psi working pressure.

The material delivery end of the HydraM 4000 is built with chrome plunger and cylinder and tungsten carbide valve seats. The unit is also available equipped with a heavy-materials gun and hose.

Check #52 on Reader Service Card

Techsonix offers sonic digitizer

The Techsonix Corp. has introduced a new sonic digitizer to assist in the preparation of cost estimates, quantity surveys, take-offs and other construction, engineering and architectural functions.

The portable digitizer uses sound waves to process information from plan sheets. The unit can calculate the area or volume of any shape, and computes in either English or metric scales. The system also counts by item and allows the operator to assign an identification number to components and materials, storing quantities and dimensions for entire jobs. Among other functions, the system computes roof areas automatically, allowing for overhang and roof pitch.

The menu-driven system comes with all programs included, and can be interfaced with most computers using the same operating system.

Check #53 on Reader Service Card

VIP develops new coatings line

A series of water-repellent coatings has been introduced by VIP Enterprises, Inc.

The VIP Umbrella #9000 series features three products. Umbrella #9100 is a clear, mildew-resistant methyl methacrylate acrylic polymer coating that is non-yellowing. Umbrella #9300 is a semi-opaque methyl methacrylate acrylic coating used to treat stained or discolored concrete. The coating is fast-drying and cleans with water.

Umbrella #9500 is a solvent-type penetrating coating designed specifically for surfaces that are unable to support film formation due to lack of continuity or extremely low density/porosity.

All three products in the #9000 series may be brushed, rolled or sprayed on.

Check #54 on Reader Service Card

Roof Moisture Detection

- "State of the Art" Equipment
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- Affordable Solution

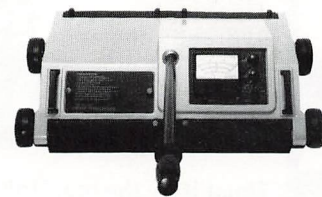
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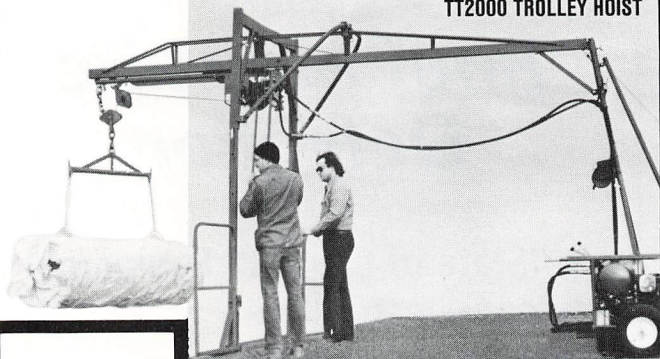
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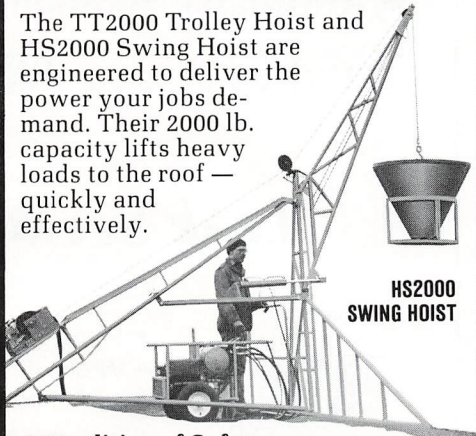
HOIST IT BY THE TON

TT2000 TROLLEY HOIST



Two New Powerful Performers

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



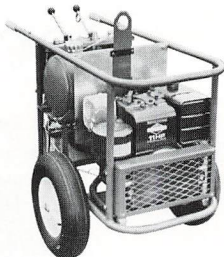
HS2000 SWING HOIST

A Tradition of Safety

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

HydraPak

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



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Check #29 on Reader Service Card

NEW IDEAS

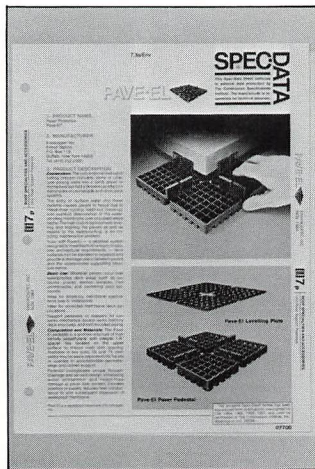
Literature details Pave-El pavers

A new four-page brochure describing the Pave-El paver pedestal concept has been published by EnviroSpec, Inc.

