ARCHITECTURAL
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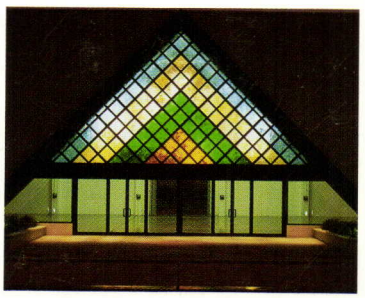
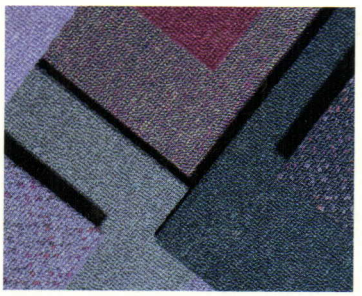
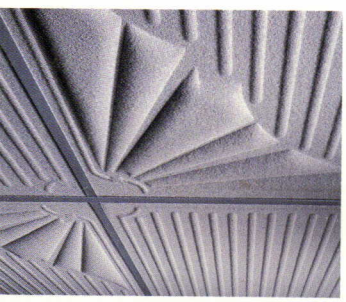
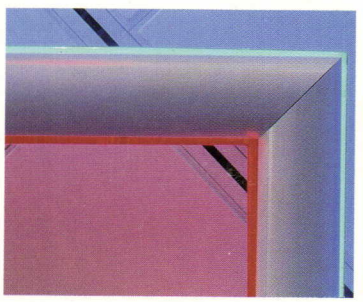
December 1988

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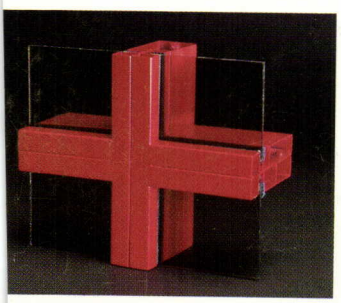

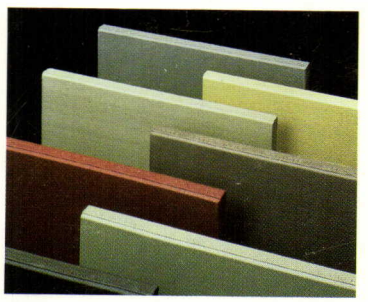

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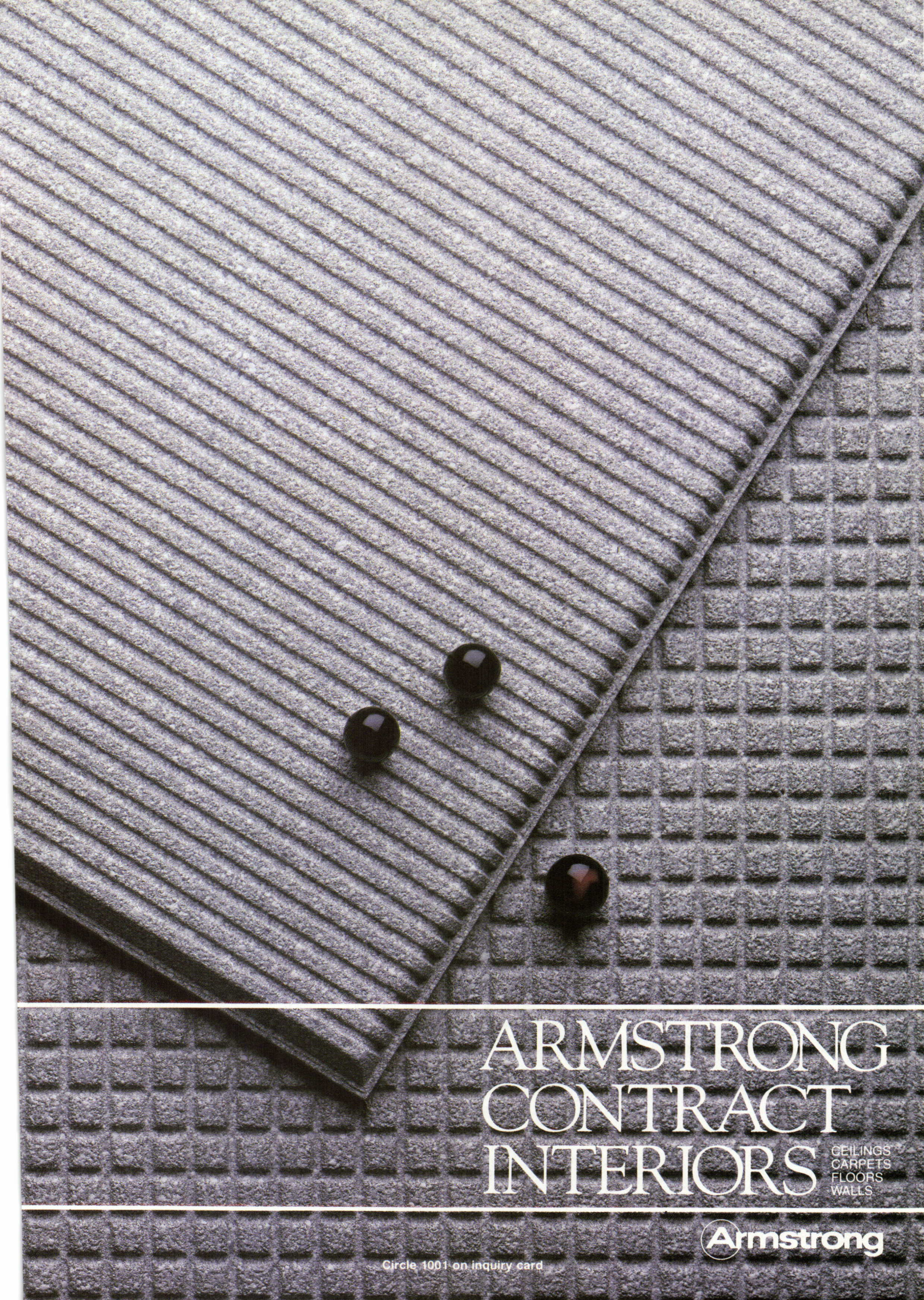

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Calendar

Through January 8
"Erich Mendelsohn: Architectural Drawings," from the Berlin Kunstbibliothek SMPK; at the Cooper-Hewitt Museum, New York City.
Through January 8
"Six Mementos for the Next Millenium," in which the works of Franklin D. Israel Design Associates inaugurate the *Architecture Tomorrow* series; at the Walker Art Center, Minneapolis.
Through February 12
"Courts and Colonies: The William and Mary Style in Holland, England, and America," an exhibit of objects from three countries to celebrate the tercentenary of the couple's accession to the British throne; at the Cooper-Hewitt Museum, New York City.
December 6-8
1988 AEC Expo, The Show and Conference for Architects and Engineers, focused on computing and management; at the Javits Convention Center, New York City. For information: Expoconsul International, Inc., 3 Independence Way, Princeton, N. J. 08540 (609/987-9400).
December 7-9
Interiors Conference and Exposition for Historic Buildings, sponsored by the National Park Service, the American Society of Interior Designers, the General Services Administration, and others; in Philadelphia. For information: Interiors Conference, P. O. Box 27080, Washington, D. C. 20003 (202/343-9578).
December 7-30
"Bearings: Faculty Architecture in North America," an exhibit of the creative and speculative work of architects and designers teaching at college level, sponsored by the Department of Environmental Design at Parsons School of Design; at Parsons Exhibition Center, 2 W. 13th St., New York City.
January 12
"Crisis in the Workplace," a conference on the effects of video display terminals, air quality, and workplace smoking, intended for architects, interior designers, and others; sponsored by Bestype Office Environments, dealers in office furniture; in the McGraw-Hill Auditorium, New York City. For information: Hedy Faulkner, Bestype Consulting, 501 Madison Ave., 13th floor, New York, N. Y. 10022 (212/888-9009).
January 13-14
Workshop for architects focusing on Design of Worship Spaces for Southern Baptist Churches; at Orlando, Fla. For information: Church Architecture Department, Baptist Sunday School Board, 127 Ninth Ave., N., Nashville, Tenn. 37234 (615/251-2466).
January 13 through February 6
An exhibit of 135 drawings and watercolors by Eugene Emmanuel Viollet-le-Duc; at the Archer M. Huntington Art Gallery, the University of Texas, Austin.
January 25 through March 19
"Saarinen in Finland," the early work of Eliel Saarinen as seen in drawings, furniture, architectural fragments, and photographs from the Museum of Finnish Architecture in Helsinki; at the University Art Museum, University of California, Berkeley, Calif.
January 31 through February 2
"Managing Asbestos Contained in Schools, Public, Commercial, and Retail Buildings," a conference sponsored by the Association Dedicated to Air Pollution Control and Hazardous Waste Management (APCA); at the Sands Hotel, Atlantic City. For information: Dan Dennis, Meetings Department, APCA, P. O. Box 2861, Pittsburgh, Pa. 15230 (412/232-3444).
February 16
Conference on Roofing Problem Analysis and Roofing Options, sponsored by the National Roofing Contractors Association; in Tampa. The program will be repeated March 30 in Chicago, April 6 in Philadelphia, and April 16 in Syracuse. For information: NRCA Education Department, One O'Hare Centre, 6250 River Rd., Rosemont, Ill. 60018 (312/318-6722).
February 27 through March 1
Third annual National Town Meeting on Main Street, "Main Street at Work," devoted to the subject of downtown revitalization, cosponsored by the National Main Street Center and the Texas Historical Commission; in Austin. For information: Kennedy Smith, National Trust for Historic Preservation, 1785 Massachusetts Ave., N. W., Washington, D. C. 20036 (202/673-4219).
March 15-17
1989 Roof Consultants Institute National Convention; Sheraton Washington Hotel, Washington, D. C. For information: Roof Consultants Institute, 7424 Chapel Hill Rd., Raleigh, N. C. 27607 (919/859-0742).
March 17-19
"Architectural Artisanry: Preservation by Design," a national symposium on the professional, economic, and educational needs of artists, artisans, and conservators who work in historic preservation, sponsored by the College of Visual and Performing Arts of Southeastern Massachusetts University, North Dartmouth, Mass., and the Swain School of Design, New Bedford, Mass. For information: Philip C. Marshall, Swain School of Design, 1213 Purchase St., New Bedford, Mass. 02741 (617/997-7831).

Correction

In ARCHITECTURAL RECORD's story on the Grand Rapids Applied Technology and Training Center (October 1988, page 57), WBDC Group should have received credit as associated architects with Perkins & Will.

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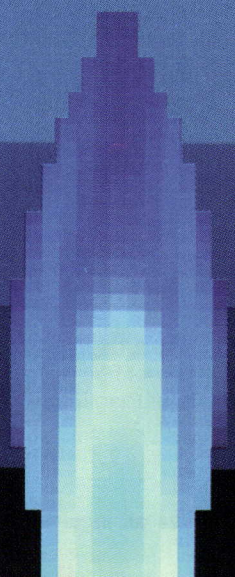

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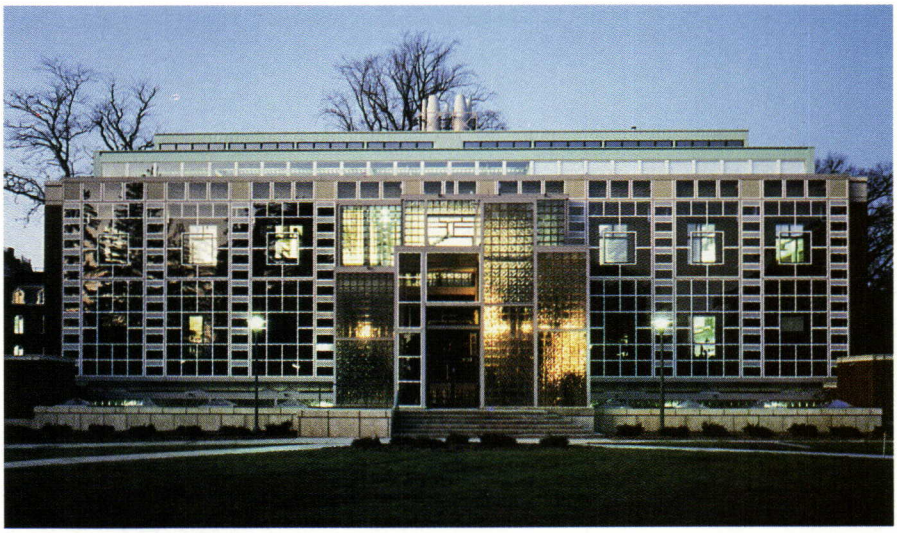

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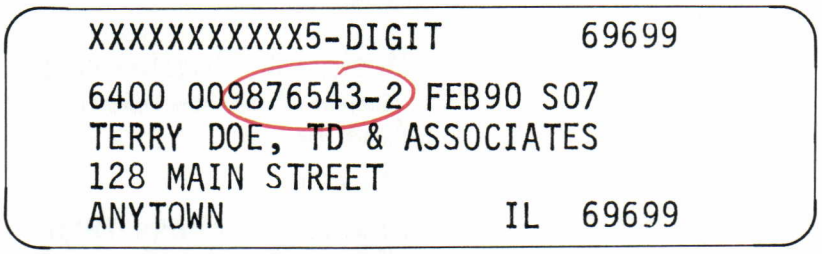

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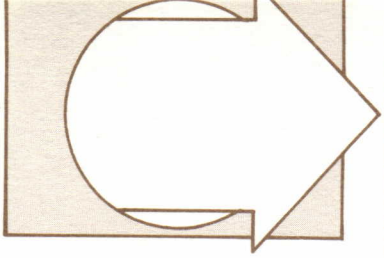

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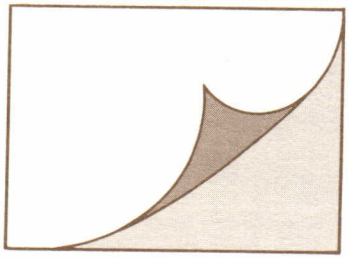

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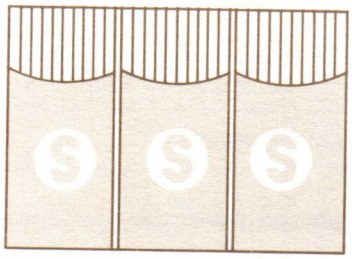

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1003	1011	1019	1027	1035	1043	1051	1059	1067	1075	1083	1091	1099	1107	1115	1123	1131	1139	1147	1155	1163	1171	1179	1187	1195
1004	1012	1020	1028	1036	1044	1052	1060	1068	1076	1084	1092	1100	1108	1116	1124	1132	1140	1148	1156	1164	1172	1180	1188	1196
1005	1013	1021	1029	1037	1045	1053	1061	1069	1077	1085	1093	1101	1109	1117	1125	1133	1141	1149	1157	1165	1173	1181	1189	1197
1006	1014	1022	1030	1038	1046	1054	1062	1070	1078	1086	1094	1102	1110	1118	1126	1134	1142	1150	1158	1166	1174	1182	1190	1198
1007	1015	1023	1031	1039	1047	1055	1063	1071	1079	1087	1095	1103	1111	1119	1127	1135	1143	1151	1159	1167	1175	1183	1191	1199
1008	1016	1024	1032	1040	1048	1056	1064	1072	1080	1088	1096	1104	1112	1120	1128	1136	1144	1152	1160	1168	1176	1184	1192	1200

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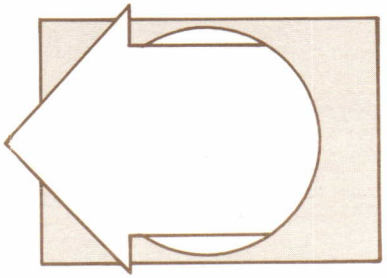

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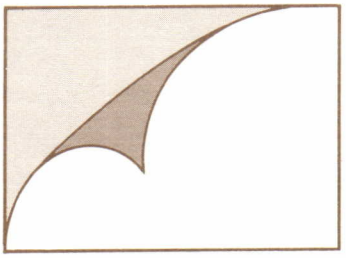

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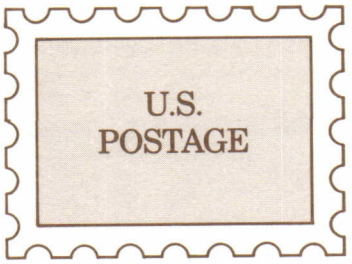

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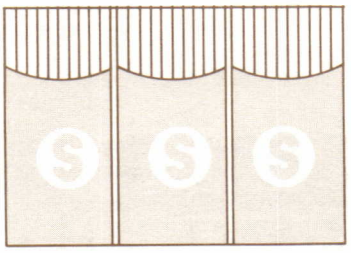

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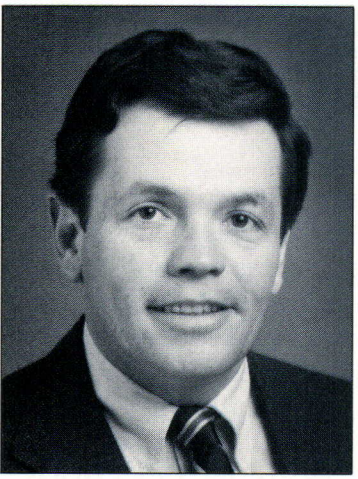
Practice: How to get the best deal on your liability insurance

Here are some tips on how to avoid such pitfalls as presenting your firm as a more serious risk than it actually poses, not covering special needs, and picking the wrong limits and deductibles.

By Edward J. Pennington



Edward J. Pennington is an account executive in the Design Professional Liability Division of insurance consultants W. Terrill, Inc., St. Louis.

There is a simple definition of insurance that puts the purchase of architects' and engineers' liability coverage in perspective: *Insurance is the trading of calculable loss for incalculable loss.* How *can* firms get the most in the process?

One of the costliest mistakes made by design professionals is repeating their marketing message to underwriters

In marketing, many professional design firms focus on what they want to become, and project that image to prospective clients. Often, the components of that image—i.e., type of work that can be performed, type of clients that can be served, etc.—are not the same as current work and clients, and are perceived by underwriters as a greater risk than firms truly pose. In certain instances, such as that in which a firm plans to do work with a lower risk assessment than that at present, projections of future plans *could* be beneficial. Otherwise, it pays to stick to current facts.

Insurance applications are *warranties.* If that warranty is inaccurate or incomplete, it can lead to restriction of coverage, uncovered loss, or unnecessary cost. So, be not only current but complete. Identify special insurance needs created by, for instance, joint ventures, specific projects, retroactive coverage, equity interest in a project being designed, construction-management services, or design/build techniques.

Addenda to an application can substantiate expertise, identify services performed directly versus those subcontracted, and define the scope of services the firm offers. Such detailed explanations may substantially decrease underwriters' perception of risk. For instance, in the identification of services, an underwriter might perceive important differences in risk between the design of a golf club and a water-treatment and purification plant.

Be careful with terms. For example, professional real-estate-development clients placed in the "one-time developer" category are assumed to be a much higher risk by the underwriter. "Construction management" yields a bevy of interpretations by underwriters and the way your firm performs it should be fully explained.

Deductibles and limits selected by a design firm help set the price of its premiums but . . . .

There are insurance-industry rules-of-thumb that control the deductibles and limits a firm may take. A simplistic approach to insurance seeks to lower premiums by choosing the highest deductible. But that is not always the best approach. For one thing, deductible amounts do not always have the same dramatic impact on cost that they do in the purchase of property or automobile insurance.

Deductables are influenced by the type of client and the specific types of work performed. For example, one firm may be exposed to many claims at low dollar amounts. Conversely, another might not have many claims, but when it does, the size could be considerable. Because deductibles are generally set on a per-occurrence basis, a lower deductible might be in the firm's best interest in the first case and a higher one in the second.

For firms interested in self-insuring to the greatest degree possible, insurance underwriters will generally allow a per-occurrence deductible of between 1 and 5 percent of a firm's annual volume. Because smaller firms often possess a cash reserve that is a fairly high percentage of their total volume, they are more likely to be allowed the higher deductible. But for larger firms, which often have operating cash reserves that are a smaller percentage of their annual volume, it is generally difficult to raise the deductible to a level higher than 2 percent of annual volume. Underwriters require adequate assurances that they will be able to recover the deductibles they may be called upon to pay on behalf of a design firm. Alternative scenarios include the possibility of the design firm providing collateral, such as an irrevocable letter of credit.

Underwriters will usually give prices for a low-range and a high-range deductible. Doubling the deductible can cause a credit of between 15 and 70 percent to the base rate—that from which underwriters begin their calculations. The difference varies from company to company and even from underwriting unit to underwriting unit within the same firm. Business volume, types of work performed, loss experience, and other considerations will have an impact on the savings.

Purchasing high limits can make sense in protecting both corporate assets *and* personal assets when there are substantial amounts to protect. This can be particularly important for the firm during a transition of ownership.

It is imperative to review pending contracts with clients in terms of insurance and related provisions before agreeing to contract terms. It could be costly if that review process is not followed. For instance, an architect who is also part of the client group will find that every available standard design-professional liability contract excludes coverage of any project in which he holds equity interest, making coverage very high indeed.

So, in applying for insurance, be thorough, be current, and know what the underwriters are looking for.

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Performance Benchmark	COMPAQ DESKPRO 386/25*	IBM PS/2 Model 80-111†	SUN 386i/250*	APOLLO DN 4000*
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MWhetstones/sec	5.6	1.8	5.6	3.8

*Using Weitek Coprocessor †Using 387 Coprocessor

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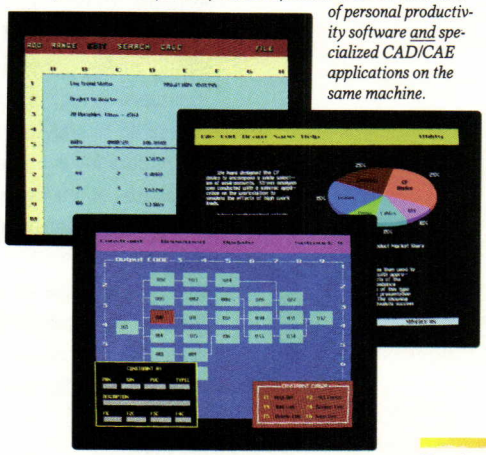

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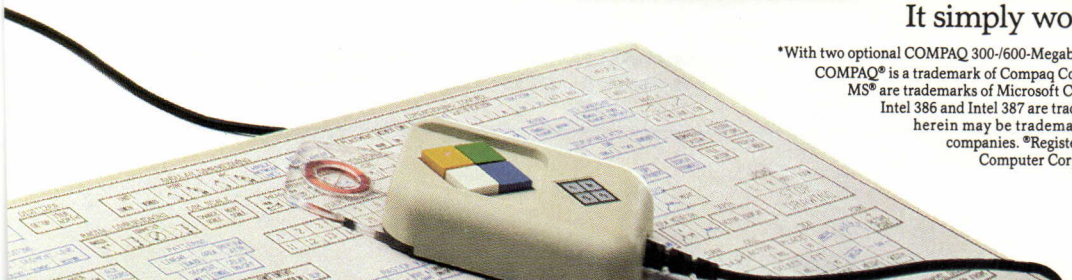

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Don Kluge AIA, CSI, CCS is the Senior Vice President of Saxelbye, Powell, Roberts & Ponder, Inc., a Jacksonville, FL architectural, interior design and planning firm celebrating its 75th birthday this year.

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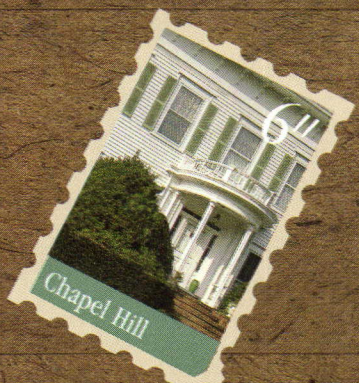

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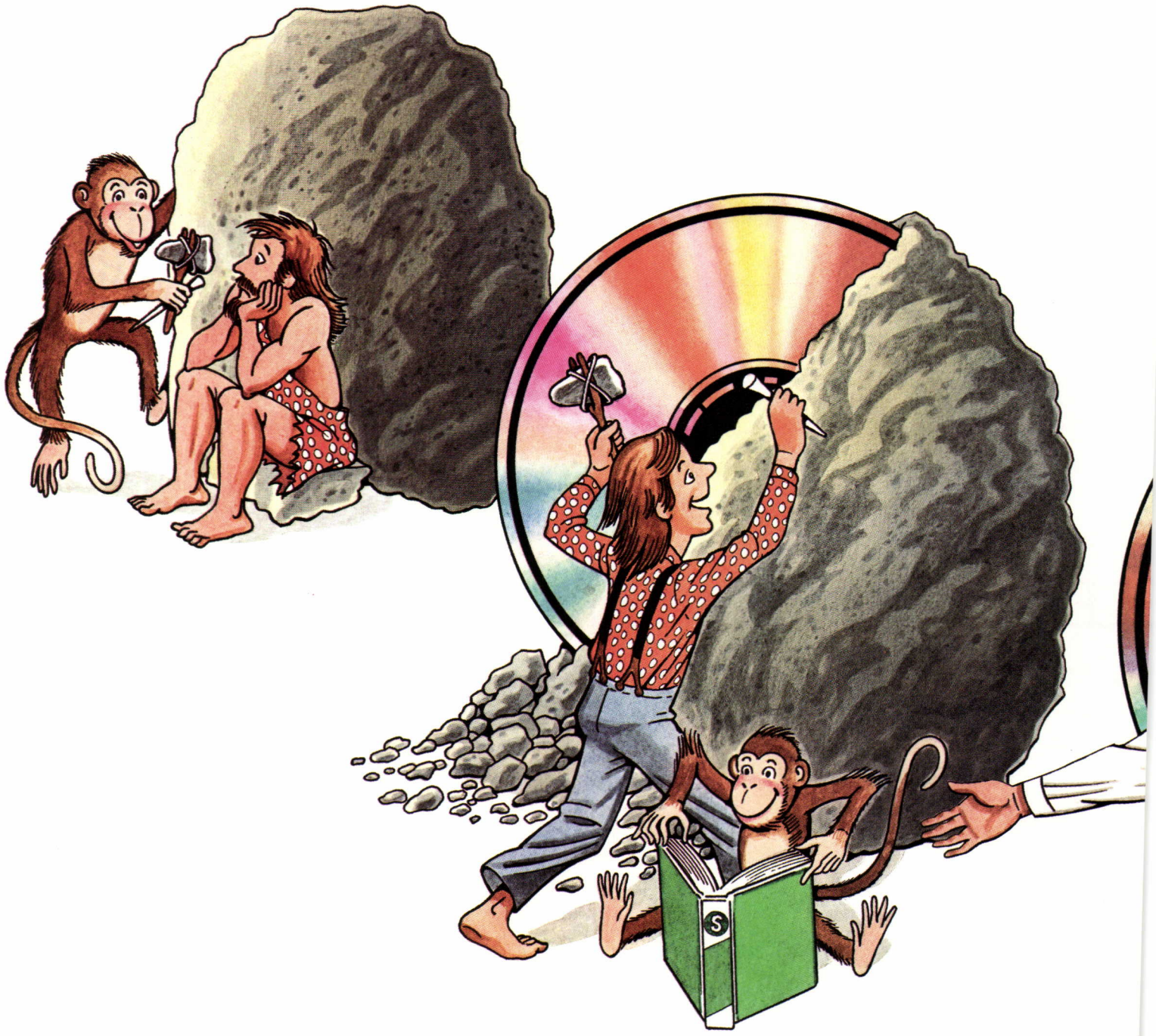

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Modular construction comes of age

By Ira Wolfman

What do these far-flung projects have in common?

- *A major addition to the Skyharbor Airport in Phoenix, Arizona.*
- *A townhouse development in affluent Westchester County, New York.*
- *A series of new schools in California.*
- *A 5,700-square-foot, $1-million mansion in Mamaroneck, New York.*
- *A three-story corporate headquarters in White Marsh, Maryland.*
- *Housing for the homeless in Brooklyn, New York.*
- *The $3.5-million Santa Ana, California, federal courthouse.*

The answer: All were produced by modular construction.

For years, prefabricated and factory-built too often meant ticky-tacky trailers and boxy tract housing. But today, exclusive condominium projects, luxurious private homes, and showplace commercial buildings are being constructed out of giant modular boxes and other components built in a factory and then assembled on-site.

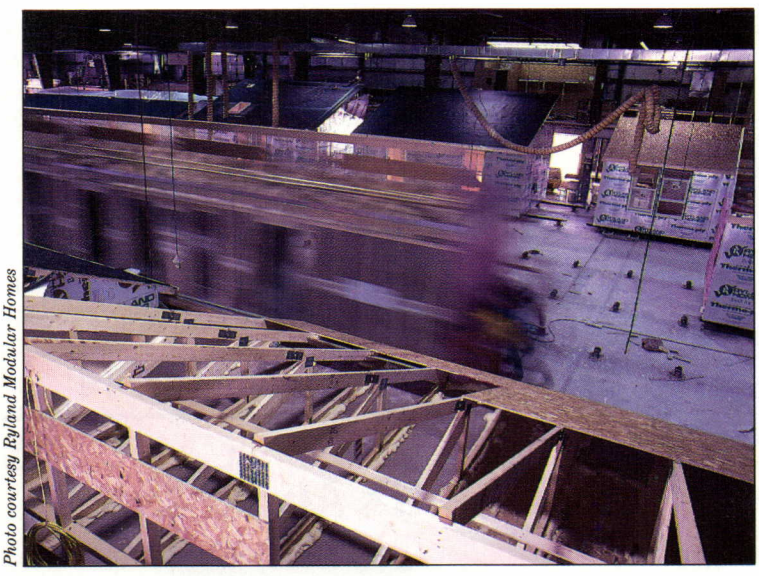


Photo courtesy Ryland Modular Homes

Fabricating building modules in a factory, as shown above, offers greater economy and quality-control than conventional on-site construction.

Ira Wolfman is a free-lance writer based in New York City.

Modular construction technology has changed. Computers have brought a new precision and speed into factory building. Higher quality materials and innovations like double-fold roofs have made possible architectural configurations that were out of the question 20 years ago. "There's far more design flexibility available with modulars today," says Steven Winter, an architect whose New York-based firm has specialized in manufactured construction design for 20 years. "We are achieving geometries and architectural shapes that were unfeasible in the past. These complex forms let us do a great deal with what was once only a simple basic box."

This new flexibility just adds to modular's original base of appeal. Factory construction has long been championed by advocates for its wide variety of advantages over traditional building techniques. "Modular offers substantial savings in time, higher control over quality of materials, the ability to build in any weather, reduced pilferage, shorter debt service, and frequent cost savings," comments Douglas Cutler, an architect in Ossining, New York, who recently used nine modular boxes in his design for the 5,700-sq-ft Mamaroneck, New York, house that was dubbed the "Modular Mansion" by local press (page 25). In the case of the Mamaroneck house, Cutler adds, "Modular meant a savings of about $20 a sq ft. It also meant far fewer headaches for the builder in coordination of subcontractors; 80 percent of the work was done before we showed up at the site."

But in spite of all its trumpeted benefits, the growth of factory-construction in the U. S.—though steady—has been slow. While Sweden builds more than 70 percent of its houses with modular technology, and while Japan develops incredible high-speed, robotized factories that allow for extensively customized houses, the American modular industry is still modest, constructing less than 10 percent of the houses built today and a far smaller percentage of commercial construction. Twenty years after the highly publicized federal government program called "Operation Breakthrough," which attempted to transform the U. S. construction industry into an industrialized giant, the modular construction industry remains far more of a potential than a reality—and that potential is still limited by public misconceptions, governmental red tape, and, perhaps, architects' indifference.

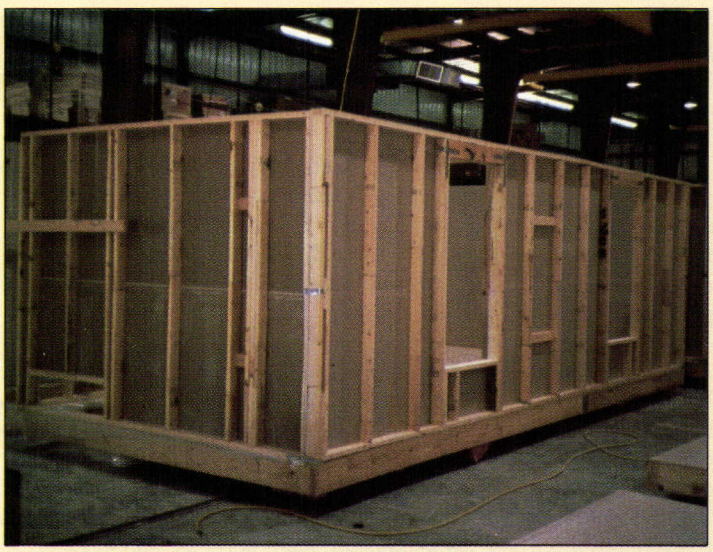
From factory to site

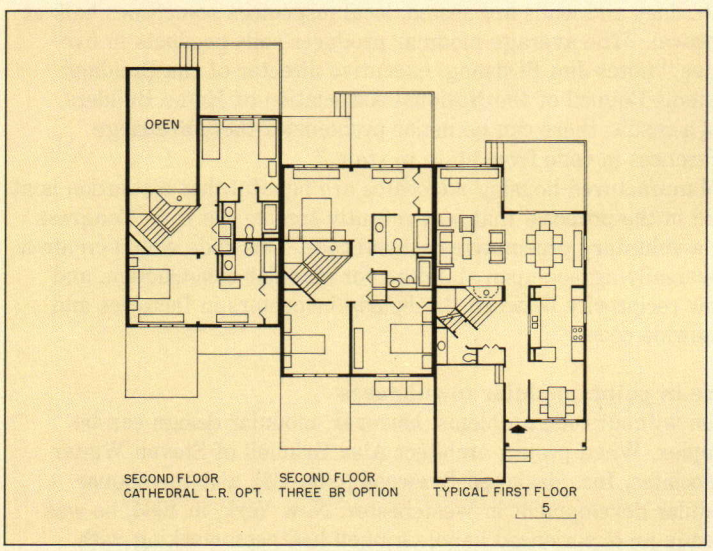
But even if factory-based construction has not become the major force it once seemed destined to be, it still has a sweep that is far more vast than most are aware. The manufacture of components for construction is a widespread business today: more than 150 factories across the U. S. produce housing and commercial modules.

American factories are not nearly as automated as they are in Japan; in this country, "It's virtually like putting together a house on-site, but it's done inside," acknowledges Steven Winter. The factories—a major percentage of them located in the Northeast—produce modules on order, using full-time workers who are paid wages of $6 to $10 per hour, far below rates commanded by site workers. The worker's compensation for these lower wages is, of course, that they are not laid off every time a project is completed, nor required to work in (or lose time to) bad weather.

Advocates claim quality is far higher at the factory, too, with th substantial differences in equipment a major reason. "Take a skilled carpenter earning $30 an hour at the job site who has to cu

Ryewood, a 40-townhouse modular development in Westchester County, New York (this page) was designed by Steven Winter Associates, Inc. Each 1,800-sq-ft house used four factory-built boxes. "The trick with factory-built units is knowing when to break the normal requirements of modular," says Alex Grinnell, project architect for the development. "You break them effectively in one or two gestures by providing surprises. You just have to be careful not to offset your cost savings with too much site work." At Ryewood, in addition to modulating the roof planes, Grinnell designed setbacks to allow for privacy on the individual decks, and cathedral ceilings.





Peter Keyes photos

Today's factory-built modular construction has come a long way from the simple basic box. It allows the architect to achieve complex forms that were unfeasible 20 years ago.

a 2 by 4," says Don Carlson, editor of *Automated Builder* magazine and a leading observer of the modular scene. "The biggest piece of equipment he's got is a hand-held saw that might cost $60 to $70.

"Compare that with the worker at a component plant. He works on a saw that costs $52,000, has four blades on one side, three on another, and lumber goes through it at the rate of 60 pieces a minute. This saw makes cuts within a thousandth of an inch of accuracy.

"Whom would you prefer to have cut your lumber?"

Factories produce modules on order. The completed boxes include plumbing and, frequently, cabinetry and appliances; other items like hardwood floors may be added on site. The boxes—which can be 70 ft long, but are restricted by trucking limitations to no more than 14 ft wide—are then placed on flatbed trucks and delivered. At the building site, foundations have already been prepared, and the boxes are put into place with giant cranes.

In the case of housing, buildings can be fully enclosed within two weeks. However, local building codes pose an annoying and on occasion major problem; since boxes are frequently shipped across state lines and walls are sealed, local inspectors sometimes balk at approval. "The average modular producer sells products in five states," notes Jim Birdsong, executive director of the Building Systems Council of the National Association of Home Builders. "As a result, there can be major problems if there are large differences in code from state to state."

Manufactured housing advocates are hopeful that a solution is at hand in the proposal that was recently sent to the U. S. Congress for a voluntary preemptive national code. This code would create a universally agreed-upon standard for modular construction, and allow reciprocity between third-party inspectors in factories and statewide codes.

Case in point: modular townhouses

Even without code problems, however, modular design can be complex. When project architect Alex Grinnell of Steven Winter Associates, Inc., designed Ryewood (page 23), a 40-townhouse modular development in Westchester, New York, in 1984, he was already an experienced hand; Grinnell had been working with modulars since 1972. According to the architect, the developers of Ryewood felt they could not build without modular's advantages; this was a time when skilled workers were at a premium in the Northeast, and the developers believed Ryewood could only be cost-effective if it took advantage of the savings of time and money that modular offered.

Grinnell designed the 40 cedar-sided 2 1/2-story houses in clusters of four to six. Each 1,800-sq-ft house used four boxes, manufactured at Customized Structures Factory in Claremont, New Hampshire, and shipped when ordered. The boxes were about 12 ft wide and 35 to 44 ft deep, with ceilings of about 8 ft. In order to allow for cathedral ceilings in a number of the models, Grinnell planned for some site work. But unlike many designers who work with modular, he eschewed a site-built roof. Instead, he chose to have hinged roofs manufactured to his specifications (the planes of a hinged roof are attached in the factory to the building walls, later to be folded up into place at the site). Grinnell chose to hinge the pitched roofs back to front, and allow for 2 1/2-story stairwells and skylights that would bring light into the otherwise dark centers of these units.

The boxes were shipped with completed kitchens and bathrooms. When the materials arrived, two cranes were needed: a 60-ton one to set the boxes, and a smaller crane to unhinge the roofs. Between four and eight boxes were erected a day; each cluster was completed in about a week. The insides required another three or four weeks of work.

Grinnell says that Ryewood was an early project in this high-end price range, and he is designing a number of what he calls "more sophisticated" modular projects in the Hudson Valley. But the homes at Ryewood, built to sell for $200,000, appreciated rapidly, and today they fetch upwards of $350,000. "No one would ever guess it's modular," Grinnell claims.

A mansion from nine modules

Douglas Cutler's aim was different than Grinnell's. In designing a luxury house in Mamaroneck, New York, he specifically wished to call attention to its modularity—to demonstrate not so much its cost-effectiveness, but its potential for lavishness (opposite page). The five-bedroom, 4 1/2-bath house features a winding staircase, a large pillared portico, decks and screened porches, and 4,600 sq ft of hardwood floors. The French Provincial style was dictated by the owner, but Cutler created it using nine standard 12- by 42-ft modules manufactured by the Avis Homes factory in Avis, Pennsylvania. Unlike most modular constructions, Cutler set the boxes front to rear, instead of the standard side by side. "We hadn't seen boxes done front to back, but didn't see any reason why it couldn't be done that way," Cutler explains.

"What's important in designing modular," according to Cutler, "is skill in setting the boxes and getting the foundation right." By stacking and combining the boxes skillfully, he says he was able to open up 20-ft spans inside the house.

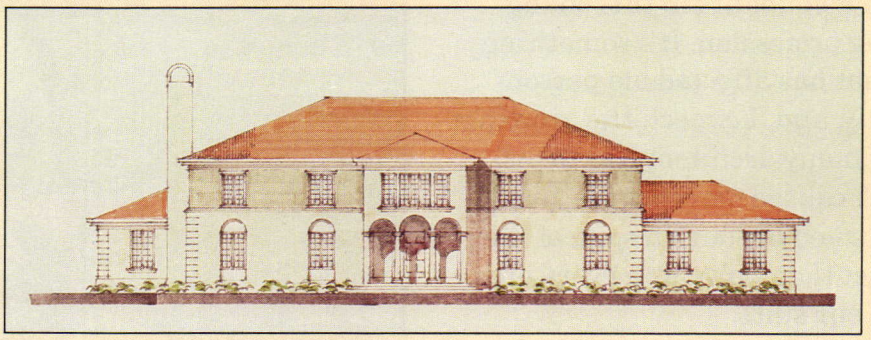
Don Carlson thinks the mansion is significant mainly for what it proves: "Modulars have lacked design and curb appeal; its supporters were in love with construction to the detriment of sales. Only lately have we started getting a more sophisticated look at modulars. We've known for a long while that the more you do in a factory, the better, cheaper, and higher quality you get. This house merely showed that there are few design limitations any more in modular; once the architect understands that, he can really fly."

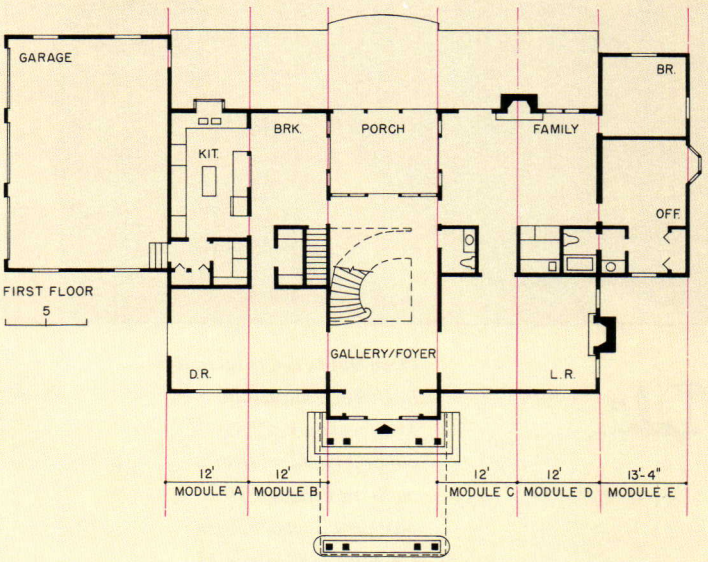
Architects and the modular industry

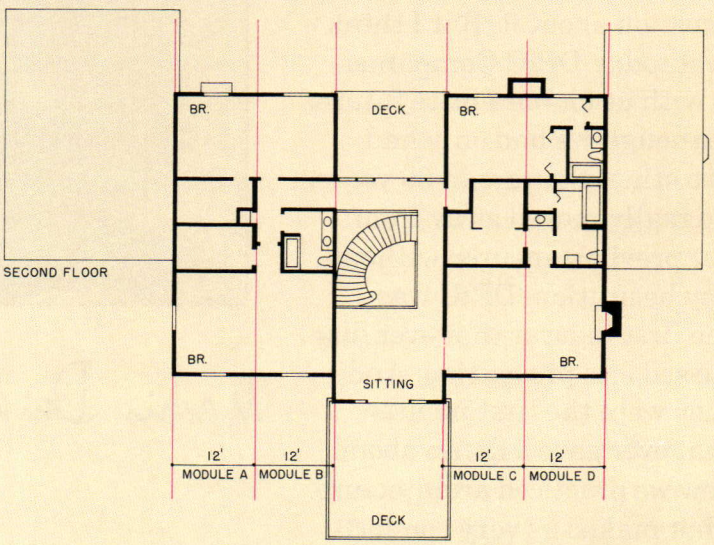
Some observers believe that architects have been among the last people to understand the potential of the medium. "I see a lot of growth coming in the modular field," says Steven Winter, "but I don't see a lot of architects getting involved. They still believe the myths about modular and prefabricated construction. This is an important technology, one that could improve their services to their clients and their share of business—but they don't seem to be interested in it, and I don't think that's going to change.

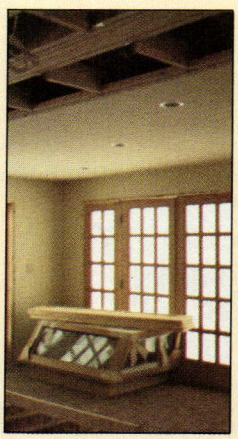
"Frankly, that's fine with me," adds Winter, whose firm has designed and/or built nearly 6,000 modular units over the past three years in the New York area alone. "I've built a terrific career out of this business—and I don't want others to muscle in."

The 5,700-sq-ft private house shown in the construction photos (bottom) was designed by Douglas Cutler, and is constructed with nine standard 12- by 42-ft modules. Known in the neighborhood as the "Modular Mansion" it is not entirely modular; the central entryway was stick-built to allow for its 16-ft width, and the hipped roof and garage are stick-built. But, Cutler claims, this imposing house is cheaper than it would have been if entirely stick-built—he estimates the cost would have been $20 more per sq ft. Because it's modular, the walls are straighter, the floor system is glued as well as nailed; the construction is stronger throughout. Overall, quality control is better at the factory. Cutler now plans to design a second "mansion" in the same subdivision where his first $1-million-plus house stands (the color renderings below show two stylistic variations on the first scheme). "It's only a matter of time," says Cutler, "till many houses are built this way. As the technology gets better and better, the cost advantages will become even more significant."







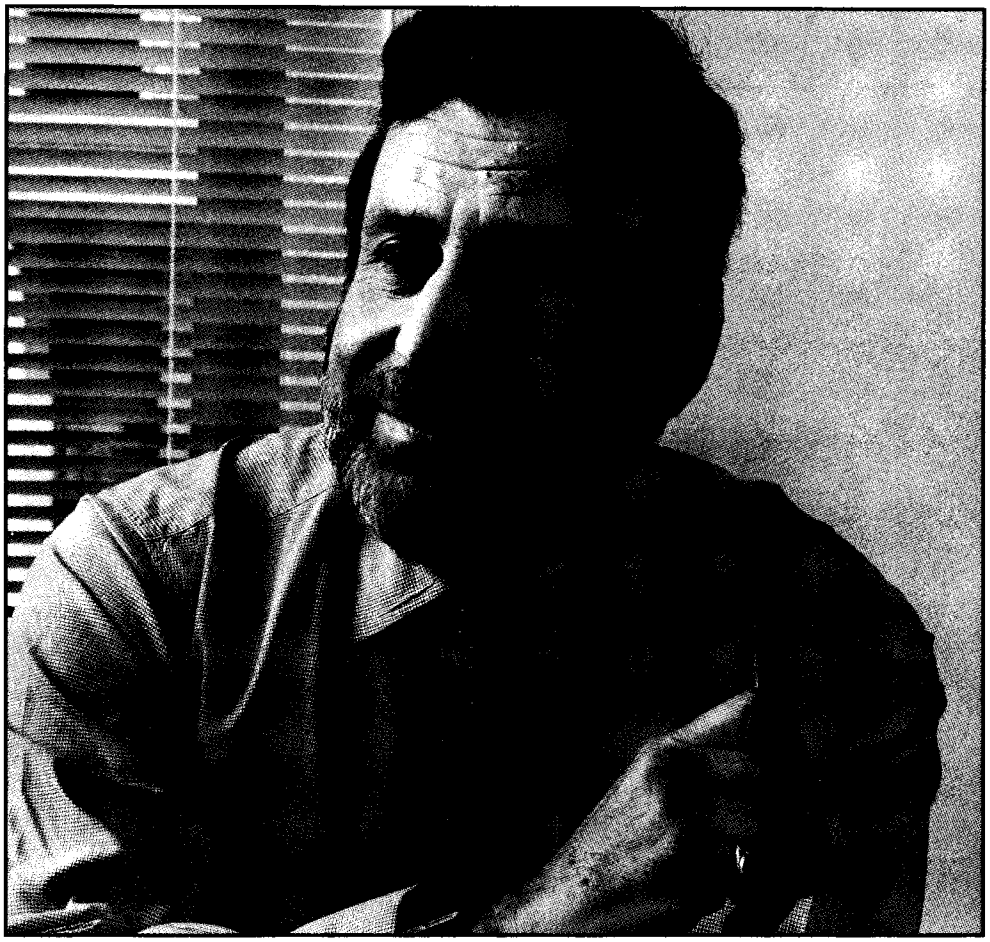


Karen Volkert photos

"None of us studied architecture expecting to be defendants in a lawsuit. Most architects are creative people—they may or may not be businessmen, although the better they are in business the better it is—but few expected to be defendants in this changing profession. It's something that has affected me personally, and, I expect, the growth of many architectural firms. It's caused me concerns, maybe burned me out, in spite of the fact that we've won every one of our suits.

In the middle '70s to the early '80s, I felt insurance was the biggest problem architects faced—that and litigation. And it's a continuing problem, no question about it. But I think that today DPIC Companies is with us for our entire future. Although we had only had two other insurers in 69 years, we really moved away from our previous insurer without any hesitation. DPIC was the first insurer that ever discussed loss prevention. And they were the first insurer that ever gave a damn about how we practiced architecture. That makes us very comfortable. Because, really, they are the most important partner in this firm. They provide us with the assurance we need to know they are going to be there. They assist us in undertaking contracts and procedures necessary to try to keep out of trouble in this litigious world. They provide us with legal counsel when there's a problem brewing. In fact, we took advantage of their Early Warning program just this week.

I feel very good about them."



Martin David Dubin

Dave Dubin is a principal in Dubin, Dubin and Moutoussamy, a 75-year-old architectural firm based in Chicago. He is past president of both the Chicago and Illinois AIA. We value our relationship with his firm and thank him for his willingness to talk to you about us.

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Product Reports 1989

Choosing and describing 720 product and literature items from the more than 3,000 submitted has once again been the task of new products editor Joan F. Blatterman. Upon completing this enormous annual project, Joan offers the following general observations: "Manufacturers, affected by trends toward more and more legislation extending their liability, are placing more emphasis on the safe performance of their products. Additionally, due to ever more stringent fire-code requirements, more fire-rated glass products, either in monolithic or gel-filled two-light configurations, are to be found in this issue."

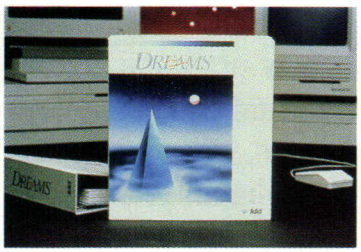
Asked to comment on design trends suggested by the products she reviewed, Joan notes that the availability (due to the popularity) of stone or products with the appearance of stone continues strong. Products selected include natural marble and granite, composite stone, manufactured stone, cast stone, polymer stone-like products, spatter paint that looks like stone, porcelain tiles that look like stone, stone-printed laminates, fabrics in stone patterns, and vinyl that resembles granite.

This year's compendium of new products includes product-related articles in the fields of practice and technology. Beginning on page 15, insurance executive Edward J. Pennington advises architects on how best to apply for liability insurance. And attention is paid this year to the development of increasingly sophisticated modular units, which, surprisingly, are becoming feasible for numerous building types (pages 22-25).

Finally, on page 229 begins the annual index of our own editorial product, ARCHITECTURAL RECORD, indispensable for researchers, archivists, and architects who want to find quickly an article they have remembered or heard about. *M. F. S.*

1 General Data

Computer software
Computer systems
Design office equipment & materials
Information systems
Instruction manuals
Office machines & supplies
Reproduction services & equipment
Testing equipment



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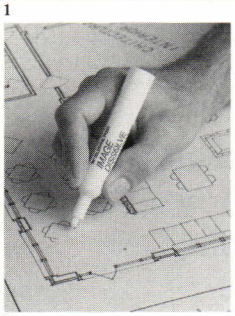
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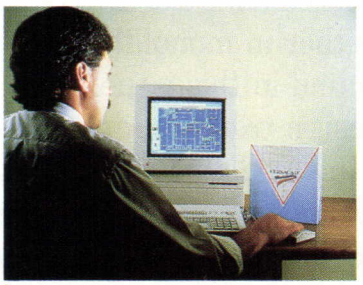
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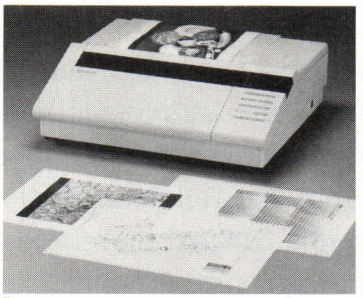
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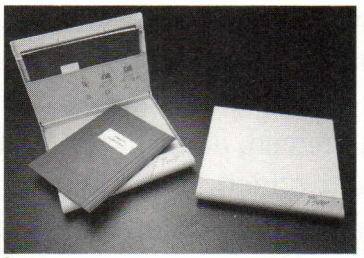
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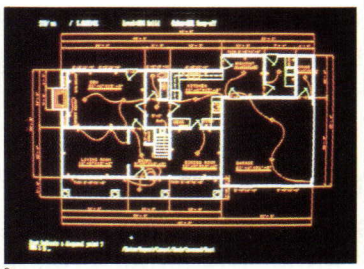
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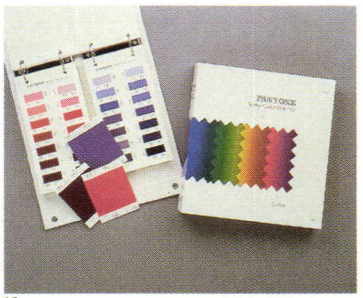


12

1 Object-oriented program
Described as leveraging the power and color capabilities of the Macintosh II while preserving the look and feel of the MacDraft drawing environment, Dreams CAD features include real-world scaling, large (8- by 8-ft) drawing size and enhanced object manipulation capabilities, and associated dimensioning. Innovative Data Design, Concord, Calif.

2 Drawing correction
Supplied in a chisel-tipped cartridge, Image Dissolve erases electrostatic images from vellum quickly without ghosting. The fluid dries rapidly, permitting instant redrawing. Teledyne Post, Des Plaines, Ill.

3 Interactive CAD
FastCAD V. 2.0 has interactive windows that provide four views of the same drawing on screen at the same time. Icon commands can zoom, pan, and change line styles, colors and layers; symbols can be updated globally. Program runs on IBM-PC and compatibles with a Math co-processor. Evolution Computing, Tempe, Ariz.