The Pave-El system is designed to meet North American climatic and architectural requirements by elevating the deck surface and providing a drainage plane between pavers and the water-proofed supporting structure.

The brochure contains information on composition, materials and installation. Drawings in the brochure illustrate use of the Pave-El system on a protected membrane roof, on a preformed membrane roof and on a BUR system. The publication also discusses roof/wall junctures, expansion joints, deck drains and the use of leveling plates and stacked pedestals to achieve dead-level paving over sloping deck surfaces. Warranty, maintenance and technical services are also covered in the brochure.

Check #55 on Reader Service Card



Tarpauline, chute aid debris removal

Armorlon® Co. is introducing a new removal system for roofing materials in tear-off operations.

Armo-Tarp IV debris tarps and Armorlon® debris chutes are constructed of a lightweight synthetic woven fabric that resists rotting and mildew. The porous nature of the fabric allows water to run off to help dispose of sodden material.

The tarps feature reinforced nylon straps and corner loops for handling by crane or hoist, and can be fabricated to individual size specifications within 10 working days. The chutes come with grommets around both open ends to allow for tie-off at the roof and at the truck or dumpster.

Check #56 on Reader Service Card

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

COMPANIES WANTED

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

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Roofing and sheet metal business in St. Petersburg, Fla. Established 1946. Residential and commercial accounts. Gross receipts 1984: \$328,264. Owner retiring. Real estate for lease or sale. Owner financing. Call Charles Farabee/Farabee Roofing Co., 813/327-3321.

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Mailing list of schools, government agencies, industries with leaky roofs in United States and Canada. Sulmac, manufacturer of water diverters; 413/533-5347.

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

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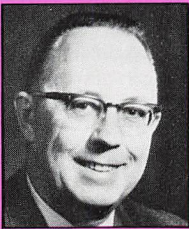
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Blistering still observed in 6-year-old test roofs

By Bob LaCasse



When investigators examined the six-year-old roofs installed over urethane insulation, they found that the many small blisters they had discovered earlier had grown together to form a large blister such as the one circled in the photograph below.

NRCA and the Roof Insulation Committee of the Thermal Insulation Manufacturers Association (RIC/TIMA) have been working together for some time to solve problems and answer questions concerning the use of polyurethane and polyisocyanurate insulation in roof assemblies. The 1985 NRCA Convention program "Insulation: R's, U's, Do's and Don'ts," conducted by RIC/TIMA, was just one result of this close association.

Another long-term, ongoing project being conducted jointly by NRCA and RIC/TIMA is the monitoring of test roofs placed in the yard of the Fidelity Roof Co. in Oakland, Calif. These observations have been conducted in cooperation with the Western States Roofing Contractors Association (WSRCA). Representatives of all three groups have been following the performance of the test roofs since they were installed in December 1979. The most recent examination of the installations has confirmed earlier findings that installing a hot BUR system directly over urethane insulation can lead to blistering problems.

Test results from this project have been reported periodically over the years. The first report was released in February 1980 at an NRCA Convention session titled "Blisters Over Urethane." According to these preliminary findings, hot asphalt applied directly to a urethane insulation board can foam and create many small blisters on the surface of the bitumen.

Another inspection of the Oakland test roofs was conducted in the summer of 1982. This time, representatives of NRCA,

WSRCA and RIC/TIMA were joined by Dr. Jerome F. Thomas, professor of civil engineering at the University of California. The findings of this examination were reported in a March 1983 *Roofing Spec* article authored by Thomas, titled "Interphase Blistering." In this article, Thomas noted that after two years in place, the BUR test roofs insulated with urethane showed the greatest tendency to form blisters between the plies. The test roof with the smallest percentage of area covered by blisters was the installation containing no urethane, according to Thomas.

The most recent inspection of the test site was conducted on June 26 of this year. Once again Thomas and representatives of NRCA, RIC/TIMA and WSRCA were on hand to observe the progress of the blisters and evaluate the performance of the test roofs. During this examination it was found that installations were continuing to blister.

The researchers also noted that although the number of blisters had declined, they were now covering a greater percentage of the roof area. Apparently, the smaller blisters were joining together to form larger blistered areas.