4 Adhesive lettering
For use in all Kroy 24 and 190/80 lettering machines and compatible with all type fonts, new self-adhesive tape is available in 11 colors for coding and identifying slides and overheads, architectural drawings, shelves and files, etc. Kroy, Inc., Scottsdale, Ariz.

5 3-D CAD
VersaCAD/Macintosh Edition V. 2.0 provides 3-D visualization, which transfers 2-D designs into three dimensions using an automatic extrusion feature. They can be displayed in as many as four views in any mix of wireframe, isometric, hidden-line, and perspective views; changes are automatically updated. Versacad Corp., Huntington Beach, Calif.

6 CAD drafting table
With a 48- by 30-in., 1-in.-thick top, drafting table provides ample space for CAD equipment. Unit comes with a power outlet and cable management panel; options include the split-level monitor/printer platform and pull-out keyboard tray pictured. Garrett Industries, Hudson, Ind.

7 Thermal-transfer plotter
CalComp's ColorView Model 5912 is a B-size desktop plotter/printer with a dynamic rasterizer said to accommodate the high data requirements of dense CAD drawings, freeing the host computer for other tasks. Unit price is about $10,500. CalComp, Anaheim, Calif.

8 Document binder
The GBC 1-Step uses electro-conductive binding points in special report covers to quickly and permanently bind up to 30 loose pages without tape, fasteners, or holes to punch. Competitively priced device measures 12-in.-sq. General Binding Corp., Northbrook, Ill.

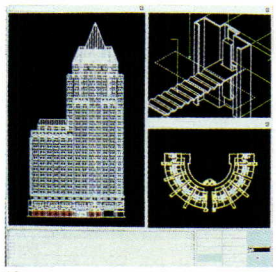
9 Customized CAD
HICAD V. 7.0 offers a new C-language interface that lets users create custom programs for vertical applications such as facilities planning and repetitive floor plans. It can create or import any DXF-formatted file, and allows creation of advanced geometry including commands for parallel lines with trim options, true ellipses, and splines. Hitachi America, Ltd., San Bruno, Calif.

10 Lettering machine
The Merlin Express Elite produces thermal-transfer type in sizes from 6- to 72-point, automatically spaced and aligned on clear, self-adhesive tape. Multiple copies can be printed without retyping; a PC interface is available. Varitronic Systems, Inc., Minneapolis.

11 Periodical index
A quarterly publication, *Search* is intended to provide the professional with a current, easy-to-use index of articles appearing in any of 10 major design magazines. Material is extensively cross-referenced by project name and building type, design team members, graphics, building materials, construction methods, etc. Search Publishing, Inc., Devon, Pa.

12 Textile color selector
An extension of the Pantone Color Selection system, individual cotton swatches are offered to match all of the 1,001 colors included in the original series. Fabric measures 4- by 5 1/4-in., large enough to cut samples to attach to drawings. Pantone, Inc., Moonachie, N. J.

For more information, write item numbers on Reader Service Card



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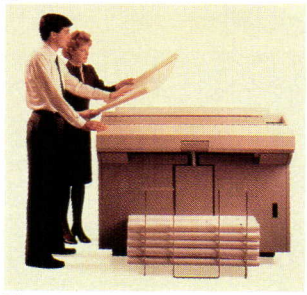

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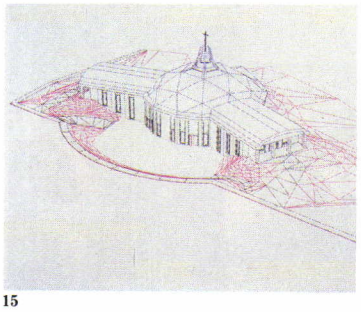

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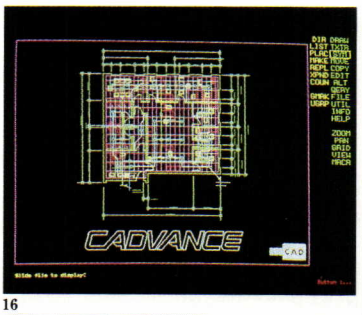

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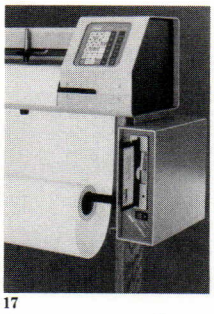

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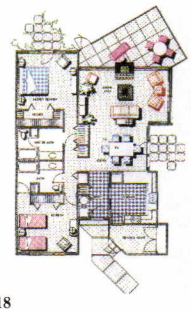

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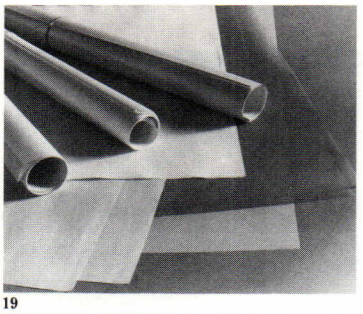

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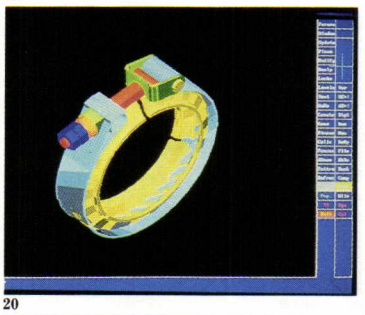

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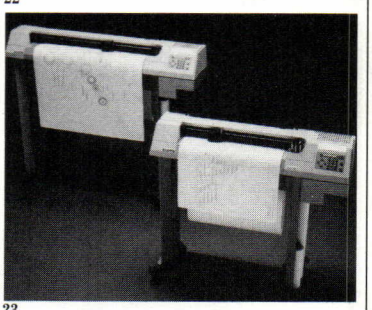

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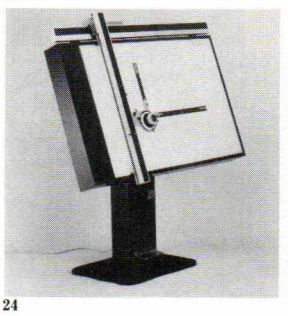

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13 Discipline-specific 3-D CAD
A joint effort of IBM and Skidmore, Owings & Merrill, the Architecture and Engineering Series is built on Graphics Application software. Running on the PC-RT, it provides multiple windows for graphics and text data, and stores all graphic data once in full 3-D representation. Options include a relational database. IBM Corp., Armonk, N. Y.

14 Wide-format laser plotter
An E-size monochrome laser plotter, the 8836 prints at 400 points per inch, at speeds of an inch per second; a draft mode runs twice as fast. To save paper, the plotter can rotate a D-size drawing; finished prints, up to 15 ft long, are automatically rolled, taped, and labeled. Versatec, A Xerox Co., Santa Clara, Calif.

15 Plotter
The Zetadraf 900 is said to offer very fast plotting and powerful features at substantially lower cost than comparable units. The head-mounted carriage holds 8 pens; the unit supports all major plotter languages. Bruning, Martinez, Calif.

16 Linked CAD program
CADvance PC-based CAD now offers a tight two-way link with dBASE III relational database management software, a major enhancement of the program. Users can automatically update the nongraphic database directly from the graphics screen without extracting information first. ISICAD, Inc., Anaheim, Calif.

17 File server
Floppy-disk-based PlotServr Plus frees the host computer for other work while the plotter/printer processes as many as 15 ASCII file plots, in any order called for by the designer. Priced at $895, the file server fits on any Ioline plotter stand, or, with some new cabling, with many other plotter/printer units. Ioline Corp., Kirkland, Wash.

18 C-size plotter/printer
The enhanced 850 GL+ color plotter now offers roll feed, built-in automatic configuration controls, wide-text printing, and the ability to rotate a drawing so the long axis aligns with the media roll. List price is $3,845. JDL, Westlake Village, Calif.

19 Reprographic media
An extensive line of media products now includes sensitized materials for diazo reproduction, blue- and black-line papers, sepia intermediates, diazo films, xerographic copy products, drafting films, and drafting vellums. Azon Corp., Johnson City, N. Y.

20 PC-based 3-D CAD
Standalone MicroStation PC V. 3.0 is fully compatible with VAX-based IGDS graphics software. The package offers shading and hidden line removal of 3-D design files, onscreen menus/sidebar menus, and a number of new commands, such as PostScript output and Chamfer. Intergraph Corp., Huntsville, Ala.

21 Special-effects modelscope
Fiberoptic borescope gives a viewer a realistic human-eye view of an architectural model, and permits photography of that view through the large-size lens. A wheeled tip lets the user roll the scope through the model just as a human would move through the constructed project; a scale simulates views at various eye levels. Olympus Corp., Lake Success, N. Y.

22 UNIX-based CAD
ARRIS AEC CAD software is available for Sun Microsystem's Sun386i workstations; the screen display shown was produced on a Compaq 286. Now offered at a reduced price structure, the basic Building Design and Drafting package includes an AutoCAD DXF translator. Sigma Design, Inc., Englewood, Colo.

23 Pen plotters
Cost-effective pen plotters in the Graphics 18 Series can use both cut-sheet and roll-feed media. Units have a half-megabyte plot buffer, and provide space for storage of supplies and accessories. Schlumberger Graphics, Mountain View, Calif.

24 E-size light table
The French-made Lux table has a scratch-resistant glass working area of 50 by 34 5/8 in. A cooling system lets the adjustable light stay on all day. The viewing surface tilts up to 70 degrees above the horizontal, is vertically adjustable, and can be equipped with drafting machines as shown. Alpia Inc., Northbrook, Ill.

IBM PC/AT workstation, D-CAD editor, and optional IGES, AutoCAD, or Intergraph translators. GTX, Phoenix.

these modules and CADD systems. The Computer-Aided Design Group, Marina del Rey, Calif.

"The Color And Clarity Are Amazing, It Really Gives Impact To Our Ideas."

Multi-Page Enlargement

When your business concerns reach from Lake Michigan to the South China Sea, you need a copier with far reaching capabilities.

So when Kevin Shotsberger was asked to find a new color copier for the engineering firm of DeLeuw, Cather & Company, the Canon Color Laser Copier was the obvious choice.

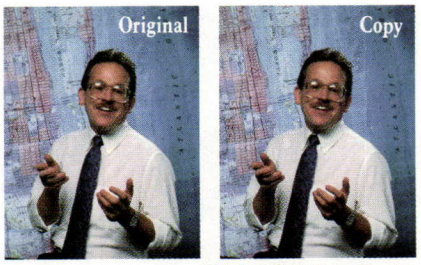
"We've used other color copiers in the past," says Kevin. "But the quality just was never there. Now we can make single color prints of artist's renderings or use the slide projector and multi-page enlargement to make room-length presentation boards."

Turn-around time is equally important with the complexity of the presentations DeLeuw, Cather prepares. Work that once required outside sources can now be done entirely in-house. And at a fraction of the cost.

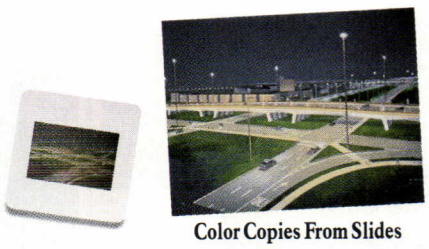
"To do this kind of work on the outside would be positively prohibitive," Kevin explains.

"We can merge documentation photos with text, or use color conversion to highlight or even change the color for greater emphasis—with the Color Laser Copier we can do overnight what used to take days. Add that to the cost savings we can pass along and everyone comes out a winner."

For a company with interests as widespread as DeLeuw, Cather, the Color Laser Copier makes a world of difference.



Digital Full-Color Copies



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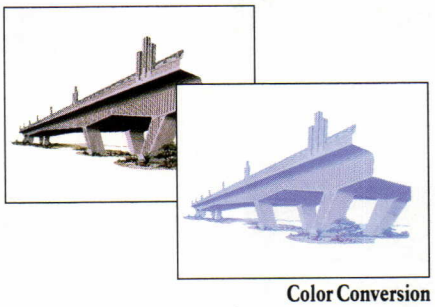
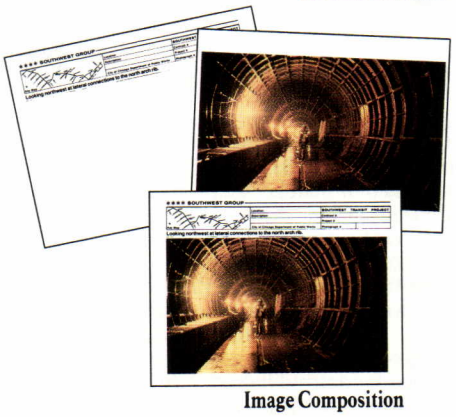


Color Conversion



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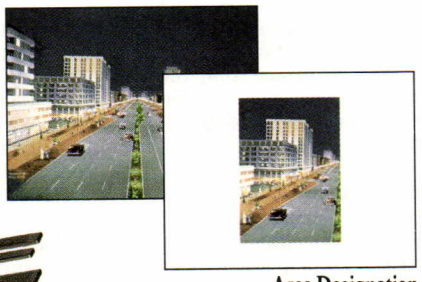

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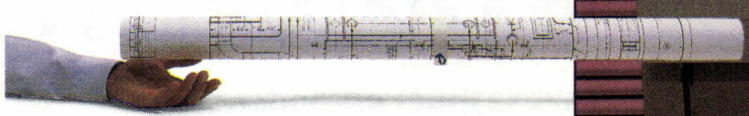

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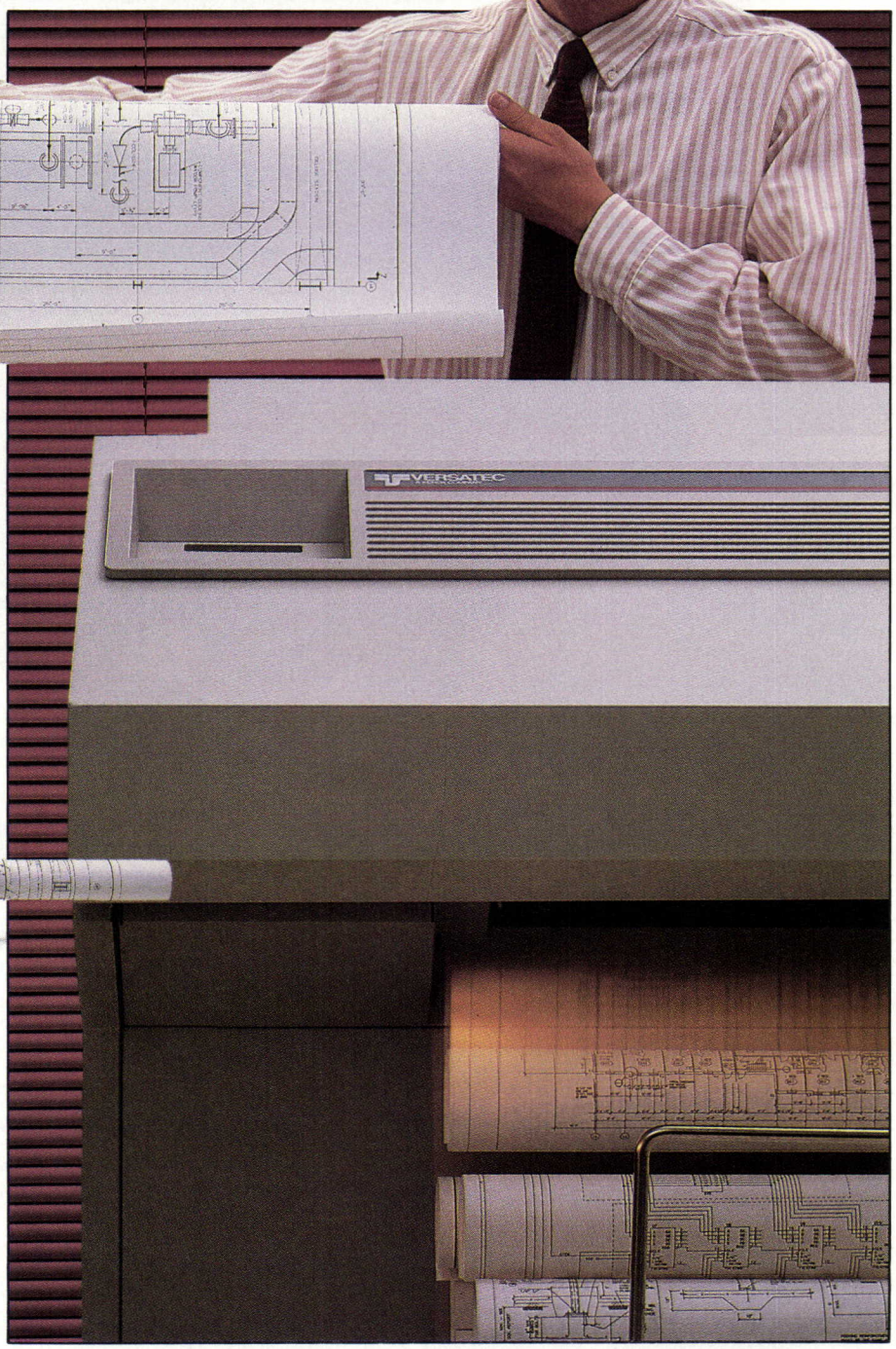

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Calendars	Yes	Yes	Yes
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2 Site Work

Earthwork
Fences & gates
Footbridges
Fountains & pools
Geotextiles/geogrids
Paving & surfacing
Recreational facilities
Retaining walls
Site drainage
Site furnishings
Site utilities

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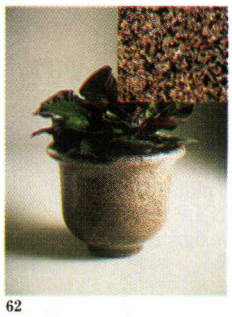

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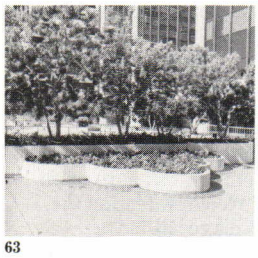

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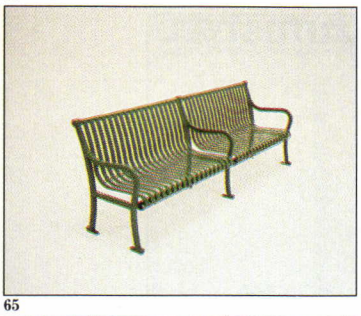

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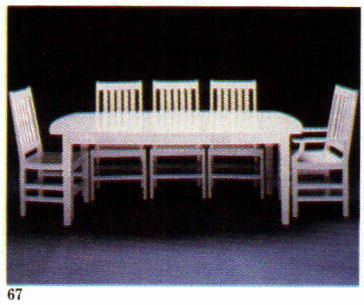

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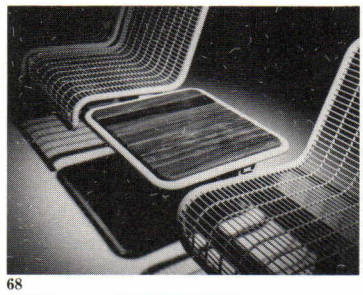

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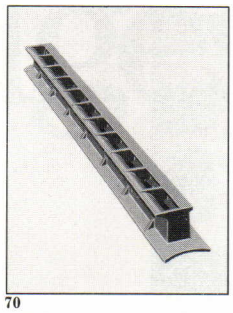

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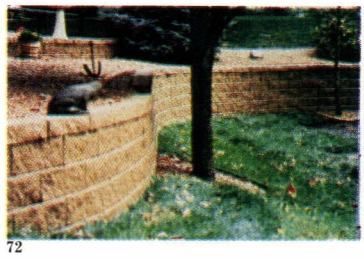

72

61 Teak site furniture
Part of an extensive line of English-made site amenities, the Banbury bench comes in 4-, 5-, and 6-ft lengths, with 16-in.-high contoured seats. Constructed with pegged mortise-and-tenon joints, seating is said to need no maintenance for long-term exterior use. Country Casual, Germantown, Md.

62 Granite-look planters
Fiberglass planters, tables, seating, waste receptacles, and custom architectural details are offered with a gel-coat finish that incorporates granite chips. The new finish is said to provide the variegated look of stone without the expense and weight. Krueger, Inc., Green Bay, Wis.

63 Modular retaining wall
Lightweight, hand-placeable fiberglass retaining walls can be fabricated to site-specific dimensions at a lower cost than poured-in-place concrete. Modules come in a variety of finishes and colors, and may be bolted to the deck or furnished with steel studs for insertion in post holes. Magnalite Systems, Inc., Belmont, Calif.

64 Contoured seating
A wide range of mounting options are possible for the Mobile Seat Bowl, available in 20 models constructed of color-coated tubular steel and wire mesh. Ground anchors, ganging clamps, and other fittings ensure configuration and deter vandalism. Kroin, Inc., Cambridge, Mass.

65 Steel site furnishings
The Renaissance Series is a coordinated group of all-steel benches, seats, and litter containers, urethane powder-coated in a choice of colors. Model shown is the 2807-8 bench with a center armrest. Columbia Cascade Co., Portland, Ore.

66 Composite stone pavers
Offered in 4 standard colors (Colorado Rose is pictured), Polymer-Granite composite stone may be specified in any custom coloration for applications over 20,000 sq ft. Described as totally resistant to salt, pollution, and damage from freeze-thaw cycling, the stone material is now available in 30- by 90- by 1-in. slabs for counter tops. PBI, Inc., Greenwich, Conn.

67 Indoor/outdoor furniture
Based on landscape architect Hans Heistad's original 1908 designs for the Weatherend estate, site furniture is made in Maine of Honduras mahogany painted with Awlgrip polyurethane, or Burmese teak. The Penobscot table pictured measures 84 in. long and 48 in. wide. Imagineering, Inc., Rockland, Me.

68 Rail-based seating
A new site design from Forms + Surfaces, AE9000 Rail Seating has 1- to 4-person seat units, 3 models of wood tables, and litter receptacles to match. Pieces are carried on a heavy steel rail, which can be pedestal-mounted or freestanding in straight or radial segments. Forms + Surfaces, Santa Barbara, Calif.

69 Cast-iron bollards
Cast-iron bollards, in styles that coordinate with this maker's lighting posts, are available in lighted and unlighted models. Bollards may be used alone, or in lines with chains for traffic control. Spring City Electrical Mfg. Co., Spring City, Pa.

70 Slotted vane drain
Engineered to maximize storm water capture from sheet flow on paved surfaces, gray-iron vane drain may be used across slopes of up to 6 percent. Drain configuration is safe for bicycles and pedestrians, and may be used in urban areas. Neenah Foundry Co., Neenah, Wis.

71 Outdoor table
The Carousel offers a choice of 25 color combinations in powder-coated metal or fiberglass round tops, grid- or perforated-metal seats, and connecting base of 2-in. steel tubing. Seats may have a back, or be flat as shown. LFI/Landscape Forms, Kalamazoo, Mich.

72 Gravity retaining wall
An interlocking system of 80-lb concrete block, the rock-finish Versa-Lok wall needs no mortar, footings, or tie-backs (at heights up to 4 ft). Each succeeding course is connected to the one below by fiberglass pins placed into pre-drilled holes. The system automatically steps back; curved, straight, and terraced or tied-back walls of up to 20 ft are said to be economical to install. Versa-Lok, North St. Paul, Minn.

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2 Site Work Product literature

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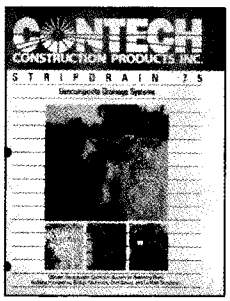
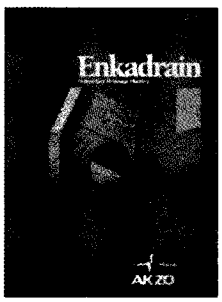


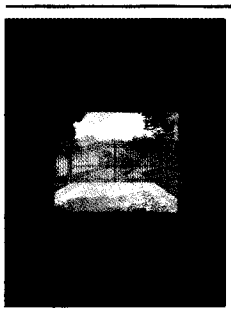
73 Groundwater collection system
A brochure describes the Stripdrain 75 geocomposite drainage system for retaining walls, building foundations, bridge abutments, and roof drains. The system, made of a high-strength, flexible polyethylene core and a nonwoven polyester geotextile, provides filtration, drainage and high compression resistance. Contech Construction Products Inc., Franklin, Ohio.



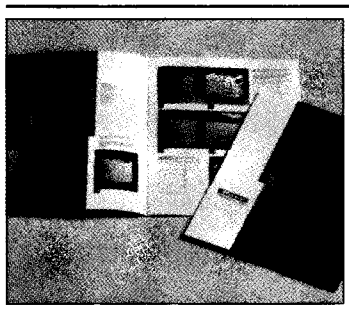
74 Subsurface drainage matting
Literature describes Enkadrain subsurface drainage matting, a product made of a composite fabric and nylon core construction. The matting conveys water to a discharge system while holding back the adjacent soil, replacing traditional solutions such as gravel, stone, graded aggregate, and sand blankets. Akzo Industrial Systems Co., Asheville, N. C.

75 Prefabricated bridges
An eight-page brochure includes color photographs of projects using the company's prefabricated steel bridges. In-house engineering that uses a CADD system is described. A specification outline clearly provides selections for structural load capacity, dimensions, type of steel, finishes and foundation. Continental Bridge Company, Alexandria, Minn.

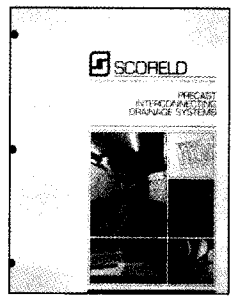
76 Outdoor play structures
A 92-page color catalog features a range of outdoor equipment and furniture. Over half of the catalog is devoted to children's play structures, including drawings describing their components, square footage data, and the "number of kids" it accommodates. Grilles, benches, and planters are also shown. Landscape Structures/ Mexico Forge, Delano, Minn.



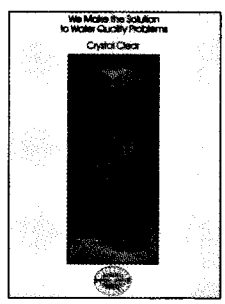
77 Ornamental iron fencing
A variety of standard designs of ornamental iron fencing are described in this eight-page catalog. Detailed designs as well as dimensions are included. The fencing is available in a range of strengths that are applicable for residential, commercial, and heavy-industrial use. Custom fencing is also offered. American Hardware & Ornamental Iron, Tulsa, Okla.



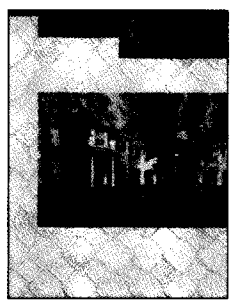
78 Site furnishings
A color brochure features a new line of landscape and architectural furnishings made of ornamental cast stone. The product line includes planters, benches, drinking fountains, picnic tables, and trash receptacles. Custom work is also available. The brochure contains product descriptions and specifications. Haws Drinking Faucet Company, Berkeley, Calif.



79 Drainage system
Literature describes pre-cast concrete drainage systems designed to be used instead of cast-in-place systems. Interconnecting system components include presloped channels, catch basins, end caps, and outlets. Runs can vary in length from a few to thousands of feet with the use of L-, T-, or straight connections. L. M. Scofield Company, Los Angeles.

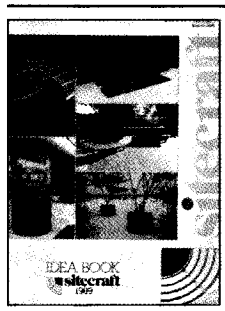


80 Landscape furnishings
Ornamental fountains and ponds are shown in color photographs in this literature. Projects are displayed in the brochure that have installed the package fountain unit consisting of a durable fiberglass liner and small fountain-like aerator. The units are available in a variety of patterns. Four different models are available for existing ponds. Barebo, Inc., Emmaus, Pa.

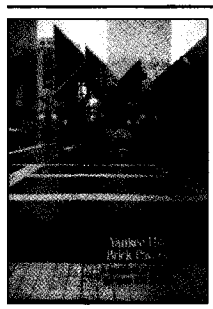


81 Concrete pavers
A color brochure illustrates interlocking concrete pavers in a variety of patterns and colors that are used for walkways, driveways, and cul-de-sac turning lanes. The pavers typically exceed 8,000 psi compressive strength and pass rigorous freeze-thaw tests. A description of the installation process is included. Portland Cement Association, Skokie, Ill.

82 Interior landscaping
Literature describes an interior landscaping environment that is produced with natural and manmade materials. The designed environments, created for lobbies, atriums, and other common areas, have been installed in $50,000 turnkey projects as well as multimillion-dollar retail and commercial developments. Cost of Wisconsin, Inc., Rockfield, Wis.



83 Site furnishings
A 16-page brochure features planters, benches, and trash receptacles made of California redwood, yellow cedar, red oak, purple heart, Philippine mahogany, or Ipe from South America. A chart shows the grain and color of each. Photography, dimensions, and front- and side-elevations are included for each line of furniture. Sitecraft, Long Island City, N.Y.



84 Brick pavers
A four-page color brochure features brick pavers that are available in seven colors. Photographs illustrate the four standard sizes that can be specified and some patterns that can be developed. Projects include downtown areas that have used the pavers to outline pedestrian paths. Pavers have a compressive strength of 14,000 psi. Yankee Hill Brick & Tile, Lincoln, Neb.

3 Concrete

4 Masonry

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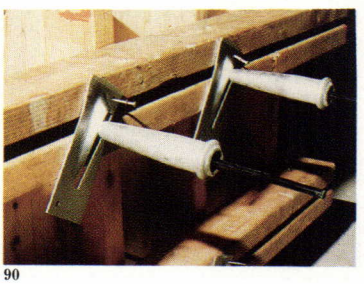

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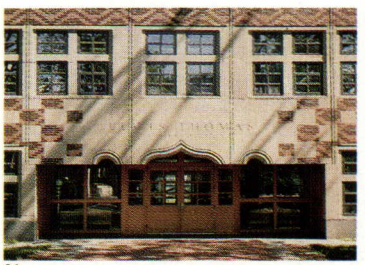

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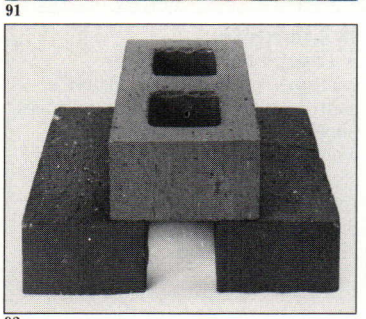

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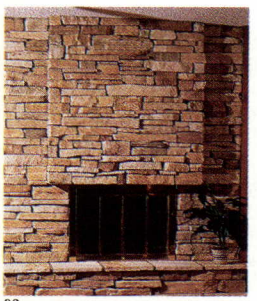

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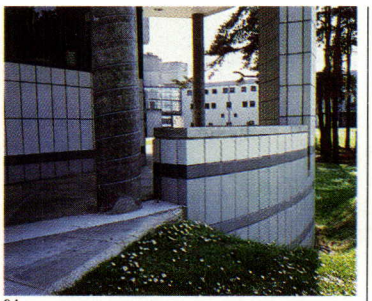

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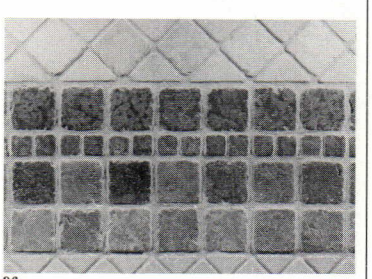

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85 Concrete graphics
Custom-designed, prefabricated metal block-outs can be specified to incorporate large graphics into mass cast-in-place concrete walls. The full-scale block-outs are placed on top of the textured form liner that will create the background; rustication strips can add finer detail. Scott System, Inc., Denver.

86 Aluminum forms
Developed in France, the Salas concrete forming system consists of extruded aluminum channels assembled with self-tapping metal screws. Offered as a kit, the lightweight forms can be carried from job to job in containers for reuse up to 1,000 times; they are described as adaptable to every type of work site. Elan, Chicago.

87 Cementitious foam insulation
Intended as a replacement for formaldehyde and other foamed-in-place insulations, cementitious Air Krete foam is nontoxic, develops zero flamespread and smoke under ASTM E-84-81A, and will neither expand nor contract once placed. Insulation may be used behind brick veneer and curtain walls, and as core fill for block masonry (pictured). Air Krete Marketing, Inc., Manhattan, Kan.

88 Masonry water repellent
Applied with low-pressure airless spray equipment, salt-resistant Dri-Sil 40 silane penetrates concrete and other masonry surfaces without darkening or altering the appearance in any way. It reacts with atmospheric moisture to form a hydrophobic substrate that will prevent water damage and retard weathering. Windows do not need to be masked during application. Dow Corning, Midland, Mich.

89 Colored concrete admixtures
Chromix pigments are water-reducing, set-controlling admixtures for integrally coloring flat and architectural concrete. Shown here used on the San Bernardino County Federal Building, Chromix comes in 20 standard colors. L. M. Scofield Co., Los Angeles.

90 Concrete form tie
The fiberglass SuperTie is designed to replace standard steel snap ties on any conventional form system. One size rod fits all jobs, as ties are cut to fit on-site; ties break flush with the finished wall, require no patching, and will not rust and stain concrete. RJD Industries, Inc., Laguna Hills, Calif.

91 Cast stone
Multicolor designs and intricate relief motifs can be cast directly into stone shapes with any surface texture. The manufacturer's stone is shown here used on Princeton University's Lewis Thomas Laboratory. W. N. Russell and Co., Westmont, N. J.

92 Standard-size hollow brick
Load-bearing hollow brick is now available in the smaller, standard size of common brick. The structural brick comes in a number of natural earth colors; the manufacturer will supply free structural engineering data for specific projects. Higgins Brick Co., Redondo Beach, Calif.

93 Manufactured stone
Wisconsin Weather-Edge, a new type, is available as one of over 40 lightweight manufactured stone products in Cultured Stone. No foundations or wall ties are required for installation indoors or out; stone is UL-listed as noncombustible. Stucco Stone Products, Inc., Napa, Calif.

94 Glazed masonry
The Signature Collection of Spectra-Glaze concrete masonry units is offered in a range of bright or neutral colored facings. The block comes in standard shapes as well as scored acoustical units. The Burns & Russell Co., Baltimore.

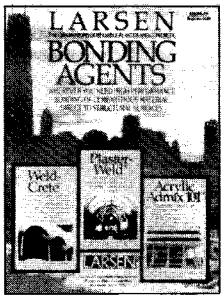
95 Granite
New granite colorations offered by this national stone resource include Aquazul, Gem Mist, Juparana Classico, Bethel White, and Silver Blue. Fabrication and installation services are provided for both interior and exterior stonework. Granite Creations Unlimited, New York City.

96 Marble pavers
Square and triangular cobblestones made of Italian marble in five colors are offered for interior and exterior surfaces. Squared stones measure 4 by 4 by 11/16 in.; triangles are 3 1/4 and 4 3/4 in. by 1/2 in. thick. Smaller insert pieces come in red or white only. Forms and Surfaces, Inc., Miami.

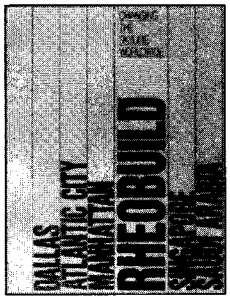
3 Concrete Product literature

4 Masonry Product literature

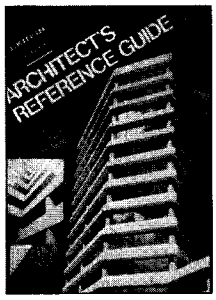
For more information, write item numbers on Reader Service Card



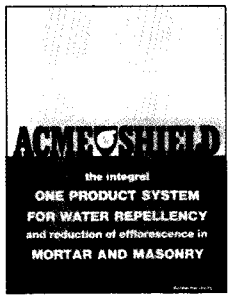
97 Bonding agents
The manufacturer supplies a four-page illustrated brochure outlining the properties of chemical bonding agents, plaster bonding agents, and cementitious bonding agents. Composition and uses, guide specs, technical data, plus standards and approvals, are detailed. Practical applications are included. Larsen Products, Rockville, Md.



98 Admixtures
A 12-page brochure shows examples of the manufacturer's contribution to the part admixtures played in the growth of skylines worldwide. Included are concrete-structured skyscrapers in Dallas, Atlantic City, Manhattan, Singapore, and Saudi Arabia. Master Builders, Inc., Cleveland.



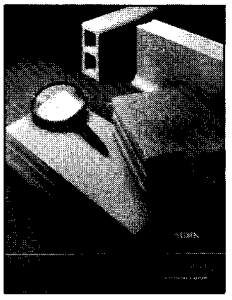
99 Cement reference guide
A color brochure features specification and application data on cements used for architecutral cast-in-place and precast concrete. Also included is information on glass-fiber-reinforced concrete, architectural concrete masonry units, stucco, terrazzo, and masonry mortar. Lehigh Portland Cement Co., Allentown, Pa.



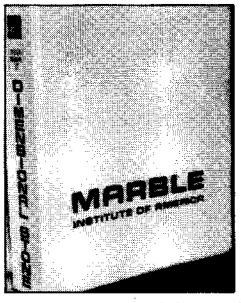
100 Water repellent
New literature highlights Acme Shield, an integral agent that offers water repellency and efflorescence control for masonry units and mortar. Product descriptions, test performance data, and specifications are provided. Acme-Hardesty Co., Inc., Jenkintown, Pa.

101 Exposed aggregate concrete
Practical examples of exposed aggregate concrete finishes in a variety of shadings, textures, and colors are depicted in a full-color brochure. Applications range from lightly etched sand finishes to heavily textured surfaces using larger aggregates. Forsoc-Preco, Plainview, N. Y.

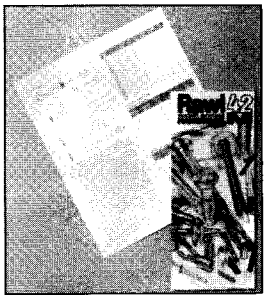
102 Concrete catalog
A cement association's 52-page catalog lists over 500 low-cost publications, slide sets, videos, and software. All aspects of cement and concrete are explained, including architectural concrete, bridges, paving, residential, commercial and industrial buildings, and structural design and analysis. Portland Cement Assn., Skokie, Ill.



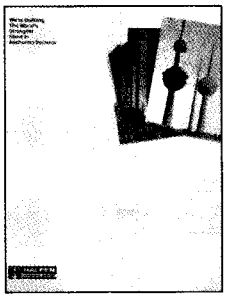
103 Wall systems
Displayed in a four-color folder is a comparative analysis of durable wall systems. Data spotlights resistance, maintenance costs, and flammability. Also included is a chart on wall-cost comparisons for each of the materials. Quotations from the ASTM-C-126 Standard for structural-glazed facing tiles are cited. Stark Ceramics, Inc., Canton, Ohio.



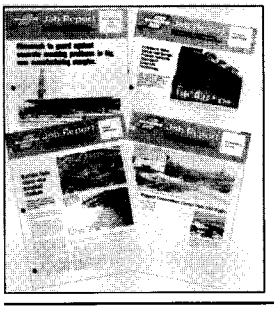
104 Marble design manual
Contents of the revised Dimensional Stone—Volume III present technical data, installation details and suggested specifications for interior, exterior, and specialty stone applications. ASTM standards for marble, granite, and limestone are also included. Marble Institute of America, Inc., Farmington, Mich.



105 Masonry handbook
The revised and expanded edition of the *Masonry Anchor Handbook* contains 76 pages of data on sizes, depths, thread lengths, torque values, and weight standards of anchors and drills. The catalog is arranged in five groupings. The Rawplug Co., Inc., New Rochelle, N. Y.



106 Anchoring systems
A four-color folder offers practical applications and technical drawings of the manufacturer's stainless-steel anchor systems. Included is a listing of projects where the systems are in use. Halfen Anchoring Systems, Charlotte, N. C.



107 Fiber for stucco
Job reports examining a polypropylene synthetic fiber engineered to inhibit the formation of plastic shrinkage cracking in concrete are available from the manufacturer. Projects described range from luxury hotels to sports complexes. Fibermesh Co., Chattanooga, Tenn.

108 Concrete masonry aid
Designing With Masonry Concrete describes the trade association's services. Included are product descriptions, applications, and technical and specification data. National Concrete Masonry Assn., Herndon, Va.

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5 Metals

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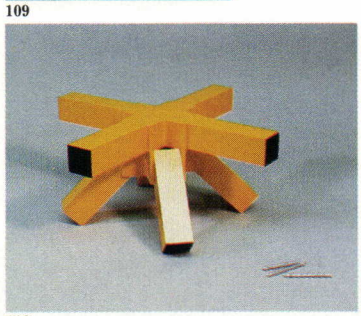
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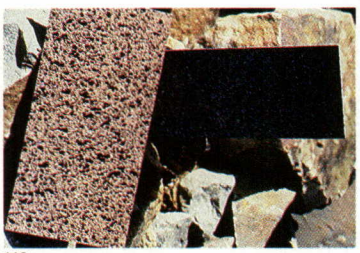
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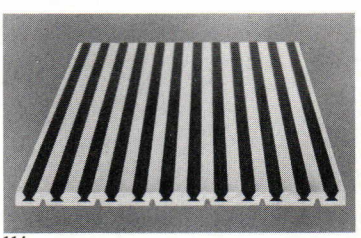
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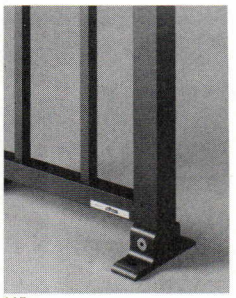
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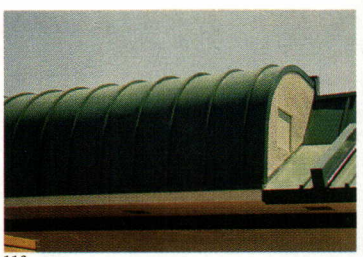
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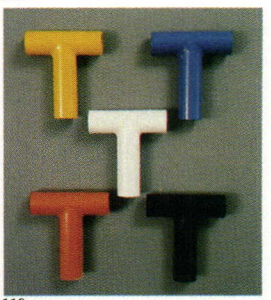
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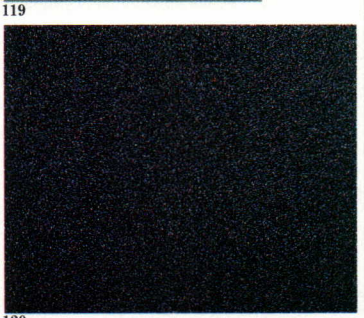
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109 Verdigris railings and fixtures
Introduced in recognition of the current popularity of distressed metal finishes, these railing assemblies and such fixtures as sign holders and hat and hanging bar-glass racks are finished to resemble naturally weathered copper. The company offers custom fabrication. Brass Smith, Inc. Denver.

110 Space frame with boltless hubs
Developed from aerospace research, this new system features connectors of variable configuration joined by shrink-fitting rather than the prestressed bolt required for the manufacturer's previous hubs. Advantages of the all-aluminum system are said to be speed and ease of assembly, cost, and quality assurance, and applications to include hangers, atriums, canopies, shopping centers, and arches. Starnet Structures Inc., West Babylon, N. Y.

111 Column covers
Available in a variety of section profiles and thicknesses, these new aluminum covers come in either a fluorocarbon-paint or anodized finish, and can be sealed against the elements for exterior applications. Dunmon Corp., St. Louis.

112 Spray-on finish for aluminum
By the spray application of fluoropolymer paints, Linetec claims to give aluminum and other surfaces finishes that are extremely resistant to chalking, fading, and other weathering effects. Specialities include spatter and granitelike coatings. Linetec, Wausau, Wis.

113 Bonded bronze casings
Bronze granules in a fiberglass-reinforced resin matrix are available in a variety of designs and can be supplied either laminated to doors and plywood panels or in flat and molded sheets ranging in thickness from 1/16 in. to 1/4 in. ready for application to your own backing. Advantages are said to be lightweight and resistance to wear. Fire retardance is available. Forms + Surfaces, Santa Barbara, Calif.

114 Door saddles and stair nosings
Aluminum saddles and stair nosings with rubber inserts in grooves are designed to provide nonskid surfaces, and to eliminate the dirt- and water-collecting problems of unfilled grooves. They also reduce the wear and installation problems of plain saddles and nosings with abrasive coatings. Zero International, Inc., Bronx, N. Y.

115 Interlocking railings
Railings fabricated from aluminum or other nonferrous metals have interlocking members and mountings that conceal bolts and other such fasteners while meeting BOCA requirements. They come with a five-year paint-adherence warranty and in standard and custom designs. Robern, Inc., Bensalem, Pa.

116 Standing-seam panels curved
This company now offers to curve your standing-seam roof, fascia, and decorative panels in lengths from 4 to 30 ft and widths from 1 to 2 ft in "an almost unlimited" variety of radii and angles. The minimum internal radius is 16 in. Curveline, Inc., Ontario, Calif.

117 Column covers
Available in stainless steel or aluminum, these covers are offered with inconspicuous or wide-reveal vertical joints, ceiling intersection alternatives, and bases that are either recessed or flush to the floor. Steel finishes include six textures and eight satin or mirror-polished color hues. Aluminum columns come with applied-color, clear-anodized, and Duranodic finishes. The C/S Group, Cranford, N. J.

118 Direct-glazed space frame
This new NK system provides for direct attachment of acrylic or glass to the upper chords of this manufacturer's space frame and eliminates the former need for intermediate skylight framing. Modular flexibility, lightweight, clean appearance, and long spans up to 700 ft are said to be among the advantages. MERO Structures, Inc., Germantown, Wis.

119 High-gloss aluminum railings
The new TABCOLOR 1000 and 3000 systems come with a fused epoxy urethane finish in a wide choice of colors and are said to be suitable for high-traffic areas. The 1000 system requires mechanical assembly of elements while the 3000 is factory welded. Ease of assembly is claimed for both systems. Tuttle Aluminum & Bronze, Noblesville, Ind.

120 Ceramic-finished steel panels
This company introduces five metallic finishes to its line of interior and exterior wall panels with fused-ceramic coatings said to offer extreme durability and visual depth. Color fastness and chemical, scratch, and graffiti resistance are listed among the attributes. AllianceWall, Norcross, Ga.

Glick/Boehm uncovers normally-hidden appeal of steel joists in new "power" shopping center.

Developer:
Lincoln Developers, Inc. Raleigh, N.C.

Architect:
Glick/Boehm & Assoc. Charleston, S.C.

Engineer:
T. G. Padgett & Assoc. Charleston, S.C.

Structural Fabricator:
Palmetto Steel Co. Charleston, S.C.

Steel joists, colorfully painted, will replace the traditional ceiling in North Charleston's new Festival Centre. "Not only will this add interest," said the architect, Gary J. Boehm, A.I.A., "but it will help us achieve the open, gutsy feeling we and the owner want."

A combination strip shopping center and enclosed mall, known more popularly now as a "power center," Festival Centre will initially include 350,000 sq. ft., with 80,000 enclosed. An additional 250,000 is planned.

Eye appeal was a bonus feature. The primary reasons for choosing steel joist construction were typical. It was the most economical way to meet the needs, and the availability of steel joists helped meet occupancy dates—critical in shopping centers.

But it also made possible construction features important to the major "anchor" tenants—wide spans and a minimal number of columns, allowing the "wide-open" feeling the big stores want. In every important way, steel joists "looked good!"

Send the coupon for your copy of New Specifications, Load Tables and Weight Tables and 50 Year Digest.

NEW 60th ANNIVERSARY issue.
64 pages of facts and figures with new instructions for designating and specifying the new K-Series joists. $8.50 ($9.50 outside U.S.).

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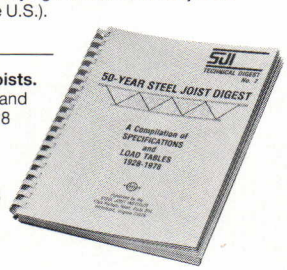

50 years of Steel Joists.
220 pages of specs and load tables from 1928 to 1978 to help you determine load capacities **in existing structures;** plus time saving tips. $34.00 ($44.00 outside U.S.).

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But not Vulcraft. We saw it as one of our greatest challenges ever. Because we not only supplied steel joists and joist girders for the project, we also helped design the framing system so that only limited structural damage could be expected from an earthquake measuring up to 7.5 on the Richter scale.

The Evans & Sutherland building, which contains millions of dollars worth of sensitive computer equipment, is located within a mile of the Wasatch Fault in Salt Lake City.

AFE FROM EARTHQUAKES MPANIES THE SHAKES.

That was essential because the building, which was constructed for Evans & Sutherland Computer Corporation, is located within a mile of the Wasatch Fault in Salt Lake City. What's more, Evans & Sutherland is a leading designer of special-purpose digital computers, software systems and display devices — products extremely vulnerable to damage from seismic tremors.

To plan for maximum protection, Vulcraft was asked to join with the architects and engineers at the design stage of the project. Already, they'd decided to use a "base isolation" system, the most advanced buffering method available. But using our steel joists and joist girders was also an important decision. The joists and joist girders are much lighter in weight than wide flange beams, so the entire building required less steel, lighter columns and less foundation. And this not only lightened the load for the base isolators, it saved appreciably on building costs.

Throughout construction, Vulcraft remained constantly involved, tailoring our delivery of materials to the exact erection schedule and meeting deadlines without fail. What's more, our joists and joist girders helped the steel erectors meet their deadlines. That's because our products are fast and easy to erect — a fact that saves time and money on virtually any job where they're used.

The design team chose a "base isolation" system to accommodate seismic loads. They also specified Vulcraft steel joists and joist girders for the building.

So whether you need Vulcraft's help to protect your building from earthquakes or you want to stay out of the hole when it comes to construction costs, contact any of the plants listed below. Or see Sweet's 05100/VUL.

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For information on flat, striated, concealed fastener and profiled panels, call one of the Inryco Panel Line Dealers above. Or call toll-free 1-800-759-7757.

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5 Metals Product literature

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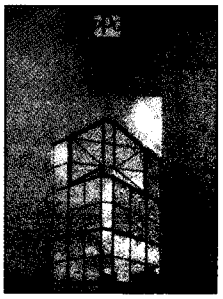
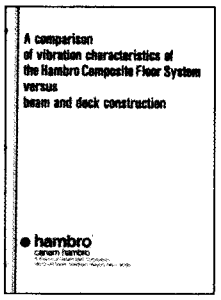
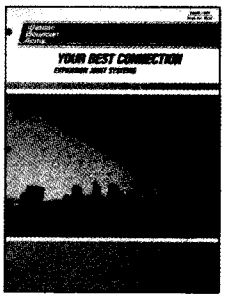


121 Architectural coatings
Illustrated with on-site color photography, a 12-page technical brochure describes the weather-resistant and low-maintenance characteristics of spray-applied coatings for aluminum extrusions and paneling. A chart matches the end use to the performance required, and recommends a coating system. PPG Industries, Inc., Springdale, Pa.

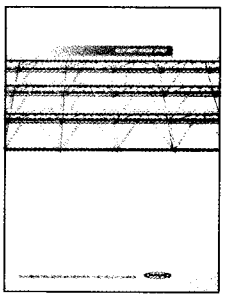


122 Structural deck
A revised technical bulletin compares the vibration characteristics of beam and deck construction with those of the Hambro Composite Floor System, using identical support systems and slab thicknesses. The steel and concrete system is said to lower costs on both material and labor. Canam Steel Corp., Needham Heights, Mass.

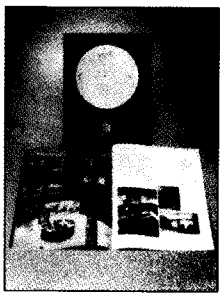


123 Expansion joints
An extensive line of interior and exterior joint treatments is highlighted in a 12-page architectural brochure. Seismic, expansion, fire-rated, and compression joints and seals are shown in detail drawings, product photos, and dimensional/application charts. Test methods and results are explained. Watson Bowman Acme Corp., Amherst, N. Y.

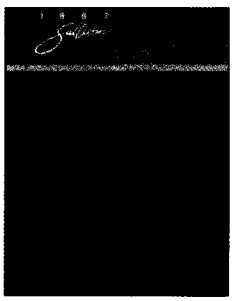
124 Space-frame display
A system of three-dimensional metal spans, the Structura space frame can be clicked together to follow intricate architectural shapes, or used to define spaces within a space. A 22-page design guide shows the colorful system emphasizing displays, carrying loads, and integrating lighting in airports, convention centers, and stores. Lightolier, Secaucus, N. J.



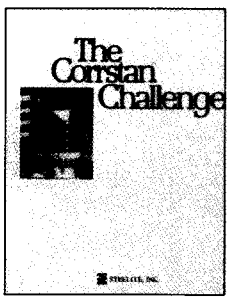
125 Structural spans
A color booklet on the Delta Joist System explains how the sectional trusses offer an economical alternative to traditional bar-joist construction for load-bearing concrete or masonry projects. The joists provide diaphragm bracing, and are designed to carry the manufacturer's MR-24 standing-seam roof. Butler Mfg. Co., Kansas City, Mo.



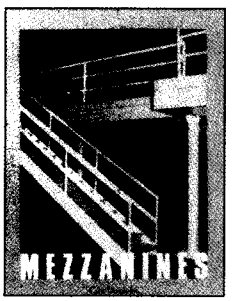
126 Architectural metalwork
A 24-page color brochure illustrates the use of custom architectural and ornamental metal in a variety of projects, including convention and exhibit halls, stores, hotels, offices, and transportation facilities. Carlson Metalcraft Co., Inc., Rockland, Mass.



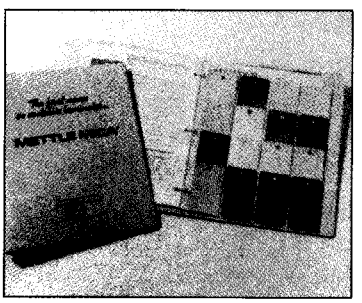
127 Decorative metal treatment
A Graphiclad design guide explains the paint-on-aluminum process, illustrating the range of custom patterns and colors. Three pattern colors, in different intensities, can be applied over a metallic base color to create the appearance of three-dimensional graphics for exterior and interior surfaces. Cupples Products Div., H. H. Robertson Co., St. Louis.



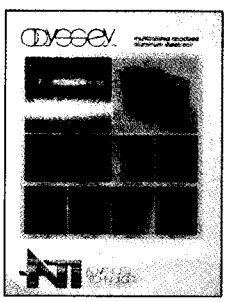
128 Corrosion-resistant coating
The Corrstan Challenge, an eight-page folder, includes project photography demonstrating how the coil-coated metal has withstood aggressive, corrosive environments for over 25 years in some cases. Pertinent ASTM tests are discussed. Steelite, Inc., Pittsburgh.



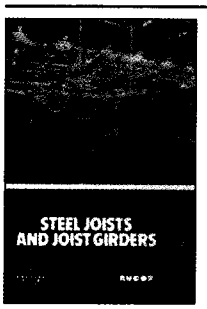
129 Structural mezzanines
Cubic Designs' eight-page color catalog details a line of custom-designed single- and multilevel-mezzanine systems. Structures can be used to create functional spaces within a plant, as well as for cafeterias, locker rooms, and trade-show exhibits. Cubic Designs, Inc., Milwaukee.



130 Metallic laminates
A design and specification binder supplies samples of Mettle Mica metallic laminates, suggesting both the variety of metals available and the product's application on architectural and casework surfaces. The October Co., Inc., Easthampton, Mass.



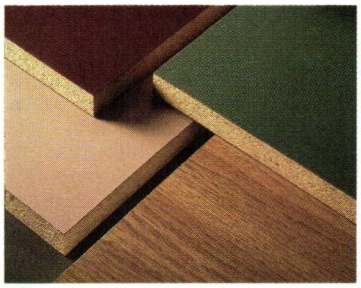
131 Colored anodized aluminum
A illustrated brochure explains the Sublichromie process of adding process color to anodized aluminum sheeting and coil. An "Oscar" winner at the most recent Batimat Show in Paris, the technique is said to open up many design possibilities for architects, designers, and others working with decorative metal surfaces. Advanced Technology, Inc., Greensboro, N. C.



132 Steel joists and girders
A four-page architectural catalog explains the benefits of high strength-to-weight-ratio joists and joist girders, stressing the design flexibility, materials savings, and installation economies of the framing system. Vulcraft, Div. Nucor Corp., Charlotte, N. C.

6 Wood & Plastics

Architectural woodwork
Connectors & supports
Laminated & processed sheets
Lumber
Plastic fabrications
Plastic laminates
Prefabricated structural plastics
Prefabricated structural wood
Simulated wood
Stock millwork
Wood treatment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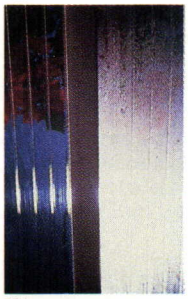
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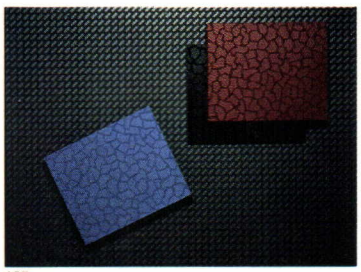
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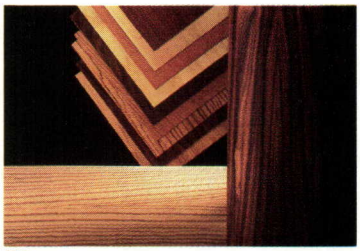
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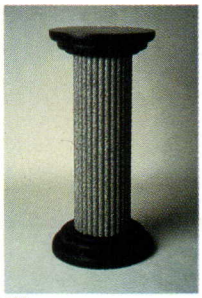
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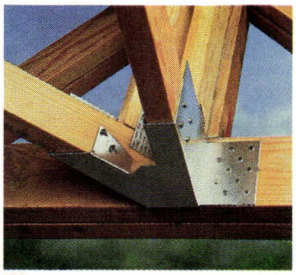
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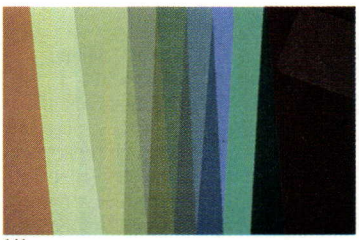
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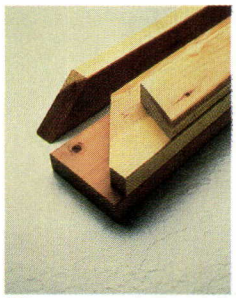
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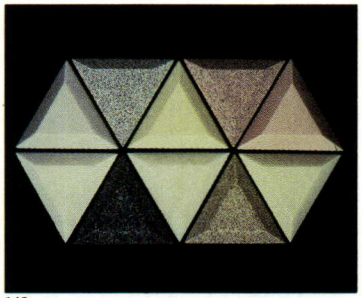
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133 Fire-rated laminated panel
Suitable for furniture, casegoods, and displays, prefinished DuraDesign FR panels apply high-pressure, scratch-resistant laminates to the manufacturer's fire-retardant Duraflake FR to provide a variety of colors and patterns and a Class I fire rating. Duraflake Div. of Willamette Industries, Inc., Albany, Ore.

134 Drip-free greenhouse glazing
Eight- and 16-mm-thick double-skin Exolite No Drip acrylic sheets have a proprietary coating developed to prevent light-reflecting and potentially harmful (to plants) condensation droplets and fog from forming on greenhouse glazing. The maker claims that besides increasing light transmission by 10 percent, this material is self-cleaning. Cyro Industries, Mt. Arlington, N. J.

135 Patterned laminate
A high-gloss finish and textured, patterned effects characterize Formica Corporation's Design Concepts Collection 2. The latest additions to this line are Flip, a composition of ovoid motifs, and Rock, a design reminiscent of fieldstone. Formica Corporation, New York City.

136 Curved stair
The Mylen Curved Stair System of 1 3/4- by 11 1/2-in. stringers and 1 3/4-in.-thick treads—both of solid oak—does not require a central support column. Custom orders are received for staircases of any height, arc, and diameter up to 18 ft. Mylen Industries, Inc., Peekskill, N.Y.

137 Wood-veneer laminate
Wilsonart Craftwood combines 16 species of wood veneer with a phenolic backer, a process which the manufacturer describes as fusing the esthetics of the natural material with the durability and ease of fabrication attributed to high-pressure decorative laminates. Edge-banding may be obtained in 8 species. Ralph Wilson Plastics Co., Temple, Tex.

138 Bendable solid surfacing
The illustration above shows the adaptation of the newly introduced Avonite Tambour in the shaft of an 8-ft-high columnar pedestal. A nonporous polymer composite surfacing material, Avonite can also be bent, as in the capital and base in photo. The maker encourages use of the stonelike material for Classical designs. Avonite, Inc., Sylmar, Calif.

139 Plated truss hanger
Introduced in a new catalog directed exclusively at the plated-truss industry, the THJ truss hanger is a single-piece, nonwelded connector for multiple truss members. This component is available skewed either left or right. Simpson Strong-Tie Co., Inc., San Leandro, Calif.

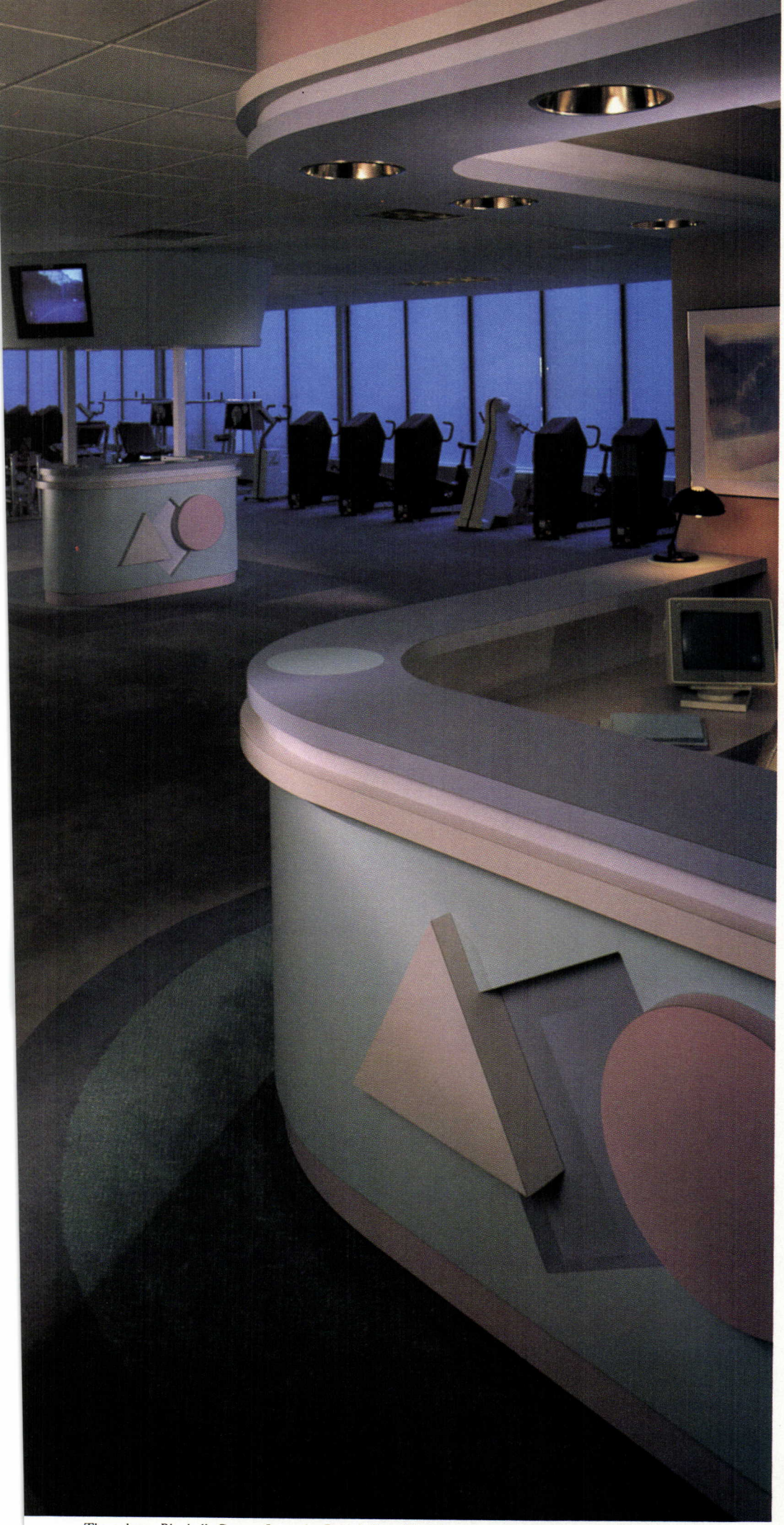
140 Engineered lumber
The Parallam PSL (parallel-strand lumber) process bonds together long strands of wood veneer with waterproof glue and cures them with microwave energy to produce composite beams. According to the manufacturer, Parallam has two-and-one-half times the design strength of construction-grade lumber and possesses the uniformity of some grades of steel. Beams, headers, and posts come in various thicknesses, in lengths up to 66 ft. Parallam, Vancouver, B. C.

141 Decorative laminate
Twenty new solid colors in textured and gloss finishes expand the Nevamar line to 91 hues. Tinted neutrals as well as vibrant '50s-inspired greens and periwinkles are among the latest offerings. Nevamar Corp., Odenton, Md.

142 Kiln-dried redwood
Kiln-drying redwood to 19 percent or less moisture content, before trimming and planing, reportedly ensures true dimensions and precise grading, virtually shrinkage-free. Desert Dry Redwood may be ordered in 2- by 4-in., 2- by 6-in., and 2- by 12-in. sections, in lengths up to 20 ft. Louisiana-Pacific Corp., Portland, Ore.

143 Guaranteed solid surface
A 10-year limited warranty now covers both commercial and residential uses of Corian solid surface products in the U. S. and Canada. This coverage includes material as well as labor costs for replacement or repair. Corian also carries a Class I flammability rating. Du Pont Company, Wilmington, Del.

144 High-strength hardwood
HWH Corp. specializes in tropical hardwoods that resist weather, decay, insects, chemicals, and fire without recourse to chemical preservatives or retardants. In addition to supplying wood for heavy-service construction, such as bridges and bulkheads, HWH fabricates entire installations. HWH Corp., Montgomeryville, Pa.



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The media: WILSONART Color Quest® Decorative Laminates.

The design team: Laura Bordeaux, AFF, IBD and Mike Bartalotta, both of Hartford, Connecticut.

Bordeaux comments: "I wanted the center to be a complete departure from anything institutional; a playful environment, designed to motivate employees past the door and through their workouts. WILSONART Color Quest proved to be the perfect vehicle. It gave me the selection I needed. And the palette to color coordinate everything from the carpet to the clock's secondhand."

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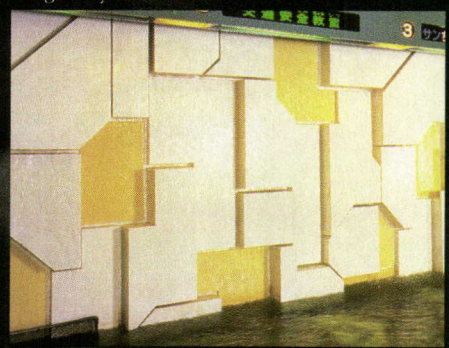
Interior design by Loebl Schlossman and Hackl

The Inn at Morro Bay, Morro Bay, California
Designed by Mabel Shults & Associates

Conference Table, Bayswater, Western Australia
Designed by Christou and Vuko



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Designed by Kodo Neriko

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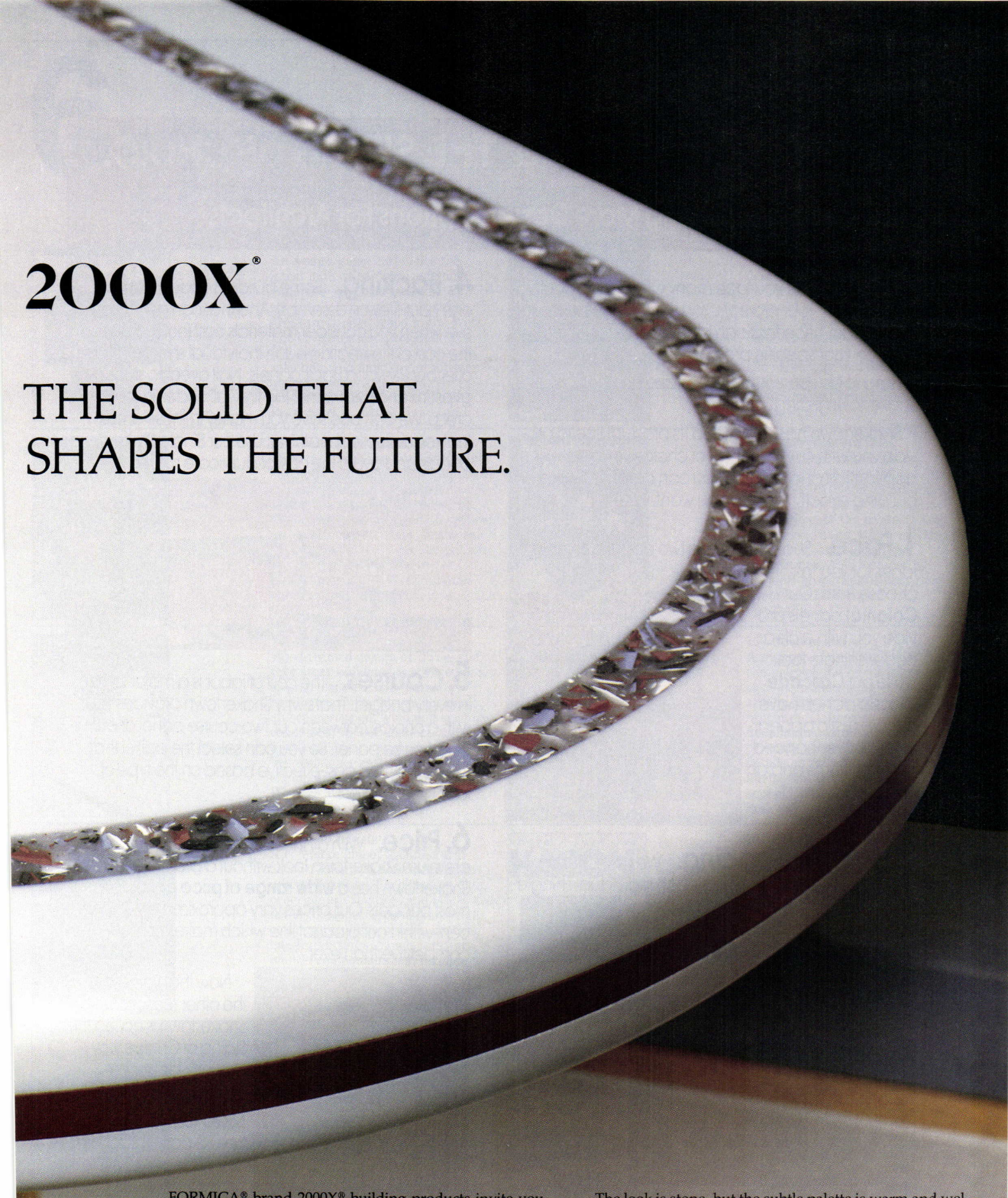

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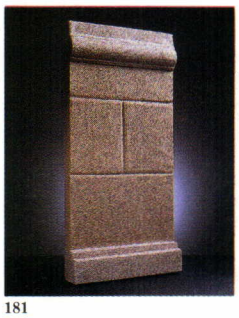

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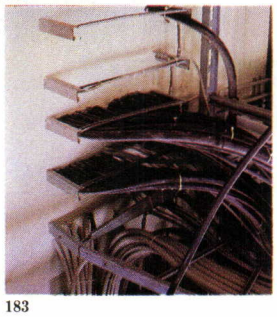

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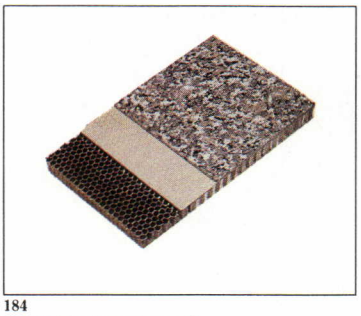

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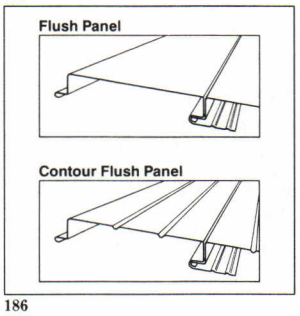

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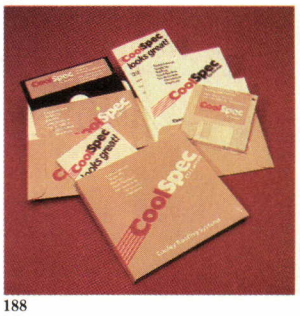

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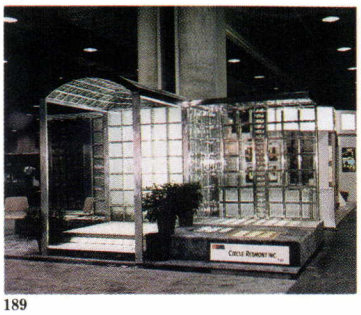

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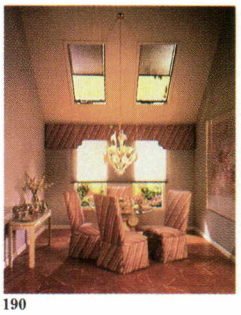

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181 Stone-texture finish
Aurora matrix is said to give the look of real marble and granite at less than half the cost. The three-part system consists of a colored matrix troweled over a plaster/Portland cement base coat, then surfaced with 1/16-in. colored aggregates using a power spray. Senergy, Inc., Cranston, R. I.

182 Vinyl siding
Recently introduced 45/55HP is a double-lap siding panel, more than 1/2 in. thick. A 1-in. butt edge gives the siding a sharp shadow line, and a double, staggered nailing hem facilitates correct installation. The premium siding is offered in seven low-gloss colors, and is covered by a lifetime warranty. Wolverine Technologies, A CertainTeed Co., Dearborn, Mich.

183 Firestop mortar
Cementitious Novasit K-10 adheres to concrete, masonry, galvanized steel, and most common through-penetration materials, with little or no damming or forming required. Tested in wall openings of up to 55 sq ft, and in floor penetrations of up to 30 sq ft, the mortar is classified for both flame and temperature ratings under ASTM E 814-83. Bio Fireshield, Inc., Concord, Mass.

184 Lightweight stone panels
Aluminum honeycomb-core cladding panels are faced with natural granite, marble, and limestone in polished, honed, or sandblasted finishes. The stone is bonded to the core with a waterproof reinforced epoxy sheet; the veneered panel weighs less than 3 1/2 lb per sq ft. Panels up to 4 by 8 ft are offered. Stone Panels, Inc., Carrollton, Tex.

185 Monumental skylights
The Bristolite structural skylight is constructed with custom-extruded aluminum framing components welded or bolted together. Glazing options include glass, acrylic, fiberglass, and polycarbonate. The manufacturer provides energy and daylighting performance studies and full engineering analyses, as well as installation. Bristolite Skylights, Santa Ana, Calif.

186 Metal roofing panels
Two new flush-type panels are offered in 16 colors of PAC-CLAD aluminum or galvanized steel. The flush panel and contour flush panels, intended for use in fascia, wall-panel, or soffit applications, have on-center dimensions of from 11 to 18 in. Petersen Aluminum Corp., Elk Grove Village, Ill.

187 Spray-applied insulation
Cafco Heat-Shield R-20, rated noncombustible under ASTM E136-73, may be applied up to 5.2 in. thick, even overhead, without mechanical reinforcement. The thermal/acoustic insulation is particularly suitable for irregular surfaces and hard-to-reach areas. Isolatek International Corp., Netcong, N. J.

188 Single-ply specification
Running under most IBM-compatible word-processing packages, CoolSpec software lets the roof designer customize required specifications for each particular application of Cooley's Tyrin membrane system. Free to qualified professionals, CoolSpec includes complete user documentation. Cooley Roofing Systems, Inc., Pawtucket, R. I.

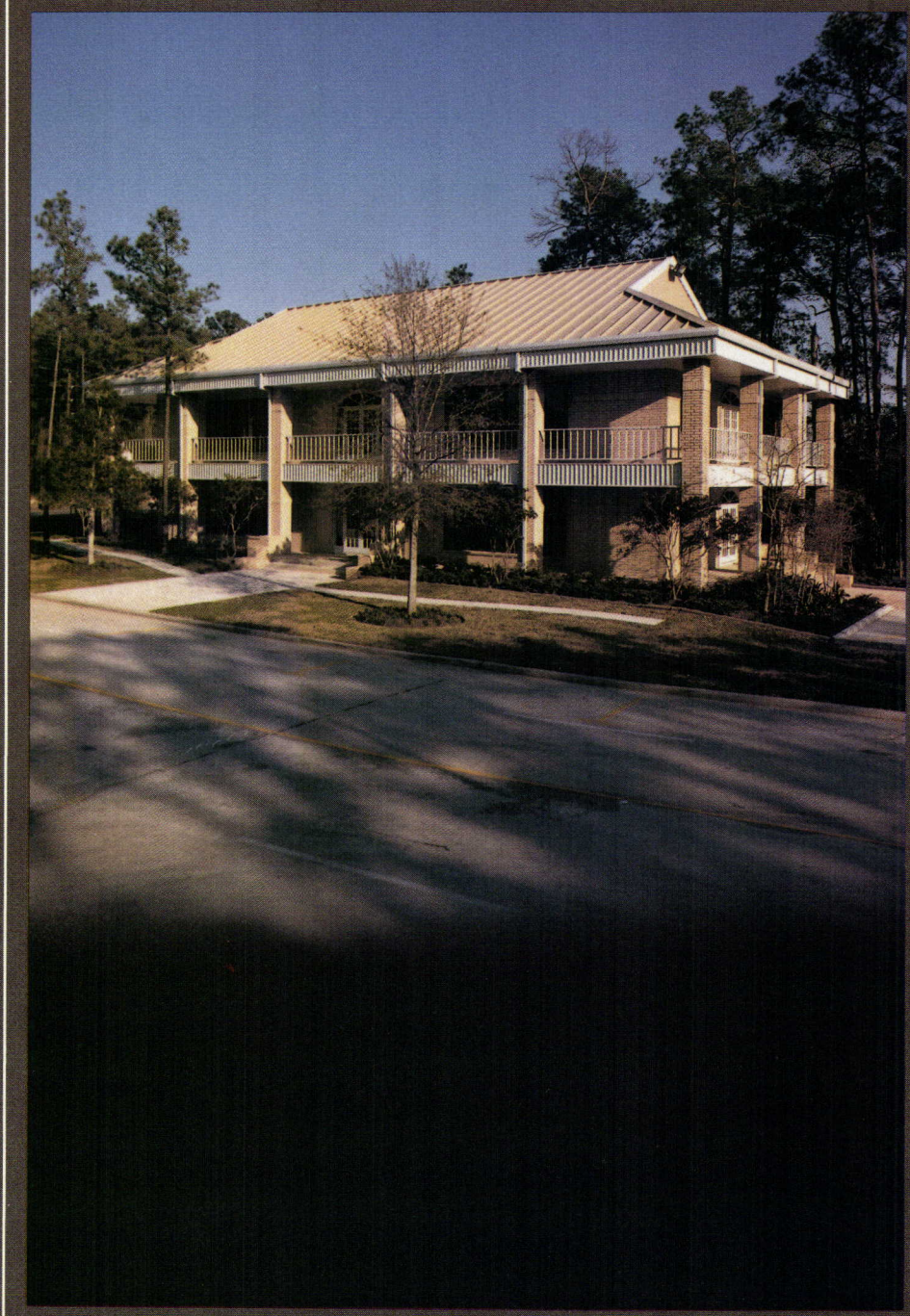
189 Prefabricated glass block
Structurally engineered preglazed glass block assemblies are offered for installation as skylights, barrel vaults, wall, floor, and deck lights, stair treads, and sidewalk panels. Components are prefabricated in steel, aluminum, and concrete grid systems. Circle Redmont, Inc., Wallingford, Conn.

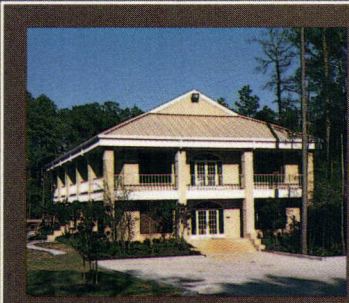
190 Energy-efficient skylight
All nine Sunrise venting and fixed roof windows now come with thermally efficient low-E insulated glass as standard glazing. The transparent coating is said to reduce UV transmission by 71 percent, and has a 10-year warranty against peeling and deterioration. Roto Frank of America, Inc., Chester, Conn.

191 Tile-look metal roofing
Slate Gray and Mission Clay are new colors offered with the Met-Tile metal-panel roofing system. The lightweight, 3-ft-wide panels are suitable for both new construction and retrofit applications. An expanded line of accessories includes Spanish ridge and hip flashing, and gable trim. Met-Tile, Inc., Ontario, Calif.

192 Exterior-insulation design
Designing with Dryvit is a two-volume encyclopedia of technical, design, detail, and specification information offered to assist the architect working on exterior insulation and finish systems. Photo above shows one of the over 170 design details contained on AutoCAD-compatible disks supplied with the package. Dryvit Systems, Inc., West Warwick, R. I.

DID YOUR LAST OFFICE BUILDING USE THE ADVANTAGES OF METAL?





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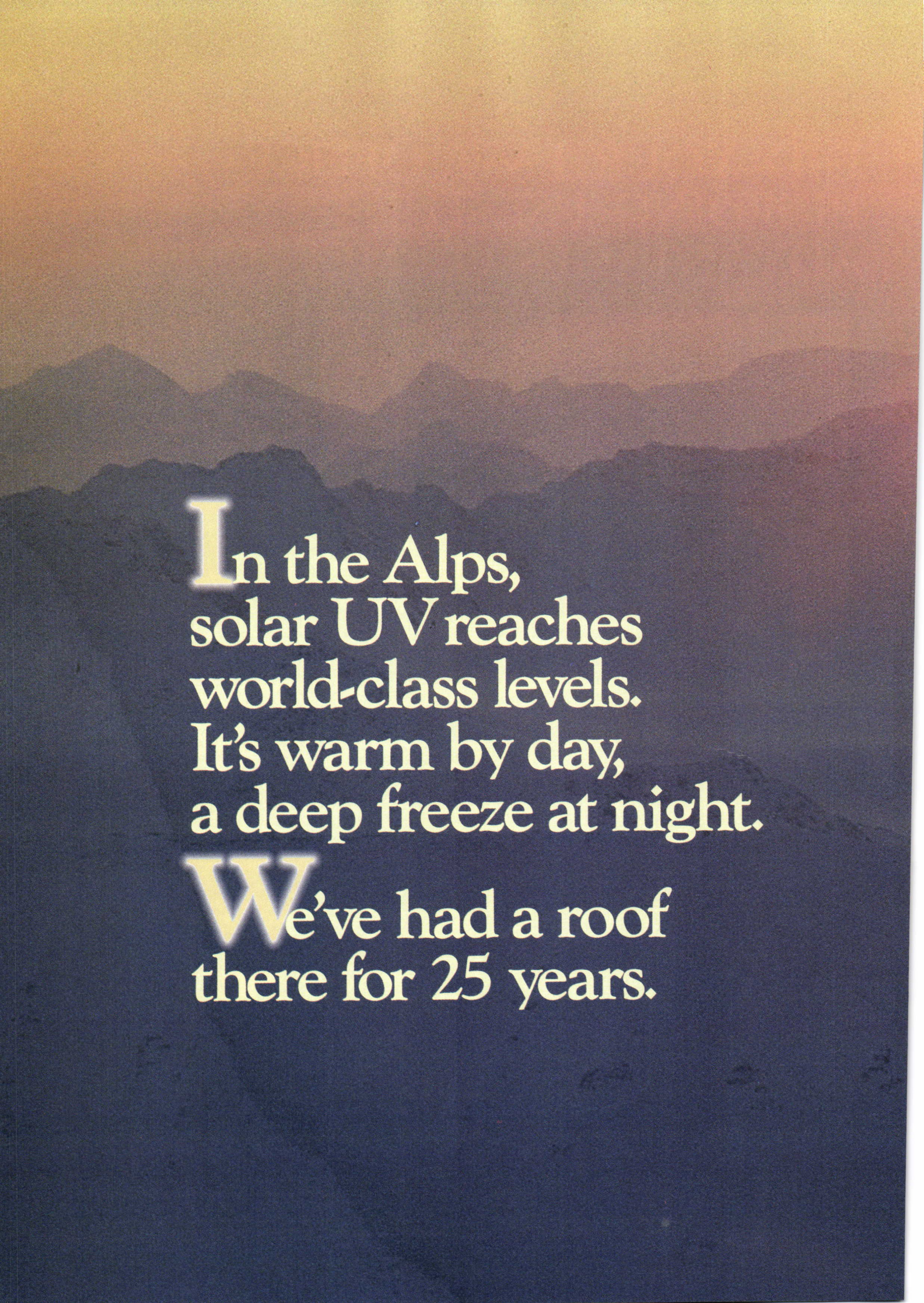
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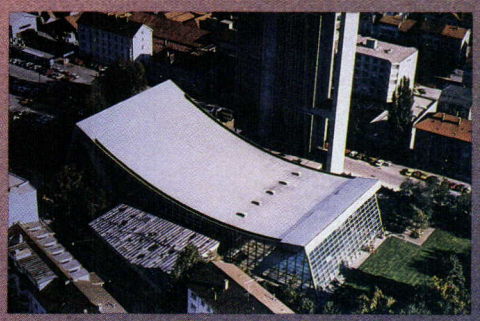


Switzerland can be rough on a roof. Relentless ultraviolet radiation. Thermal shock day in and day out.

And for 25 years our roof on Biel's popular Congress House and Indoor Swimming Pool complex has been performing successfully.

To document this performance, we subjected samples of that veteran roof to a battery of tests.

It was still flexible. Still hot-air weldable. Still watertight. After a quarter of a century of service.

That's why the Sarnafil system, made in the U.S.A., is doing so well in places like Vail, Miami, Boston, and Chicago.

And why Sarnafil should be your next roof.

Check our specs in Sweet's File 07500/SAS (BuyLine 0189).

Give us a call at 1-800-451-2504; in Massachusetts call 1-800-451-2506. Or write to us at 100 Dan Road, Canton Commerce Center, Canton, MA 02021. We'll send you a full-color brochure outlining the four critical areas of roofing decision-making. We will also give you details on how to obtain a free poster of the photo in this ad.

Other roofing systems say they'll last. But how do you really know?

Sarnafil

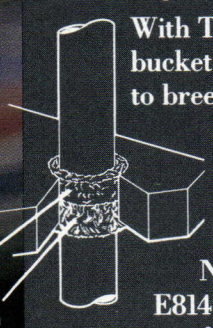
The roof with proof.

Circle 1031 on inquiry card

The non-stop fire/smoke stop.

The savings never end. Because the THERMA FIBER™ Fire/SmokeStop System saves on initial mater cost as well as installed cost. You combine economy wi life-saving dual protection against both fire and smoke

With THERMAFIBER Safing and the big 5-gal. bucket of SMOKE-SEAL Compound, it's easy to breeze through sealing of poke-through penetrations. There's no stopping to re-load. And no framing or bracing to sl things down. (Also available in 30-oz. tu and 3.5 gal. pail.)



Note this system has been tested per AST E814 and is UL-Classified as a poke-through penetration fire stop. In addition, USG Research has tested the system to conclusively demonstrate its effec tiveness as a smoke stop.

Start saving with the THERMAFIBER Fire/SmokeSt System. Write: Thermafiber Division, USG Interiors, Inc., 101 S. Wacker Drive, Chicago, IL 60606-4385. Dept. AR1288

Interiors from every angle.

USG Interiors, Inc.
Thermafiber Division

CLASSIFIED UL®

FILL, VOID OR CAVITY MATERIALS
CLASSIFIED BY UNDERWRITERS LABORATORIES INC.
FOR USE IN THROUGH-PENETRATION FIRE STOP
SYSTEMS NUMBER 165

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USG

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BOTTOMLINE BRILLIANCE.

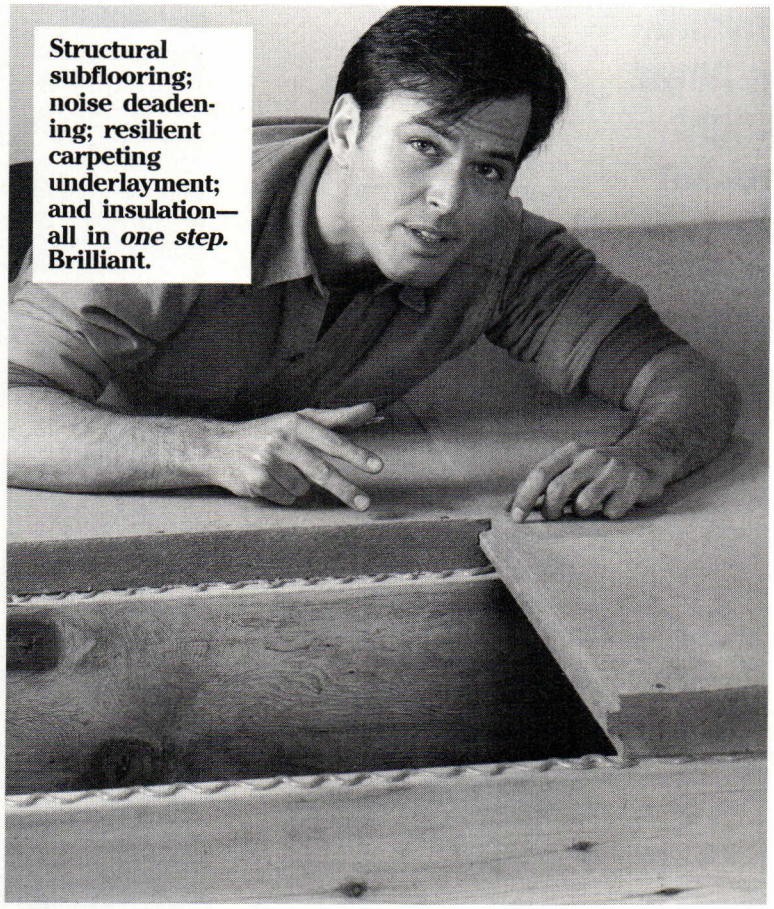
Turn subflooring into a *smart* flooring system in one step with environmentally safe Homasote 4-Way® Floor Decking.

Smart architects have discovered that ordinary, hard, noisy, non-insulating wood subfloors are beneath them.

And they've found a better, smarter, more ingenious alternative: the Homasote 4-Way® Floor Decking System.

Better, because it's *more* than just a structural subfloor.

It provides resilient carpeting underlayment. Adds up to R/4.5 insulation (six times the value of 5/8" wood subflooring). And deadens noise (system test ratings*: IIC-72; INR21; STC 50).



Structural subflooring; noise deadening; resilient carpeting underlayment; and insulation—all in *one step.* Brilliant.

Smarter, because it's 100% environmentally safe, with absolutely *no* asbestos or formaldehyde additives. And it installs in one step.

MATERIAL SPECIFICATIONS

Nominal Thickness	Nominal Size	Weight/ Sq. Ft.	Joists
1-11/32"	2' x 8'	3.0 lb.	16" o.c.
1-3/4"		4.1 lb.	24" o.c.

More ingenious, because this added performance helps fully satisfy the demands of today's energy and quality conscious construction buyer.

Build this proven bottomline brilliance into *your* next commercial or residential job.

For full details, and free sample, call (609) 883-3300. Or write:

*Kodaras Acoustical Lab. Test Report 370-14-66; 370-17-66.

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COMPANY

P.O. Box 7240, West Trenton, New Jersey 08628-0240

SMART ARCHITECTS CHOOSE HOMASOTE.

5662

Circle 1033 on inquiry card

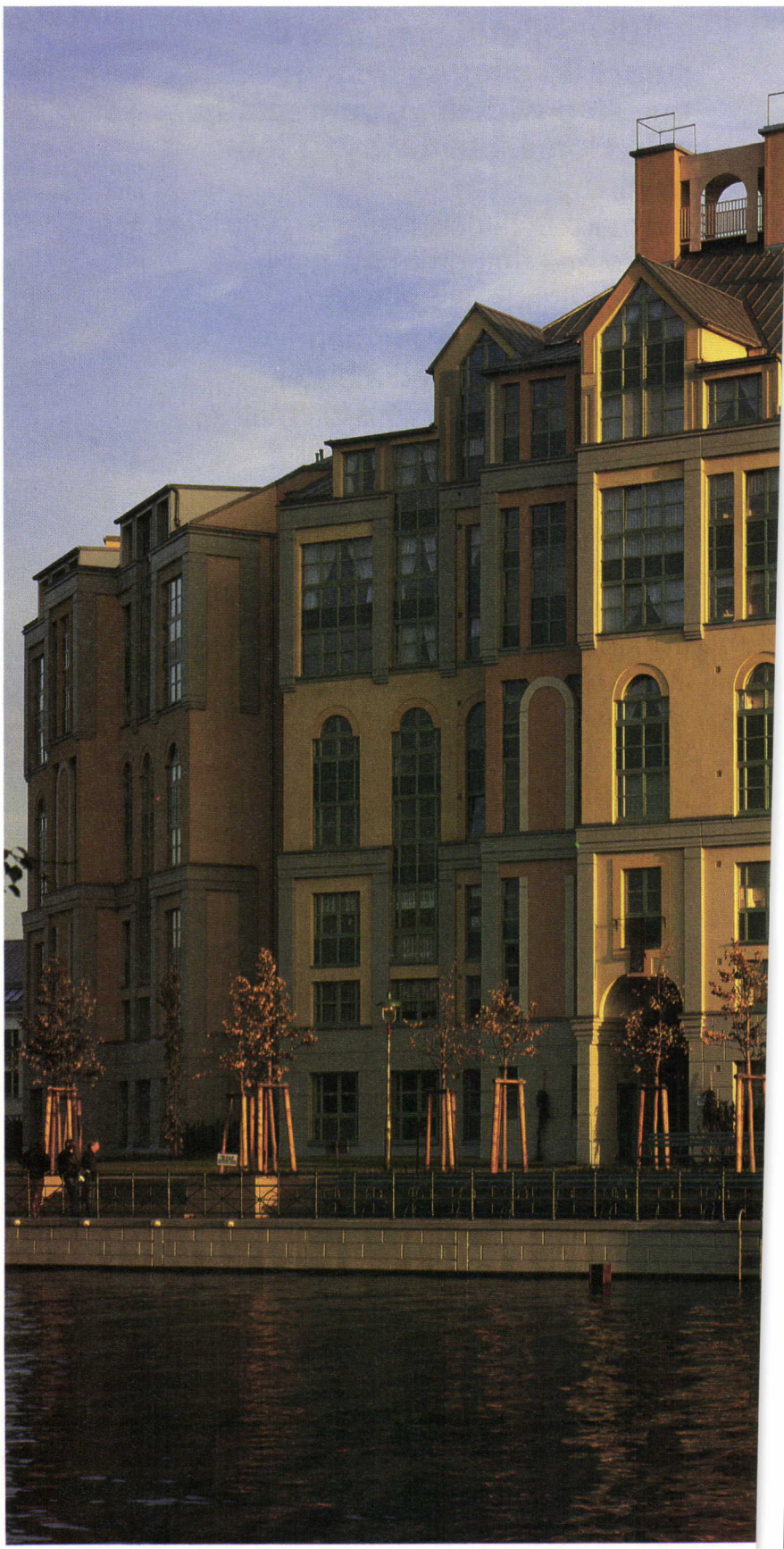
sto®

Versatility you never thought possible with exterior insulation systems.

Creating a stunning surface that intrigues the eye with its form and color while providing optimum building protection demands exceptional materials.

STO Exterior Insulation Systems and Coatings envelope the outside of your building like a protective shield that insulates and resists moisture, yet remains flexible even in extreme or changeable conditions. And STO Wall Systems may be sculpted and scored into shapes you never thought possible.

With over 350 colors and 30 textures, the widest range available, freedom of design is truly at your fingertips.



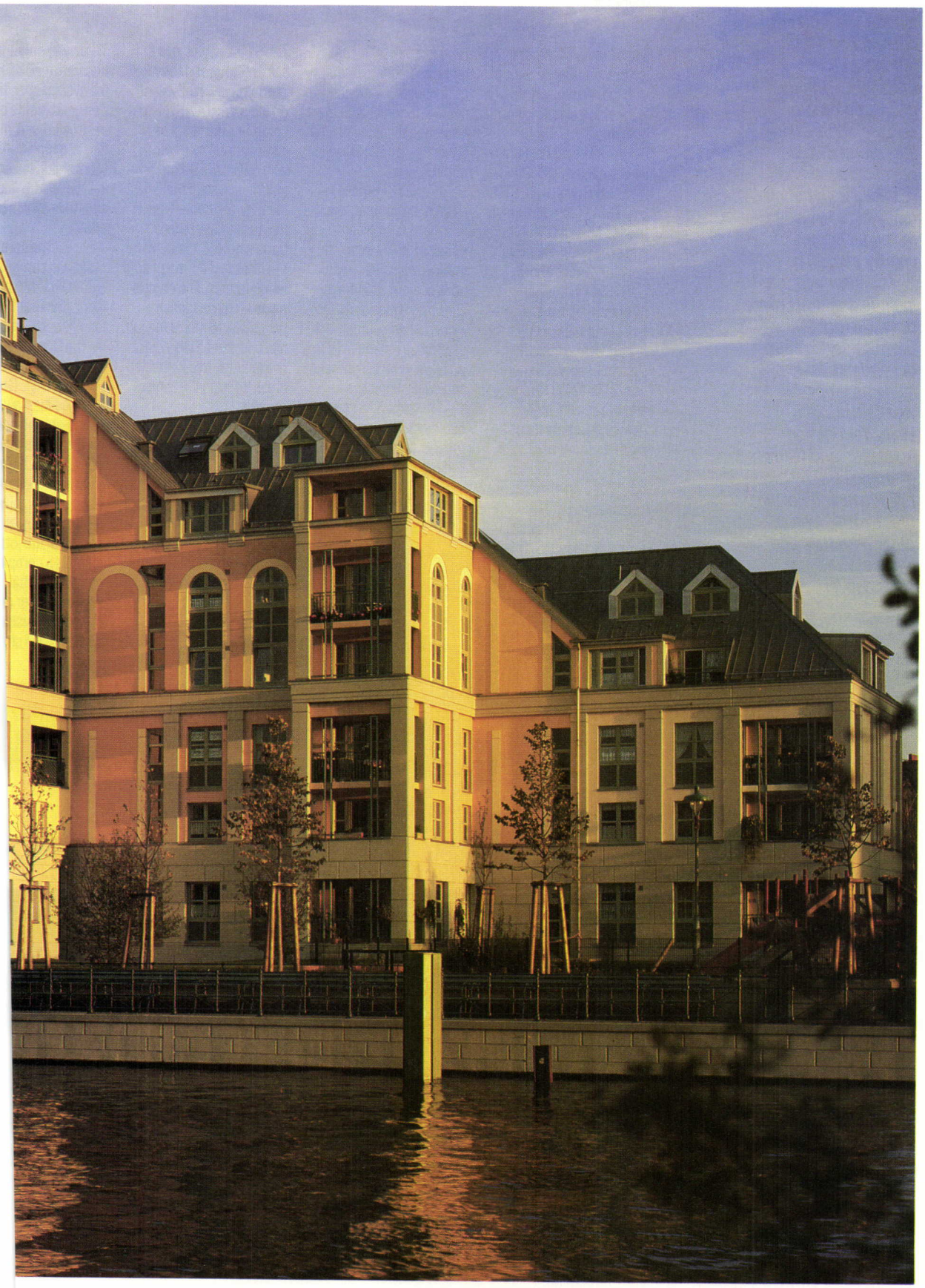
STO INDUSTRIES, INC.

Quality Lane, Box 219
Rutland, VT 05701
Toll Free: (800) 851-5533

A subsidiary of STO Corp.,
the Systems Technology Organization

Circle 1034 on inquiry card

Tegelerhafen
Berlin, West Germany
Architect: Moore Ruble Yudell, Architecture and Planning



Recognized for its design excellence, Phase 1 of the Tegel Harbor Housing Complex was completed in 1987 for the International Building Exhibition in Berlin. Masterplanned by Charles Moore, FAIA, and Moore Ruble Yudell, winners of the design competition, it represents classic Post Modernism at its best.

Tegel Harbor also exemplifies the extraordinary quality and versatility of STO materials through the project's magnitude and award-winning design. Based on STO's theories of Applied Color Use in Architecture, extensive color analysis and renderings were produced by the STO Color Studio. The final colors and forms of Tegel lend each new housing complex its exquisite appeal and accomplish its playful yet dignified integration into the surrounding environment of old Berlin.

sto®

An exterior insulation system for virtually every building condition.

STO Wall Systems shatter the inherent limitations of traditional building materials. With the insulation on the outside of the building, thermal voids are eliminated and replaced with consistently high R-values for high degrees of energy efficiency.

Advanced features include materials of optimum durability, the industry's most dependable fastening systems, superior weatherproofing seals, foundation insulation and waterproofing. The result is full above and below grade protection other materials and wall systems just can't deliver.

SYSTEM I

Opportunities for architectural excellence unfold with the new standards of technological innovation built into SYSTEM I.

The highest quality, completely 100% synthetic EIFS available, STO SYSTEM I provides unsurpassed flexibility, durability and protection. But what's truly innovative about SYSTEM I is the superiority of every individual system component. Unlike the materials in competitive systems, every STO component is 100% synthetic and utilizes the highest quality materials for optimum performance.

SYSTEM I can be utilized on all types of construction with the outstanding performance and aesthetic beauty STO systems are noted for.

SYSTEM II

Here is a perfect medium for providing the durability, protection and versatility of EIFS, together with the exceptional quality of STO Systems – all at an economical price.

SYSTEM II surpasses the competition's best because it's composed of 100% synthetic material combined with 20% cement. That translates into superior performance when compared to the industry standard composition of 50% synthetic and 50% cement.

Whenever high quality marries competitive pricing, the response is widespread popularity.

C-SYSTEM

The STO C-System is fully cementitious and the most economical STO System on the market. C-System combines the latest in cementitious technology with STO's EIFS experience in a system that's ideal for residential use. Because of its cementitious nature, C-System provides fast curing in cold temperatures. The components are packaged in a bag, ready to mix at the job site and can be stored dry, in moisture-free, unheated areas through the winter months.

The C-System can be applied to virtually any substrate, and can be detailed and applied in the same manner as Systems I and II for a high level of thermal efficiency and durability.

TOUGHWALL

The key to punctu
tion lies in TOUGH
the system specifi
designed for the p
of structures from
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Mechanical faster
TOUGHWALL™ t
substrate, whethe
or old.

The core
system is compos
STYROFOAM® br
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Company, and ST
TOUGHWALL Gr
Coat. As the only
mixed ground co
hard coat system
TOUGHWALL Gr
Coat requires no
water added, thu
the highest level
control at the job
result is a compl
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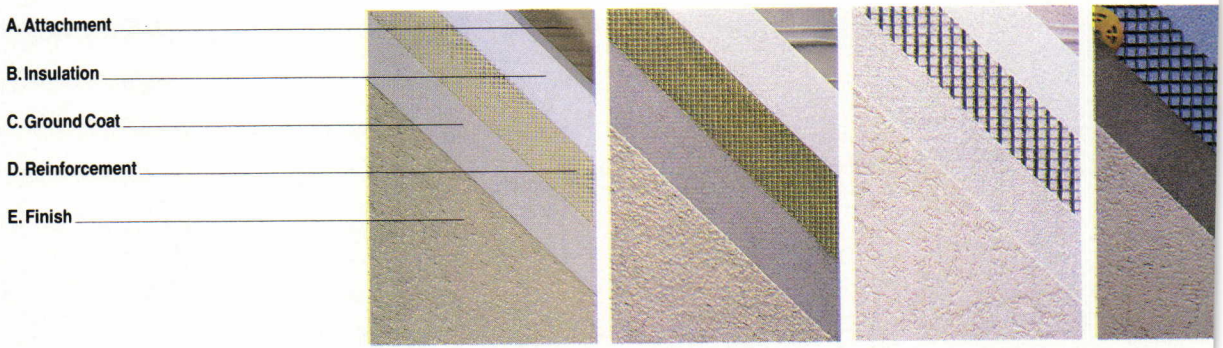
superior water re
puncture resista
compressive str



A. STO Dispersion Adhesive
B. STO 1# EPS Insulation Board
C. STO RFP
D. STO Reinforced Fiberglass Mesh
E. STO Finish

A. STO BTS-B Adhesive
B. STO 1# EPS Insulation Board
C. STO BTS-B
D. STO Reinforced Fiberglass Mesh
E. STO Finish

A. STO ADH-B
B. STO 1# EPS Insulation Board
C. STO Ground Coat-C
D. STO Mesh-C
E. STO Mineralit

A. STO Fastener
B. STYROFOAM®
C. STO Toughwal
D. STO Mesh-C
E. STO Finish

M-SYSTEM

When faced with the renovation of walls with damaged or brittle substrates, the long-proven solution is the mechanically fastened STO M-SYSTEM. Because its rigid PVC tracks are mounted onto the substrate and hold the insulation system away from irregular surfaces, M-SYSTEM completely eliminates the need for surface preparation or removal of the substrate. The transformation from old to new is complete with the application of STO SYSTEMS I or II, resulting in attractive walls that are more durable, thermal and flexible than the original walls ever were.

PANELIZED STO SYSTEM

Time. It's one of the most important intangible measures of success in building construction. And it relates directly to the tangible one: cost.

The focus of panelized STO Systems is successful on-time application. Fabrication by skilled panelization contractors in a climate-controlled facility assures superior quality and timely delivery. On-site installation of the lightweight panels is swift – a fraction of the time required for conventional field construction.

A range of STO products and application techniques are specifically designed for panel construction. And, of course, the completed structure boasts all of the superior thermal and protective properties STO Systems are noted for. System I is ideally suited for panelization. The Noncombustible System may be utilized as well.

BELOW GRADE SYSTEM

Once a breakthrough in the industry, the STO Below-Grade System still continues to elude competitors. It remains the only completely waterproof exterior insulation system for foundation protection on the market. STO FLEXYL, as the adhesive and ground coat, is absolutely waterproof, when used according to specifications. Yet, it's as flexible as fabric, even in the coldest temperatures. STYROFOAM® brand insulation, the Blue™ extruded foam insulation manufactured only by The Dow Chemical Company, provides the excellent thermal properties.

NONCOMBUSTIBLE SYSTEM

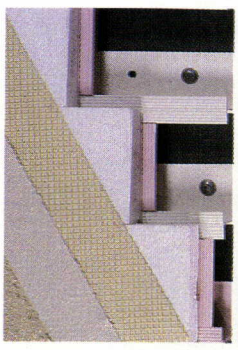
The noncombustibility of this system meets the standards set forth by the Los Angeles Dept. of Building. This is now the only exterior insulation system approved for use in L.A., one of the most code-restricted cities in the U.S. It was also approved in N.Y. City in 1984, three years before the approval of other exterior insulation systems. STO Mineral Wool Board, its key component, has been successfully utilized in Europe for over a decade. In addition to the noncombustibility of the system, it provides superior thermal properties, durability, flexibility and lasting beauty.

STO SEAL SYSTEM

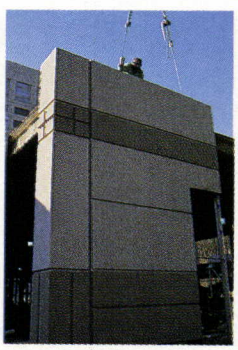
As a combination of STO SEAL with one of the STO Exterior Insulation Systems, this wall system combines all of the benefits of exterior insulation with the most efficient, weather tight window and door seals possible.