Groups' suggestions confirmed

The continued blistering of these test roofs confirms NRCA's and RIC/TIMA's observations and recommendations concerning roofing over urethane. These recommendations were published in July 1981 as *Bulletin #9, NRCA-RIC/TIMA Joint Statement on Blistering*. The booklet contained two suggested procedures:

- Over the top surface of polyurethane insulation, a thin layer of wood fiber board insulation, perlite board insulation, or glass fiber board should be installed, staggering the joints from the layer below. The built-up roofing membrane should then be applied as specified by the designer.
- Over the top surface of polyurethane insulation, a venting-type base ply should be installed in such a way as to allow for venting. The balance of the built-up roofing membrane should then be applied as specified by the designer.

NRCA, RIC/TIMA and WSRCA believe that by following one of these recommendations when installing a BUR roof over urethane, contractors will be able to avoid most of the blistering problems observed in the Oakland test roofs.





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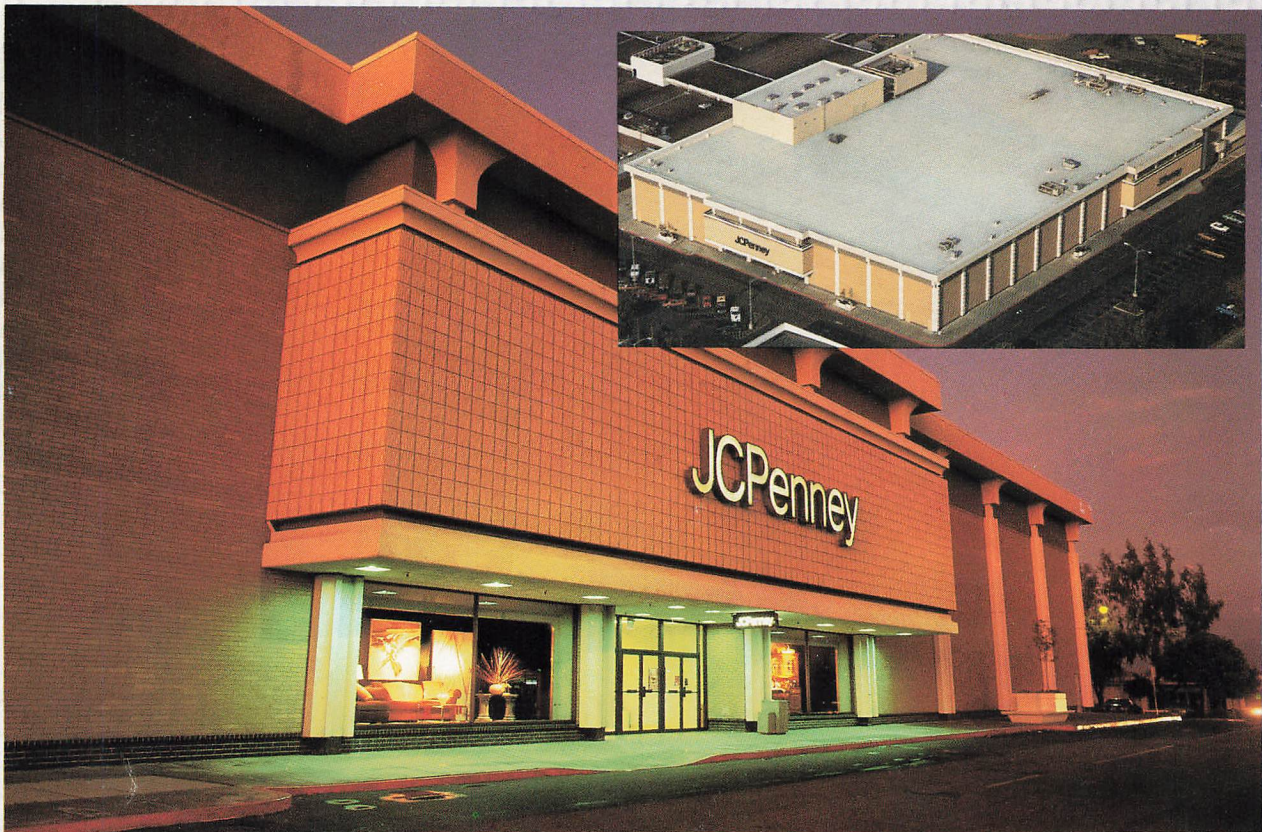


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The lightweight Hi-Tuff membrane, which is mechanically attached and does not require heavy ballast stone, was applied over an old built-up roof on the Stockton store, eliminating the need for expensive roof tear-off. Hi-Tuff was quickly installed by a Stevens-approved contractor, who

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