A self-adhering, expanding tape, STO SEAL is quickly installed at the same time as the STO System is being applied. This important feature eliminates the extra time and cost incurred by caulking after the wall system is in place. When applied against properly prepared adjacent surfaces, STO SEAL expands to effectively seal all irregularities against air and moisture infiltration.

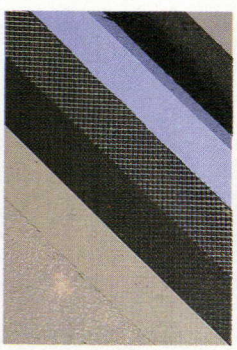
The STO SEAL System has long been proven effective on even the most moisture prone projects.



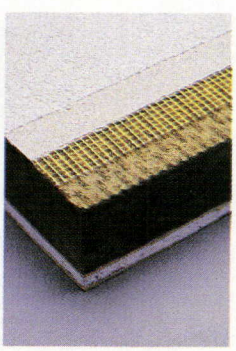
A. Mechanically Fastened STO Track System
B. STO Pre-Grooved 1# EPS Insulation Board
C. STO RFP
D. STO Reinforced Fiberglass Mesh
E. STO Finish



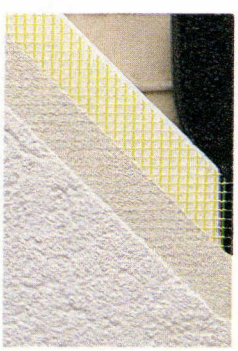
A. STO Dispersion Adhesive
B. STO 1# EPS Insulation Board
C. STO RFP
D. STO Reinforced Fiberglass Mesh
E. STO Finish



A. STO Flexyl Adhesive/Waterproofer
B. STYROFOAM* Brand Insulation
C. STO Flexyl with STO Primer
D. STO Reinforced Fiberglass Mesh
E. STO Finish



A. STO Dispersion Adhesive
B. STO Mineral Wool Board
C. STO RFP
D. STO Reinforced Fiberglass Mesh
E. STO Finish



A. STO Dispersion Adhesive
B. STO 1# EPS Insulation Board
C. STO RFP
D. STO Reinforced Fiberglass Mesh
E. STO Finish
F. STO Seal (Joint Sealant Tape)

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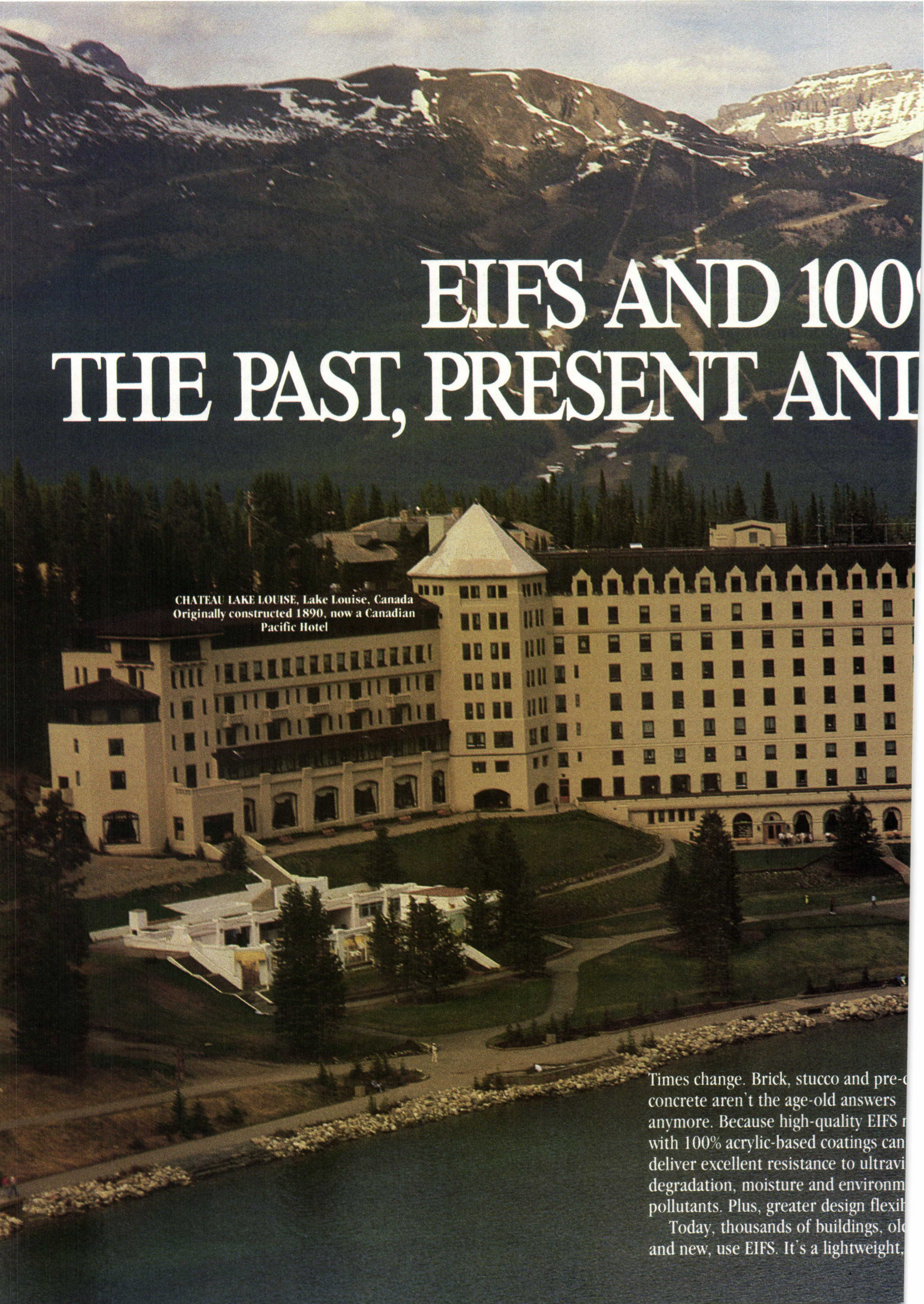


EIFS AND 100
THE PAST, PRESENT AND

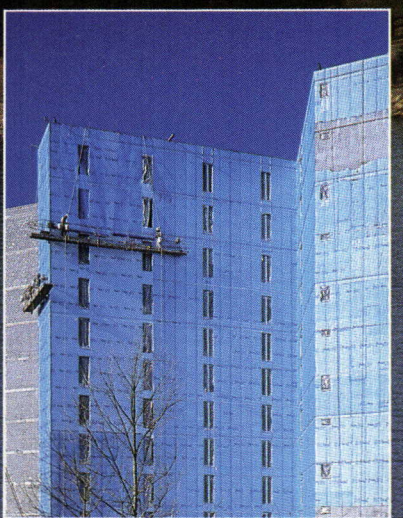
CHATEAU LAKE LOUISE, Lake Louise, Canada
Originally constructed 1890, now a Canadian Pacific Hotel

Times change. Brick, stucco and pre-
concrete aren't the age-old answers
anymore. Because high-quality EIFS
with 100% acrylic-based coatings can
deliver excellent resistance to ultravi
degradation, moisture and environm
pollutants. Plus, greater design flexi

Today, thousands of buildings, ol
and new, use EIFS. It's a lightweight,

CRYLICS.
UTURE OF EXTERIORS.

SAND LAKE IV, Orlando, Florida
Completed by Pizzuti Development, Inc.
May 1987



FULTON COUNTY JAIL, Fulton County, Georgia
Now under construction
Ova, Daniels, Busby — Architects

e wall system that can keep the
ts out and the colors in. And Rohm
as 100% acrylic polymers offer
nt lasting adhesion and mechanical
h properties for coatings, to help
aintain its performance and
ic appeal for years to come.

There's no time like the present to see what it can mean to your future building projects. For more information on the durability of Rohm and Haas 100% acrylic polymers, write to our Marketing Services Department, Independence Mall West, Phila., PA 19105.

ROHM AND HAAS
PHILADELPHIA, PA 19105

AND 100% ACRYLICS. FOR BEAUTY THAT ENDURES.

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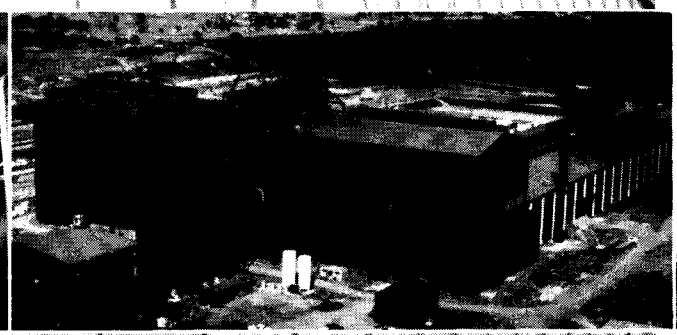
Steelite capabilities are simply attention to every detail.

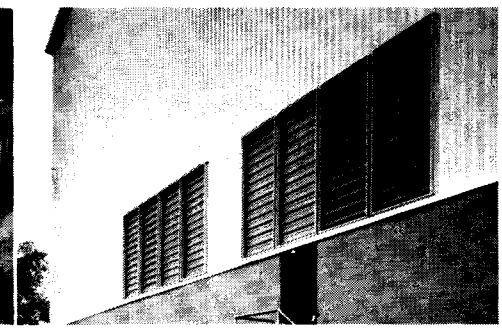
A building panel should not be a commodity. The difference is in the details—and the added values of Steelite's attention to details.

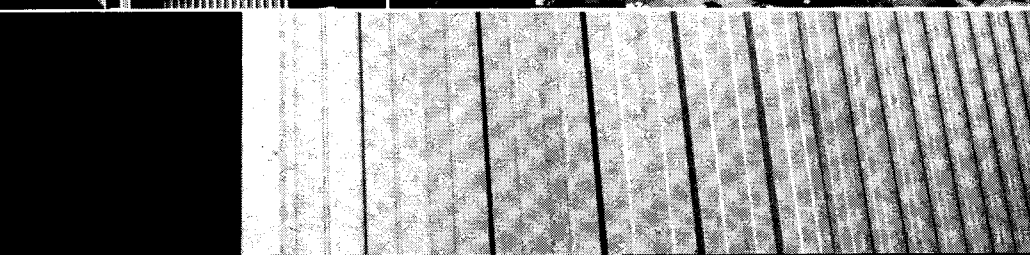
Steelite quality and service add value to a comprehensive range of building panel profiles and accessories, plus a complete line of fixed and adjustable louvers, continuous ridge and clamshell ventilators. They are all available in a variety of metals, protected by a wide choice of coatings. For every product, Steelite takes total responsibility for quality.

Steelite products are backed by skilled support that reaches from project concept through completion. Steelite will assist with design, engineering, specifications, estimating, load calculations, and pricing. Steelite is a fully qualified single source for on-time, on-budget delivery of complete building enclosure systems.

Apply the values of Steelite quality and service to your next architectural, industrial, or commercial project. For more details, send for our new capabilities brochure.







STEELITE, INC
1010 Ohio River Boulevard
Pittsburgh, PA 15202
TOLL-FREE: 800-824-1371;
in PA. 800-824-1370

THE TRUE TEST OF GREATNESS IS THE TEST OF TIME.

It took more than 100,000 men, 2 million blocks of stone and 30 years to complete the great pyramids of Giza. Forty-six hundred years later, they still tower in the Cairo desert, representing perhaps the world's grandest structures.

At Dow Corning we also help build structures with monumental results. We manufacture an extensive line of high-performance silicone sealants with unmatched service life.

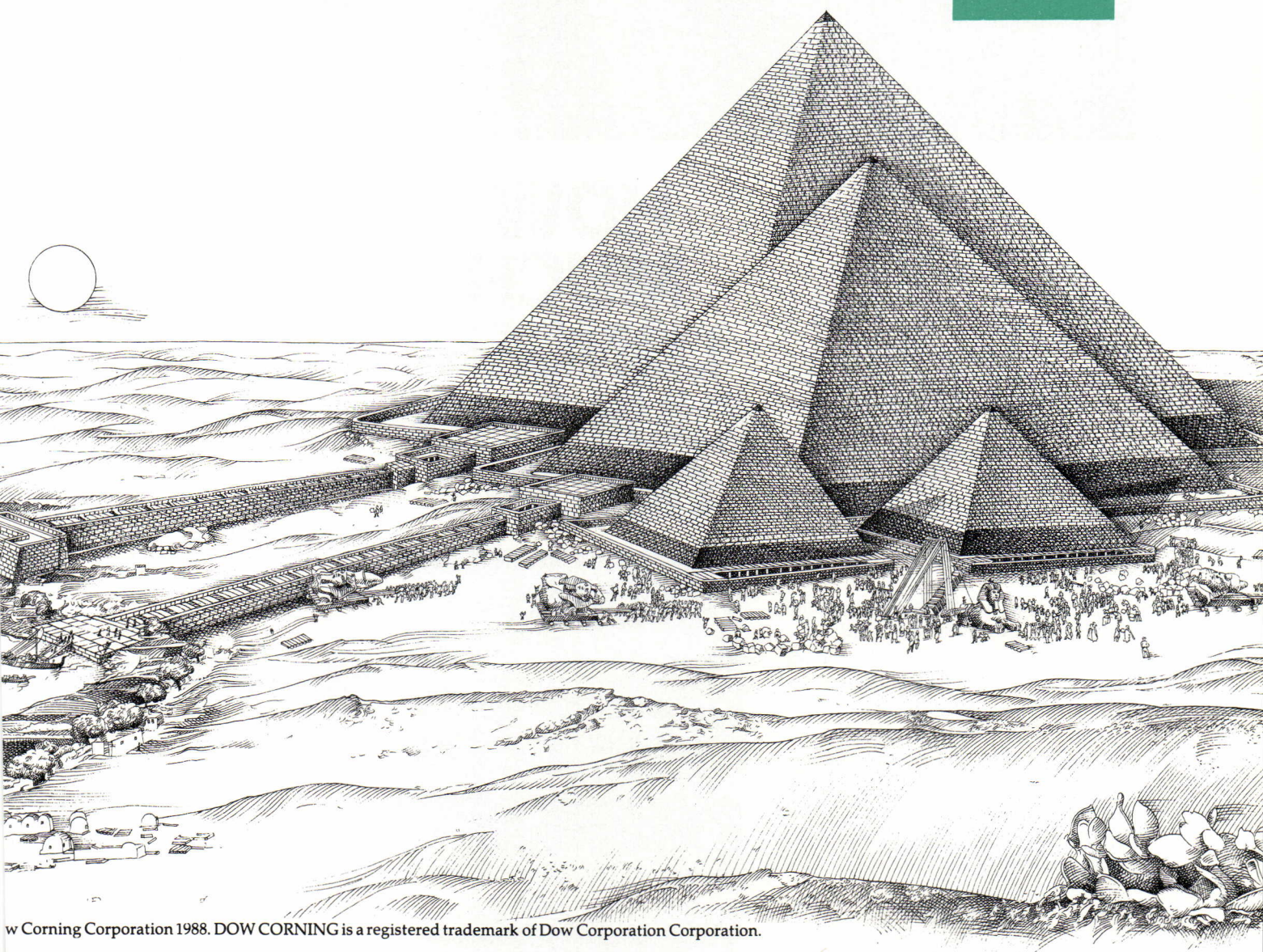
Case in point: The New York Hall of Science. It was one of the first buildings to be caulked with a Dow Corning silicone construction sealant. More than 20 years later, the sealant is still in place, as rubbery and tight-sealing as the day it was installed.

In another case, Dow Corning silicone rubber sealant was used to caulk Chicago's Northern Trust Bank. After 20 years of Chicago's icy winters and boiling summers, there's still no evidence of the sealant pulling away, cracking, hardening or crumbling.

Time after time, Dow Corning sealants work where other materials won't. The J.C. Penney Headquarters in New York City is a classic example. Originally caulked with a polysulfide sealant in 1964, this 46-story building had curtain-wall leak problems from the start. In 1980, the entire building was recaulked with Dow Corning silicone construction sealants. Since then, there hasn't been one wall or window leak reported. Not one.

From concept through construction, nobody is better prepared to analyze and solve your sealant problems than Dow Corning. For specification information and technical literature call toll-free **1-800-346-9882 ext 8209.** Or write Dow Corning, Department 4025, Midland MI 48640. We'll help you build a great structure that will pass the test of time.

DOW CORNING



w Corning Corporation 1988. DOW CORNING is a registered trademark of Dow Corporation Corporation.

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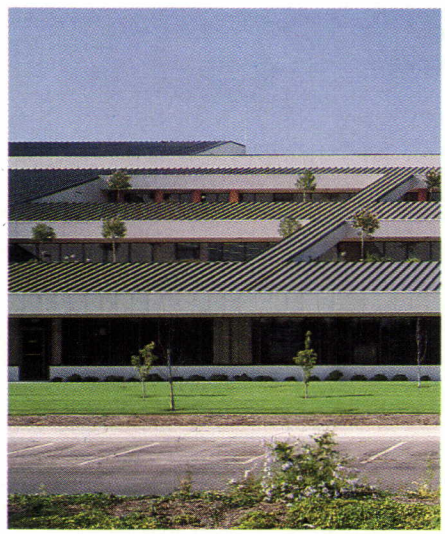
HOW MUCH LONGER CAN THIS GO ON?

On and on and on. For as long as 150 feet without stopping. That's the beauty of Cot-R-Cap® exterior surfacing. Its patented construction offers continuous battens and panels that keep going. Even over ridges and other direction changes.

Think of it as metal sculpture. One you shape at the actual job site, with on-site roll forming by Alumax. A method that eliminates dimensional errors, along with freight damages and costs. That lets you go from roof to fascia to soffit and siding, if you like. With a clean, uninterrupted flow of lines.

Cot-R-Cap is available in steel and aluminum. In time-tested, full strength 70% KYNAR® 500 standard color finishes. Plus an unlimited choice of special colors.

And Cot-R-Cap is as practical as it is beautiful. Its unique construction also means no leaking problems. Because there are no horizontal end laps, folding and bending panels or face penetrations.



The interlocking pans and battens also assure watertightness. And the concealed fastener system allows thermal movement for excellent positive and negative loading, with a UL class 90 rating. And Cot-R-Cap can be installed directly over purlins, or over plywood and other decking.

Cot-R-Cap. The design possibilities are as endless as the product. And it's available from thousands of Alumax dealers, located nationwide. Each prepared at any time to go to any length to please you.

Alumax provides a twenty-year finish warranty on KYNAR 500 coatings. For your copy of this warranty, write to Alumax.

MADE TO LAST. GUARANTEED TO PROVE IT.

ALUMAX
BUILDING SPECIALTIES DIVISION

P.O. Box 163
Mesquite, Texas 75149
(214) 285-8811

KYNAR® 500 is a registered trademark of the PENNWALT Corporation.

For more information on other Alumax roofing systems refer to Sweet's 07410/ALU.

®1987, Alumax, Inc.

Circle 1000 on inquiry card.

TCS and the Corporate Ediface

In designing the new United Airlines Terminal at O'Hare, Helmut Jahn has made an architectural statement that is memorable for its appearance and exciting in its distinction as one of the most outstanding airport terminals in the world.

So as not to repeat the typical spiritless and dismal environment so common to such facilities, Jahn uses conceptual clarity in the choice and combination of materials.

Happily, TCS (terne-coated stainless) is used to cover the folded roof sections of the Ticketing Pavilion. Already having weathered to an attractive, warm gray, TCS quietly contributes to the overall beauty of the terminal's total visual eloquence.

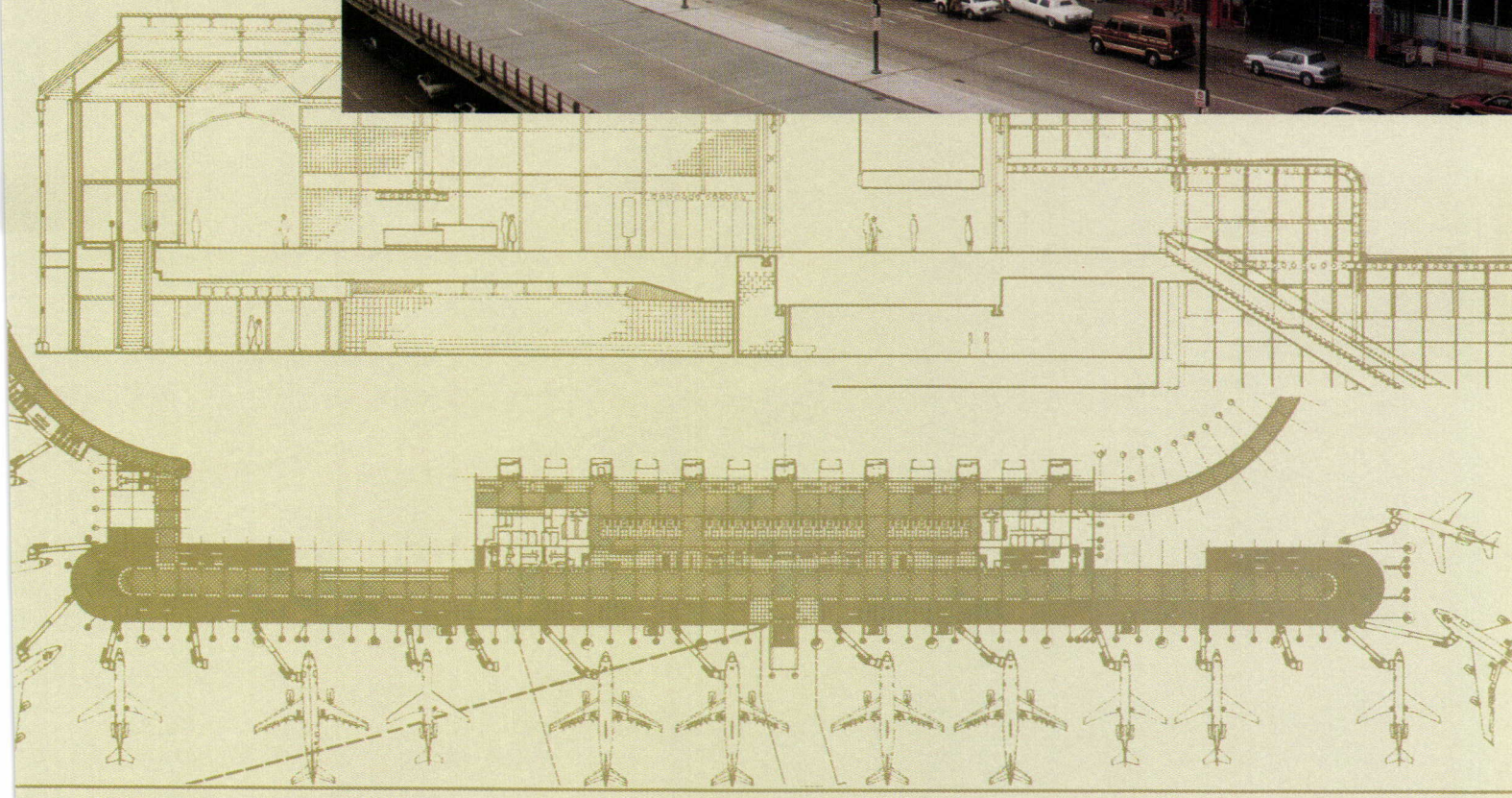
TCS is a unique roofing material. Its finest testimonial is the roster of distinguished architects such as Helmut Jahn who continue to specify it for major projects.

Requiring no maintenance, TCS promises a life span which can be measured in generations rather than years.

We feel that it deserves your consideration whenever metal roofing or weathersealing is specified.

Architects:
Murphy/Jahn,
Chicago, Illinois
Project: United Airlines
Terminal 1 Complex
O'Hare International
Airport
Chicago, Illinois
Roofer: Esko-Young,
Chicago, IL

UNITED AIRLINES



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TERNE COATED STAINLESS

FOLLANSBEE
FOLLANSBEE STEEL • FOLLANSBEE, WV 26037
Call us toll-free 800-624-6906

FOR FREEDOM OF EXPRESSION

THE MANY FACES

Crocker Center, Boca Raton, FL
Architect: Cooper Carry & Associates

OF DRYVIT®

We're OUTSULATION®

Dryvit's premier classic exterior insulation and finish system has always offered the designer unlimited aesthetic opportunities. Now Dryvit offers limitless color selection. The 4-component Dryvit Outsulation System has proved itself in over 70,000 projects in North America — from high rises to private residences, new and retrofit.

We're EXSULATION™

A superior quality one-step exterior insulation and finish system based on mechanically fastened Owens-Corning Glas-Lath® with flexible finish options. It is ideal for walls and soffits, for new construction and retrofit; and it can be installed over a wide spectrum of substrates.

We're ULTRALATION®

A super-tough mechanically fastened exterior insulation and finish system compatible with a wide range of insulation boards and substrates. Extremely rugged Ultralation offers high energy efficiency as well as versatile finish options.

Insist on the Dryvit Difference.

These three versatile Dryvit systems may be used individually and in combination for outstanding performance on both new and retrofit construction. Rely on Dryvit, the leader in technology and innovation. Dryvit offers a history of quality and performance, as well as unparalleled technical and customer service at every stage of construction. Add to this Dryvit's superior chemistry, including **100% ACRYLIC POLYMERS**, and you know why Dryvit **is** the leader.

Nearly 200 design details, drawn for use on AutoCAD®, are also available in a comprehensive, two-volume technical presentation, **Designing with Dryvit**.

Call or write for product information or for assistance on specific projects.

800-4-DRYVIT

Dryvit Systems, Inc.
Headquarters
P.O. Box 1014
One Energy Way
West Warwick, RI 02893

Glas-Lath is a registered trademark of Owens-Corning Fiberglas® Corporation.

AutoCAD is a registered trademark of Autodesk, Inc.

dryvit®

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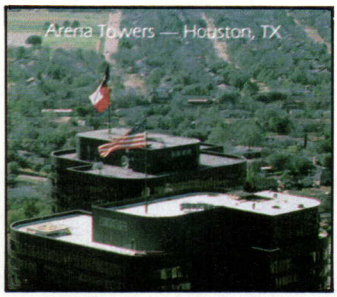
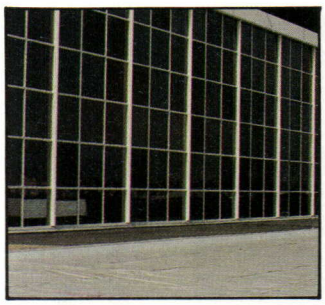
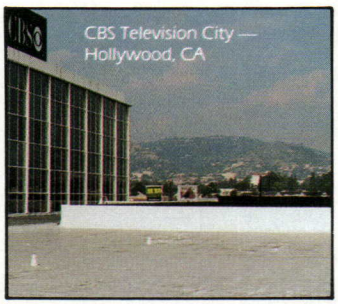
Your Duro-Last Roof Will Be Known By The Company It Keeps.

Lake County Village Shopping Center — Phoenix, AZ


Arena Towers — Houston, TX

Con-Rail — Altoona, PA



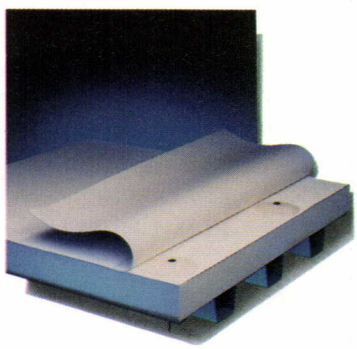

CBS Television City — Hollywood, CA

With a Duro-Last single-ply roofing system, you're joining some pretty good company . . . like CBS Television City, The Wall Street Journal, Con-Rail, Transwestern Property Company, Lake County Village Shopping Center, just to name a few.

These satisfied customers know Duro-Last is the top single-ply performer. And for a variety of reasons:

- Duro-Last **custom** fabrication to your specifications gives you a roofing system big on performance and low on waste.
- A Duro-Last roof goes down quick and that means a savings of time and money.
- Duro-Last means durability with our exclusively designed Celanese Fortrel™ polyester high tenacity fabric, coated on each side with a specially formulated thermoplastic polymer.
- Duro-Last gives you double protection with a 20-year warranty and $6,000,000 liability insurance policy.

Those are just a few reasons why more and more Duro-Last roofs are being seen in some pretty good company. Shouldn't you join the long list of satisfied Duro-Last customers who are buying the "system" and not just roll goods?



Call today. It's your first step to putting . . . and keeping . . . your roof in some pretty good company.

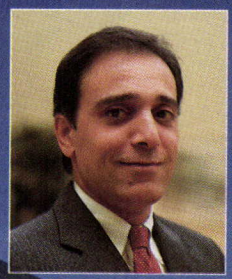
1-800-248-0280
1-800-356-6646 (West of the Mississippi)

DURO-LAST® Roofing, Inc.

Circle 1042 on inquiry card

"For this building, selection of the roofing manufacturer was as important as the roofing."

Adi Mistri, AIA
J. N. Pease Associates
Project Architect for the award winning Charlotte-Mecklenburg Government Center, Charlotte, North Carolina



"Bond Cote® roofing met all our demanding project requirements. On past projects, WestPoint Pepperell impressed us with outstanding installation management and quality control. We selected Bond Cote roofing on that basis. And the installation went like clockwork."

Whether you're an architect or a roofing contractor, Bond Cote Roofing Systems will make you look good. Call us toll-free: 1-800-368-2160. Or write Bond Cote Roofing Systems, P.O. Box 71, West Point, GA 31833-0071.

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West Point Pepperell
THE BEST ROOF FOR YOU.

TREVIRA®

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BEFORE YOUR ROOF DOES THIS, CALL 1-800 342-3745

Sooner or later, every roof leaks.

But Owens-Corning can help you avoid the problems a leaky roof can cause.

We start by advising you about the best roofing system for your building.

We make the highest quality materials. And as the largest roofing manufacturer, we have a system to fit every budget.

We have a network of certified roofing contractors, and independent auditors to make sure the roof is installed correctly.

And to back all this up, Owens-Corning offers the best guarantees and warranties in the industry—up to 20 years on materials and installation. If repairs are needed, we'll pay all authorized costs—including labor.

So don't wait for your roof to leak, call us today at the number above. Or write C.E.Z. Meeks, Owens-Corning Fiberglas, Fiberglas Tower, Toledo, Ohio 43659.

OWENS/CORNING FIBERGLAS

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Circle 1044 on inquiry card

MBCI Roof Accomplishes Architect's Goal on Texas School Project

Call or write for this MBCI Project Report and learn what the architect and the school district wanted to accomplish on this new 67,500 square foot school in San Marcos, Texas.

For your copy of the report, contact the nearest MBCI plant and ask for Project Report No. 101887. You can rely on MBCI for quality preformed metal roofs, walls, fascias, and soffits just as the San Marcos Consolidated Independent School District did. Call today.

MBCI
METAL BUILDING COMPONENTS, INC.
A MONIER COMPANY

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San Antonio 512/661-2409
Dallas 214/988-3300
Atlanta 404/948-7568
Tampa 813/752-3474
Richmond 804/526-3375

Circle 1045 on inquiry card

MBCI
METAL BUILDING COMPONENTS, INC.

PROJECT REPORT

No. 101887

MBCI Ultra-Dek® Roof System Offers Maintenance Relief to San Marcos School

No Maintenance Expected

The San Marcos Consolidated Independent School District, San Marcos, Texas wanted its new school to have a virtually maintenance free roof.

The architect chose an Ultra-Dek® standing seam roof system from MBCI.

According to John Fowler, Administrative Assistant for Special Services for the school district, San Marcos has unstable soil conditions which cause buildings to sink and rise. This factor, coupled with extreme temperature changes which cause expansion and contraction of roofs, creates cracking in built-up flat roofs.

This unique roof system is attached to a floating clip system which is attached to the structural. The clips allow the roof to expand and contract during extreme temperature fluctuations. This means the entire roof membrane stays intact with no cracking or separating where water seepage can cause problems.

"Our flat roofs require a lot of maintenance in time and expense, Fowler said. "That is why we wanted a gabled, sloped metal roof for this new school building. We did not want to spend any time and expense on it," he added.

William "Moe" Johnson, of the architectural firm Pfluger Associates, agreed. "We used metal to design this gable roof to provide a classic look. The school district received not only a beautiful building, but also a long-life structure that will last for many, many years."

The school, Lorenzo de Zavala Elementary has 67,500 square feet of covered area and 6,500 square feet of canopy and bus area. It is one of the 10 buildings in the school district of 5,700 students. According to Fowler, the school district has a little under one million square feet

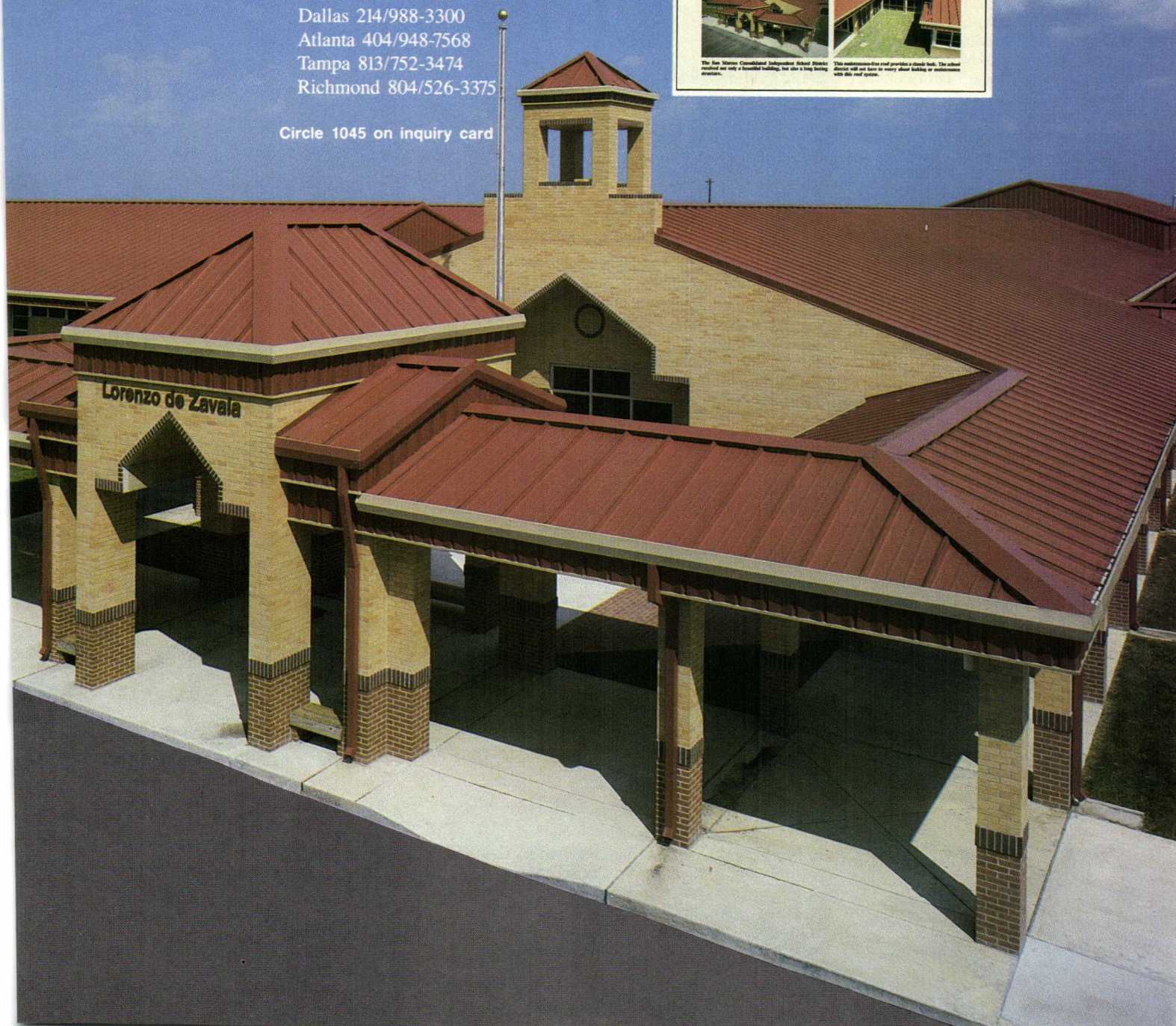
(continued on other side)

Project Facts

Project Name: Lorenzo de Zavala Elementary School, San Marcos Independent School District
Location: San Marcos, Texas
Roofing Contractor: Dynabuild Systems, San Antonio, Texas
General Contractor: B.F.W. Construction Co., Temple, Texas
Designer: Pfluger Associates, Austin, Texas
MBCI Preformed Metal: Ultra-Dek® standing seam roof system; "A" Panel on fascia; and Artisan I for soffit.

The San Marcos Consolidated Independent School District received not only a beautiful building, but also a long lasting structure.

This maintenance-free roof provides a classic look. The school district will not have to worry about leaking or maintenance with this roof system.



The Very Best of Today's Tapered Roof Insulation Technology

Pittsburgh Corning has developed new Tapered FOAMGLAS® Roof Insulation Systems which satisfy today's Performance Criteria and are Priced Competitively.

FOAMGLAS®
ROOF INSULATION
PC PLUSYSTEMS™

The FOAMGLAS® PC PLUSYSTEMS™ take advantage of the best physical characteristics of Pittsburgh Corning's cellular glass and foamed plastic insulations.

The nucleus of PC PLUSYSTEMS™ is FOAMGLAS® cellular glass insulation, the most moisture resistant insulation on the market. Its stability, strength, and impermeability help eliminate many causes of roof failure. Indeed, the All-FOAMGLAS® PC PLUSYSTEM 1 is the wisest choice for long-term performance and reliability.

The other PC PLUSYSTEMS™ contain underlayments of phenolic foam (PF) or polyisocyanurate foam (PI) insulations. These underlayments result in competitively priced systems with high "R" values. The top layer of Tapered FOAMGLAS® insulation overcomes the stability problems of many foamed plastic systems.

PC PLUSYSTEM 1

Tapered FOAMGLAS® with FOAMGLAS® insulation underlayment. This All-FOAMGLAS® system offers the highest resistance to moisture, ensuring constant thermal efficiency and maximum compressive strength. The tapered top layer provides slope to drain water and is compatible with built-up-roof or adhered single ply membranes.

PC PLUSYSTEM 2

Tapered FOAMGLAS® insulation with PF (phenolic foam) Underlayment provides the highest R-value available in these systems. The Tapered FOAMGLAS® insulation shields the PF Underlayment from extremes of thermal expansion and contraction and distributes loads evenly.

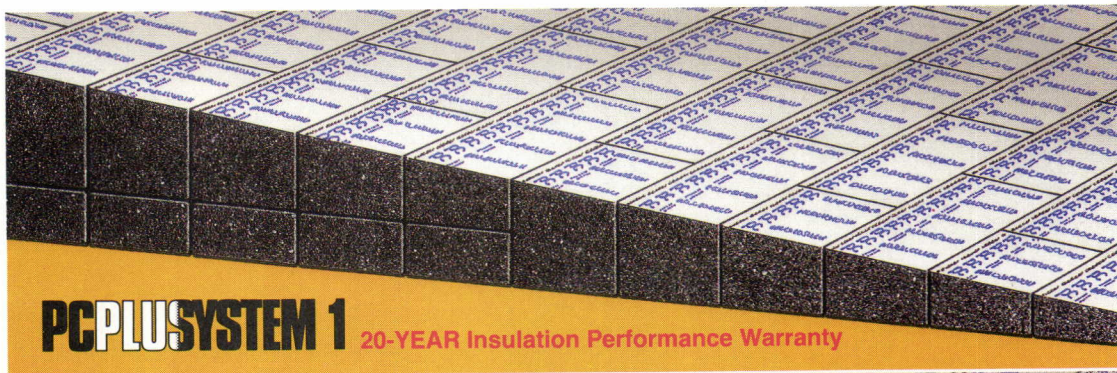
Guaranteed Performance!

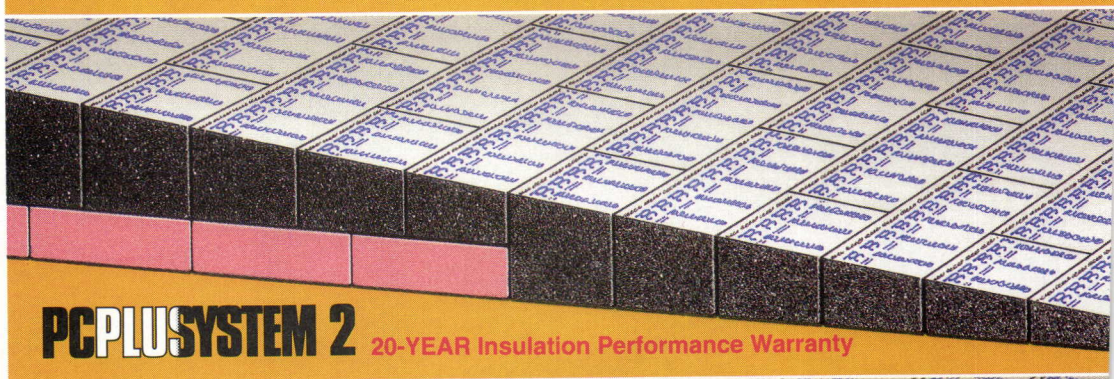
PC PLUSYSTEMS® 1 & 2 offer 20-year insulation performance warranties. Copies of the warranties are available from Pittsburgh Corning.

PC PLUSYSTEM 3

Tapered FOAMGLAS® insulation with PI (polyisocyanurate foam) Underlayment produces a high R-value system. The Tapered FOAMGLAS® insulation reduces thermal loads on the PI Underlayment which results in a stable substrate for the roof membrane.

Your Pittsburgh Corning representative will recommend the PC PLUSYSTEM that best meets your performance criteria and cost restrictions.





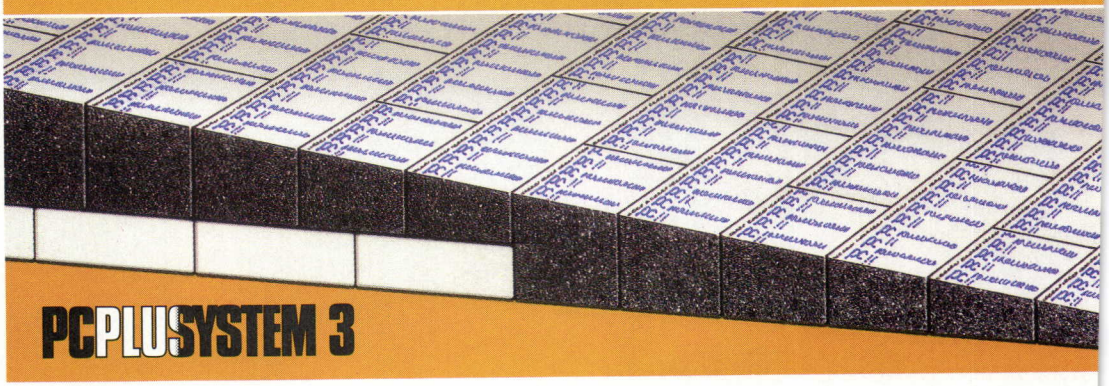


Illustration not to scale

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THEY WENT WITH U.S. INTEC BRAI.

Proven consistant quality. Quick installation with minimum inconvenience to business. Brai modified asphalt roofing membranes are being installed all over the nation. U.S. Intec is the world's largest producer of A.P.P. modifed bitumen. Our Brai products withstand time and virtually all climatic conditions. And with Brai you get more than a tough roof. Pre-job conferences. Free warranties. And technical information a free phone call away. Do we make several roofing membranes for different applications and preferences? You bet.

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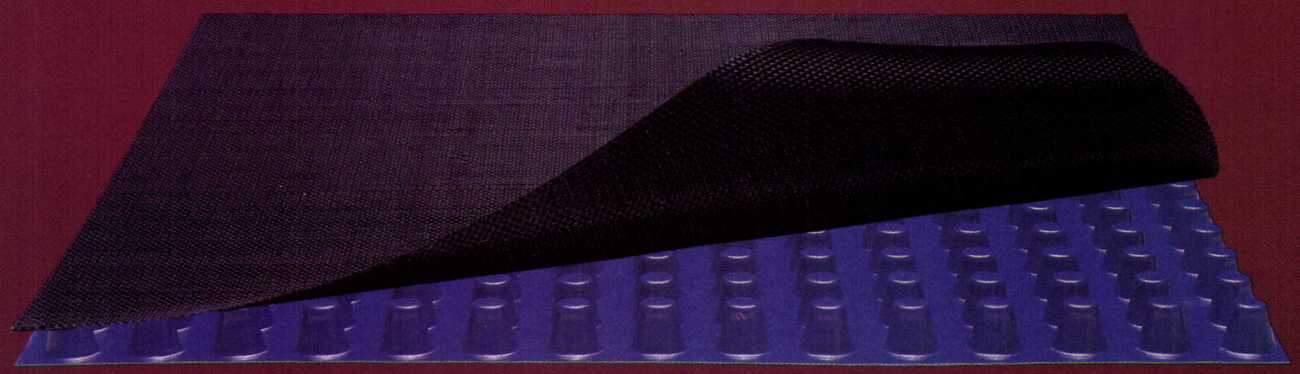
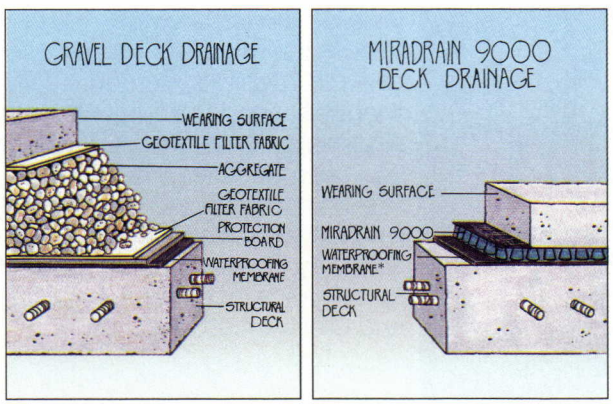
HOW TO DRAIN A DECK WITHOUT DRAINING YOUR BUDGET.



Now it's possible to remove water from a deck without getting soaked.

New cost-effective Miradrain™ 9000 has a hydraulic capacity that's 4 times more efficient than a 6 inch layer of well-graded gravel on a deck sloped 6%.

And with a compressive strength of 18,000 psf, it can handle almost any type of traffic.



*Contact your waterproofing manufacturer for specific recommendations regarding elimination of protection board for your waterproofing membrane.

But best of all, Miradrain 9000 reduces your overall costs.

Because of its ultralight weight—just 4 oz/sq ft—structural costs and installation costs are minimized. In addition, 2 layers of fabric, gravel and, in many cases, protection board are eliminated.

Miradrain 9000 is also perfect for planters. It allows for more growing medium than gravel, and the woven geotextile resists clogging better than non-wovens for soils typically used in planter applications.

To find out more about Miradrain 9000 miracle drainage, contact your Mirafi Representative or call us toll-free. In the U.S., 800/438-1855 (704/523-7477 in NC, Hawaii, Alaska) or write Box 240967, Charlotte, NC 28224. In Canada, 800/267-0182 in Eastern Provinces (519/539-9877 elsewhere).

Miradrain 9000.
A drain on your deck.
Not on your budget.

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Only one product sticks to more roofs than ours.

We make big roofs, small roofs. Round roofs, square roofs. Thick roofs, thin roofs. White roofs, grey roofs, tan roofs, blue roofs. Hundreds of millions of square feet of roofs. And we make every one out of Hypalon*. Which can be mechanically-attached, ballasted with stone or pavers, or fully adhered. To metal, wood, concrete, and lightweight decks. Which, according to independent tests, works a whole lot better than peanut butter. For proof, call 1-800-848-4400, ext. 163.

STEVENS Roofing Systems

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*Hypalon is a registered trademark of DuPont.
JIF is a registered trademark of The Procter & Gamble Company.

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WHEN YOU CAN'T AFFORD TO NICKEL AND DIME IT.

Acid rain, chemicals, sun and severe temperature swings can shortchange any roof. But Robertson has found a way to control those problems with our Total Performance Roof. Protected by Versacor® PF. A coating system that combines our Versacor® epoxy base coat with a PPG Duranar® finish. And creates what is simply the most durable metal roof available.

Best of all, the Versacor PF Coating System is affordable. In fact, it costs only about 15 cents more per square foot than ordinary thin-film paints. So you can include it in your specs and still keep a lid on costs.

If all that sounds a little too good to be true, write H.H. Robertson Company, Department A12,400 Holiday Drive, Pittsburgh, PA 15220. Or call (412) 928-7500. We'll send you a free copy of our Independent Test Results brochure. And show you what a little spare change can do for your roof.

The No Compromise Roof

PPG

Robertson®

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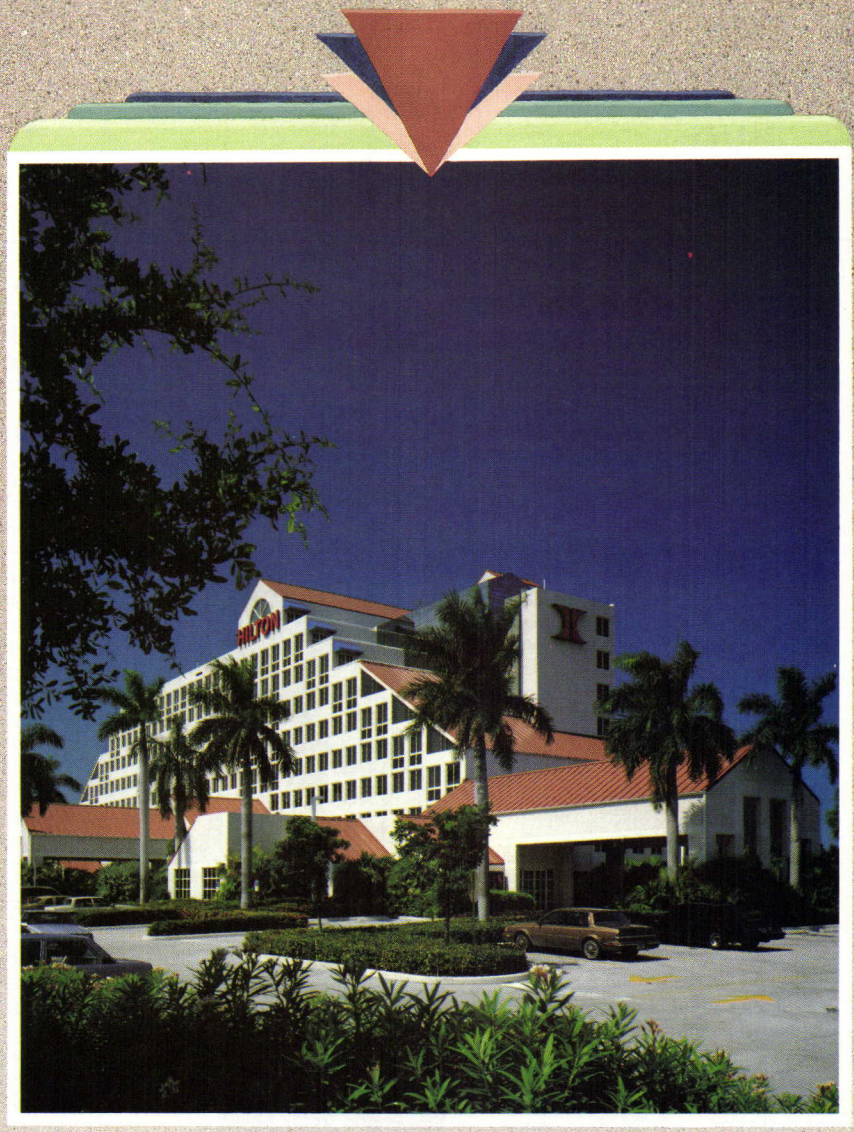

Project: Grand Hilton Hotel
Owner: The Sausman Hotel Group
Architect: John Nichols & Associates
General Contractor: Hardin Construction Co.
Roofing Contractor: Roth Bros. of Florida
Color: Terra Cotta

Terra Cotta PAC-CLAD

Terra Cotta PAC-CLAD was selected for installation on the Grand Hilton Hotel in Deerfield Beach, Florida. The architect, John Nichols & Associates, responded to the owners desire for use of vivid color and post-modernist form in their design. The roofing panels were roll-formed on-site by Roth Brothers of Florida, Inc.

PAC-CLAD is a full Kynar 500® finish ideally suited for use in tropical climates. PAC-CLAD is available with a non-prorated warranty covering finish fade, peeling and chalking. Terra Cotta is one of sixteen standard colors available on steel and aluminum.

For complete information regarding the Petersen product line, please call for specifier's service toll-free, **1-800-PAC-CLAD**.

PAC Petersen Aluminum Corporation

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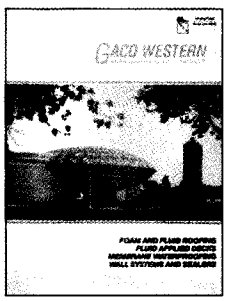
Other Plant Locations: 8735 Bollman Place • Savage, MD 20763 4295 Hays Drive • Tyler, TX 75703
See our catalog in Sweet's: file numbers 07610/PET, 07715/PET and 10440/CHC.

Circle 1051 on inquiry card

7 Thermal & Moisture Protection Product literature

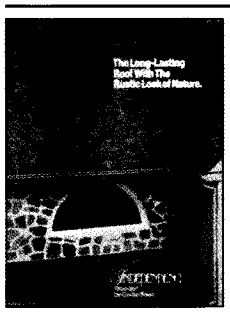
For more information, write item numbers on Reader Service Card

193 Roofing system
A full-color brochure introduces Stand 'N Seam, a roofing/fascia system. Designed for low-pitched new and retrofit construction, the system is composed of panels and clips with no lap joints or exposed fasteners. Illustrative applications, detailed drawings, load tables, and suggested specifications accompany the text. Alumax Building Specialties Div., Mesquite, Tex.

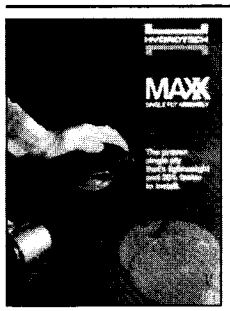


194 Surface coatings
The manufacturer's elastomeric coatings for waterproofing and surface protection are described in a 12-page brochure. Tables and structural drawings illustrate foam and fluid roofing, fluid applied decks, membrane waterproofing, wall systems, and sealers. Technical data charts and warranties are also included. Gaco Western, Inc., Seattle.

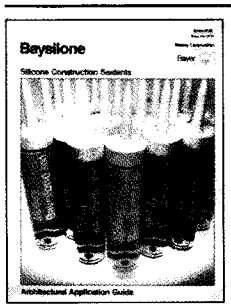
195 Roofing manual
The updated edition of the manufacturer's 32-page, full-color specifications manual provides a glossary pertaining to modified bitumen roofing systems for industrial, commercial, and institutional applications. Specifications and installation procedures for all products are included. Tarmac Roofing Systems Inc., Wilmington, Del.



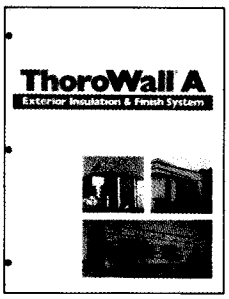
196 Residential shingles
Information is offered outlining the manufacturer's fiberglass or organic felt-based shingles for residential roofing. Available in a variety of architectural styles and colors, the shingles come in a broad price range. Fiberglass insulation, reinforcement, piping products, and building materials are also available. CertainTeed Corp., Valley Forge, Pa.



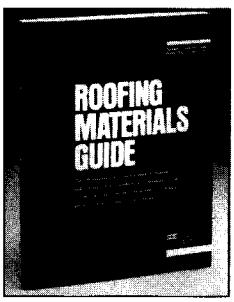
197 Single-ply assembly
The full-color, four-page brochure presents the manufacturer's new mechanically attached, lightweight single-ply roof assembly. Illustrations and details of the system, with its hexagonal pattern of fasteners, are given. Time- and money-saving features of the elastomeric membrane used in the assembly are explained. American Hydrotech, Inc., Chicago.



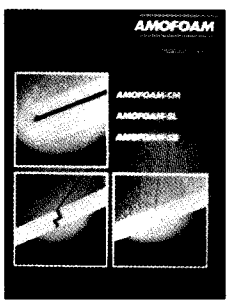
198 Silicone sealant guide
A 4-page architectural application guide discusses the company's construction sealants. Details are given on specifications, standard colors and custom color matching, joint design and backup materials, surface preparation and application, packaging and storage. A physical properties chart is also included. Inorganic Chemicals Div., Mobay Corp., Pittsburgh.



199 Exterior wall system
A comprehensive, full-color, loose-leaf foldout explains the uses and advantages of a new exterior insulation and finish system with waterproof protection. In-depth details of the acrylic, polymer-base-insulated system's component parts and application instructions are covered.
ThoroWall Div., Thoro System Products, Miami, Fla.



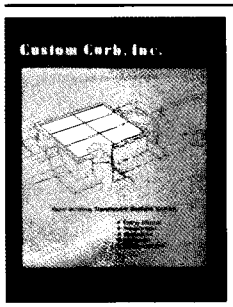
200 Materials guide
The 12th edition of the *Roofing Materials Guide* has been updated to include over 525 membrane and 325 insulation-board products and 150 membrane warranties. Available by subscription, the twice-yearly guide also contains product descriptions and specification, test, and warranty data. National Roofing Contractors Association, Rosemont, Ill.



201 Foam insulation
AMOFOAM, an extruded polystyrene foam insulation, is the subject of a new eight-page brochure. Featured are color photographs of practical applications of the complete range of the manufacturer's commercial and residential product line. Also included are product descriptions and technical data. Amoco Foam Products, Atlanta.

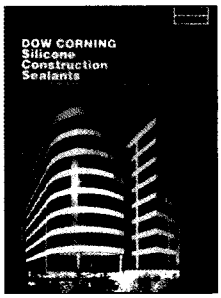
202 Roofing base sheets
The manufacturer's brochure highlights the availability of base sheets used in roof systems. Incorporated in the text are detailed descriptions of various fiberglass base sheets that can be used in many types of roof systems and decks. Practical applications, dimensions, and testing material data are also provided. Evanite Permaglas, Corvallis, Ore.

203 Nailboard
A rigid roof insulation panel composed of a high-density polyisocyanurate foam core called NRG Nailboard is featured in the manufacturer's brochure. Cited are uses and benefits that include the nailboard used as an insulation for such roofing systems as metal, shingles, slate, tile, built-up roofing, and single-ply. NRG Barriers Inc., Saco, Maine.



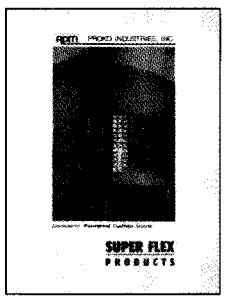
204 Skylights
A four-page illustrated brochure describes a translucent skylight system for metal buildings. Graphics include product photos and drawings of grid patterns, curb selection guide with dimensions, heat and light transmission chart, and technical data. Custom Curb, Inc., Chattanooga, Tenn.

For more information, write item numbers on Reader Service Card



205 Silicone sealants
A 16-page color brochure presents the manufacturer's complete and expanded line of construction sealants. Illustrated case histories, typical applications, and product features are highlighted. Specifications, design drawings, estimated sealant requirements, and a color selection guide are also included. Dow Corning, Midland, Mich.

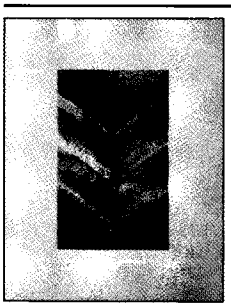
206 Wall systems
A 12-page color brochure describes the manufacturer's exterior insulating systems, impact-resistant stucco systems, weatherproofing elastomeric membrane systems, and waterproofing products for renovation or new construction. Photos, technical drawings, specifications, and technical data are included. W. R. Bonsal Co., Charlotte, N. C.



207 Waterproofing
Elastomeric waterproofing systems, available in a variety of textures and 15 standard colors, are explained in a color brochure. Composed of acrylic terpolymers, the system can be applied to concrete, masonry, stucco, or brick exteriors. A product description chart giving primary uses and advantages is included. Proko Industries, Inc., Mesquite, Tex.

208 Special-service doors
Product information on Bilco's horizontal access doors and automatic fire vents is provided in a 16-page color catalog. Photographs, detailed drawings, installation procedures, and specifications for roof scuttles, ceiling access doors, and safety posts are also featured. Other company products are included. The Bilco Co., New Haven.

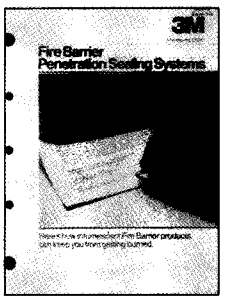
209 Wall and roof systems
Energy Saving Wall and Roof Building Systems offers information on light-transmitting wall and roof panels for a variety of applications. The system consists of a structural aluminum grid core with two fiberglass-reinforced face sheets permanently bonded under heat and pressure. Kalwall Corp., Manchester, N. H.



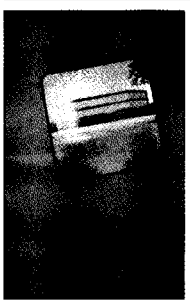
210 Tiles
Commercial and residential tiles are illustrated in a four-page, full-color catalog. Dimensions and colors available are given for the 10 glazed tiles composing the Craftsman line. Suggested applications range from heavy-traffic interior installations to exterior horizontal and vertical surfaces. Ludowici Stoneware Co., New Lexington, Ohio.

211 Single-ply roofing
A 12-page color brochure on single-ply roofing features factory, installation, and project photographs, as well as product background and test data. The product is an acrylonitrile butadiene polymer blend with a tensile strength that exceeds 7500 psi and a puncture resistance over 250 lb. Industrial Fabrics Div., West Point Pepperell, West Point, Ga.

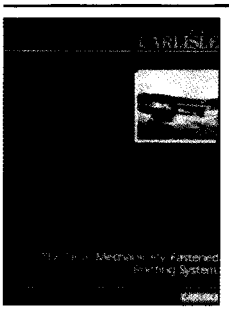
212 Silicone roofing system
A four-page foldout cites the key properties and design considerations of a silicone roofing system for new and remedial construction. The product consists of a seamless blanket of lightweight urethane foam, spray-coated with two layers of weatherseal. Technical drawings are included. Silicone Products Div., General Electric Co., Waterford, N. Y.



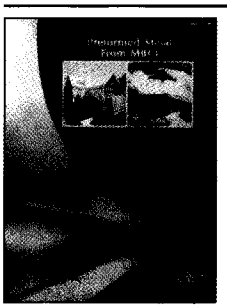
213 Fire-protection systems
A loose-leaf color brochure introduces a new water-base fire-protection sealant for wall and floor penetration. The manufacturer recommends the system for use in sealing electrical cables, conduits, and heating, ventilation, and air-conditioning ductwork. Product photos and technical data are included. 3M Contractor Products Dept., St. Paul.



214 Roofing
The manufacturer details an elastomeric roofing system in a color gatefold brochure. This elastomeric membrane coating is said to be tough, durable, and weather resistant. Illustrations of maintenance, installation, and finished projects are included. Futura Coatings Inc., St. Louis.



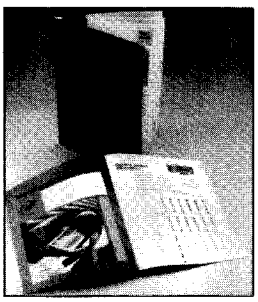
215 Roofing system
Said to be the first design to offer a high-strength polyester-reinforced EPDM membrane that is mechanically fastened using plates and fasteners, the system provides superior load performance at a low cost. The color brochure also includes fire ratings and test data. Carlisle SynTec Systems, Carlisle, Pa.



216 Preformed metal roofs
A 16-page brochure outlines various metal roofing systems available from MBCI. Included are practical applications, architectural profiles of the Traditional, Classic, Designer, Craftsman, Custom, Artisan I and II and ShadowRib series, and other specification materials, and coating data. A color palette is also featured. MBCI, Houston.

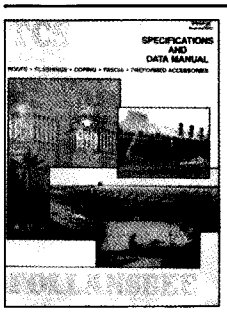
For more information, write item numbers on Reader Service Card

217 Roofing specification
The *Modified Bitumen Specification Manual* offers guidelines on a line of roofing and insulation products. Illustrated data cover new roofing, reroofing, flashing, insulation recommendations, fasteners, and waterproofing. Also featured is information on specifications and safety precautions. U. S. Intec, Inc., Port Arthur, Tex.



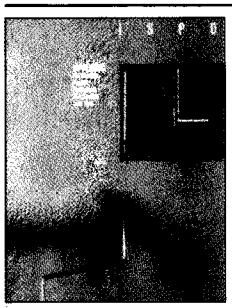
218 Silicone sealants
A color illustrated loose-leaf brochure describes the manufacturer's complete new line of silicone sealants for construction. Glazing, structural glazing, insulated glass, and sanitary examples are displayed. Also included is a reference section with die-cut tabs indicating application. Rhône Poulenc, Inc., Monmouth Junction, N. J.

219 Glazing system
A complete range of light, medium, and heavy-duty skylight framing systems is highlighted in a full-color brochure. Detailed drawings, descriptions, and color photos of practical applications in overhead glazing systems, sunrooms, and vertical applications are featured. Product specifications are also included. Regal Manufacturing Co., Portland, Ore.

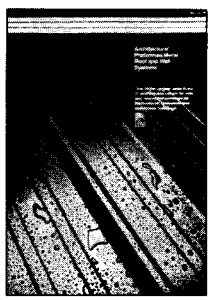


220 Metal roofing guide
TCS, a terne-coated stainless steel, is the subject of an illustrated brochure. The product is used in roof drainage and weather-sealing applications and for complete roof systems employing standard metal roof designs. Detailed drawings, product specifications, and technical and installation data are also featured. Follansbee Steel Corp., Follansbee, W. Va.

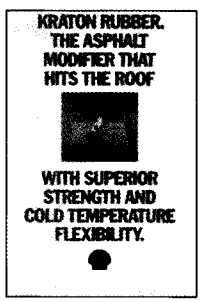
221 Commercial roofing manual
A 1989 edition of reformatted specifications has been issued for organic and fiberglass built-up roof applications. The manual is divided into color-coded sections showing cutaway drawings of roof types. Reroofing and recovering recommendations, guarantees, and certifications are also presented. Tamko Asphalt Products, Inc., Joplin, Mo.



222 Elastomeric wall coating
An elastomeric wall coating for stucco, concrete, or masonry walls is introduced in a loose-leaf brochure. The illustrated document describes the product and outlines its features, basic uses, guidelines, repair recommendations, specifications, weather tests, and other data. Twenty-five standard colors and custom colors are available. Ispo, Inc., Mansfield, Mass.

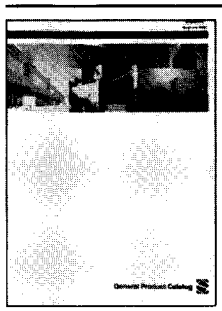


223 Preformed metal profiles
Available for use in new and renovated commercial, institutional, industrial, and residential buildings, architectural preformed metal roof and wall systems are explained in a 24-page brochure. Product descriptions, project photos, detailed drawings, specification codes, and certification data are also included. ASC Pacific, Inc., West Sacramento, Calif.



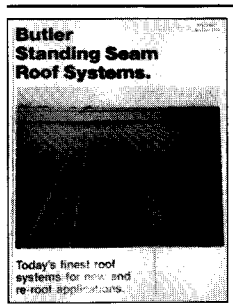
224 Rubber roofing system
According to the manufacturer, Kraton thermoplastic rubber modified roofing products offer fatigue resistance. Literature details the product's performance record and offers comparative data charts. Also included are test-data photographs, drawings, and installation information. Shell Chemical Co., Houston.

225 Waterproofing system
A systems approach to waterproofing buildings is offered by the manufacturer of waterproofing membranes and tapes. A brochure describes products including seam sealing tapes, flashings, building wrap/cavity walls, ice dam/water protection membranes, foundation/plaza decks, and sealants. Polyken Technologies, Westwood, Mass.



226 Metal building panels
The manufacturer provides a 20-page general products color catalog on corrugated and ribbed preformed metal building panels. Practical applications of standing seam roof panels, louver, and ventilation systems are shown. Featured are spanning capabilities, panel finish information, color selections, and specification data. Steelite, Inc., Pittsburgh.

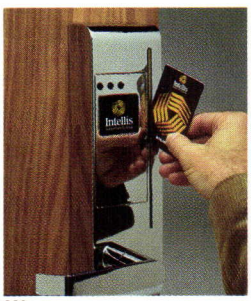
227 Fire/smoke-stop system
A four-page brochure contains data on the manufacturer's fire/smoke-stop system. Thermafiber safing insulation and SmokeSeal are said to work as an effective system to block the spread of fire and smoke through openings where conduits penetrate floors and walls. Test and specification data are provided. USG Interiors, Inc. Chicago.



228 Standing-seam roof systems
The manufacturer highlights the design versatility of its standing-seam roof system in an eight-page color brochure. Described and illustrated are the features of the MR-24 and CMR-24 roof systems. Also included are data on roof accessories, weathertightness, wind uplift, roof movement, energy savings, and warranties. Butler Mfg. Co., Kansas City, Mo.

8 Doors & Windows

Entrances & storefronts
Glazing & accessories
Hardware & specialties
Metal doors & frames
Metal windows
Sloped glazing systems
Special doors
Special windows
Window/curtain walls
Wood & plastic doors
Wood & plastic windows



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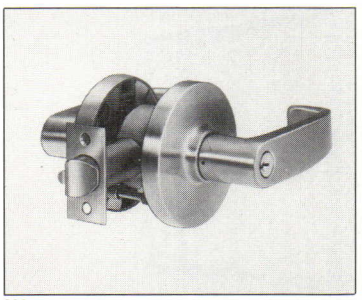
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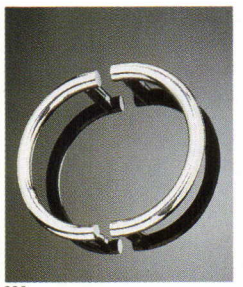
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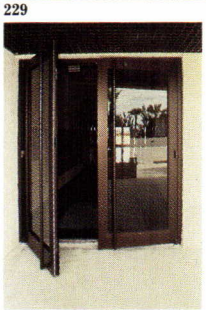
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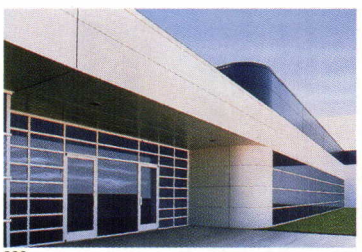
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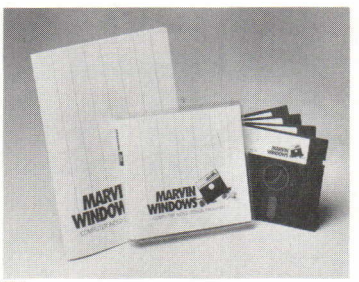

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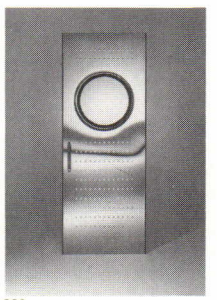
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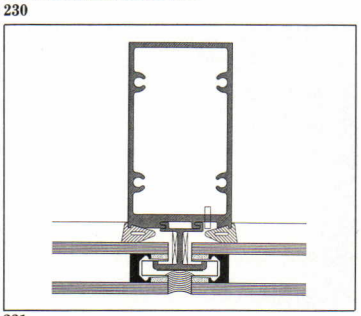
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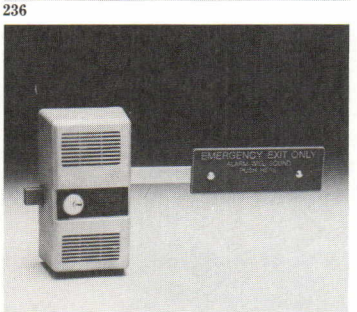

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229 Electronic lock
The Intellis electronic locking system operates with the Apple Macintosh computer. Access information is encoded on magnetic strip key cards. Reports include timed access, audit trail, and key-making activity. Schlage Lock Co., San Francisco.

230 Heavy-duty door
The 350 Tuffline Entrance door is designed for durability and attractiveness, and to withstand the heavy traffic found in schools and malls. The single-acting door has 1 1/2 pairs of butt hinges and can be equipped with panic hardware. Kawneer Co., Inc., Norcross, Ga.

231 No-stop glazing system
A complete glass and metal system, Duratec structural spacer glazing features insulated units with a recessed, U-shaped edge used to mechanically clip the light to the curtain wall. The large amount of primary sealant in the dual-glazed units is capable of significant movement, resisting rupture when subjected to forces of edge rotation under negative wind loads. Duratec glazing is intended for low- to mid-rise buildings, and design loads of up to 40 lb per sq ft. Spectrum Glass Products, Clinton, N. C.

232 Heavy-duty lock
Ten Line locksets are heavy-duty cylindrical locks which meet handicap requirements. The unit is suited for retrofitting knob locksets to lever-handle locksets. All working parts are protected by a steel housing. Sargent Manufacturing Co., New Haven.

233 Storefront glazing
The 9-ft-high Mor::Front storefront features thermally-broken ribbon windows. The joints can be butt glazed, or covered with flat or bullnose face caps, which may be specified in a different finish from the interior mullions. Nine finishes are standard. Vistawall Architectural Products, Terrell, Tex.

234 Revolving door
The Grand Revolver is a 14-ft-wide door that allows pedestrians to walk through four abreast, as the door controls the climate between the interior and the exterior. The four-wing door can be set to revolve continuously or be activated by a microwave motion detector. For slower-moving pedestrians, it can be equipped with a push-button switch that will slow the door down from four revolutions per minute to two. Horton Automatics, Corpus Christi, Tex.

235 Wood windows
The Georgetown Collection of windows and patio doors features double-paned insulated glazing with true dividing mullions. The windows and doors are custom-milled and fitted using western pine, inside and out. Double-hung, casement, awning, and bay windows are available. Low-E glazing can be specified. Caradco, Rantoul, Ill.

236 CAD program
A program distributed to architects on a computer disk compatible with AutoCAD includes an array of functions for designing and detailing windows, as well as a detail and specification manual. The support offered by the window and door manufacturer is intended to speed up and simplify window and door design. The program also includes a menu for custom sizes, features, and options. Marvin Windows, Minneapolis.

237 Exit security
The ECL-230 Exit Control Lock protects emergency-exit security with a heavy-duty, saw-resistant bolt that sounds a high-decibel alarm for unauthorized use. It is silenced with a control key. The lock allows emergency exit from inside. Detex Corp., New Braunfels, Tex.

238 Door pull
The HG-151 spherical door pull is designed to fit contemporary glass, metal, or wood doors. The heavy-duty pull measures 12 in. center to center, with a 3-in. projection from the door. It is available in stainless steel, brass, and bronze, in both polished and satin finishes. Hiawatha, Inc., Bloomington, Minn.

239 Metal doors
Textured metal doors made of bronze and copper bonded under pressure to both sides of premium-grade solid wood cores are available in special sizes up to 48 by 118 in. Stile edges are finished with a black anodized-aluminum extrusion; weatherstripping is added as required. Standard sizes range from 3 ft by 7 ft to 6 ft by 8 ft. Forms + Surfaces, Santa Barbara, Calif.

240 Doors and windows
A line of patio doors includes center- and French-swing models. Sliding- and swinging-door models are available with true divided mullions. Radius windows are offered in one-half and one-quarter round. Doors and windows have a wood interior and an aluminum clad-exterior that can be finished in white, champagne, or bronze. Pozzi Window Co., Bend, Ore.

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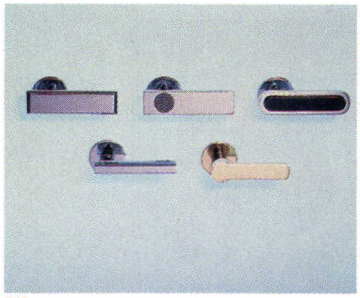

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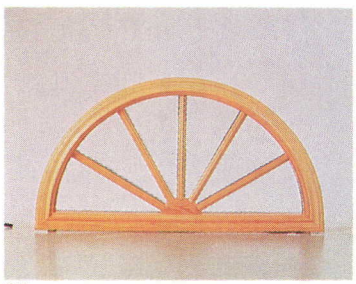

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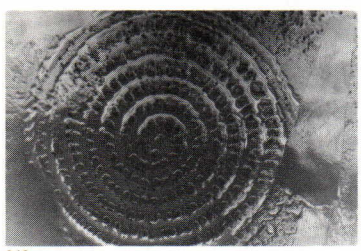

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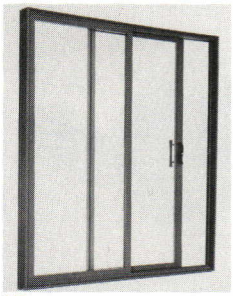

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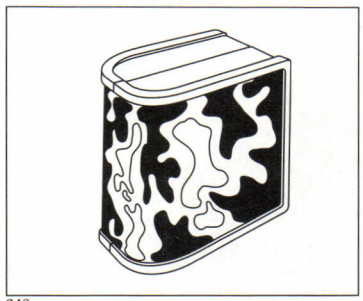

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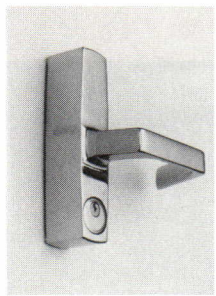

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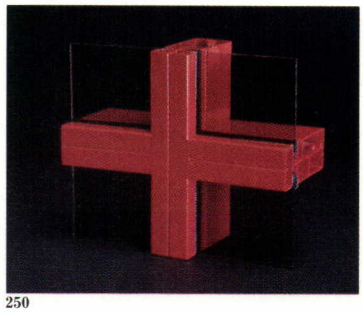

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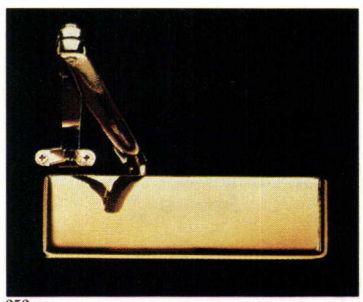

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241 Door levers
A catalog is available detailing a line of hardware for doors and cabinets. Machined for 5/16-in. spindles, the levers shown are solid brass; some designs incorporate Avonite stonelike trim in a variety of colors. Acrymet Industries, Long Island City, N. Y.

242 Combination window
With an extruded aluminum exterior frame, the oak interior sash of the Contempra series of windows provides an attractive finish as well as a thermal break. Available in casement, awning, and round-top types, the product can be glazed with a variety of insulating units, and with low-E glass. Weather Shield Mfg., Inc., Medford, Wis.

243 Patterned glass
Design Glass is offered in four patterns, called Symmetrics, Aztec, Galaxy, and Jewels. It can be mounted in partitions or in the manufacturer's own line of all-glass doors. Solar Seal Co., South Easton, Mass.

244 Insulating-glass roof window
Added to the company's acrylic-glass skylights is the Model VG, which incorporates a 7/8-in. insulating-glass unit (tempered outer sheet, with laminated-glass inner sheet). The extruded aluminum frame is finished in an earthtone-bronze polyester powder coat. Ventarama Skylight Corporation, Hicksville, N. Y.

245 Fire-resistant glass wall
The Eich Wallsystem is made up of metal- or wood-faced components and has been accepted by UL for both 60- and 90-minute fire separations. The Contraflam glass allows use of large glazed expanses at stairways and other rated locations in which vision area would otherwise be severely limited. Eich Corporation L. A., Los Angeles.

246 Integral pleated window shade
Opaque and sheer pleated fabric window shades have been added to the company's series of traditional integral blinds. The new shades hang between the lights of a double-glazing system or on the room side of fixed, casement, and awning windows, and both French and sliding doors. Pella/Rolscreen Company, Pella, Iowa.

247 Sliding glass door
Either of two levels of performance can be selected in EFCO's new aluminum-framed sliding doors. The series 2000 exceeds AAMA specification SGD-C20. Series 3000 exceeds requirements of SGD-HC40. Both are offered in thermal and nonthermal versions, and can accept monolithic or insulated units. EFCO Corporation, Monett, Mo.

248 Finished-edge glass block
With Trym, glass block partitions need no longer be confined within framing of other materials. The 8-in. square block is finished on front, back, and one edge, and is available in the Decora and Vue patterns. In all other respects its performance is equal to that of the manufacturer's other products. Pittsburgh Corning Corporation, Pittsburgh.

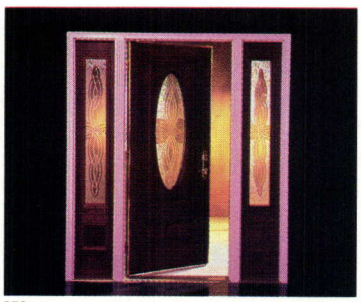
249 Outside lever for exit doors
The 3077 entry lever permits outside access to emergency exit doors. The heavy-duty key-operated device is compatible with the company's surface-rod, concealed-rod, mortise-type, and rim-type panic hardware. Adams Rite Manufacturing Co., City of Industry, Calif.

250 Steel window and curtain wall
The superior strength of 16-gauge steel is used to manufacture curtain walls, sloped glazing, and entrance systems in modules as large as 5 by 26 ft. Fabrication of both custom and standard shapes is available; frames are electrostatically coated with a silicone-polyester finish. Carmel Steel Products, Santa Fe Springs, Calif.

251 Fire-rated wood-panel door
Firestile wood-panel doors are suitable for use in openings requiring a 20-minute label (Warnock Hersey). Eight stile-and-rail patterns are available, and both concealed closers and concealed vertical rods (for exit devices) can be accommodated. Firejamb is a compatible, fire-rated wood frame. Minton Company, Mountain View, Calif.

252 Versatile door closer
The 4040 series of Super Smoothee door closers can be mounted on left- or right-hand opening doors, on the interior or the exterior surface. The spring can be set in the field to door sizes from 2- to 6-ft wide. Backcheck action, closing, and latching speeds can all be adjusted. LCN Closers, Princeton, Ill.

For more information, write item numbers on Reader Service Card



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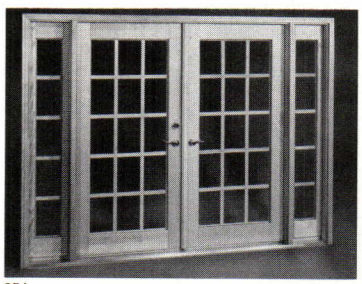

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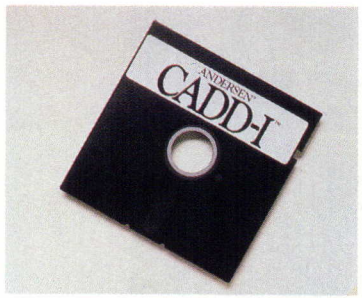

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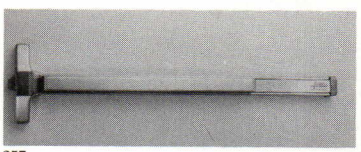

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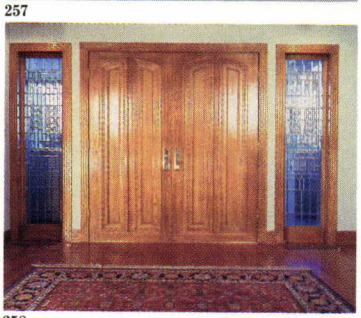

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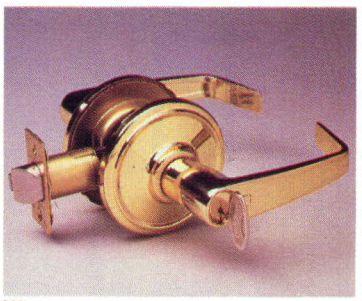

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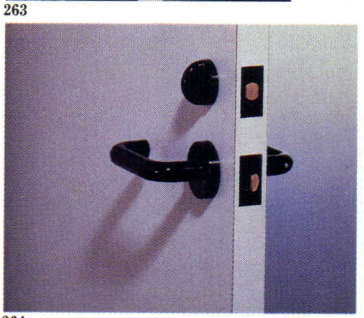

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253 Wood door system
The manufacturer has extended its Registry Series of steel door systems to include wooden doors. The series, which includes the Manchester shown here, offers solid-core oak, teak, and mahogany doors; frame, sill, and door are engineered to act as a system. Some designs in the series call for sidelights and toplights. Pease Industries, Inc., Fairfield, Ohio.

254 French doors
Wood-framed French doors, for which either in-swing or out-swing can be specified, have been added to the manufacturer's series of wood doors for patios, porches, and decks. A full 180-deg swing allows doors to lie flush against the wall. The doors can be ordered with argon-filled insulating glass, and with full perimeter weather stripping at head and sides. Crestline, Wausau, Wis.

255 Reinforced hinge
The Pivot Reinforced Hinge has been introduced to meet the needs of doorways with overhead stops. The maker designed this system for doors that receive extra hard use, as they might in schools and public buildings. Stanley Hardware, New Britain, Conn.

256 Computerized file
The Andersen CADD-1 program helps the architect select the manufacturer's products and fit them with computerized floor plans and elevations; it also keeps a running tally of selected products, as well as design options and symbol codes. The program is compatible with AutoCAD 2.52 and DataCAD 3.5C software. The package is free to qualified practitioners. Andersen Corporation, Bayport, Minn.

257 Exit doors
The 17 Series of exit devices now has the capacity to adapt electrically to security systems with latch retraction, lock/unlock security monitoring, exit indicators, and exit alarms. Monarch Hardware Manufacturing, Inc., a Div. of Newman Tanks, Inc., Shepherdsville, Ky.

258 Oak door
An oak door and sidelights have been added to the manufacturer's Prairie School Collection. The door, available in mahogany as well as oak, is available in sizes from 3 ft by 6 ft 8 in. to 4 ft by 8 ft. Arch tops, jambs, and casings are also available. Pinecrest, Minneapolis.

259 Electronic locks
The Saflock Innkeeper Imperial, designed for hotel properties of up to 500 rooms, supplies a system for keymaking, user authorization, management reporting, and lock programming/interrogating. A similar system, the Hotelier, is intended for properties of more than 500 rooms. Saflock Computerized Security Systems, Inc., Troy, Mich.

260 Door and sidelights
The Bordeaux II entry door and sidelights, additions to the manufacturer's Chateau series, have triple-glazed inserts with beveled, leaded rectangles. The doors are made of Douglas fir and western hemlock, and the laminated panels have the manufacturer's Innerbond construction. Simpson Door Company, McCleary, Wash.

261 Lever handle
The manufacturer's new series of designs for lever handles includes the Volta H154, which can be mounted to either a long escutcheon or a rosette. It is available in passage, privacy, and dummy models. Valli & Colombo (U. S. A.) Inc., Duarte, Calif.

262 Entry leverset
An addition to the manufacturer's Premium series, a key-in lever lockset is intended for entry doors; matching privacy and dummy elements, in either brass or steel, are available for interior installation. The sets are engineered to meet codes for the handicapped. Kwikset Corporation, Anaheim, Calif.

263 Low-E skylights
Sloped double-paned units of low-emissivity glazing are injected with argon to enhance both R and U values. The manufacturer says that the gas-filled units, meant for skylights and roof windows, are twice as energy efficient as standard double insulated glass. Velux-America, Inc., Greenwood, N. C.

264 Latch and deadbolt
The manufacturer has added a passage latch, with steel-core lever handle, and a privacy deadbolt to its program for door hardware. Front-plate covers for both the deadbolt and the latch are made of nylon and designed to match the color of the handles and thumb-turns. HEWI, Inc., Allandale, N. J.

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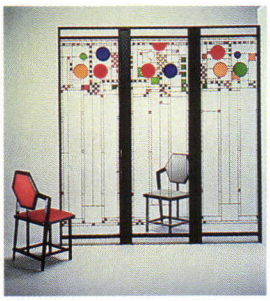
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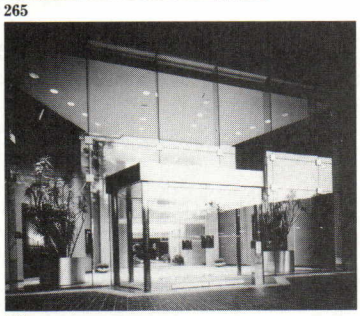
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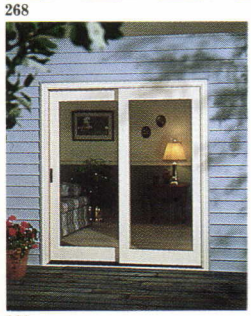
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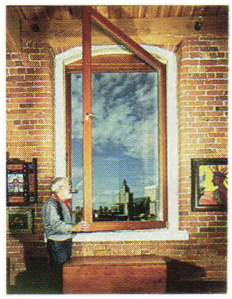
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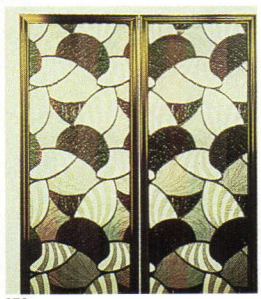
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265 Wright art glass
Designed by the architect for the Coonley Playhouse in 1911, this triptych is one of a number of authentic Wright art glass windows reproduced by a Wisconsin studio under license from the Frank Lloyd Wright Foundation. Glass can be furnished framed for decorative display, or ordered in wooden jambs for architectural installation. Oakbrook Esser Studios, Oconomowoc, Wis.

266 Structural glass wall
The structurally glazed Stackwall is floor-loaded, using 1/2-in. tempered glass as the vision light and 3/4-in. clear tempered as the glass stiffener. Head, sill, and patch assemblies come in various metal or painted finishes. The system's modular construction is said to make it ideal for a range of applications, from straight to angled and segmented-radius walls. Tempglass Eastern, Buford, Ga.

267 Heavy commercial window
A single-hung thermalized aluminum window with narrow sightlines, model TR-9910 is designed to be glazed from the interior. The sash tilts for cleaning from the inside, and locks automatically at the sill. Traco, Warrendale, Pa.

268 Bullet-resistant wood door
Doors for commercial applications, bullet-resistant for small-arms fire as per UL 752, are now offered faced in a variety of wood veneers and all of this manufacturer's standard and custom Santa Rosa finishes. For interior exposures, the doors are 1 3/4-in.-thick, in sizes up to 4 by 10 ft. Weyerhaeuser, Tacoma, Wash.

269 French-style patio door
A sliding, wood-framed door, the Normandy has the wide stiles and rails of a French door. Available in all-wood or aluminum-clad one-, two-, or three-panel units, the door may be ordered with either true divided-light glazing or decorative wood grilles. Norco Windows, Inc., Hawkins, Wis.

270 Clear fire-rated glass
FireLite is a clear, slightly amber ceramic-type glass that provides a UL-fire rating of up to three hours, depending on the size of the assembly. Made in Japan and stocked in the U. S., FireLite is available in 3/16-in.-thick monolithic sheets up to 36 by 72 in., which can be cut with standard glass cutters. Technical Glass Products, Kirkland, Wash.

271 Commercial wood windows
Framed in mahogany or spruce, the Hobeka tilt/swing window is said to achieve zero air infiltration, even installed at heights of up to 89 stories. Windows are made in West Germany, and glazed with 1-in. insulating glass in the U. S. Openings, Inc., Framingham, Mass.

272 Translucent insulating panel
Lightweight Cemcel all-fiberglass panels are now available for many SuperSky skylight systems, including pyramids, single-pitch, vaults, ridges, and domes. The Cemcel weathering surface is said to ensure long-term performance without "fiber bloom"; panels come in a range of skin colors and light-transmission values. SuperSky International, Inc., Mequon, Wis.

273 Decorative laminated glass
Deco Glass is a new process which encapsulates fabric, wire screening, or other materials between two pieces of laminated safety glass. Flat DecoGlass is mass-produced at 1/4- and 1/2-in. thicknesses, using the designer's choice of material. The finished glass can be curved, bent, and sandblasted, and fits into standard framing systems for interior or exterior use. Dlubak Corp., Freeport, Pa.

274 Glass block
A new pattern, Gemex is available from a line of over 30 imported glass block designs. Said to have a high degree of light transmission, blocks are suggested for shower enclosures, partitions, radius walls, and skylights. Euroglass Glasrep Corp., White Plains, N. Y.

275 Commercial tilt/turn window
Heavy-duty operating hardware makes possible a very large picture-type window, which tilts from the top for draft-free ventilation. Designline 1200 windows also unlock and swing inward for secure maintenance from the interior, as shown. The thermally broken aluminum-framed window comes in sizes up to 7 1/2 ft wide by over 7 ft high. Wausau Metals Corp., Wausau, Wis.

276 Fire-rated doors and walls
This manufacturer of architectural skylights, louvers, and other aluminum building products now offers Glassprotex metal-framed door and wall assemblies. Vision lights are clear Contraflam gel-filled glass panels, available in UL 60- and 90-minute versions. O'Keeffe's Inc., San Francisco.

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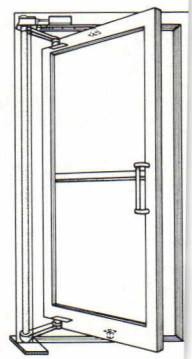

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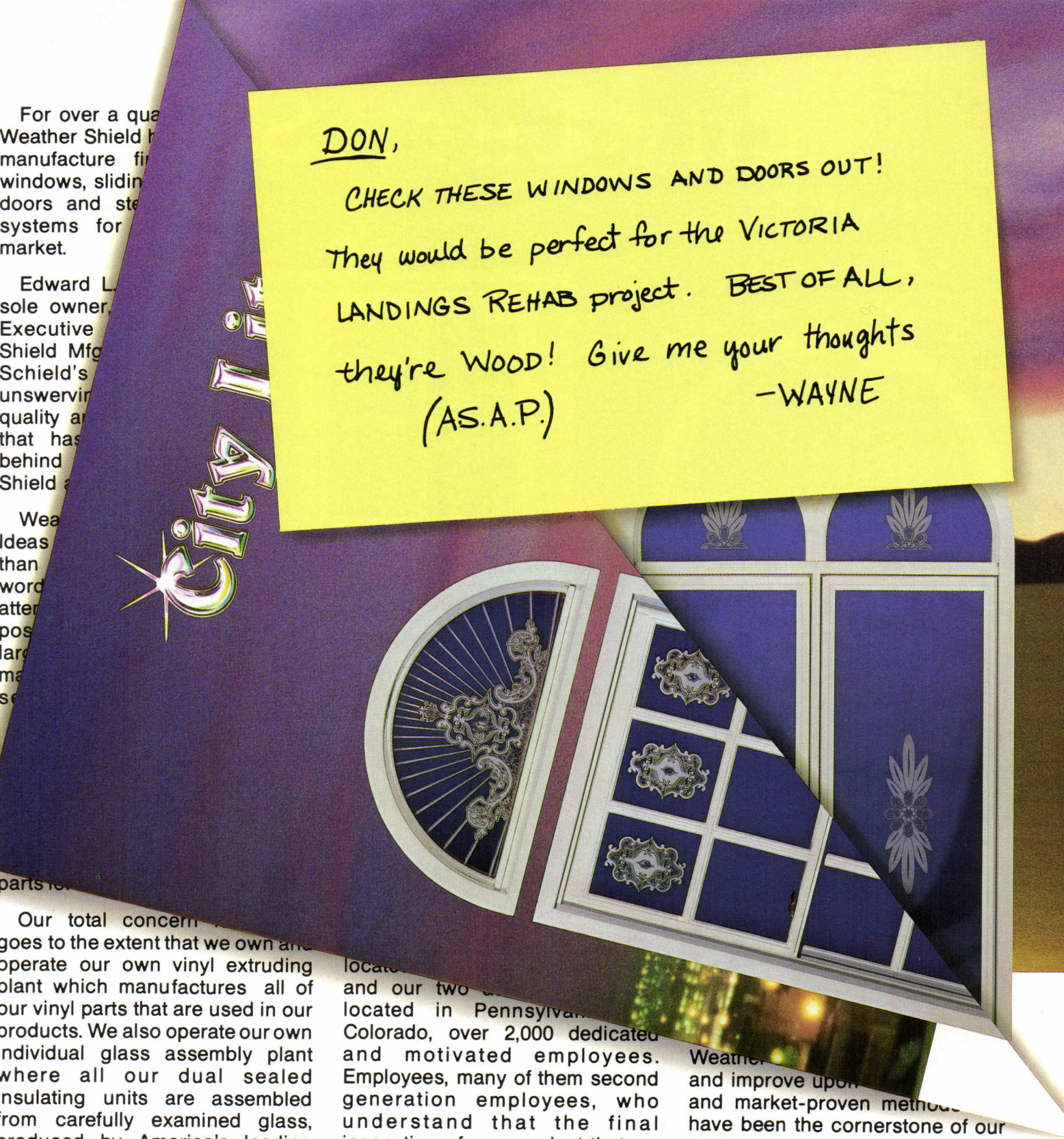

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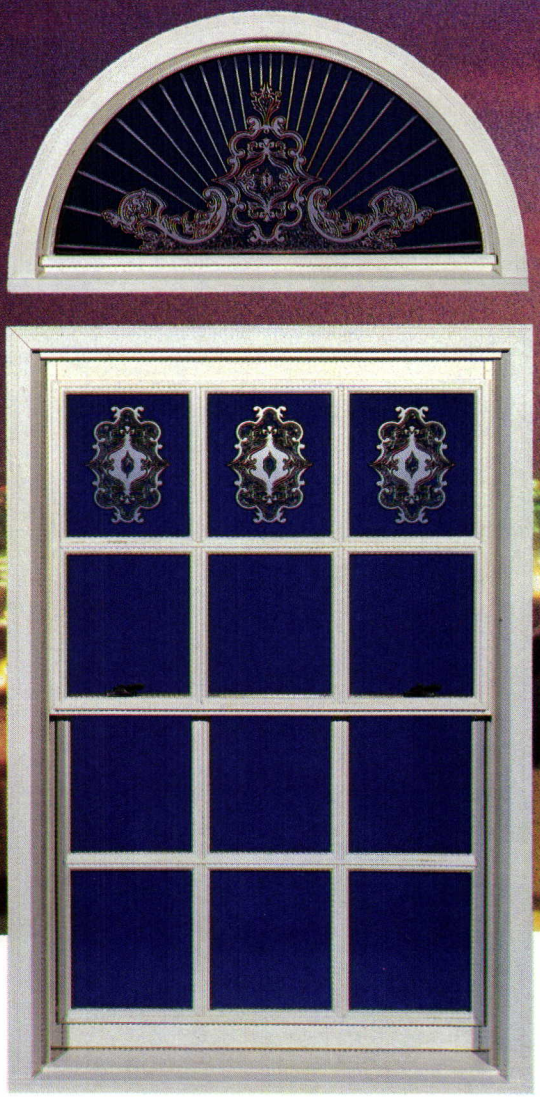

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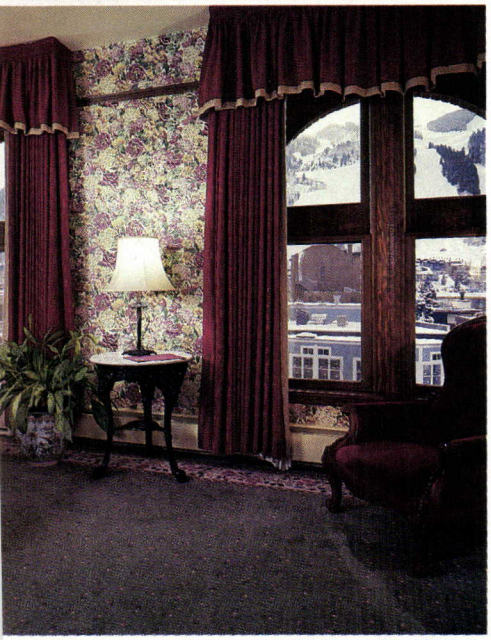

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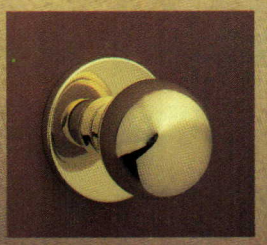

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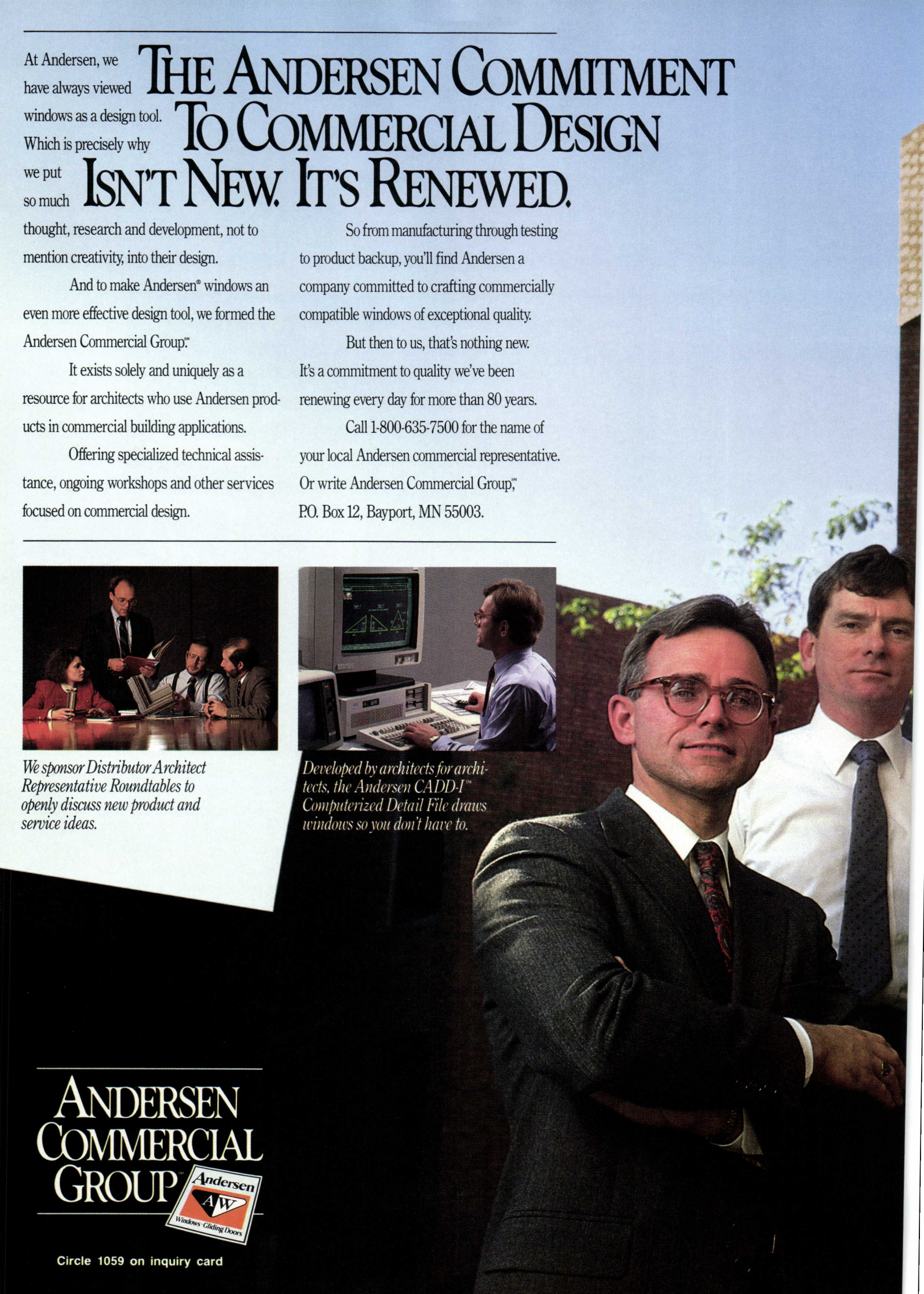

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BENT GLASS: REFLECTIONS OF THE FUTURE

MERCEDES-BENZ, in Hollywood, CA (upper left) *by The Nadel Partnership, Inc., of Santa Monica, CA. REDKEN RESEARCH LABORATORY in Canoga Park, CA* (above) *by Rochlin & Baron of Los Angeles. INTERIOR PARTITION / RESIDENCE* (left) *by Baldwin Associates Architects in Denver.*

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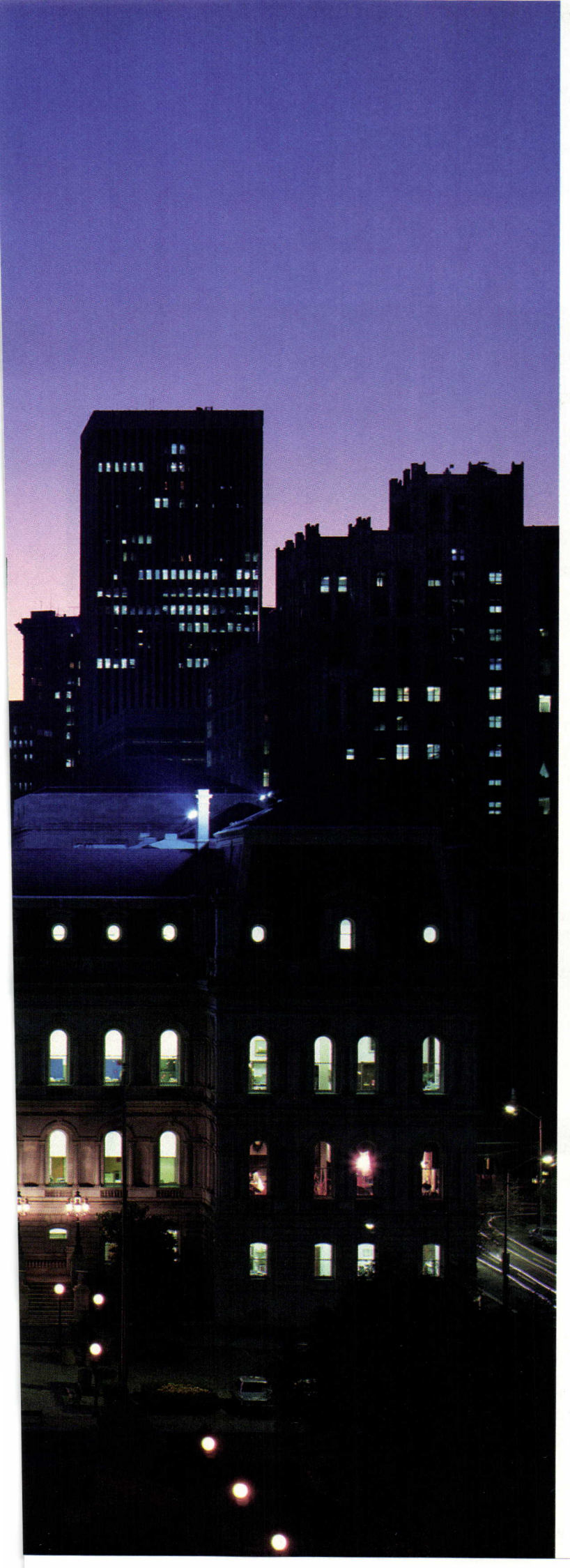

When Baltimore decided to replace the windows in its 120 year-old City Hall, Baltimore talked to all of the major window companies.

Then Baltimore chose Marvin.

Baltimore chose Marvin because no one had more experience at making windows to order. Because no one was better-equipped to actually make all of the different shapes and sizes. Because no one else could incorporate more maintenance and energy-efficiency features into such historically accurate replicas.

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MARVIN WINDOWS ARE MADE TO ORDER.

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At the pinnacle of the Opryland Hotel Conservatory's lush indoor Victorian garden are angle bay windows, custom built for the hotel.

When Opryland Hotel asked Norco to design some special windows, the results were grand

Some would call it a tall order...building windows for Opryland Hotel that are in perfec harmony with their Conservatory suites.

But Norco measured up and built custom windows, fine tuned on both the exterior and interior to capture the Conservatory's lush mood. The Conservatory is over two acre of architectural wonder – Victorian gardens with winding trails, bubbling brooks and tumbling waterfalls.

Crowning the Conservatory's elegance are Norco's custom Angle Bay Windows,

Norco's sweeping angle bays complement the southern elegance at Opryland Hotel Conservatory suites and give guests a breathtaking view of the Conservatory.

designed with authentic True Divided Lites, evoking the rustic charm of the Old South.

A high note for each suite.
Each upper level suite is graced with one or more Norco Angle Bay Window, blending with the romantic appointments, giving each guest the impression he is staying in a stately Southern mansion. And each Norco Angle Bay Window was designed to create a floor-to-ceiling wall of windows, set precisely at the right angle to give a glorious view of the Conservatory.

Grand results brought Norco back for an encore.
Opryland Hotel's newest expansion, the Cascades, is set for completion in 1988. It is another major, skylighted interior space even larger than the Conservatory. Its 839 additional rooms will enlarge the hotel to 1,896 rooms.

Norco's Custom Angle Bay Casement Windows will again be center-stage in the addition.

Norco's performance on the original construction phase was so impressive that Opryland Hotel brought Norco back for an encore.

Uncompromising quality, on-time delivery and Norco's capability to build windows to Opryland Hotel's exacting standards (at a surprisingly affordable price) are some of the reasons Norco windows are again at the top.

Norco can make your imaginative window designs a reality.

For more information, see Sweet's File number 08610/NOR. Or, call or write us today.

Besides meeting all the practical maintenance requirements of a modern hotel, the windows had to fit perfectly into the Conservatory's lush setting.

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LEARN THE FACTS!

Beware of misleading fire rating data

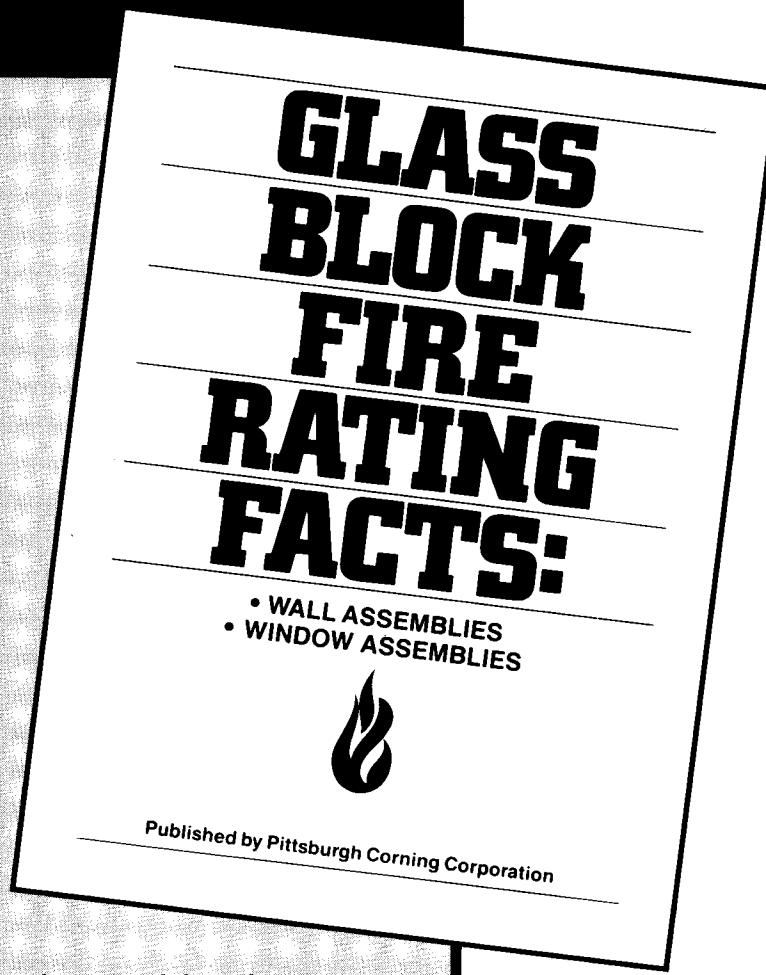
Ambiguous and potentially misleading information on glass block fire resistance has been disseminated to architects, interior designers, owners, builders and national code bodies by a U.S. distributor of a foreign-manufactured glass block.

Get the facts before you specify any glass block for fire-rated applications!

All UL fire-rated glass block on the market are tested in accordance with UL9, "Fire Test of Window Assemblies," for a 45-minute period in openings not to exceed 120 ft² in area. All national building code bodies recognize nothing longer.

The UL window assembly tests performed on the imported glass block **do not** qualify these glass block products for use as **wall** assemblies. **Presently, no glass block are qualified as fire-rated wall assemblies** as no glass block presently can pass the UL wall assembly test.

Don't be misled by incomplete information. Get the facts about glass block fire rating. Ask for the free brochure, "GLASS BLOCK FIRE RATING FACTS," by calling our Architectural Products Hotline at 800-992-5769; or write Pittsburgh Corning Corporation, Technical Systems, 800 Presque Isle Drive, Pittsburgh, PA 15239.



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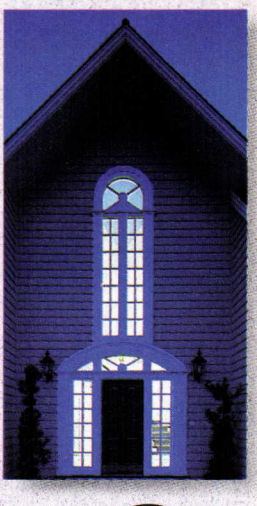

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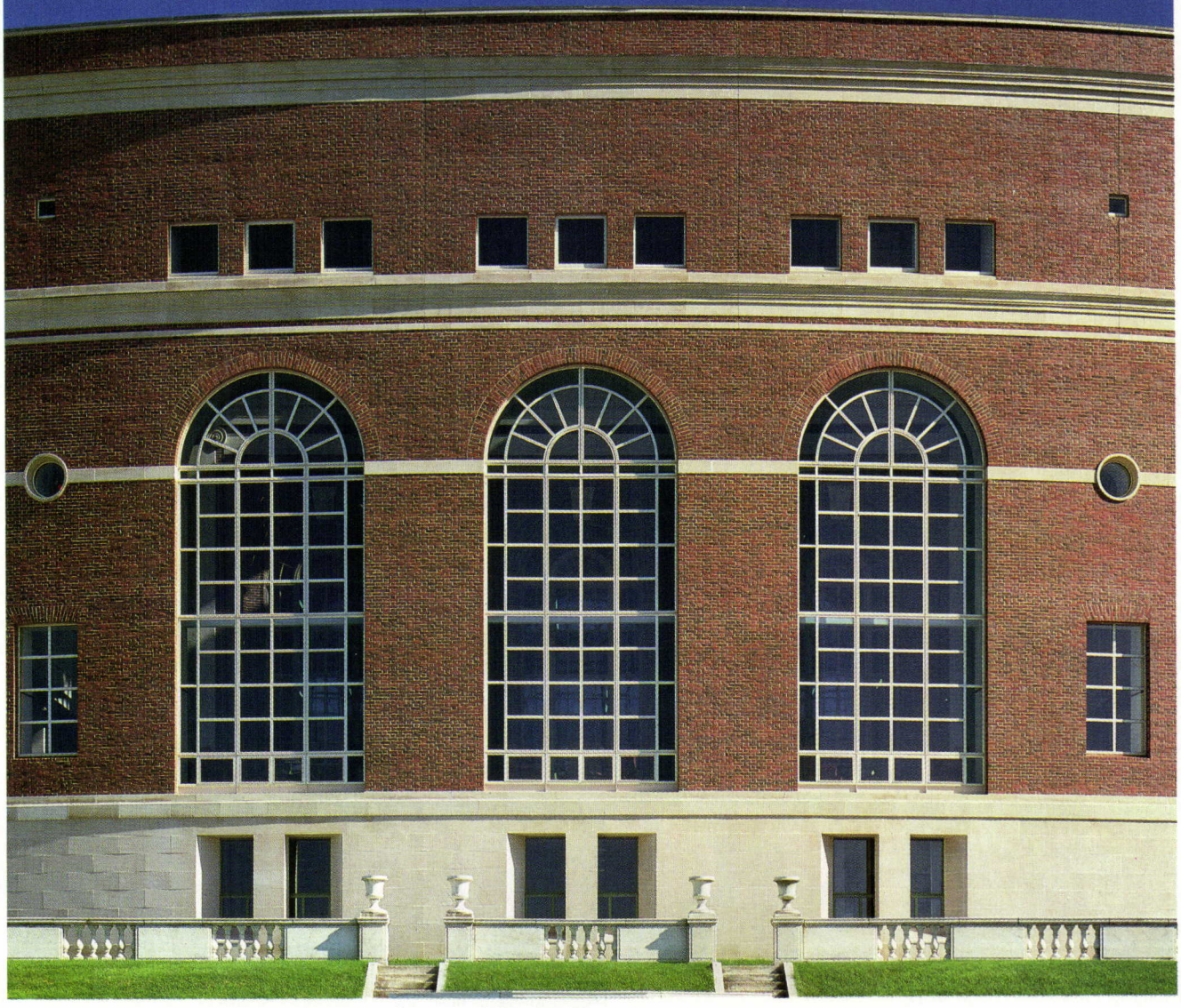

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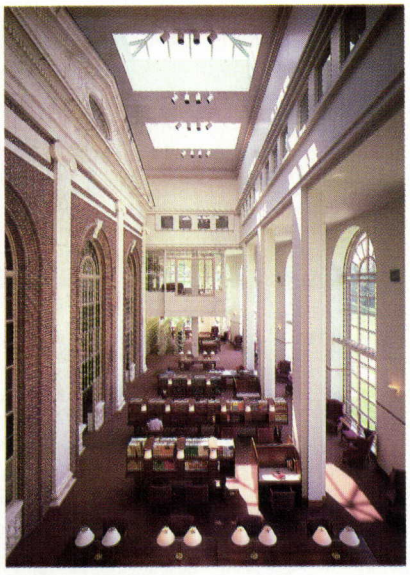

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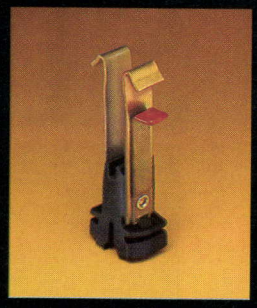

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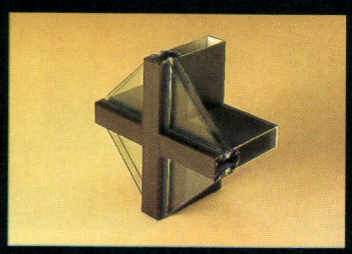

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8 Doors & Windows Product literature

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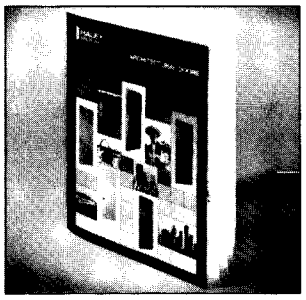
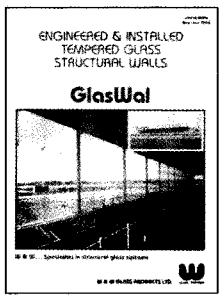


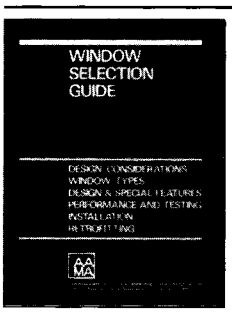
277 Wood doors
A 12-page, full-color brochure illustrates the manufacturer's complete line of wood doors. Descriptions are included of how each door type complies with applicable industry performance standards, along with materials used and construction methods. Color photos and specification data are provided. Haley Bros., Inc., Buena Park, Calif.

278 Door hardware
Design options possible with door hardware and controls are displayed in a 12-page color brochure. Featured are a variety of interior and exterior door installations and uses of the hardware in achieving door control. Also included is a special section on products available for interior and exterior door control. Rixson-Firemark, Franklin Park, Ill.

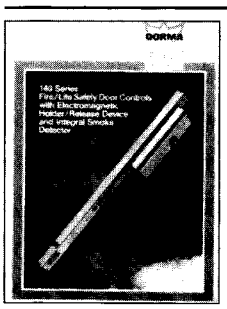


279 Glass walls
A brochure describes GlasWal, an insulated tempered-glass structural wall system, which is floor loaded. Color illustrations show various projects where the system is used. Technical drawings of typical details are included. Also provided are data on uses, applications, safety, and erection procedures. W & W Glass Products Ltd., Spring Valley, N. Y.

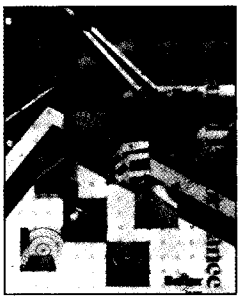
280 Window shopping
The new *Window Comparison Guide* offers aid to homeowners in shopping for energy-efficient windows. The easy-to-read pocket-size book has eight pages of color illustrations. Included are product descriptions, a glossary, and comparisons of three different types of low-emissivity glazing systems available. Hurd Millwork Co., Medford, Wis.



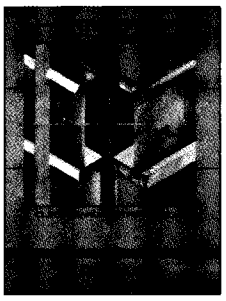
281 Window selection guide
A 60-page illustrated window selection guidebook offers information on design considerations, window types, design and special features, performance and testing, installation, and retrofitting. Single copies are available at $16. American Architectural Manufacturers Association, Des Plaines, Ill.



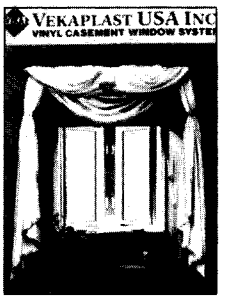
282 Door controls
A six-page brochure details fire/life/safety door closers for use in hotels, hospitals, schools, and nursing homes. The DC140 surface-applied closer incorporates an integral photoelectric smoke detector. The unit can interface with existing systems or stand self-contained. Drawings and technical data are included. Dorma Door Controls, Inc., Reamstown, Pa.



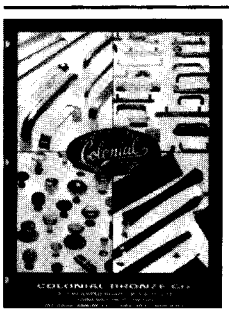
283 Laminated glass
The Design Guide to the Performance of Laminated Architectural Glass
is now available. Easy-to-follow guidelines for designing laminated glass systems for dead, wind, snow, and other environmental loads are included. Research data in the guide have been verified by experiment. Monsanto Chemical Co., St. Louis.



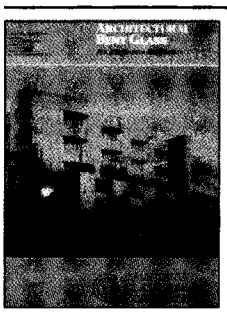
284 Curtain- and window-walls
An eight-page color brochure details the manufacturer's curtain walls and strip windows. The compatible system is pressure equalized and thermally approved. Practical applications and technical drawings are shown, and a chart of standard colors and specification data is included. Cupples Products, Div. of H. H. Robertson Co., St. Louis.



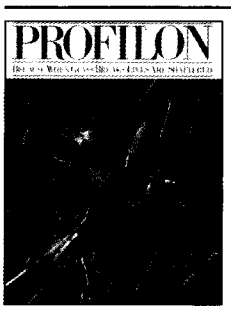
285 Vinyl systems
The manufacturer has introduced a 12-page color corporate brochure that serves as a guide to the design, extrusion, fabrication, and installation of vinyl window and door systems. Complimentary copies are also available of single-product flyers. Vekaplast USA Inc., Fombell, Pa.



286 Brass hardware
An updated catalog is now available for the manufacturer's complete line of solid-brass decorative cabinet and architectural hardware. Full-color illustrations give the specifier a better perspective of the quality of the products. Data on packaging options are also included. Colonial Bronze Co., Torrington, Conn.



287 Bent glass
Uses of hand-made laminated and thermal bent glass are illustrated in a full-color brochure. Featured are applications of revolving door enclosures, residential and office interior partitions, canopies, and stair balustrades. Specifications and technical data are also included. California Glass Bending Corp., Wilmington, Calif.



288 Security window films
A four-page color brochure on Profilon security window films shows how the product gives windows the appearance of tinted glass, blocks heat and glare, and acts as a safeguard holding shattered glass in place. Illustrative applications, product development, and technical data are included. Martin Processing, Inc., Martinsville, Va.

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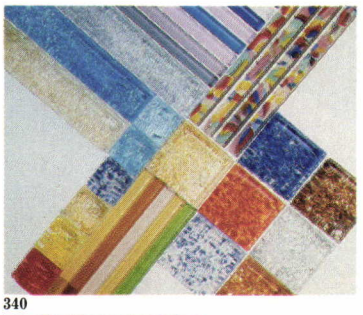
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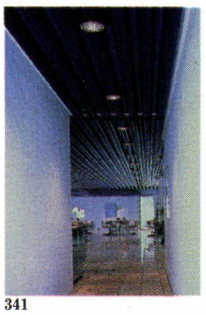
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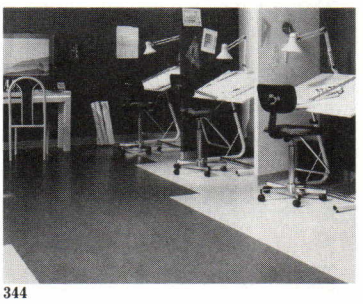
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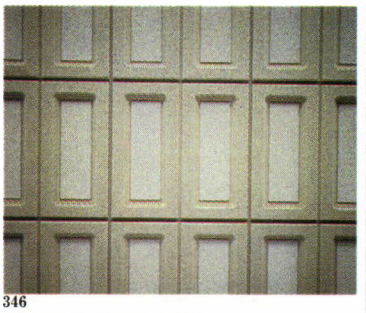
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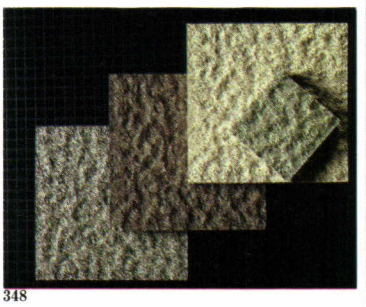
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337 Rubber flooring
Roundel Plus rubber flooring contains the manufacturer's own wax compound, which gradually migrates to the surface of the tiles to increase color durability. The 2-ft-sq tiles come in raised circular or square patterns and 14 standard colors. The Johnson Rubber Co., Middlefield, Ohio.

338 Wallcovering
Made from a jacquard weave of Du Pont's Cordura nylon fiber, Perma Silk wallcovering fabric is designed to resemble raw silk. Available in six patterns and 100 colors, the fabric is treated with Teflon for improved soil resistance. Kinney Contract Wallcoverings, Cleveland.

339 Carpeting
Dover, a grid pattern with complementary diagonal stripes available in eight colorways, is part of the new Architectural Collection of heavy-traffic floorcoverings. Produced in two-meter-wide rolls, the carpet is made from nylon fibers bonded to a vinyl base. Bonar & Flotex, Inc., Dallas.

340 Tile
The Expressions Collection of handmade Venetian glass "feature strips" can be used as moldings in interior applications. These narrow bands of tile are available in a variety of bright colors to accent neutral ceramic tile installations. The Atlantic Trading Co., Ltd., Harrisburg, Pa.

341 Ceiling system
The Rondella ceiling system consists of two aluminum elements—a semicircular tube and a filler profile—which can be installed on the manufacturer's carriers in a variety of patterns. Both elements are available in perforated and nonperforated versions. Dampa, Inc., Scarborough, Ontario.

342 Wood flooring
Sterling Strip is a new 2 1/4-in. by 3/4-in. square edge solid oak pre-finished strip floor. Designed to resemble custom finished floors, Sterling Strip has a tongue-and-groove locking system that permits easy assembly. A urethane coating is said to make regular waxing unnecessary. Bruce Hardwood Floors, Div. of Triangle Pacific Corp., Dallas.

343 Wall tiles
Incepa Parthenon 8-in. by 10-in. ceramic tiles are meant to simulate granite. Intended for use on interior walls, the tiles have a smooth finish. Decorative tile inserts in gold, silver, and red metallic colors are also available. International American Ceramics/LAUFEN, Tulsa.

344 Vinyl flooring
A 17-color collection of 12-ft-wide inlaid sheet vinyl flooring is designed for commercial applications. Called the Coordinates Collection, the flooring comes with a five-year limited warranty on wear and manufacturing defects. Tarkett, Inc., Parsipanny, N. J.

345 Carpet
BASF Corporation's Zeftron stock-dyed nylon is used in the new Wellco-Tronics IV carpet collection. The Matrix, Limelight, Progression, and Variations patterns are available in nine colors. All four designs come with a 10-year wear warranty. Wellco Business Carpet, Calhoun, Ga.

346 Ceiling system
The Friendly Ceilings system consists of 2-ft by 2-ft panels that can be installed onto a 9/16-in.-wide grid. The panels are available in eight colors. Intended for use in new construction or renovation applications, the system has a Class A flame-spread rating. Forms + Surfaces, Santa Barbara, Calif.

347 Machine staining
The manufacturer's machine staining system applies stain to wood under factory-controlled conditions. To achieve desired results, the stain is flooded onto the wood and then forced in by pressure rollers. In the final step, high-speed revolving brushes "back-brush" the stain to help it penetrate the wood surface. The Olympic Homecare Products Co., Bellevue, Wash.

348 Pavers
A new line of 15-mm-thick pavers is intended for both interior and exterior use. Made from a vitreous ceramic that is said to be frost- and slip-resistant, the pavers come in eight colors. Three sizes are available. Cita, Ltd., Atlanta.

For more information, write item numbers on Reader Service Card

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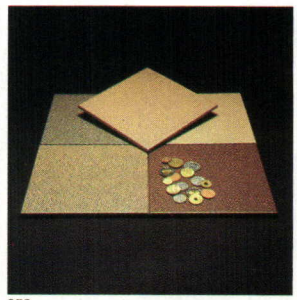
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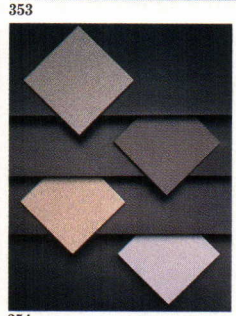
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349 Hardwood flooring
Hartco Pattern-Plus offers a tough acrylic wear layer that is water- and stain-resistant, making the oak flooring suitable for kitchens and other heavier-traffic areas. Floor comes in one-width units, available in four lengths and three colors, which can be combined in a single installation. Tibbals Flooring Co., Oneida, Tenn.

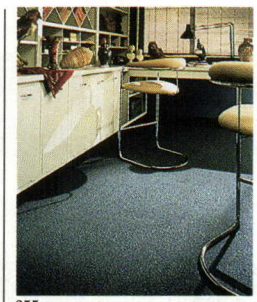
350 Level-loop carpet
A multicolor, yarn-dyed graphic pattern offered in nine colorways, Optique is constructed of 38-oz Antron III nylon for heavy-traffic applications, and carries a 10-year wear warranty. Optique coordinates with the 18 solid shades of the Colours carpet line. J&J Industries, Dalton, Ga.

351 Tin ceilings
Gildage 1860s ceilings, cornices, and closings are made of 30-gauge tin-plated steel stamped from the original 19th-century dies. Panels, available in 2- by 4- and 2- by 8-ft sizes, are fire- and moisture-retardant, with excellent paint-holding characteristics. Pinecrest, Minneapolis.

352 Porcelain tiles
The Huntington Dura Line consists of Italian-made granite-look tiles made specifically for abrasive environments such as shopping centers, hotels, sidewalks, etc. Tiles measure 8- and 12-in. square; there are 19 mottled and solid colors, ranging from earthtones to blue and peach. All come in three finishes: polished, smooth, and slate. Huntington/Pacific Ceramics, Fort Worth, Tex.

353 Water-base epoxy coating
Tru-Glaze-WB is said to combine the durability, stain- and chemical-resistance of an epoxy coating with the easy application of a latex paint. It can be used over alkyd coatings without lifting; has a Class A Flame Spread rating when applied to noncombustible surfaces; and is USDA-approved. Devoe & Raynolds Co., Louisville, Ky.

354 Vitrified porcelain flooring
Genesis porcelain tile is offered in four new colors, for a current total of 22: Greenbriar, a green flecked with red, beige, and black; Onyx, black with gray flecks; cream-colored Stonehenge; and Indigo, blue mixed with muted pink and beige. Crossville Ceramics, Crossville, Tenn.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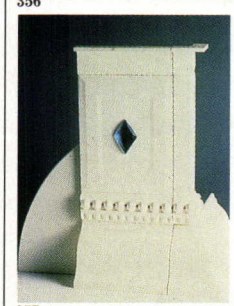
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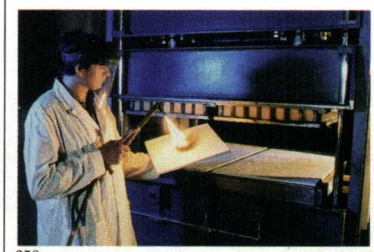
355 Commercial carpeting
Wear-rated for severe traffic areas, Sequel 32-oz textured loop carpet is suggested for office, healthcare, retail, and institutional installations. Made of soil-hiding, permanently antistatic Antron III nylon, Sequel comes in 24 colorations, with either jute or Certilok synthetic backing. Armstrong World Industries, Inc., Lancaster, Pa.

356 Deep-relief wallcovering
Made from cotton and paper, Anaglypta SupaDurable has an extra-deep relief pattern that is designed to be painted. (The large quatrefoil design pictured has been finished with a dark wood stain.) The raised texture makes Anaglypta particularly suitable for covering rough ceilings and walls. Crown Relief Decorations, Denver.

357 Ceramic tile and trim
Classical-style moldings, trim, and relief panel tiles have been designed by Paloma Picasso with several decorative variations: gray faux marble inlay, geometrically shaped edging, or lead crystal ornaments as shown. Moldings and trims feature bas relief details. Villeroy & Boch (U.S.A.) Inc., Pine Brook, N. J.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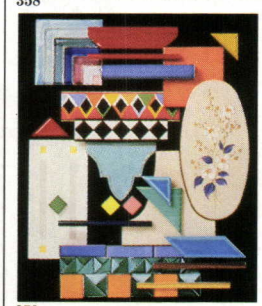
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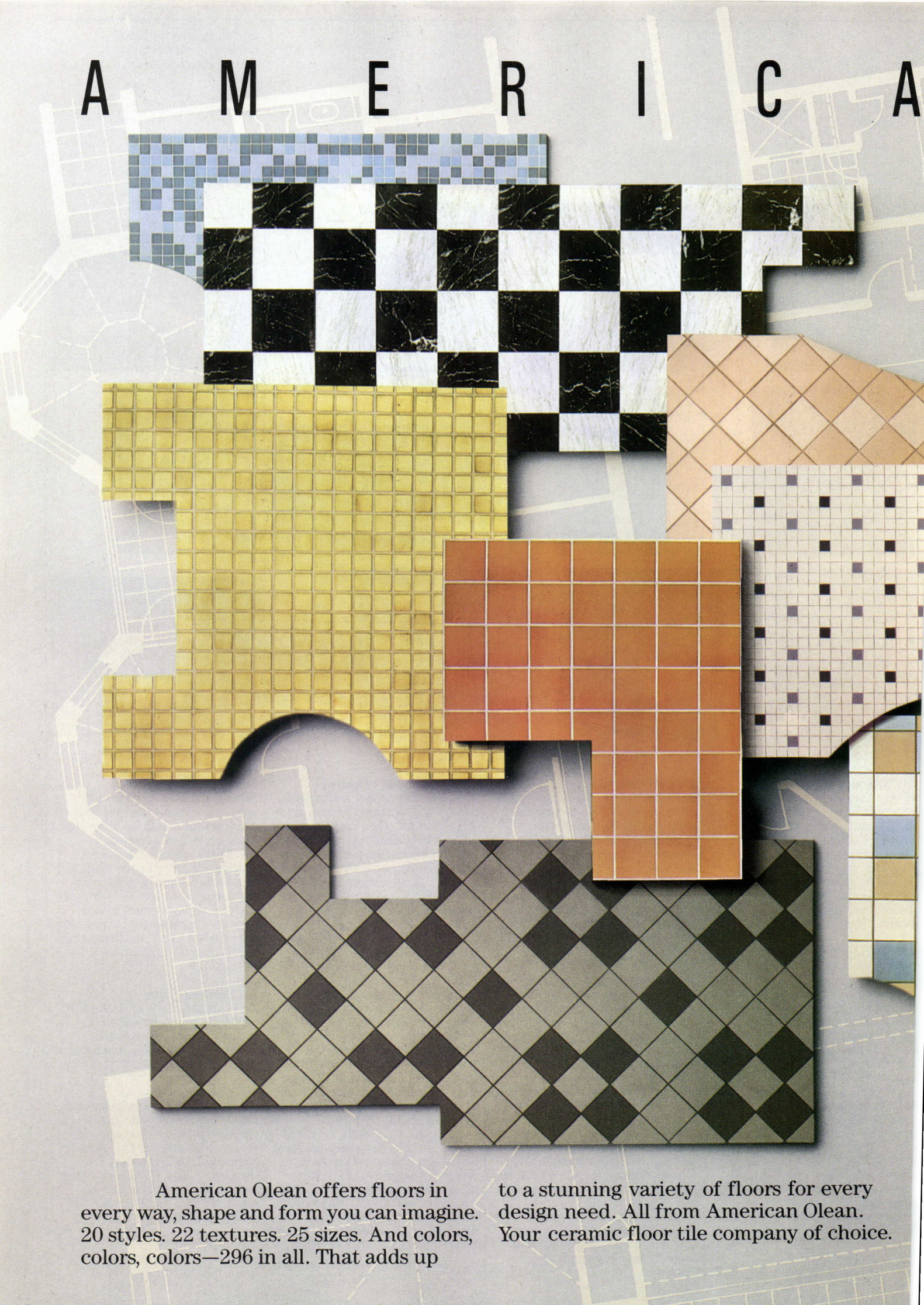
358 Molded acoustic tile
Non-halogenated, silicone-based polyolefin acoustic tiles and wall coverings have been developed to replace pvc-faced products, specifically where a UL Class I, washable tile may be required, such as schools, hospitals, restaurants, and computer rooms. Tiles are easy to clean, highly flame-retardant, have an integral vapor barrier, and offer custom colors and imprinting. Mortile Acoustic Industries, Chicago.

359 Decorative tile
An expanded range of Italian tile includes new shapes and sizes, such as ovals, parallelograms, thin accent pieces, cornices, and borders. Italian Tile Center, New York City.

360 Wood stain
A water-repellent resin-based stain may be applied immediately to new pressure-treated wood to provide mildew-resistance, and to protect against splitting, warping, and shrinking. Cabot PTW Stain comes in three shades of brown, two grays, a green, and clear. Samuel Cabot, Inc., Boston.



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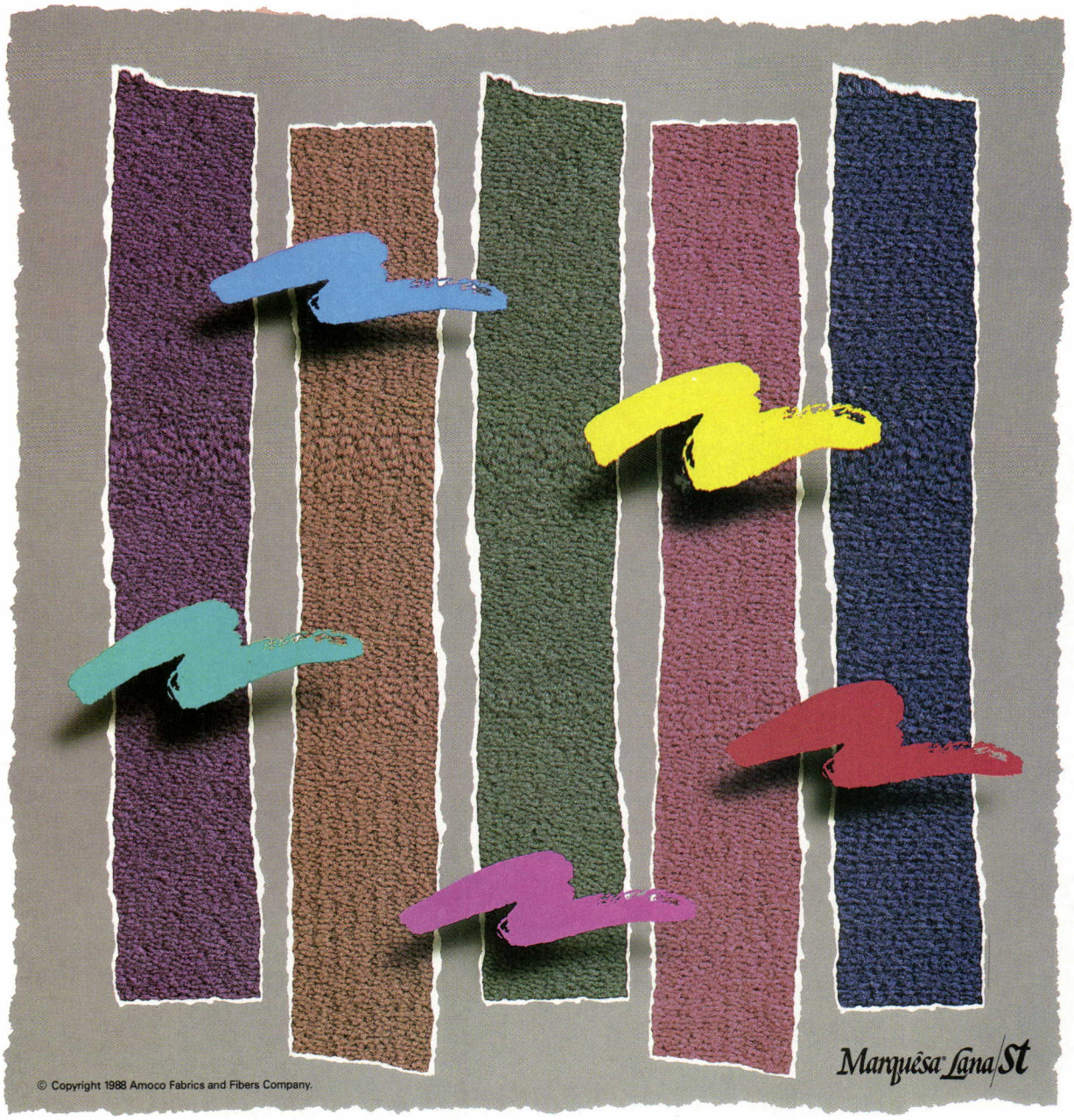

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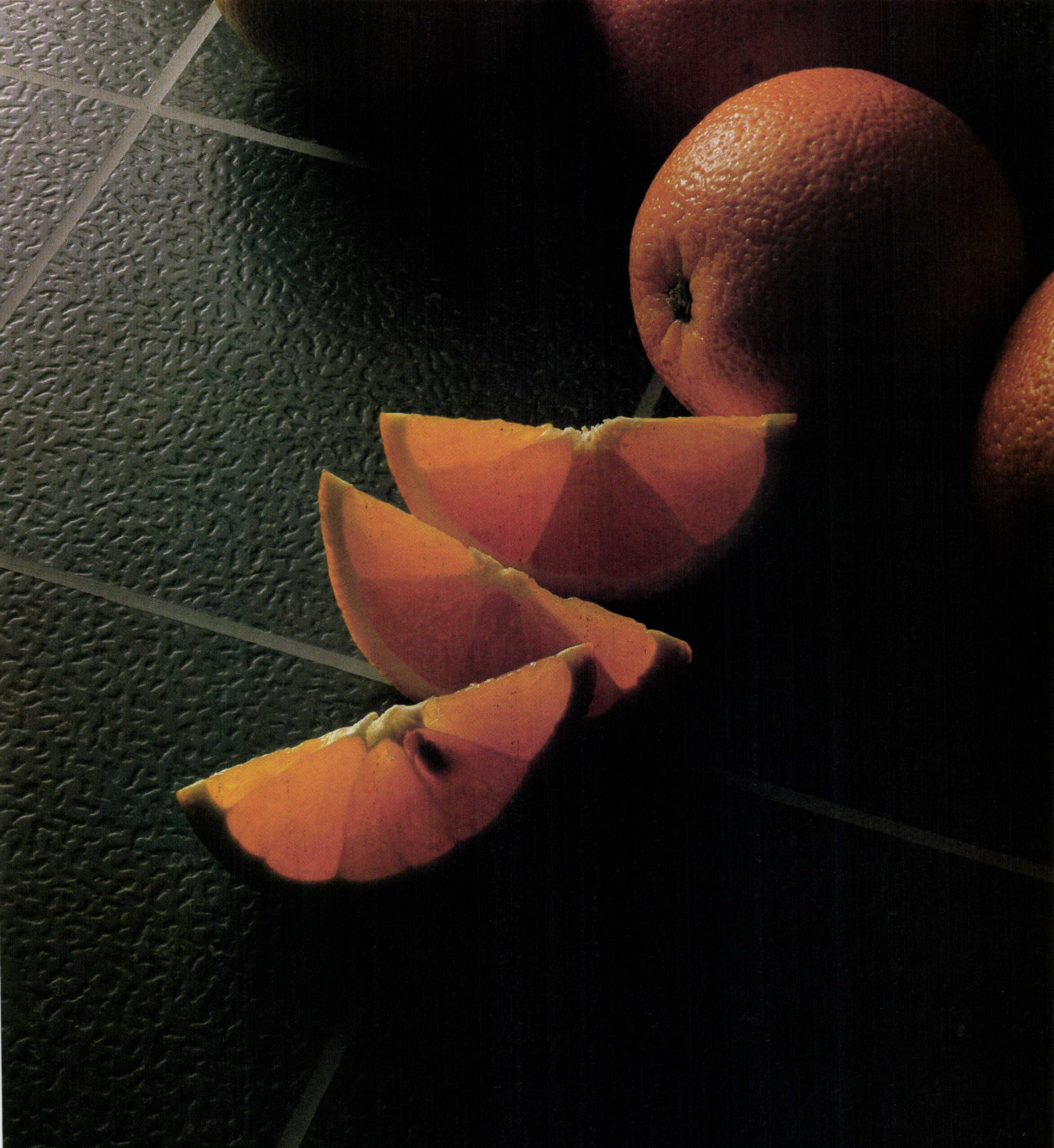

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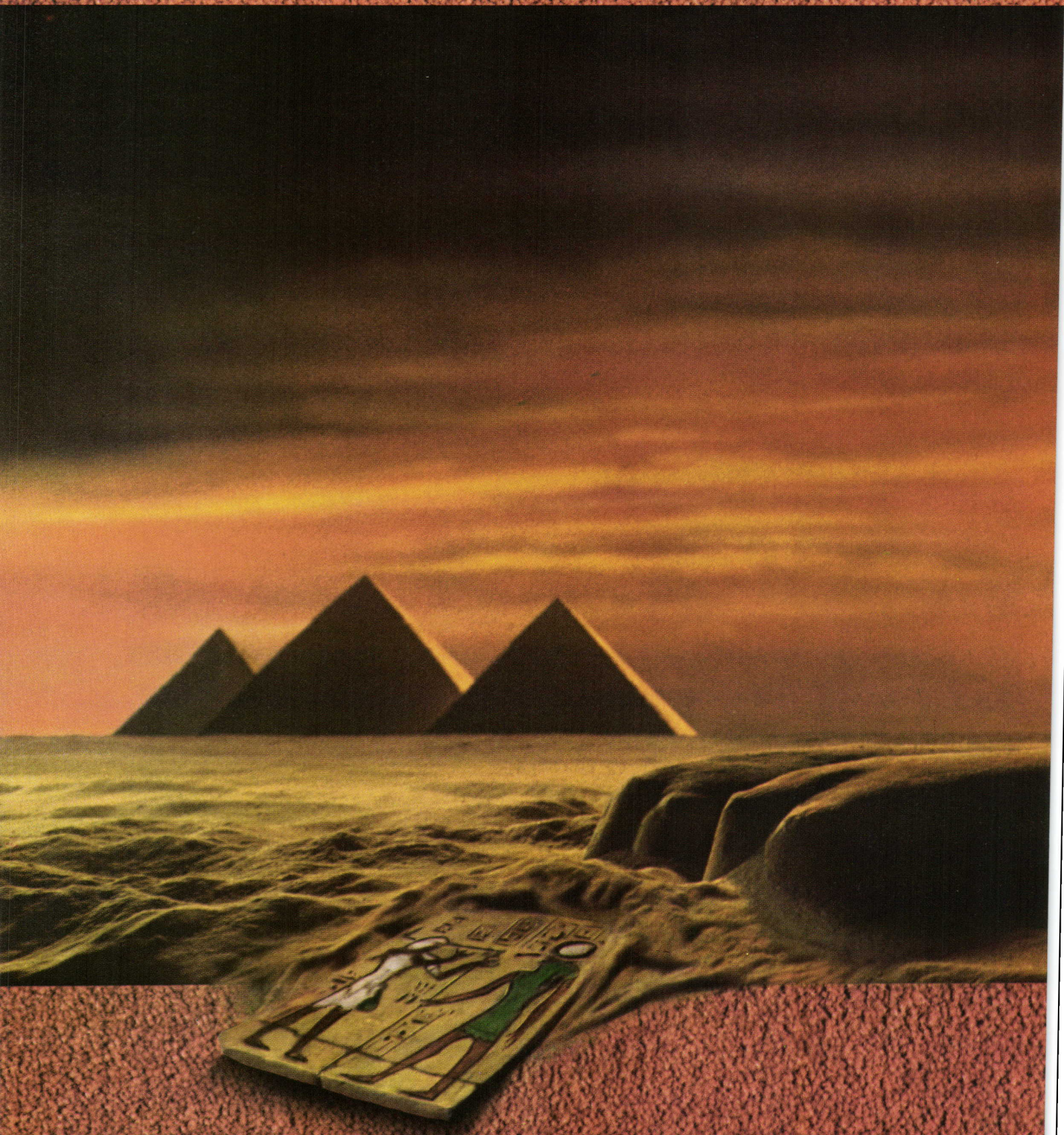

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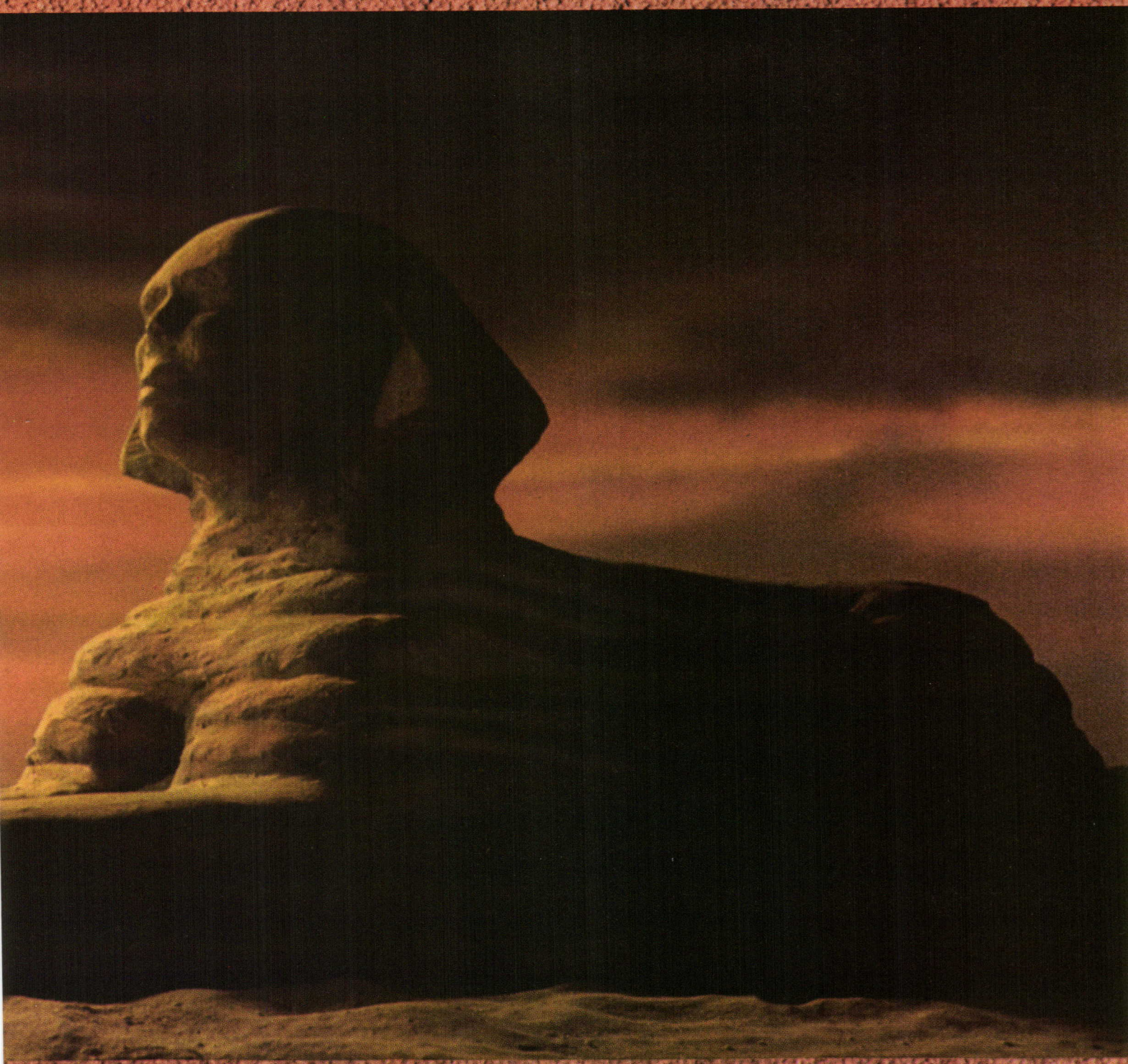

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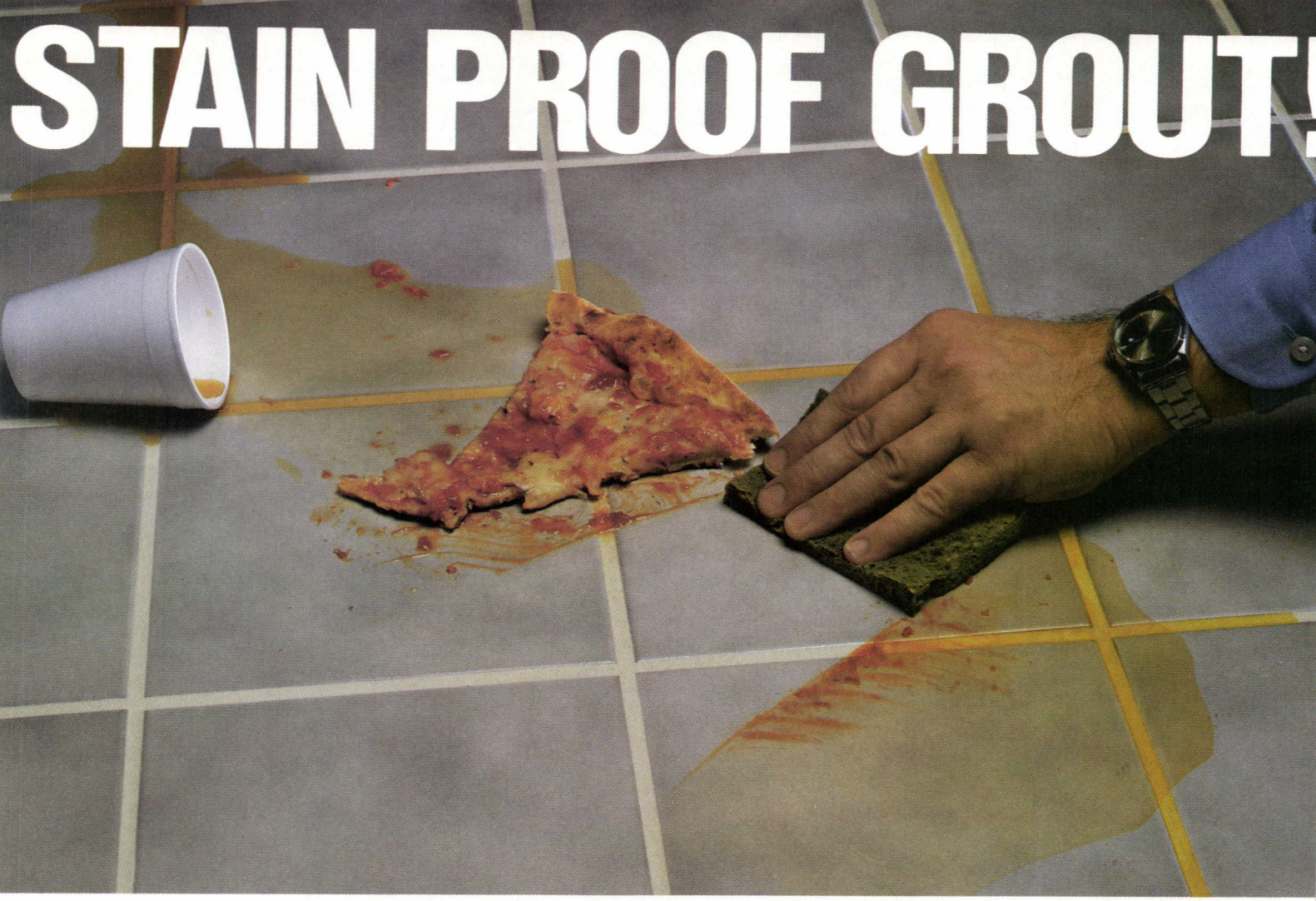

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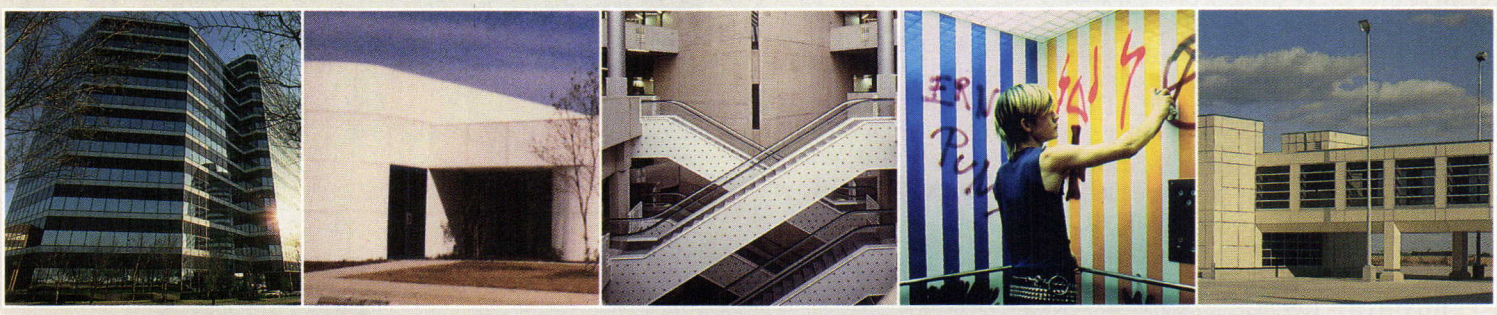

AllianceWall's ceramic-on-steel panels, *left to right:* Exterior, Paragon Building, Houston; Exterior, CIGNA Regional Office Buildings; Interior applications and escalators, Liege Hospital, Belgium; Graffitti-resistant walls, Elevator Manufacturers Worldwide; Exterior and jetways, Cedar Rapids Airport.

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The architectural firm, The Stubbins Associates of Cambridge, Massachusetts, originally specified another fireproofing system. But after discussions with Huber, Hunt & Nichols— project construction manager, and ISOLATEK INTERNATIONAL CORPORATION— the architects reached a new decision.

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Left to right: Floyd VanWye, Circle B Co.; Charles Prewitt, Huber, Hunt & Nichols; Mike VanWye, Circle B Co.; Tom Miller, The Stubbins Associates, Inc.

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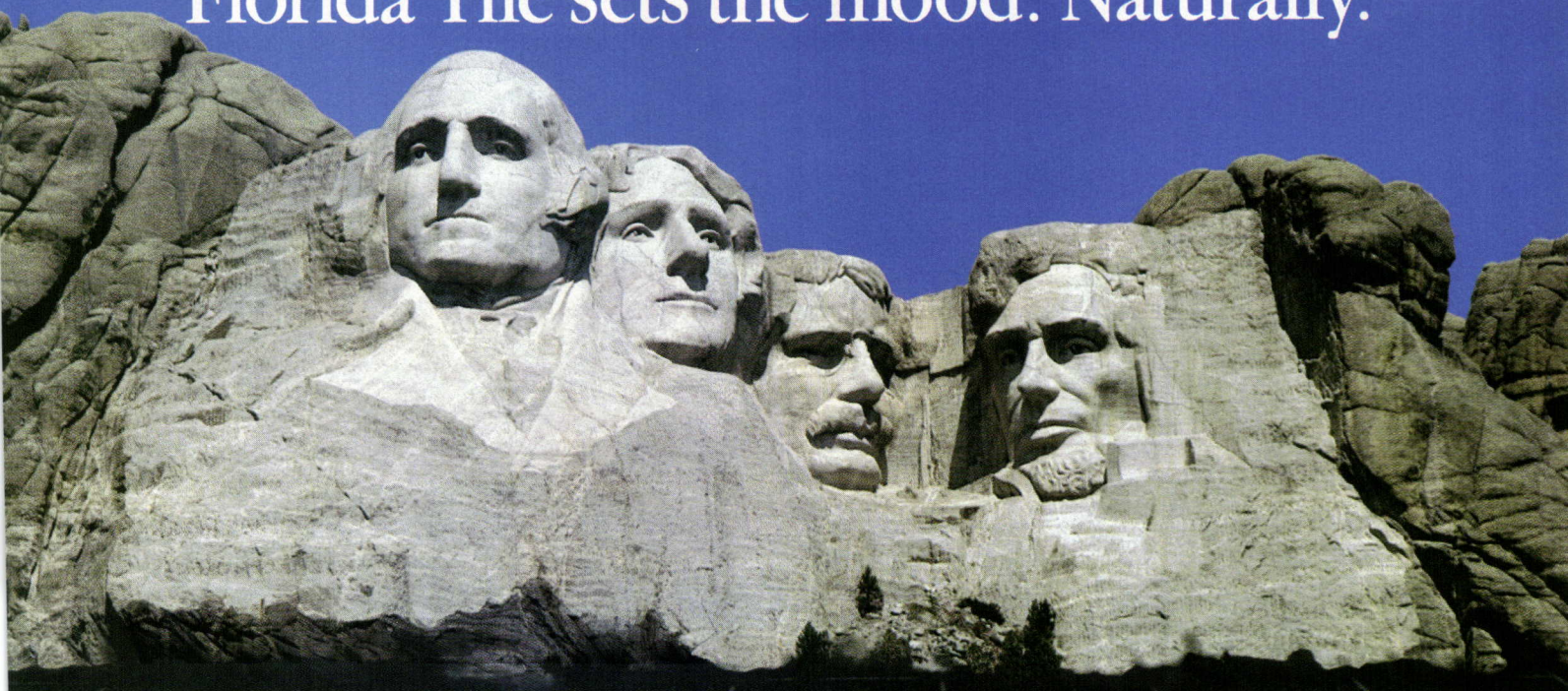

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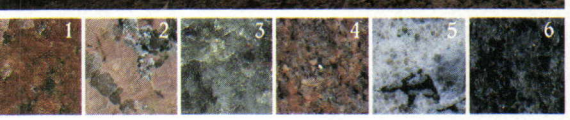
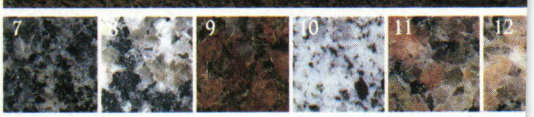
3. Cold Spring Green
4. Lac du Bonnet
5. Lake Placid Blue
6. Academy Black



7. Charcoal Black
8. Rockville
9. Carnelian
10. Sierra White
11. Sunset Red
12. Sunset Beige



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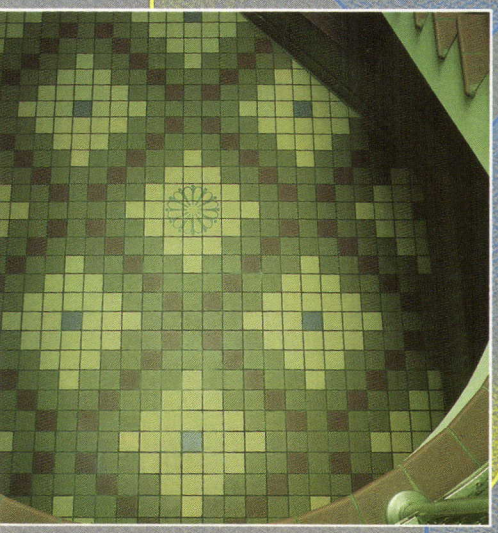

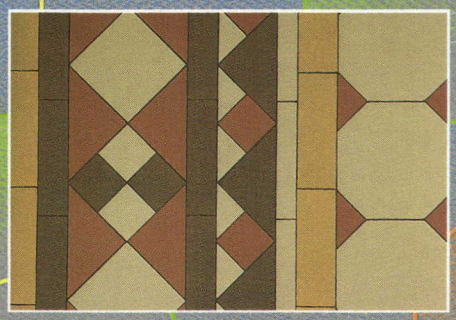

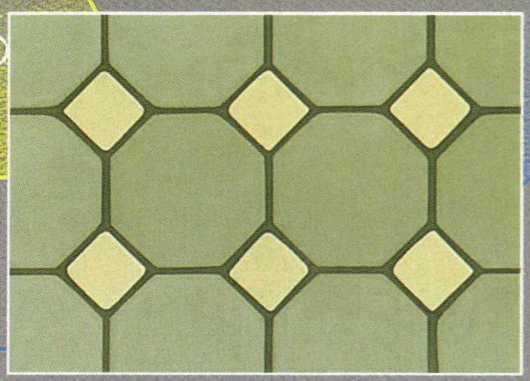

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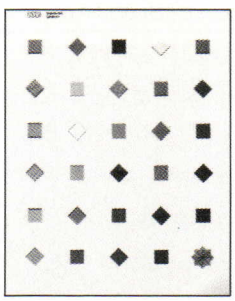
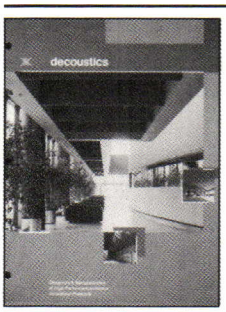
9 Finishes Product literature

For more information, write item numbers on Reader Service Card

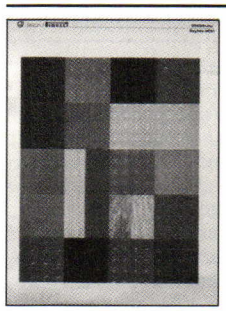
361 Architectural coatings
A 14-page color brochure contains photographs of commercial and institutional projects that use high-performance coatings on surface materials that include concrete, masonry, steel, and drywall. The brochure also includes a 14-page booklet with qualifications that can be inserted in specifications for high-performance coating systems. Tnemec Co., Inc., Kansas City, Mo.



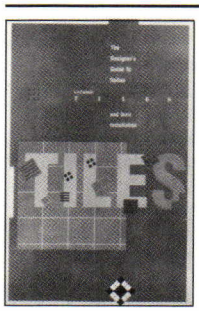
362 Ceramic tile
A six-page, fold-out brochure illustrates and dimensions tiles and trim pieces available from this engineered-ceramics manufacturer with the results of a set of product performance tests. A one-page chart displays 29 colors and the price group of each tile.
A specification guide has also been included. GTE Products Corp., Greenland, N. H.



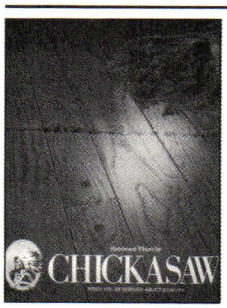
363 Sound-control panels
A 16-page brochure describes the performance, appearance, and value of sound-control ceiling and wall panels. Panels are also available to meet other physical requirements of building design such as high-impact-resistant panels, high-density panels, hinged panels, and others. Technical assistance offered by the company is also described. Decoustics, N. Tonawanda, N. Y.



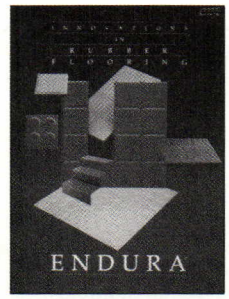
364 Rubber flooring
A 12-page color brochure illustrates projects that have installed rubber flooring, tiles, stair treads, and accessories. A chart lists the mechanical, resistance, electrical, thermic, and acoustical characteristics for the line of high performance rubber flooring. All of the other lines include the uses, the dimensions, and colors available. Jason Industrial Inc., Fairfield, N. J.



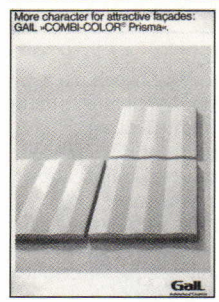
365 Ceramic tile
A full-color, 64-page book providing an overview of ceramic tile is a revised and updated edition from this tile center. The book includes photographs of ceramic-tile installations, and descriptions of the tile's properties, applications, installation, and maintenance. Guidelines explain how to choose tiles for all possible applications. Italian Tile Center, New York City.



366 Hardwood flooring
A 12-page color brochure illustrates a selection of architectural hardwood floors. Unfinished and prefinished planks are shown. A choice of finishes and plank widths is available. Illustrations also include unfinished and prefinished strip flooring and a variety of parquet patterns. Wood floor care is included. Memphis Hardwood Flooring Co., Memphis.



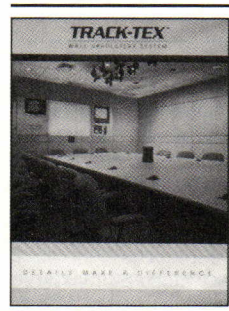
367 Rubber flooring
A color brochure contains photos, specifications, and dimensions for a selection of tile sizes and patterns. Color charts display 15 available colors. The flooring's toughness and high slip-resistance are designed for heavy pedestrian traffic. Low-vibration profiles are said to provide quiet and smooth passage of wheeled vehicles. Endura, Waltham, Mass.



368 Ceramic tile
A brochure features a modular-tile system that consists of extruded tiles with multifaceted surfaces and trim tile with polygonal shapes. Photographs illustrate the subtle gradations of shading produced on the tiles' two-, three-, and four-faceted surfaces. A variety of sizes and their dimensions are illustrated. Gail Architectural Ceramics, Tustin, Calif.

369 Wool carpet
An 18-page brochure featuring patterned wool carpet includes color photographs that illustrate each pattern's three-dimensional quality. By displaying overlapping rolls of carpet on each page, designers can compare a number of patterns and colorways. Corresponding borders for each pattern are also shown. Carpet can be specified without the border. Schumacher, New York City.

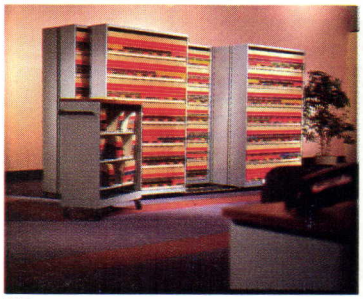
370 Tile accessories
A 12-page brochure illustrates a series of accessories including grout, waterproofing, and caulking for ceramic tile, marble, brick, and dimensional stone. Photographs of installed grouts and caulking are shown. Color charts, product selection guides, technical charts, and construction drawing details are included. Bostik Construction Products, Huntingdon Valley, Pa.



371 Fabric covered walls
A 10-page color brochure features a fabric panel system that can be used on walls, ceilings, or office partitions. The brochure includes a foldout sheet of detail drawings to illustrate how edges, corners, and end walls can be treated. Details show edges that are radial, beveled, and square. Technical information and an acoustical rating graph are included. DFB Sales, Inc., New York City.

372 Fabric panels
An eight-page brochure features panels made with flannel-like fabrics that are suitable for walls or ceilings. Four separate lines of the panels are illustrated in color photographs. Data for each line include the panel covering fabric, substrate, dimensions, and flame-spread rating. Armstrong World Industries, Inc., Lancaster, Pa.

For more information, write item numbers on Reader Service Card



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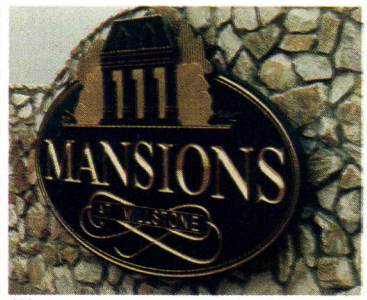

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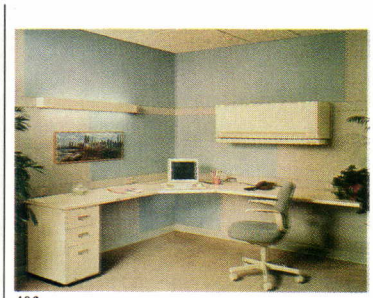

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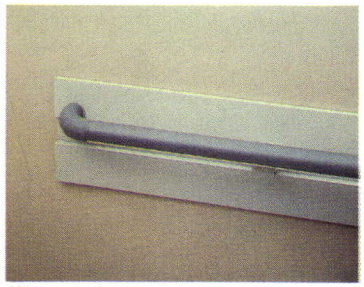

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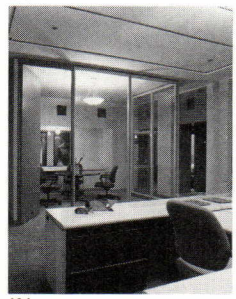

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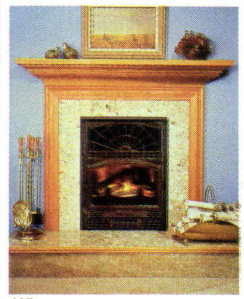

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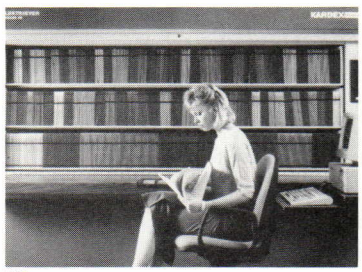

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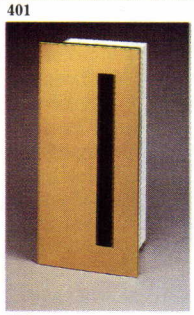

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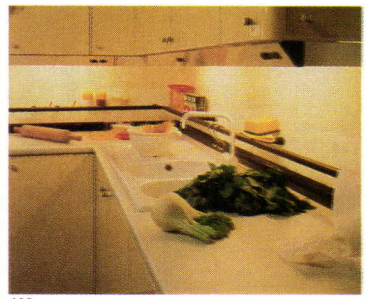

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397 Movable files
A system of high-density lateral files features an anti-tilt device that provides stability while guiding movable sections across a track. The eight-tier units are available in two- and three-row configurations. Acme Visible Records, Crozet, Va.

398 Fireplace
The HCE series of factory-built heat-circulating fireplaces is now offered with new optional glass doors and trim kits in polished stainless steel and solid or plated polished brass. The units feature an all-refractory firebox interior with a realistic fire-brick pattern. Superior Fireplace Company, Fullerton, Calif.

399 Automated filing systems
This manufacturer offers a complete line of automated filing and computerized records control systems. The Lektriever system (shown) contains carriers that rotate within the cabinet to deliver the desired item automatically to the operator. One 4- by 8-ft unit is said to provide the same number of filing inches as 12 four-drawer vertical filing cabinets. Kardex Systems Inc., Marietta, Ohio.

400 Storage/filing systems
Three new models of high-density mobile storage and filing systems feature a tapered-center flange wheel guidance system, one-piece structural steel T-rails, and fully welded uniframe aluminum carriages. Hand-controlled and electric systems are available. Spacesaver, Fort Atkinson, Wis.

401 Wall protector/handrail
The BR-900 Uni-Rail wall-protection and handrail system is made of rigid PVC and aluminum components. The units were designed by the New York architectural firm of I. M. Pei & Partners. Pawling Corporation, Pawling, N. Y.

402 Fire-extinguisher cabinet
Embassy fire-extinguisher cabinets are now being offered in brass and bronze, in polished, satin, and 10B finishes. The units accommodate most dry chemical, CO2, Halon, and pressurized water extinguishers. The cabinets feature recessed pulls and hidden hinges. J. L. Industries, Bloomington, Minn.

403 Carved signage
This manufacturer uses a CNC (computer numerical controlled) router to create mass-produced, carved wood signs for a variety of commercial applications. The signs are made of Honduran mahogany and are painted or gold-leafed by hand. Distinctive Designs USA, Ridgewood, N. J.

404 Wall-panel system
The Design Option Wall is a movable wall system based on a panel comprising steel face sheets and a core consisting of laminated structural reinforcement and sound-absorbing filler. This construction is said to produce a wall that is strong, but lighter than other systems. A variety of finish options is available. SunarHauserman, Cleveland.

405 Display system
A partition display system consists of tubular aluminum supports and hanging vertical surfaces. Available surfaces include cork, white steel for writing, melamine resin coated for projection, and grooved aluminum for press-in lettering. Coordinated display cases are also part of the system. Weyel International, Delray Beach, Fla.

406 Movable wall system
This new office wall system is based on 4-in.-wide functional bands that run horizontally at each of the wall's productive zones. Wall panels are available in 8-, 9-, and 12-ft lengths and in 24-, 30-, and 48-in. widths. A variety of fabric and vinyl coverings is available. USG Interiors, Inc., Cedar Rapids, Iowa.

407 Fireplace
The Sunburst fireplace is constructed of cast iron and features a 25-in. ceramic glass viewing door topped by a decorative sunburst-shaped upper grille. The unit may be ordered with brass, black, or porcelain enamel trim options. The fireplace delivers 60,000 Btu/hr of consistent heat. Dovre, Inc., Aurora, Ill.

408 Kitchen organizer
Wall to Wall is a kitchen organizer consisting of shelves, hooks, containers, and brackets attached where needed to a lacquered aluminum extrusion that can be easily cut to size by the customer. Watercolors, Inc., Garrison-on-Hudson, N. Y.

KROIN
Charles Square, Suite 300
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Telephone 617 492-4000
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Kroin Sanitary Fittings offer a comprehensive system of all-brass faucets, fixtures and accessories for the kitchen, lavatory and bath. All models are available in twelve epoxy colors, polished brass and chrome.
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Selected for the Design Collection, MoMA.
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IMPROVE BUSINESS WITH SUNBRELLA® FABRIC.

It's easy to improve almost any business by using Sunbrella awnings, canopies or other treatments. Because there's no prettier way to give a facade a facelift or make an interior more inviting.

And using Sunbrella is good for *your* business, too. Because nothing pleases your clients more than our beautiful looks, tough performance and long-lasting style. **No Wonder It's The #1 Acrylic Canvas In America.** The fact is, no other awning or marine canvas sells as well as Sunbrella. Or equals our 108-year reputation for quality. Furthermore, Sunbrella offers these unique acrylic advantages:

- Our stripes, solids and patterns are colorfast so they won't fade for years.
- Both sides are identical. So awnings, patio covers, room dividers—you name it—look great from every angle.
- Tiny pores let the fabric breathe. This means moisture and hot air don't get trapped...so the fabric stays fresh and new looking.
- The same tiny pores let light through while providing protection from the elements.
- Sunbrella is made from man-made fabric, so it resists rot and mildew.

Plus it's easy to clean—all it takes is soapy water and a brush.

- Sunbrella comes with a five-year limited warranty that no other acrylic fabric can beat!

Choose From The Broadest Selection In The Industry. From bold, bright stripes, solids and patterns to subtle pastels, Sunbrella also has the right look for any business. In all, we offer 88 choices...far more than any other acrylic canvas. Which means whatever look you want, we have a fabric to fit. So improve business after business by using Sunbrella. Look in the Yellow Pages under "Awnings & Canopies" for the name of the dealer nearest you.

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Tandy® Computers: The broadest line of PCs in America.

The Tandy 1400 LT

The affordable MS-DOS® based portable computer.

Here's a portable computer that's a true IBM® PC compatible. With a removable rechargeable battery pack built in, the Tandy 1400 LT is perfect for people on the go—like busy executives, sales personnel and journalists. Or use it like a desktop computer.

The Tandy 1400 LT features a high-resolution *backlit* liquid crystal display. The 80-character by 25-line resolution gives you the same quality of display as a full-sized monitor. And it's remarkably clear, thanks to the latest in "supertwist" LCD technology.

The 8088-equivalent microprocessor has a 7.16 MHz clock speed (vs. 4.77 MHz for most other PC-compatible portables). Standard equipment includes two 720K 3½" built-in disk drives and 768K RAM—ample memory to run today's powerful MS-DOS based programs.

The Tandy 1400 LT also includes a parallel printer adapter, RGBI and composite monitor outputs, a real-time clock and an RS-232C serial interface. You even get MS-DOS 3.2 and GW-BASIC software.

Come to your local Radio Shack and see the Tandy 1400 LT.

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Radio Shack Handheld Cellular Telephone

This year put the whole world in their hands with our 28-ounce, go-anywhere portable.

A Full-Featured, Handheld Portable for $1499*. What a great gift idea for any executive. The Radio Shack CT-301 lets a person make or take calls at a job site, in a rental car, on a service call, or even on the golf course. And it allows direct-dial throughout the United States and anywhere in the world—to Europe, the Orient, South America—wherever there's cellular service.

Fits in a Briefcase. The CT-301 is only 1½" wide and weighs just 28 ounces. Built-in rechargeable batteries deliver up to 15 hours standby or 1½ hours talk time. The CT-301 also features the 832-channel capacity now used in some cellular cities.

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10 Specialties Product literature

For more information, write item numbers on Reader Service Card

409 Exterior shading
Details on energy-saving principles of SunScreen solar screening and ShadeScreen louvered aluminum are featured in an eight-page full-color brochure. Practical applications, charts on solar-heat-control operation, drawings of installation methods on windows and glass doors, and test results are included. Phifer Wire Products, Inc., Tuscaloosa, Ala.

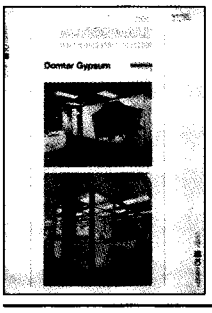
410 Retractable awning system
A color brochure illustrates a new retractable aluminum awning system. Suitable for restaurants, amusement parks, stadiums, houses, and businesses, the system allows total utilization of space by shielding patio areas from harsh sun or inclement weather. The system operates on push-button control. Retract-A-Roof Corp., Huntington Beach, Calif.

411 Sign graphics
A four-page color brochure details a paint-on-paper offered in 30 stock colors and unlimited custom colors to match any color scheme. Also available in pressure-sensitive film in 30 translucent colors. The company provides continuous striping and in-house screen printing with advanced heat-transferring machines. Cooley Sign Systems, Inc., Cranston, R. I.

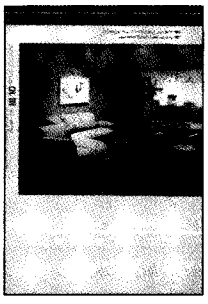
412 Fireplaces
A Swiss manufacturer has introduced a prefabricated fireplace that produces ample heat with the use of a protective thermal glass door. A six-page color brochure contains practical applications. Drawings and dimensions of the models are available, and specification sheets are also provided. Rüegg Fireplaces, Inc., Bridgewater, N. J.

413 Washroom accessories
A 44-page architectural catalog includes product photography, specifications, and design details for all of this manufacturers stainless-steel and phenolic-laminate washroom and hospital accessories. Mirrors, grab bars, dryers, and soap dispensers are also shown. American Specialties, Inc., Yonkers, N. Y.

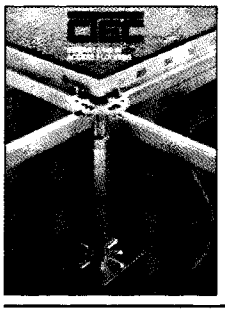
414 Portable panels
A gatefold color brochure spotlights a floor-to-ceiling panel system said to be excellent for privacy without imposing the hassles fixed walls can cause. Designed for ease of installation and reconfiguration, the system features a spring-loaded top seal that enables a panel to be moved without the use of heavy equipment. Modernfold, Inc., New Castle, Ind.



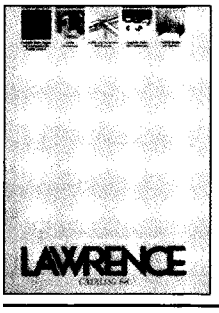
415 Partition system
A brochure on a demountable partition system is directed to architects, designers, facility planners, building owners and managers, and general contractors. The system offers functional, nonprogressive interior partitions adaptable to new or renovated buildings. Practical applications are shown. Domtar Gypsum, Lockport, N. Y.



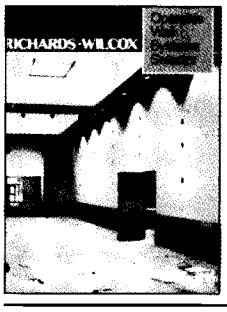
416 Movable walls
The GP-350 gravity lock movable wall system is described in a full-color brochure. Examples of the systems available are pictured. Information covers details on trim and accessories, ceiling and cornice height measurements, architectural specifications, and installation procedures. Gold Bond Building Products, Div. National Gypsum Co., Charlotte, N. C.



417 Floor systems
A 16-page color brochure focuses on illustrated applications and descriptions of the manufacturer's floor systems for commercial buildings and for electronic facilities with computer rooms. Specifications for the various systems are included. Accessories and options available are also included. C-TEC, Inc., Grand Rapids, Mich.

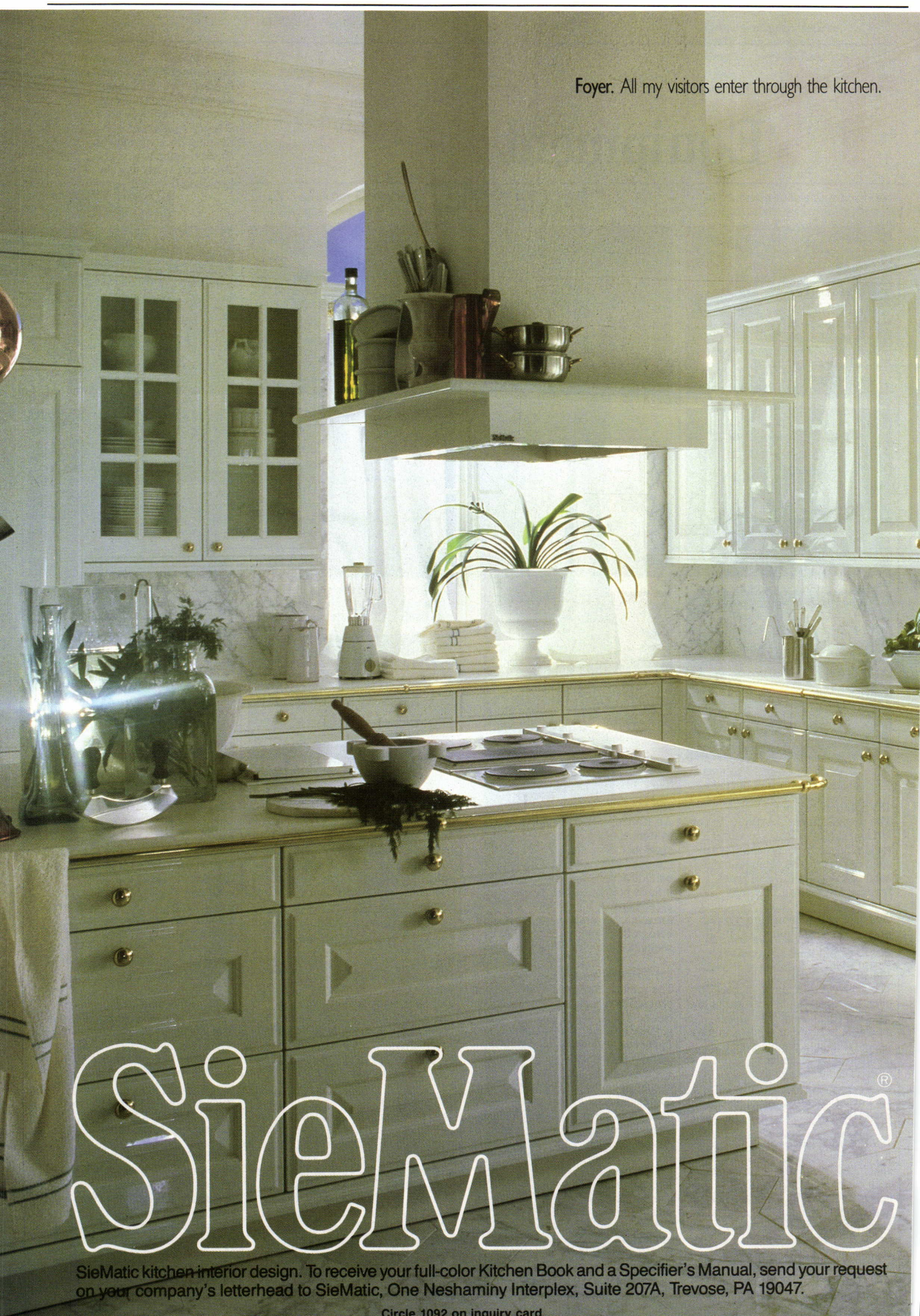


418 Crowd control
A 64-page, 300-photo color catalog details in depth decorative crowd-control products for use in public, institutional, retail, entertainment, and multiuse facilities. Products featured include portable posts, ropes and accessories for traffic control, rail systems, custom fabrication, and lobby accessories. Lawrence Metal Products, Inc., Bay Shore, N. Y.



419 Operable walls
A newly released brochure reviews operable wall systems that are used to control space and traffic in public facilities. A general applications chart is shown indicating most suitable models for different installations. Hardware selection guidelines, panel information, diagrams, and facing specifications are also included. Richards-Wilcox, Aurora, Ill.

420 Access floors
A 12-page brochure offers information on a complete product line of access flooring systems. Benefits, performance data, and a short-form specification for five systems are featured. Also included are data on static and dynamic loading criteria, understructure systems, and a special section on accessories. Tate Access Floors, Inc., Baltimore.



Circle 1092 on inquiry card

11 Equipment Product literature

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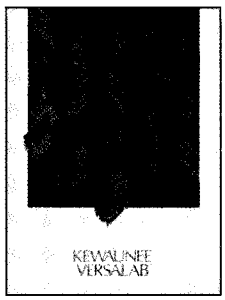
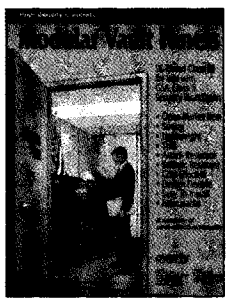
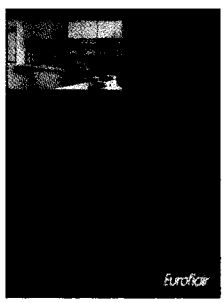


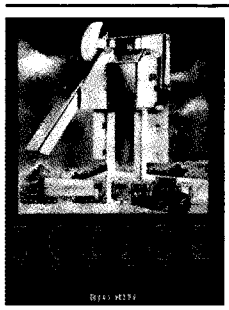
445 Laboratory furniture
Described in an eight-page brochure as designed for easy installation, flexibility, and expandability, Versalab is a complete system of modular wood or metal laboratory workstations. Product features illustrated include height-adjustable legs for all worksurfaces. Kewaunee Scientific Corp., Statesville, N. C.



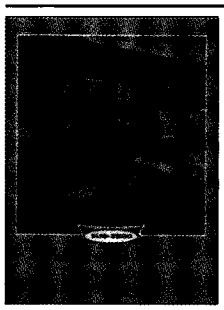
446 Secure storage
The Overly vault is constructed with composite, modular panels said to be more than five times as strong as reinforced concrete, though weighing almost two-thirds less. An eight-page catalog supplies installation and UL test data for the 2-ft-wide panels. Overly Mfg. Co., Greensburg, Pa.



447 Kitchen appliances
A 30-page color catalog explains how the Euroflair line of built-in ovens, refrigerators, freezers, cooktops, and dishwashers, manufactured by Frigidaire affiliates in Europe, have been designed to incorporate some American needs, such as larger heating elements on cooktops. WCI Appliance Group, Columbus, Ohio.

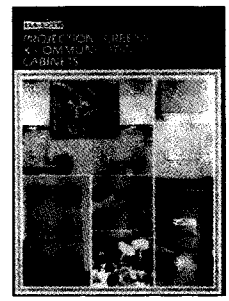


448 Loading dock equipment
The complete line of Dok-Lok vehicle restraints is described in a 20-page color brochure. Standard features and benefits are discussed, stressing safety and economic advantages. Rite-Hite Corp., Milwaukee.

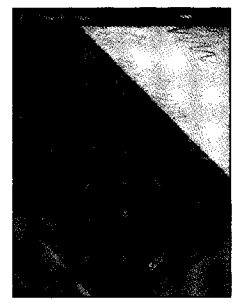


449 Built-in refrigeration
Written for design professionals, a four-page brochure covers the space- and work-saving benefits of this maker's line of residential built-in refrigerators and freezers. Refrigerator and freezer compartments have individual refrigerant systems, a feature usually found only in commercial units. Sub-Zero Freezer Co., Inc., Madison, Wis.

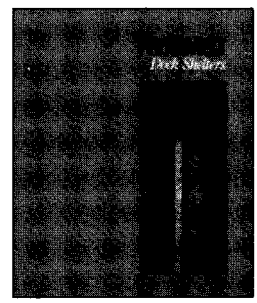
450 Laboratory casework
A new eight-page architectural catalog uses color photography, exploded views, and dimensional presentation of each furniture component to explain how the Labmarc Laboratory System provides the designer and scientist with unusual layout flexibility. Labmarc, Inc., Cambridge, Mass.



451 Conference equipment
Published for the design professional, a color catalog explains the advantages of built-in projection screens and audio-visual cabinets, and illustrates equipment in conference-room settings. Rear-screen projection allows more normal lighting levels and efficient seating arrangements, and reduces drowsiness in the viewer. Da-Lite Screen Co., Inc., Warsaw, Ind.



452 Kitchen equipment
A 52-page catalog from Jenn-Air presents a full line of residential kitchen appliances, from the maker's original downdraft cooktops to newer dishwashers and refrigerators. Most products are shown built into room settings; each product's individual convenience features are highlighted. Jenn-Air Co., Indianapolis.



453 Dock shelters
Frommelt rigid and flexible dock shelters, sliding curtains, and other products for truck and rail loading docks are covered in a 12-page brochure. Comfort-Seal shelters, which protect patients being moved between medical buildings and mobile diagnostic units, are included. Frommelt Industries, Inc., Dubuque, Iowa.

454 Appliances
A 40-page specification catalog includes photographs, descriptions, and dimensional data on all Gibson refrigerators, freezers, ranges, laundry equipment, air conditioners, and dehumidifiers. Special product features are highlighted. Gibson Appliance Co., Columbus, Ohio.

455 Display system
This manufacturer's 1989 catalog introduces lighting options now offered with the Abstracta system. A lightweight tubular construction for retail display, exhibits, store fixtures, and furniture, Abstracta structures use a minimum number of completely interchangeable parts. Abstracta Structures, Inc., New York City.

456 Commercial-type refrigeration
The eight stainless-steel Ultra refrigerators described on product data sheets are said to provide the homeowner with the quality, durability, and performance features of commercial equipment. Designed to be built-in, refrigerator/freezers and wine coolers offer such options as custom decorative laminate faces and locks. Traulsen & Co., Inc., College Point, NY.

12 Furnishings

Artwork
Blinds, shades & shutters
Cabinets & storage
Fabrics
Furnishing accessories
Furniture
Rugs
Seating

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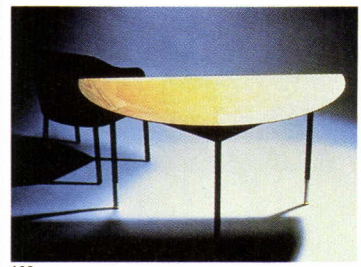
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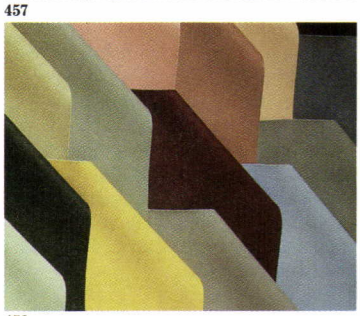
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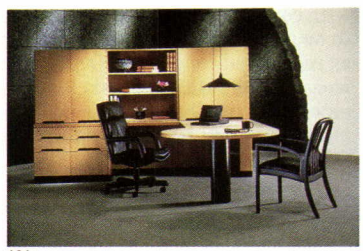
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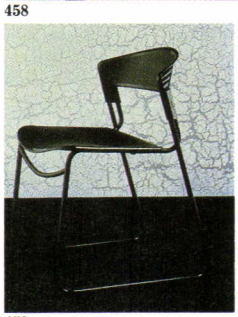
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457 Nursing-home furnishings
Adden's new line of beds, seating, storage, desks, and tables for long-term care and retirement facilities has achieved a more residential appearance by the application of solid red maple and cherry finishes. Adden Furniture, Inc., Lowell, Mass.

458 Low-smoke upholstery
Naugahyde 2-200 Flame Blocker vinyl-coated fabrics meet or exceed the most stringent flame codes for hospitality and high-risk public facilities, including those of Boston and the New York Port Authority. They emit 50 percent less smoke than comparable fabrics; flame- and slow-smoke properties are inherent in the fabric itself. Phoenix pattern pictured comes in 30 colors. Uniroyal Plastics Co., Inc., Mishawaka, Ind.

459 Steel-frame stacker
Designed by Paolo Fabaretto, the Assisa chair is contoured for comfort with a supportive curved back and seat available in five color choices. The stacking model is shown; Assisa also comes with arms, writing tablet, and bookrack accessories. Vecta, Grand Prairie, Tex.

460 Worsted wool upholstery
Described as a competitively priced fabric appropriate for middle-management offices, all-wool Jubilee worsted combines deep colors with lighter hues in an expressionistic pattern. Unika Vaev USA, Orangeburg, N. Y.

461 Accessory
Made of flame-retardant polypropylene, large Italian-made cones can be placed on stands as shown, or weighted and installed directly into lawns or sand outdoors. Depending on the model, they may be used as a giant ashtray, a lined trash basket, or a combination unit with a lid. Cones come in red, white, black, and gray. Kartell USA, Inc., Greenville, S. C.

462 High-tech office system
The fabric-surfaced Orion system is built with a simple, square post end that is said to be easy to reconfigure. Wiring raceway delivers power directly to the worksurface. Clip-on accessories, such as pencil holders, signage, and files, attach to the frame, or can be hung from a panel-mounted bar. Rosemount Office Systems, Inc., Lakeville, Minn.

463 Office classic reissued
First offered in 1936, the Air-Duct office chair has perforated sheet-steel platforms and channeled upholstery sections that draw air close to the sitter's body. The chair is now being sold on a limited-edition basis. Domore Corp., Elkhart, Ind.

464 Modular office
Selected components of the Arris System—fabric-covered acoustic panels, work surfaces, VDT tops, storage, and pedestals—are available in a 20-day quick ship program. The freestanding components shown are completely finished furniture pieces, with no open backs. Alma Desk Co., Inc., High Point, N. C.

465 Multipurpose chair
Don Albinson designed the albi chair as a full seating system based on a single space-saving wrap-around form. The thermoplastic shell comes in several colors; functional options include a flip-up seat, tablet arm, book rack, and a multiseat tandem version. Fixtures Furniture, Kansas City, Mo.

466 Metal and wood tables
Recent additions to Brickel's Permanent Collection, tables by Bentley La Rosa Salasky include this half-round console of solid cherry and anegré veneer. Legs are painted steel, with a brushed stainless-steel ankle. Brickel Associates, Inc., New York City.

467 Architectural mosaics
A 150-year-old German mosaic and stained-glass atelier has opened a New Jersey studio to execute sculptural and mural commissions. The 8- by 10-ft positive-set mosaic pictured, by artist Ned Smyth, uses glass tessère, glass cakes, marble, stone, and semiprecious stones; it was first shown at the 1988 AIA Convention. Franz Mayer of Munich, Inc., Fairfield, N. J.

468 Engineered tables
Niels Diffrient redesigned all the major components of Howe's contract and institutional table line: top, edge detail, connectors, base, and folding mechanism. Wood-edged tables have corner inserts to match the base; the new folding mechanism offers easy, push-button operation and compact folding storage. Howe Furniture Co., Trumbull, Conn.

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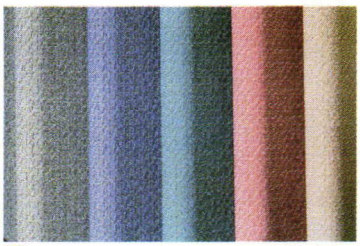

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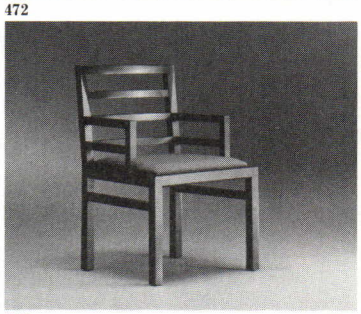

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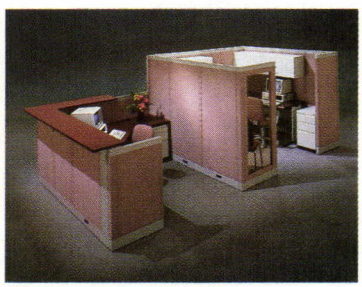

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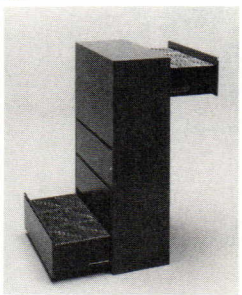

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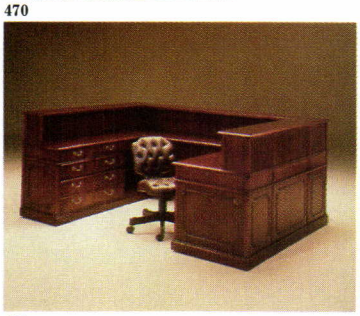

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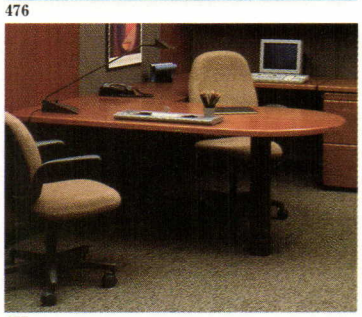

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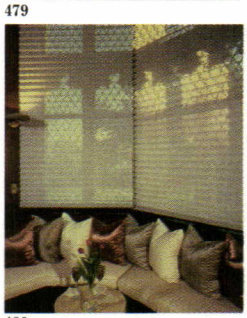

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469 Chair
Designed by John Hutton, the Gin chair has a hardwood frame and curved upholstered back and sides. The chair is 24 1/2 in. wide, 26 in. deep, and 34 1/2 in. high. Donghia Furniture, New York City.

470 Sled-base chair
The Sensor chair is now available in a sled-base version. Intended for use in conference rooms and reception areas, the chair has a metal frame, which is available in a variety of colors, and an upholstered seat and back. Arm caps are optional. Steelcase, Inc., Grand Rapids, Mich.

471 Reception desk
The manufacturer has added several reception desk configurations to its Woodbury collection of traditionally styled executive office furniture.
A gallery rail can be added to standard U- or L-shaped desk units to form a 42-in.-high reception station. All collection components are constructed from American black walnut veneers.
Dar/Ran Furniture Industries, High Point, N. C.

472 Executive office furniture
Milanese architect Gianfranco Frattini has designed a collection of high-end office furniture, aptly named the Frattini Executive Office Collection. Consisting of modular desk, credenza, and medium- and full-height casegood units, the pieces are made of Cathedral-pattern Honduran mahogany, with cabinet doors of wood, glass, and lacquer. KnollStudio, Knoll International, New York City.

473 Chair
The Lattice chair is named for the rectilinear pattern of its backrest and sides. Designed by Bruce Sienkowski, the chair comes in maple and mahogany hardwood and can be specified with or without armrests. Charlotte, Inc., Belding, Mich.

474 Site furniture
The various modular components of the Shogun Contour Group can be arranged within square or curved precast concrete bases. Comprising seating, planters, directories, tables, and waste receptacles, the collection is meant for use in office and hotel lobbies, libraries, and museums. Custom colors and aggregate finishes can be specified. USG Interiors, Inc., Div. of USG Corp., Chicago.

475 Fabric
Slate and Granite (above), both components of the Textures Collection, are made of 100 percent cotton glazed sateen. The 53-in.-wide fabrics are printed in Europe; the manufacturer plans to produce companion wallcoverings in the United States. Scalamandré, Long Island City, N. Y.

476 Office furniture
CONCENYS worksurfaces and partitions can be arranged in clusters to form semiprivate and private offices. The partition frames accommodate electrical wiring in upper, lower, and vertical raceways. Fabric and straight or curved glass panels are available. The HON Co., Muscatine, Iowa.

477 Wood office furniture
Invitation is a new line of Venetian veener wood office furniture designed to be visually compatible with the manufacturer's existing System R collection. Both veneer and laminate worksurfaces are available with coordinating 32-, 42-, 53-, 63-, 67-, or 80-in.-high panels. American Seating Co., Grand Rapids, Mich.

478 Upholstery fabric
American-made Top Drawer upholstery fabric is made from a combined twill shadow weave of 100 percent wool. Available with an acrylic latex backing, the fabric is intended for heavy-duty applications. Gretchen Bellinger, Inc., New York City.

479 Storage
The manufacturer has added vertical file modules to its Stackable Storage System of lateral files and storage components. Frames of seamless, one-piece heavy-gauge steel are coated in an embossed matte finish said to be scratch- and fingerprint-resistant. Drawers set onto three-position steel slides have quick release mechanisms. Meridian, Inc., Spring Lake, Mich.

480 Shading fabric
Made from a blend of vinyl-coated polyester and vinyl-coated fiberglass, SheerWeave fabric is said to admit natural light and prevent heat gain. The fabric comes in 14 colors and can be used for awnings and roll-up, pleated, or folding shades. Phifer Wire Products, Inc., Tuscaloosa, Ala.

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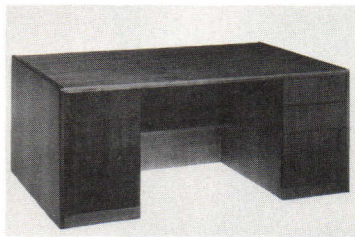
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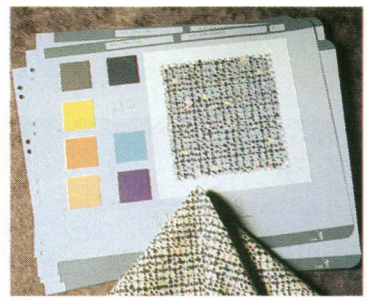
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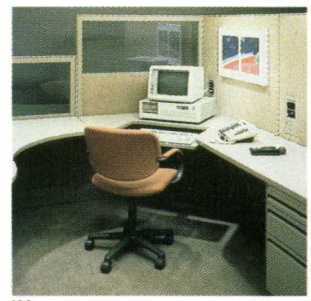
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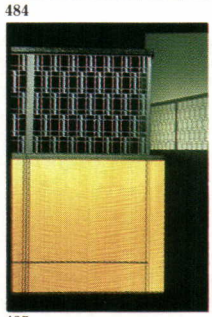
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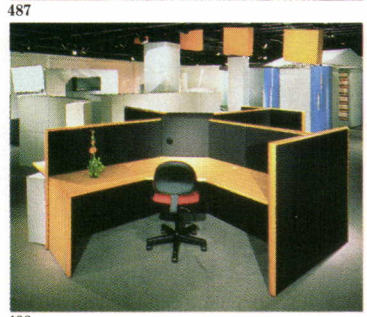
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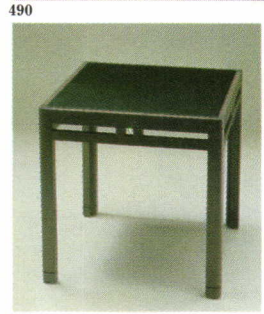
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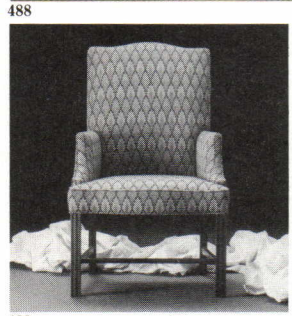
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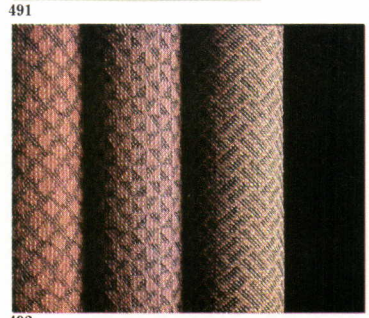
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481 Transitions
A system of modular components, called Transitions, is made of six component groups and five freestanding furniture groups organized to create office settings using worksurfaces, storage, and conference run-offs. Helikon Furniture Co., Inc., Taftville, Conn.

482 Roll-up mats
Suitable for commercial entryways and service areas, roll-up mats are available in a series of carpet and vinyl tread inserts locked into replaceable aluminum retainer walls. Vinyl square or bevelled edges are supplied for recessed or surface use. Vinyl hinges aid in roll-up and eliminate rattling and corrosion lock-up. Musson Rubber Products, Akron, Ohio.

483 Roller-operated shade
FlexShade windowcoverings are roller-operated shades that can be clutch-, spring-, or motor-driven. A choice of solar-control fabrics is available in a variety of colors and weaves. Custom and opaque materials are also offered. Draper Shade & Screen Co., Inc., Spiceland, Ind.

484 Full pedestal desk
With its 8700/8800 Series, a radius-edge, full-panel design, the manufacturer introduces a full pedestal option. An executive desk and credenza come in oak or walnut and are available in three finishes: Autumn Oak, Oil Walnut, and Oil Mahogany on Walnut. Myrtle Desk Co., High Point, N. C.

485 Custom furnishings
Corner detail of a workstation, with Aingre veneer panels and silk-screened glass, illustrates the manufacturer's custom capabilities. Working with the designer from conception to completion on a specific office environment, Spec'built says it can provide custom-designed furniture at production-line prices on orders of as few as 25 units. Specification Built Corp., Carlstadt, N. J.

486 Shutters
Interior and exterior shutters are available for office and residential use. Louver widths range from 1 to 3 in., either separated, fixed, or moveable. Finishes can be matched to any color. American Heritage Shutters, Inc., Memphis.

487 Panel fabrics
Jacquard Spirit is part of a collection of bright polyester fabrics designed by Clino Castelli especially for open-plan office panels. The fully computerized manufacturing techniques used allow the specifier to economically custom-design fabric for a particular installation. INTEK, Aberdeen, N. C.

488 Workcenters
Cluster workcenters are arranged about a central core, which permits up to six workcenters to be equipped with wiring, data communication lines, and air-flow systems. The centers can be mixed and matched with the manufacturer's office panel systems to separate areas for privacy. Tab Products Co., Palo Alto, Calif.

489 Chairs
The Carlyle line features a camelback in a scale designed for office areas. Six models are available: high-back arm chairs, low-back arm chairs, and swivel chairs each with an open wood arm or closed upholstered high-back arm option. The Gunlocke Co., Avon, N. Y.

490 Office system
An office system with fabric-covered porter panels provides duplex power receptacles and communication access in optional configurations at work surface height. Corner or wraparound surfaces in various size combinations are available. Haworth, Inc., Holland, Mich.

491 Table group
Designed by Brian Kane, the Manhattan Table Group provides occasional tables in both coffee table and end table sizes. Top variations are available in wood, stone, or leather framed within bases of oak, maple, or walnut. Metropolitan Furniture Corp., South San Francisco, Calif.

492 Contract textiles
One of two new fabrics introduced for open-plan office furniture systems, Tapestry (pictured) comes in three medium-scale patterns, each in six different colorways. The Pointille collection, not shown, is composed of tiny, concentrated points of color in a plain weave. Guilford of Maine, Guilford, Maine.

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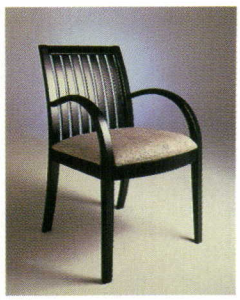

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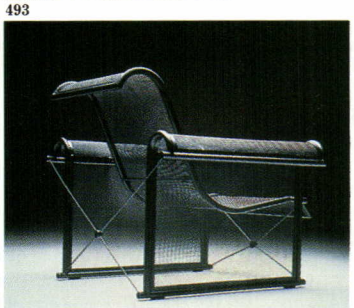

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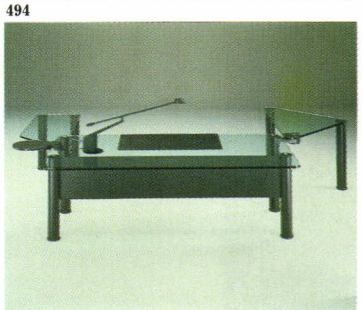

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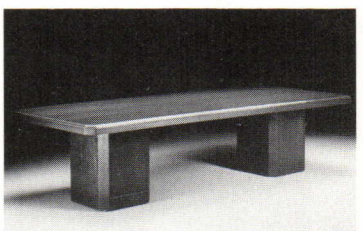

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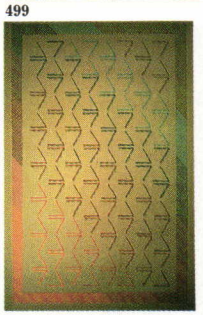

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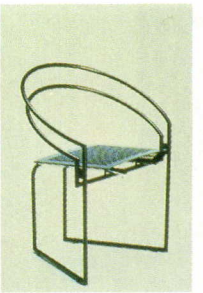

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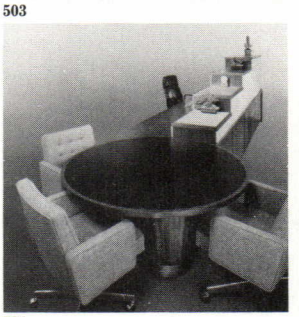

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493 Contract seating
Included in a collection of 30 new business-seating designs, the Ventura chair features flared, stable legs and a slat back. It is also available in upholstered-back and two-seat settee versions. Loewenstein, Inc., Pompano Beach, Fla.

494 Lounge chair
Manufactured in the U. S. from an original concept by French designer Ronald Cécil Sportes, the Mesh Chair combines tubular steel and steel mesh in a curved frame tensioned by X-shaped chrome stretchers. Seat and arms may also be upholstered in top-stitched leather or welted fabric. JG Furniture Systems, Inc., Quakertown, Pa.

495 Executive workstation
The Ring desk can be customized for different management styles; molded rings in both front legs can be replaced with supports for side top-returns, and accessories such as a telephone stand or keyboard platform. Tempered-glass tops come in triangular, wedge, rectangular, and half-moon shapes. The black-leather desk pad pictured is optional. Kinetics, Rexdale, Ont.

496 Total office
The Cetra System is said to offer comprehensive design for every management level. Wood, laminate, and metal components incorporate consistent functional details regardless of the status option selected. Fabric-covered panels in a wide range of heights and widths provide visual and acoustical privacy. Artec Div., Kimball International, Jasper, Ind.

497 Conference table
An expansion of the Bunker Hill line of casegoods for the executive office designed by Alan Jay Paull, this large-scale conference table is made of lacquer-finished solid and veneered American black walnut. Table measures 48- by 120-in. and seats 12. The Taylor Desk Co., Lynwood, Calif.

498 Office accessories
Italian-made by Rexite, Cribbio is a colorful line of hat and coat stands, umbrella holders, and wastebasket/ash trays (pictured). Main materials are perforated steel with ABS plastic hooks, rings, and trim, available in any of seven colors. The Ironmonger, Inc., Chicago.

499 Heavy-use upholstery
These three Marathon fabrics—Gran Prix, Daily Double, and Olympic—offer a variety of weaves constructed of stain- and pill-resistant Cordura nylon. Suggested for the heavy-use requirements of schools and public seating, all Marathon textiles come in 24 colors. Glen Raven Mills, New York City.

500 Wool rug
Stylus incorporates a wedge-shaped cuneiform design. The all-wool rug is also available as wall-to-wall carpeting, sized to fit, in almost any colorway. The manufacturer specializes in domestically made custom rugs and carpeting. Edward Fields, Inc., New York City.

501 Traditional-style casegoods
A new line for Stow & Davis, moderately-priced Camden offers double-pedestal desks, executive and secretarial returns, and credenzas, all made of mahogany-finished walnut veneers in a traditional style. Stow & Davis Div., Steelcase, Inc., Grand Rapids, Mich.

502 Metal chair
Mario Botta's Latonda Chair incorporates both circular and rectilinear geometry, with a double-concentric back opposing a rectangular seat of perforated steel. Latonda is available in either a black or copper-green epoxy finish. International Contract Furnishings, Inc., New York City.

503 Ergonomic chair
The Wave Chair features a mechanism that eliminates the restricting lift that can be forced on a user's legs as the chair reclines; the front edge of the seat actually lowers as the occupant stretches back. A supporting lumbar inset can be upholstered to match or contrast with the rest of the chair. Brayton International, High Point, N. C.

504 Connected storage
Shown here with a rounded conference extension, CounterPoint is a system of desk-top wood-finished storage and display units of different heights and widths. Stackable components also add to visual privacy. Custom Executive Office, Inc., Chicago.

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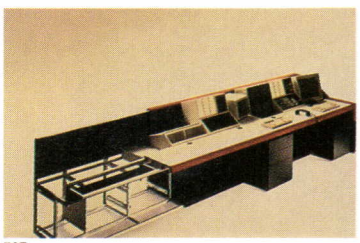

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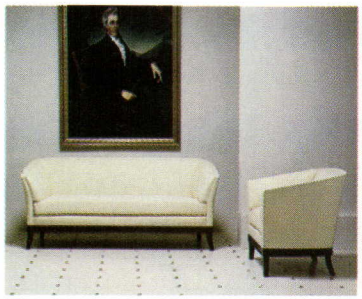

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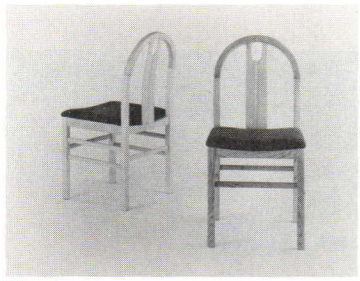

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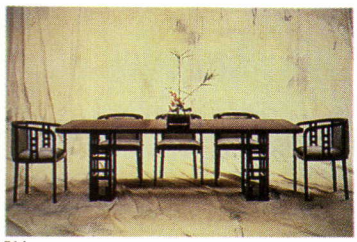

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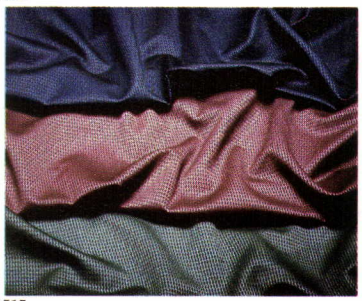

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505 Articulating arm
The Omnific office chair lets the user change from armchair to armless mode with a simple lifting motion. Designed by Marta Tornero and Bruce Adams, the chair is made of molded urethane in gray, brown, charcoal, red, or blue. Panel Concepts, L. P., Santa Ana, Calif.

506 Clustered workstations
The Centerline Radial Cluster uses the structural and acoustic properties of the Ultra Panel to create space-saving, wrap-around configurations of posts and panels. Adjustable-height hanging components—worksurfaces, shelves, flipper-door units, etc.—can be individually specified to meet each user's job needs and personal work style. Westinghouse Furniture Systems, Grand Rapids, Mich.

507 Trading desk
Designed by Gerd Althofer to accommodate the highly technical, computerized demands of bank trading rooms, the Axial system can be specified from standard components to meet a variety of floor plan, partition, and video display requirements. ICF, Inc., Orangeburg, N. Y.

508 Lounge seating
The Esplanade series are generously proportioned chair, loveseats, and sofas designed by Lisa Bottom to provide a residential scale to office lobbies and reception areas. Details include hand-rubbed lacquer finishes and rail veneer inlays. Hickory Business Furniture, Hickory, N. C.

509 Architectural tables
The circular tops and cone-shaped bases of the Ipaz tables are cut from solid blocks of marble, with the table edge and base left unpolished for contrast. Designed by Italian architect Achille Castiglioni, the collection consists of three small-scale tables in the colors shown; the largest top is 23 1/2-in. in diameter. Atelier International, Long Island City, N. Y.

510 Traditional-weave upholstery
Dana Romeis worked with four different traditional weaving techniques—tapestry, damask, brocade, and epingle—and used various natural fibers to create her new upholstery collection for Knoll. All fabrics meet contract performance specifications. KnollTextiles, Div. of Knoll International, New York City.

511 Contract textiles
The 1988 edition of Millennivm wool, silk, cotton, and linen contract fabrics includes A New Leaf, with leaves drawn in the style of the School of Paris scattered across a jacquard damask ground. Light- and dark-toned colorways are pictured. Jack Lenor Larsen, New York City.

512 Hardwood side chair
Construction details of the Catherine side chair include double-dowelled joints, with seat-supporting corner blocks; the cut-out back panel is tennoned to the frame at both top and seat rail. The frame comes in beech, ash, or oak wood, in a choice of natural, stained, or lacquer finishes. Monel Contract Furniture, Inc., Oakland Gardens, N.Y.

513 Office furniture
Genuine wood veneers, in mahogany, cherry, white oak, and walnut, may be specified in any of 10 finishes, within the expanded Woodwind line of modular and freestanding office furniture. Casework and finish options are compatible with the maker's Tempo 3 Radius panel system. Shaw/Walker, Muskegon, Mich.

514 Executive Viennese
Grid-based conference table, shown with the Post pull-up chair, is part of the Jugendstil Collection, designed by Bernd Münzebrock using original concepts by architects Josef Hoffmann and Koloman Moser. The extensive line includes desks, casegoods, tables, and lounge and pull-up seating. Geiger International, Atlanta.

515 Wool upholstery
Woven in Great Britain to meet most major hazard- and wear-certification codes, Network has a small-scale, interlacing pattern loomed into a subdued worsted wool. Fabric is 54 in. wide for panel or upholstery use, and comes in 13 colorways. Brayton Textile Collection, High Point, N. C.

516 Rugs and tapestries
Woven in West Germany from original patterns by Eileen Gray, Josef Hoffmann, Georges Valmier, and Fernand Léger, among others, the rugs and tapestries of the Gruber Collection are now available in the United States. Pictured is Marine d'abord, designed by Gray for her own home. Large-scale wool rugs are durable enough for high-traffic applications. Palazzetti, New York City.

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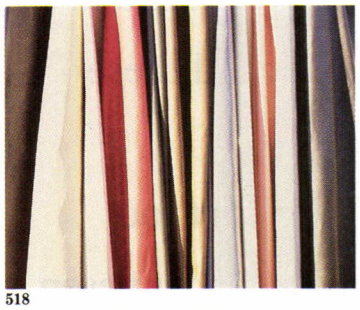
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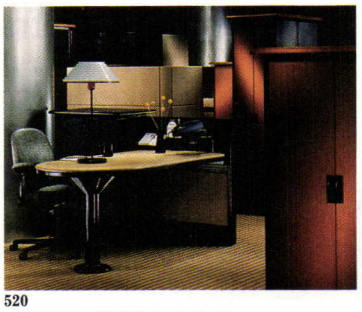
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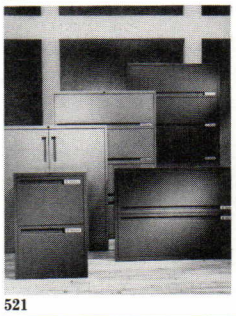
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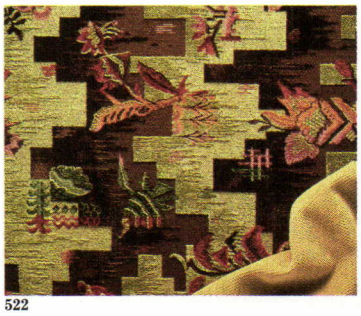
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517 Wood chair
Designed by Richard Penney, the Next chair comes with arms and without. The back offers a small amount of flex for support and comfort; in the armchair version, the arms are angled downward. The chair is made of solid maple with a molded plywood back. A wide choice of finish combinations is available. Interna Designs, Chicago.

518 Leathers
The Gallery collection of leathers for seating is imported from West Germany and stocked in the U. S. for immediate shipment. Hide cuts average 50 sq ft. Complimentary swatch sets are available upon request. Custom Resource Inc., New York City.

519 Wicker chair
The new Vintage Collection of wicker seating reproduces the manufacturer's original designs from the 1920s to the 1940s. The lounge chair shown here, called the Butterfly Chair, is available in gold leaf or silver finish, or in any custom color. The rattan chair has a seat diameter of 28 in., and stands 34 in. high. Bielecky Brothers, Inc., New York City.

520 Office cabinets
Work and coat-storage cabinets designed by Geoff Hollington and Jean Beirise have been added to Herman Miller's Ethospace office. Ranging from 38 to 70 in. in height, the slab-sided units may be freestanding or structurally attached to system panels, and can act as return walls. Herman Miller, Inc., Zeeland, Mich.

521 Filing and storage system
The Performance Group contains a broad range of lateral files, vertical files, and cupboards for storage requirements from traditional letter- and legal-size filing to computer media. The units come in 13 case heights and 3 widths. Storwal International Inc., Toronto.

522 Tapestry fabric
Upholstery patterns offered include Zoe, a geometric and floral tapestry woven in France, which is available in the colorway pictured. The 50-in.-wide fabric combines flax, cotton, and polyester. Hobnail, a textured woven from West Germany, comes in 27 colorways. The material is 96-percent cotton and 4-percent polyester. Kirk-Brummel Associates, New York City.

523 Epoxy paint finishes
Designed to coordinate with various office systems and filing colors, the Bühk 100 series offers four new solid epoxy paint finishes: Silver Grey, Smoky Brown, Pebble, and Dark Walnut. The manufacturer also carries four metallic epoxy finishes, Graphite, Taupe, Garnet, Sapphire, as well as polished aluminum. Allsteel, Inc., Aurora, Ill.

524 Office furniture
The Belmont Series highlights swivel tilt and guest conference chairs. The selection comes in a wide array of fabrics and leathers. Wood finishes and color stains are available in oak, walnut, cherry, and mahogany. Kimball Office Furniture, Jasper, Ind.

525 Seating
The Panther Seating Series includes a conference/pull-up chair, occasional chair, low lounge, deep lounge, high lounge, low two-seat sofa, and deep two-seat sofa. The design comprises a hardwood frame encapsulated in polyurethane foam and polyester fiber. The frame is available in custom-matched colors, and polished or satin stainless steel. Brueton Industries, Inc., Springfield Gardens, N. Y.

526 Office environments
The manufacturer offers to provide and integrate three forms of office space division: private, open plan, and circular. As it celebrates its 20th anniversary in the contract furnishings business, Trendway is introducing a redesign of the SMS open-plan panel with a new top-mounted raceway, a charcoal trim option, and the company's first paper management offering. Trendway Corp., Holland, Mich.

527 Flame-retardant fabrics
Three new patterns have been added to the manufacturer's flame-retardant fabric line for wallcoverings, panels, and upholstery. Hobart is a small-scale piqué-like fabric with a mini-dot pattern, Tosca is a tone-on-tone flat weave in a mini-check design, and Parsifal is a diagonal two-tone latticework with a nondirectional design. Lee Jofa, Carlstadt, N. J.

528 Oak files
A new collection of oak products, The Horizon Group includes three sizes of five-drawer flat files with optional closed and high bases. An open file is also featured. Safco Products Co., New Hope, Minn.

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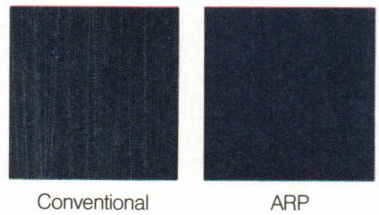

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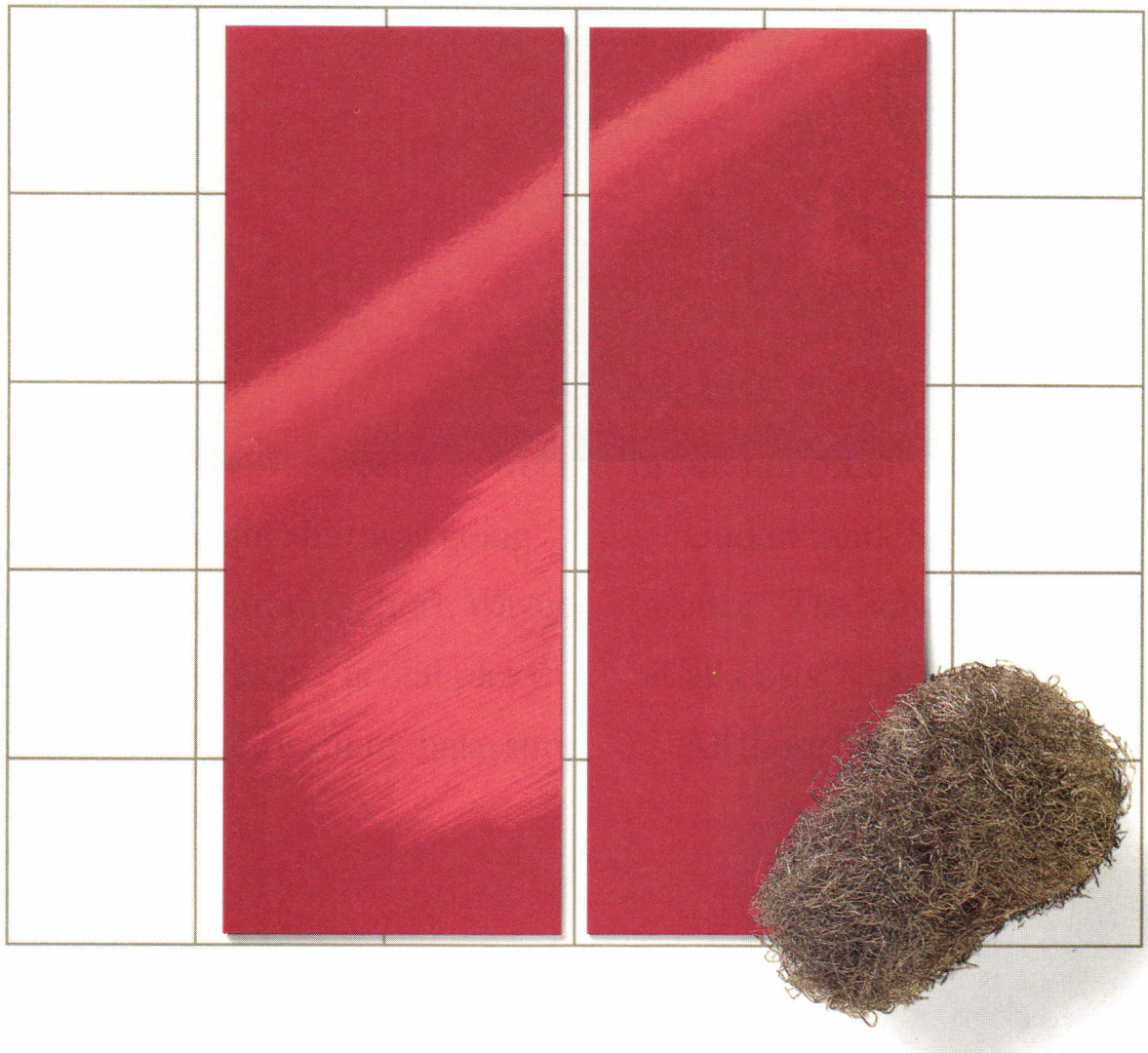

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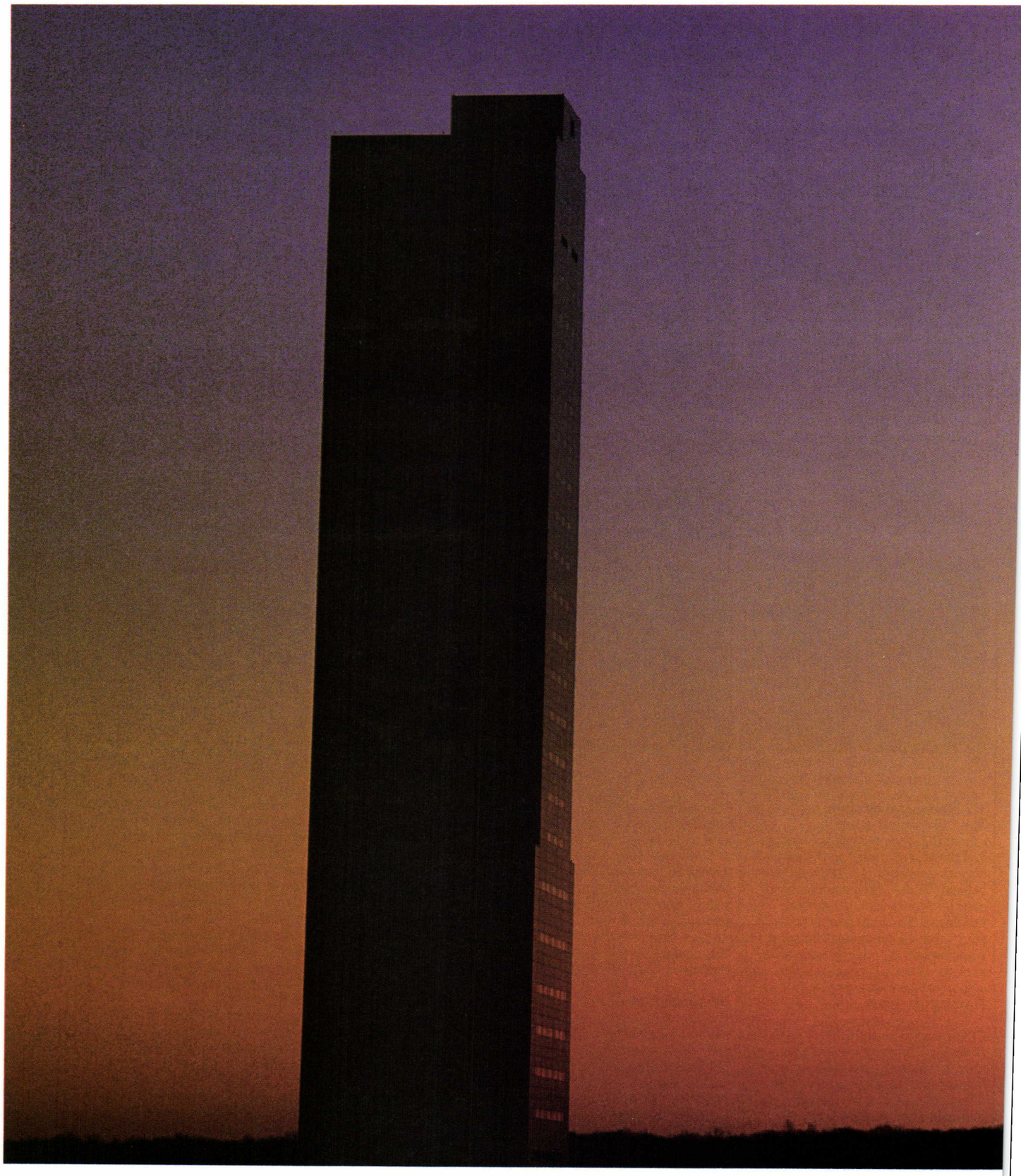
diffusion, sprinklers, and partition walls. CDA Industries, Inc., Scarborough, Ont.	Florian Greenhouse, Inc., West Milford, N. J.	Calif.	protection curtains shown installed at Wolf Trap Farm. North Sails Chesapeake, Stevensville, Md.

Co., Moline, Ill.	Farmington, Conn.	Cubic Corp., San Diego.	TransLogic Corp., Denver.



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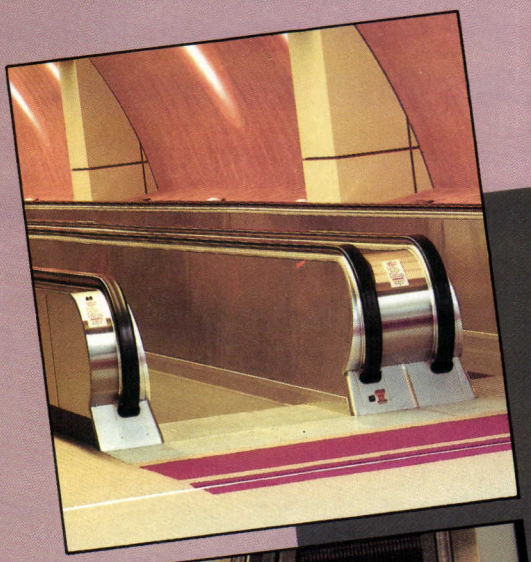

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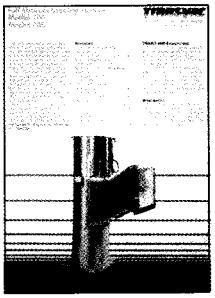
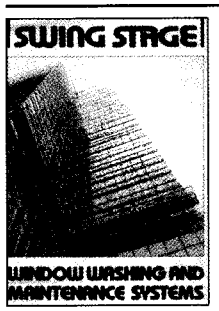
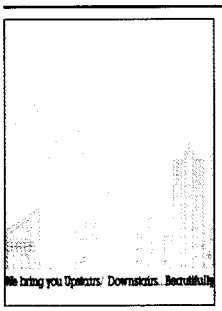


589 Trash-collection system
Literature describes the various components of a computerized, vacuum-operated trash- and soiled-linen collection system engineered for hospitals, hotels, and institutional facilities. New stainless-steel full-vacuum loading stations can transport material upwards; their compact design reduces the chase space required. TRANS-VAC, Georgetown, Tex.

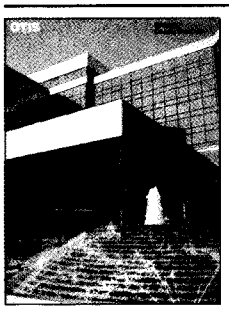
590 Escalator safety
A color brochure features Escalator Safetystrip, an anodized-aluminum strip attached to the escalator's sidewalls that closes the gap between the wall and the escalator's treads. The bolted attachment's double bank of nylon filaments keep passengers' shoes from being caught, and warns users when feet are placed too close to the tread's end. Sealeze Corp., Richmond.



591 Window-washing equipment
A color brochure illustrates window-washing equipment that ranges from stage-mounted hoist units for use on lower buildings to roof-mounted hoist units usually specified for buildings 300 ft or higher. Specifications describe each type. Design assistance to adapt the equipment to a specific project is offered by the manufacturer. Swing Stage Inc., South El Monte, Calif.

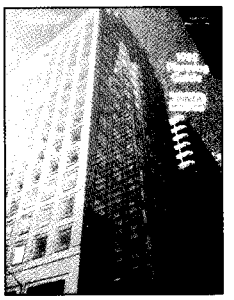


592 Elevator lifts
Color brochure contains photographs of elevator lifts for use in townhouses or condominium projects. Standard features include microprocessor elevator controls and car safety devices. Optional equipment, such as key-operated pushbuttons, and various customized and standard finishes, are illustrated. Sedgwick Lifts, Inc., Poughkeepsie, N. Y.

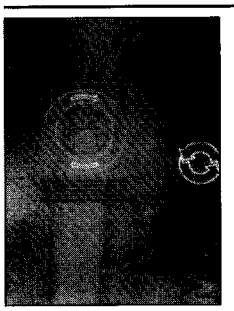


593 Geared elevator
A 12-page catalog features the Spec60 geared elevator for mid-rise buildings. The software-operated system, serving up to 24 stops, is available in 2,000-, 2,500-, 3,000-, and 3,500-lb capacities. An optional Remote Elevator Monitoring service is available, as well as a choice of standard interior panels and handrails. Otis Elevator Co., Farmington, Conn.

594 Elevator design guide
A 20-page elevator planning guide illustrates a range of passenger, service, and freight elevators, as well as escalators, power walks, and power ramps. Dimensioned drawings, charts, and photographs describe the equipment. New designs for passenger-car ceilings, available in over 120 colors, are shown. Montgomery Elevator Company, Moline, Ill.

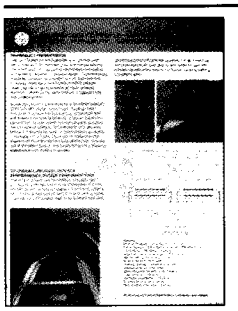


595 Elevator planning
A 16-page catalog illustrates this manufacturer's range of elevator equipment, including microprocessor-controlled hydraulic units and microprocessor-based group controls on geared elevators. Dimensioned drawings and charts describe the equipment. Entrance details are also included. Dover Elevator Systems, Memphis.



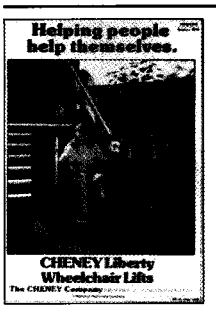
596 Revolving equipment
A brochure describing the capabilities of a company specializing in the construction of turntables for revolving restaurants is available. The manufacturer has provided the revolving turntable for the CN Tower in Toronto, the Marriott Marquis in New York City, and the Hemisfair Tower in San Antonio. The Macton Corp., Danbury, Conn.

597 Vehicle turntables
A four-page brochure covers power-operated turntables for positioning vehicles for front-first street entry. Drawings detail a low-profile deck plate layout made in removable sections and floor sections. A chart relates turntable diameter to the typical pit depth and typical ton capacities. Hovair Systems, Inc., Seattle.



598 Pedestrian conveyor
Literature features Speedwalks/Speedramps, a passenger-conveying system with a smooth, unbroken tread surface and synchronized handrail. The self-contained assembly is designed to move people in a controlled and continuous manner between two points on the same elevation, or between levels. Westmont Industries, Santa Fe Springs, Calif.

599 Elevators and escalators
An architectural catalog describes this manufacturer's elevators and escalators, and features the Miconic V control for high-rise elevators, which concentrates all elevator group supervisory functions to greatly increase car response time. The company will provide design and engineering help for any type of vertical transportation. Schindler Elevator Corp., Toledo, Ohio.



600 Wheelchair lifts
The Liberty Wheelchair Lift is featured in this four-page color brochure. The lift is used to carry a person in a wheelchair along an inclined stairway to another level. It consists of a rail system, a driving machine, and a platform. The steel platform can be closed into a folded position when not in use. The Cheney Company, New Berlin, Wis.

15 Mechanical

Air-distribution equipment
Convectors & radiators
Fire-protection equipment
Heat generation
Heat pumps
Hvac equipment
Mechanical devices
Plumbing fixtures & trim
Registers & diffusers
Water coolers & drinking fountains

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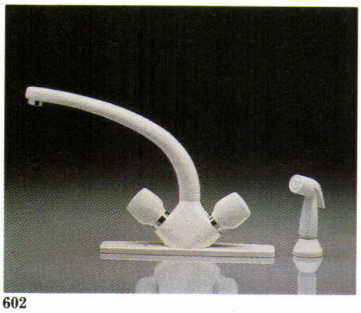
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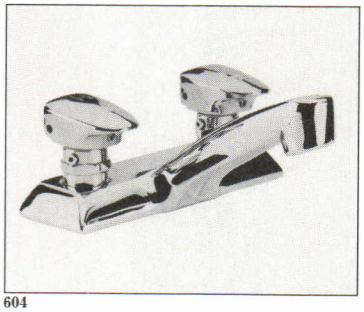
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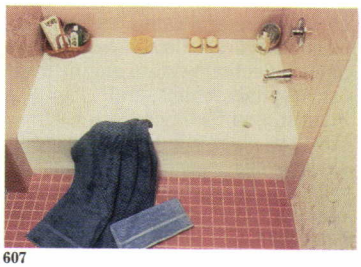
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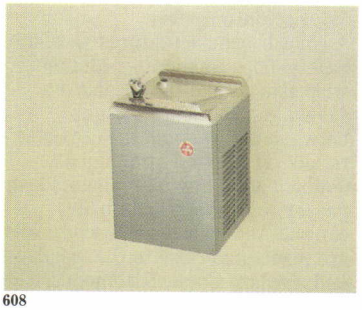
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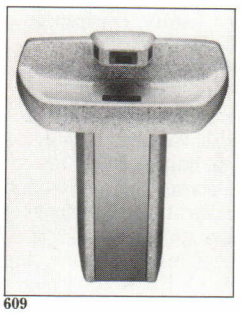
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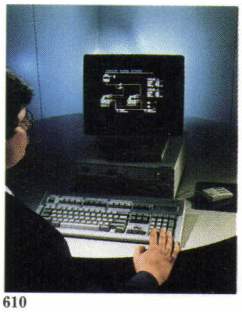
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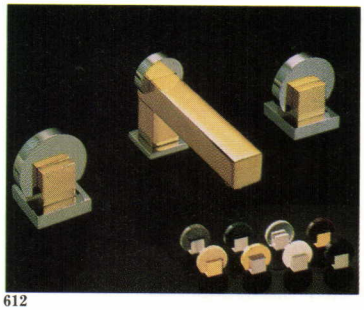
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601 Space-saving basin
The Angle corner basin measures just 15 in. along each straight edge, and 16 in. overall. The French-made china fixture comes in champagne, cream, dove gray, and white, drilled for a single-hole faucet. Porcher, Inc., Chicago.

602 Kitchen faucet
The Upscale faucet is offered in a number of new finish and trim accent combinations; white with polished chrome is pictured. The line includes matching hose spray and a soap/lotion dispenser. Grohe America, Inc., Wood Dale, Ill.

603 Handicapped shower
Designed for health-care and independent living facilities, freestanding shower cabinets have a nonslip terrazzo floor, and a 1/2-in. threshold for easy access. Unit comes complete with a pressure-balanced valve, hand-held shower head, and a retractable, stainless-steel- framed seat. Stern-Williams Co., Inc., Shawnee Mission, Kan.

604 Metering faucet
Easy-Push lavatory and wash-up faucets have a self-cleaning metering pin that allows a maximum water flow of 2.0 gallons per minute. Available in single, centerset, and widespread fittings, the faucet is made to be as vandal-resistant as possible. Speakman Co., Wilmington, Del.

605 Molded sink
Made of a solid-color molded composite material, the Sculptura kitchen sink is said not to crack, rust, stain, or discolor. Bowls have polished sides and textured, nonskid bottoms. Sinks will accept various accessories, such as the Hot Water Machine pictured. Elkay Mfgr. Co., Oak Brook, Ill.

606 Water-saving toilet
Using supply-system pressure to compress air within its flushometer tank, the Flushmate toilet empties the bowl in 4 seconds using less than 6 quarts of water. Water-saving unit is accepted by all major codes. Water Control International, Inc., A Sloan Valve Co., Troy, Mich.

607 Contoured tub
A new manufacturing technique, Americast produces a molded bath tub of enameled metal over a rigid structural composite. The Princeton tub shown has a beveled headrest, built-in accessory shelf, and a flanged edge that facilitates tiling. American Standard, Inc., Piscataway, N. J.

608 Water cooler
Described as an economy model, the CSW-4 wall-hung cooler delivers chilled water at 4.0 gallons per hour, sufficient for areas of moderate traffic. The compact unit is only 22 in. high, and weighs 65 lb. Sunroc Corp., Glen Riddle, Pa.

609 Multiple-user lavatory
The Tri-Fount terrazzo Washfountain has an infrared sensor-activated valve within the vandal-resistant sprayhead assembly. The no-touch valve automatically starts the water flow, and shuts it off if motion is not sensed after 30 to 45 seconds. Bradley Corp., Menomonee Falls, Wis.

610 Building hvac control
The Logical Option is described as a competitively priced, entry-level management system with software focused on the requirements of mid-size buildings. It lowers operating costs by providing real-time monitoring and control of lights, boilers, chillers, and air handlers. Johnson Controls, Inc., Milwaukee.

611 Stainless-steel sink
Features of the Nobel kitchen sink include a large-capacity curved bowl, said to be the largest that will fit in a 36-in. sink cabinet, and a wider deck for fitted accessories. Franke, Inc., Hatfield, Pa.

612 Lavatory fittings
The Moonrise faucet set is part of the new, 17-piece Greenwich Collection for lavatory, tub, and shower, described as high design priced for the competitive market. Moonrise may be ordered with any of 10 interchangeable handles in chrome, gold, clear acrylic, or stone-look Avonite polymer. Paul Associates, Long Island City, N. Y.

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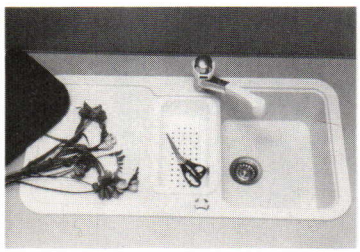
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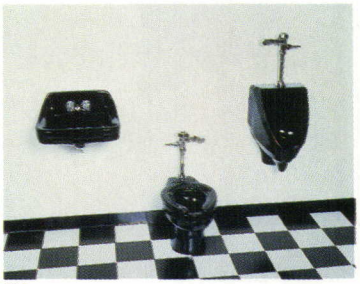
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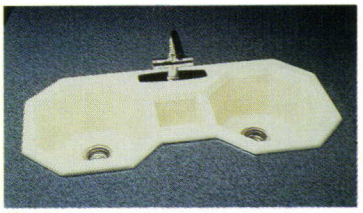
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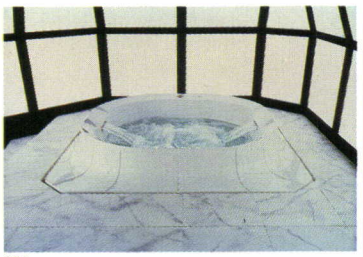
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613 Whirlpool-cum-shower
According to the manufacturer, the Aventura Shower and Soak whirlpool combines Oriental refinement of bathing with compactness. The unit includes both a five-jet whirlpool and an enclosed shower with two curved glass doors—one to the bathroom, one directly to the tub. Steps and the shower receptor have slip-resistant surfaces. Kohler Co., Kohler, Wis.

614 Space-saving simplicity
The Pacific is a semirecessed lavatory that aims to combine efficiency of space usage—a large basin in a small countertop—and easy installation. The semirecessed, one-hole-drilled lavatory is 25 5/8- by 20-in. Laufen Sanitaryware, Stamford, Conn.

615 Work center
A kitchen sink combines a sizable chopping surface with two bowls, each having a 3 1/2-in. drain. Surfaces are made of Sylac, a quartz material that resists dents, scratches, stains, and scorches and that is offered in white, camel, mocha, and gray. Luwa Corporation, Charlotte, N. C.

616 Bathroom fixtures
Intended to answer a perceived demand for more interesting color in industrial, institutional, and commercial restrooms, the Signature Series of vitreous china fixtures comes in an assortment of shades in addition to the standard white: natural, sandalwood, platinum, onyx, ruby, glacier blue, and dusty rose. Eljer Plumbingware, Plano, Tex.

617 Soaking bath
A large oval soaking bath, called Newport Bath 890, measures 21 by 35 1/2- by 16 1/2-in. The sound deadened porcelain enamel tub is made with an integral lumbar support and has a tile flange at the drain end. The bath is available in a range of colors. Norris Plumbing Fixtures, a Division of Masco Building Products Corp., Walnut, Calif.

618 Pentagonal whirlpool
Designed to fit into a 5- by 5-ft corner, the AG5288W Rhapsody whirlpool is 21-in. deep and has a six-jet massage. It is built of seamless acrylic and is available in decorator colors. Aqua Glass Corporation, Adamsville, Tenn.

619 Shower stall
Designed to save space in a corner installation, this shower enclosure measures 38 by 38 in. and has a frameless structure for an "invisible" look. Tempered glass doors have extruded aluminum trim with white, red, black, or yellow finish. Hastings Tile & Il Bagno Collection, Freeport, N. Y.

620 Three-in-one sink
The Jubilee triple sink offers an octagonal sink at either end, the two separated by a small square bowl meant for food preparation. Part of the manufacturer's new Cambrian Collection, the fixture is available with three- and four-hole faucet mounts and in a variety of colors. U. S. Brass, Plano, Tex.

621 Onyx lavatory
A highly polished platinum-colored oval bowl is set in the manufacturer's brown onyx bullnose pedestal; the pedestal is in turn supported by a matching brown onyx base. The porcelain bowl can also be specified in a gold color or in a hexagonal shape, and the fittings are available in 24-karat gold as well as chrome. Sherle Wagner, New York City.

622 Hands-off fountain
Designed for touch-free operation, the manufacturer's sensor-activated water fountain begins to flow when a user comes within range. To prevent accidental blockage, the fountain has an automatic 30- to 35-second shut-off; moreover, it will not begin to flow for the casual passer-by. The standard finish is Kenyan Beige Enamel. Haws Drinking Faucet Company, Berkeley, Calif.

623 Tap-supported basin
The manufacturer's Pump series uses a "tap-support pole" that simultaneously supports the white enamel sink and houses water supply pipes. The system, manufactured in Italy, also provides a matching towel rack; both pole and rack are available in six colors. The mobile hamper under the sink is optional. Watercolors, Inc., Garrison-on-Hudson, N. Y.

624 Whirlpool tub
The new Allusian whirlpool bath is made of high-gloss acrylic reinforced with fiberglass. Measuring 25 in. high and 84 in. on each side, its options include a matching skirt and an in-line electric heater. Jacuzzi Whirlpool Bath, Walnut Creek, Calif.

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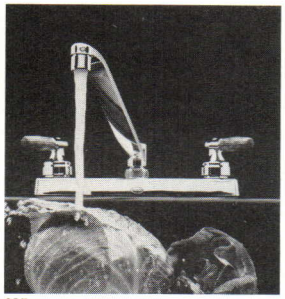

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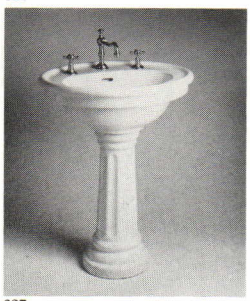

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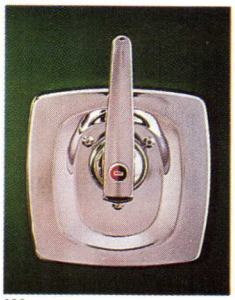

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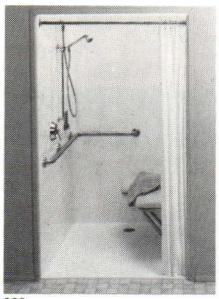

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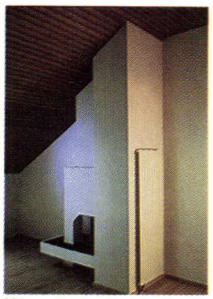

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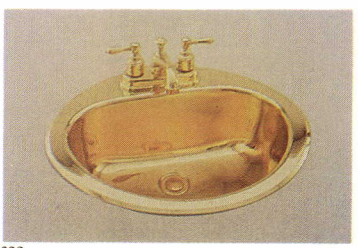

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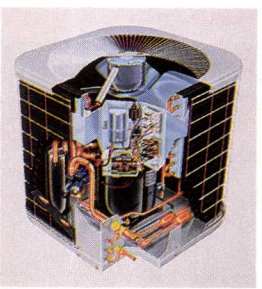

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625 Kitchen and bath faucets
Low-maintenance and quick-installation features are said to make NIBCO's Decorator Faucets especially suitable for apartment and other multiple-unit developments. Faucets come in either polished chrome or brass finishes, with clear- or smoked-acrylic handles. NIBCO, Inc., Elkhart, Ind.

626 Polished-chrome fittings
A new line of decorative lavatory, tub, and shower faucets, as well as wall-mounted accessories, Crescenté is described as a geometric, high-tech design. Fittings are made of polished chrome with brass accents. Bathroom Jewelry, Los Angeles.

627 Traditional fixtures
This oval porcelain basin set on a columnar pedestal is an exact replica of an Edwardian-era sink. The arched swivel faucet set with porcelain handles reflects the same design motif. Kraft Hardware, Inc., New York City.

628 Single-lever mixer
The Neodomo plumbing fitting line now offers a pressure-balanced mixing valve for showers and tubs. The mixer maintains a constant water temperature regardless of fluctuations in line water pressure; finishes include almond, black, red, white, chrome, and gold. KWC/Western States Mfg. Corp., Santa Ana, Calif.

629 Barrier-free shower
Surfaced in fiberglass with a slip-resistant floor, the 4450-H institutional shower stall allows the user to transfer from a wheelchair for barrier-free access. Options include stainless-steel grab bars and a folding shower seat upholstered in Naugahyde waterproof material. Kimstock, Inc., Santa Ana, Calif.

630 Cast-iron sink
The two-level Connoisseur kitchen sink is one of four new "European designed" models that are flat-edged to facilitate flush installation in a tile countertop. Shown here in Chianti, the sinks come in all American Standard colors, including Orchid and Black. American Standard, Inc., Piscataway, N. J.

631 Panel radiator
Projecting only 2 1/4-in. from the wall, panel-type hot water radiators allow a variety of mounting configurations, including curves that follow the shape of perimeter walls. Now manufactured in the U. S., welded-steel radiators are described as competitively priced. Runtal North America, Ward Hill, Mass.

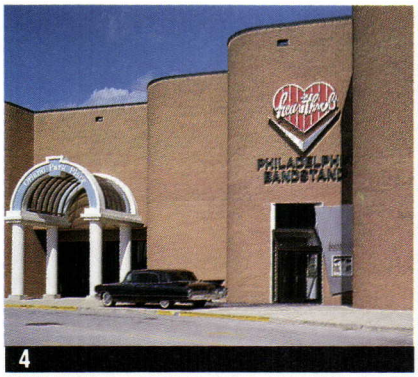
632 Brass sink
Available in four bar and four lavatory models of different shapes and sizes, brass sinks may be ordered with a special Rigital coating that protects the surface and prevents tarnishing. Each drop-in sink is undercoated to prevent condensation and ensure quiet use. EPIC, Div. Masco Corp. of Indiana, Indianapolis.

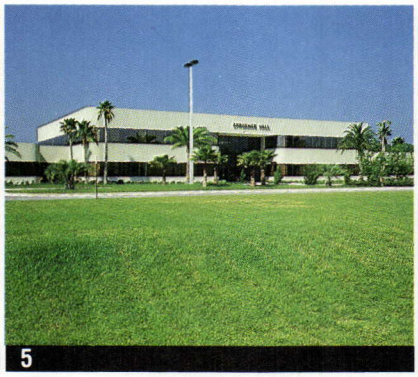
633 Push-button faucet
A centerset faucet for public washrooms, the 802A-333-SLO can be preset to supply from 2 to 15 seconds of water with each push of the button. An aerator limits flow to three gallons per minute. Vandal-resistant design is said to prevent the faucet from being disassembled or damaged. The Chicago Faucet Co., Des Plaines, Ill.

634 Vitreous-china faucet
A traditionally styled, two-handle lavatory faucet is made of vitreous china with polished gold or polished chrome trim. The manufacturer also offers a full line of china or porcelain-on-steel tubs, sinks, and water closets for residential and commercial use. Briggs Plumbingware, Inc., Tampa, Fla.

635 Fire-alarm control system
Programmable action keys on the 4100 system fire-alarm control allow simple on-site input of building-specific function commands with a single key-stroke. The panel itself has easy-to-understand signals, indicators, and switches, including a two-line LCD display for English-language alarm and status messages. Simplex Time Recorder Co., Gardner, Mass.

636 Heat pump
Described as the most efficient residential heat pump in this maker's line, the Tempstar 510HP has external high and low refrigerant service ports for easier installation and maintenance. Other features include a solid-state compressor start device and a manual high pressure switch reset. Heil-Quaker Corp., Lavergne, Tenn.





At first glance, it's difficult to imagine how these six different buildings are related. But if you take a closer look at their histories, you'll find they all share a common theme: the washrooms in all six buildings have been refitted with Sloan flushometers.

True, these buildings don't look old enough to need major plumbing repairs. But the fact is, the original flushometers that were installed just didn't hold up. Even after repeated servicing, they continued to malfunction. They didn't shut off properly. They leaked at the stops. In some cases, they even flooded the washrooms. In short, they weren't Sloan flushometers.

Unlike substitutes, Sloan flushometers offer proven, reliable service. With built-in quality at an affordable price. That's why today more buildings are equipped with Sloan flushometers than with any other brand.

Only Sloan's rugged, tamper-proof design can assure the quiet, dependable operation so critical in buildings like these. Plus, Sloan flushometers are built to last for years with only minimal, routine maintenance—an important consideration for specifiers who value time and money.

The next time you consider specifying a substitute, think about these six buildings. Then specify Sloan. The first time.

Another six reasons to specify Sloan... the first time.

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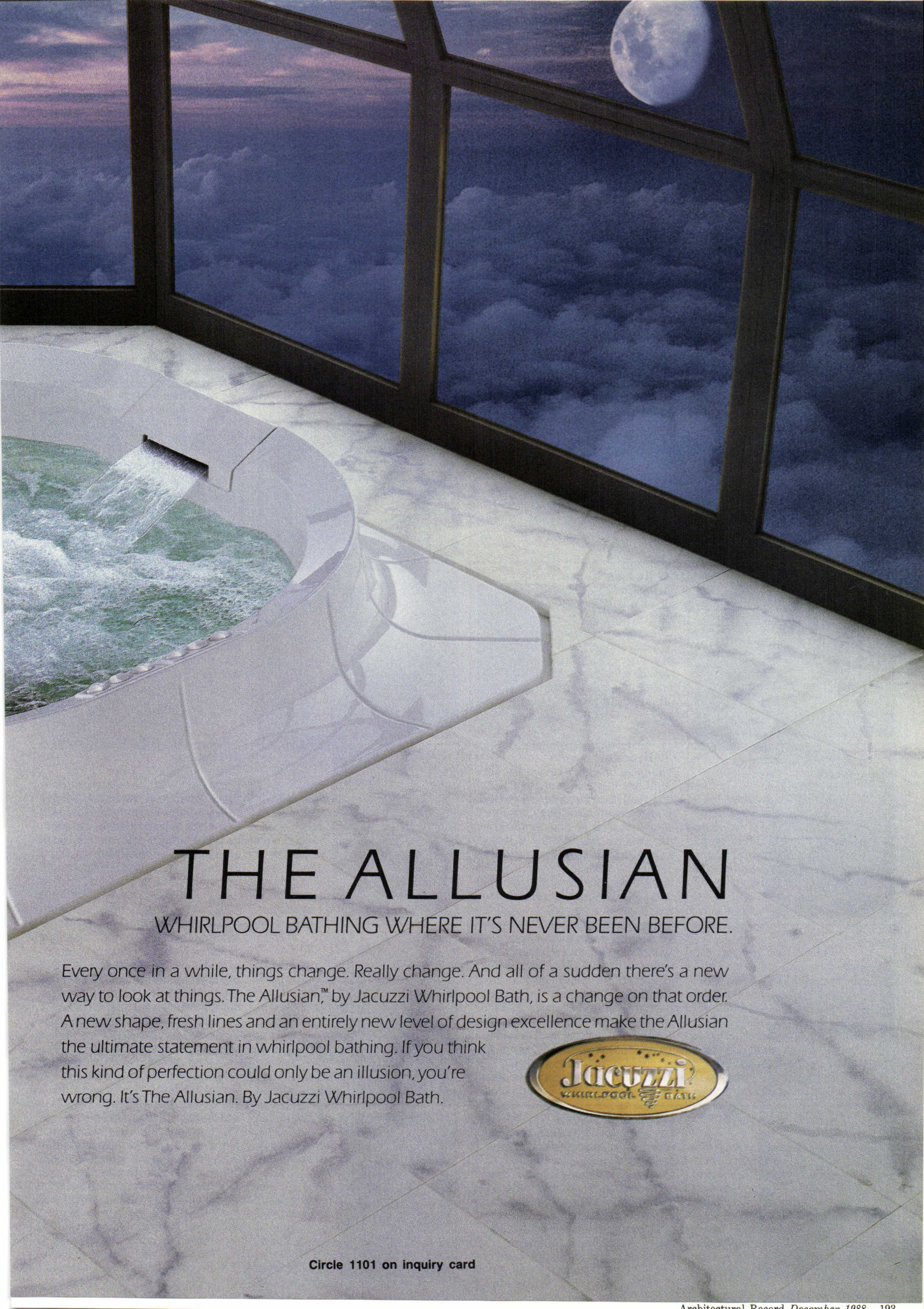

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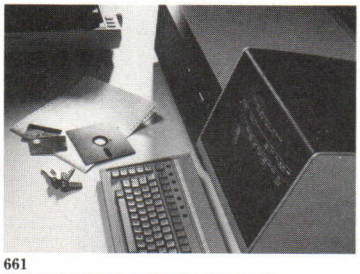

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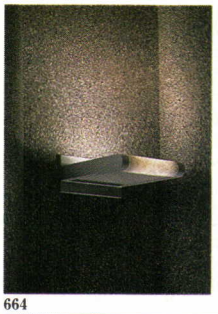

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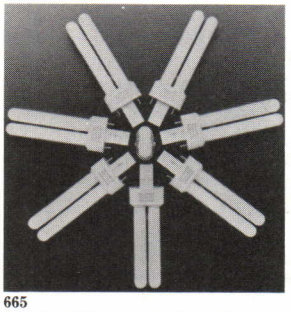

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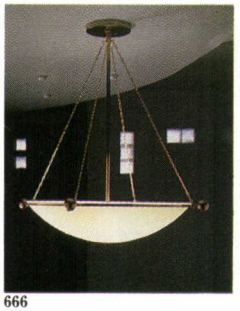

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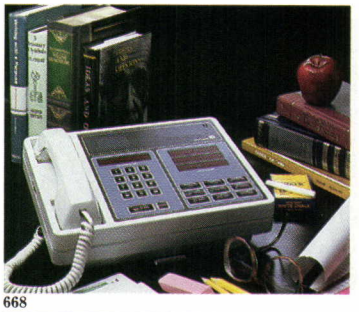

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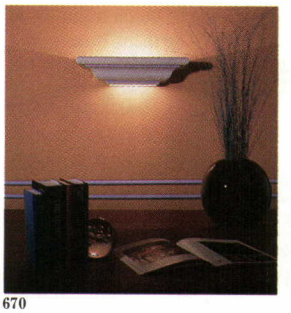

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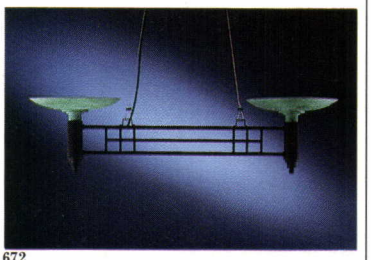

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661 Access management
A modular package of access-management systems is offered by this single-source manufacturer. Said to do more than just lock or unlock doors, the user-friendly system is flexible, easy-to-install, and expandable, and can be linked to intruder-detection and CCTV equipment. Philips Industrial & Electro-acoustic Systems Div., Eindhoven, The Netherlands.

662 Multiple door security
Dentco II multiple-door access-control system provides central monitoring and remote and local programmability for commercial, plant, and institutional facilities. A central processor programs in the entire network of as many as 32 door units. Detex Corp., New Braunfels, Tex.

663 Pole-top luminaires
For garden, park, and pedestrian lighting applications, the manufacturer's line includes pole luminaires with shielded light sources. Featured are white acrylic diffusers, clear acrylic cones, and assymetrical distribution lenses in single and twin luminaires with internal optical systems. Bega/FS, Carpinteria, Calif.

664 Wall lighting
Designed by Richard Brayton, the illuminated wall bracket contours peripheral space with indirect halogen lamping. Available in metal, marble, or alabaster, the fixture measures 4 1/2 in. high and 9 3/4 wide with a projection of 11 7/8 in. Boyd Lighting, San Francisco.

665 Fluorescent lamp
Twin-tube and double twin-tube fluorescent lamps, new to the manufacturer's line, offer an illumination life of 10,000 hours. The new lamps have a color temperature of 3500 Kelvin and are available in 9 and 13 watts in the double twin-tube versions. GTE Electrical Products, Danvers, Mass.

666 Glass light
Designed by Sandy Littman, the Kimberly G. Uplight is an illuminated sandblasted white glass bowl suspended on polished brass cables. Modifications can be made to both finish and the standard height of 36 in. A fluorescent version is also available. Coordinated sconces are offered. The American Glass Light Co., New York City.

667 Floor lamps
The Orion torchière has a 22-in.-diameter brass bowl and 72-in. high painted stem and base. The model is also available in a brushed aluminum finish. The torchières accommodate incandescent, fluorescent, quartz halogen, or metal halide lamping. Visa Lighting Corp., Milwaukee.

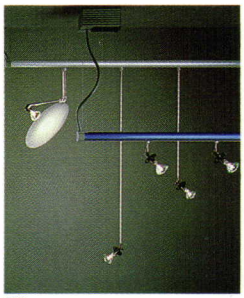
668 Open-voice communication
Capable of handling multiple, simultaneous open-voice communication paths, the MACS II provides each control station with a self-contained 16-watt amp, and an unrestricted intercom amplification channel. Dukane Corp., St. Charles, Ill.

669 Electrical service fittings
Electrical fittings, made to accommodate power, communications, and data lines, are suggested for offices where workstation locations or connections are subject to change. The units, mounted flush to the floor, come in brass, silver, black, and standard gray. American Electric, Construction Materials Group, Memphis.

670 Cove lighting
Three light bracket series introduced by the manufacturer offer indirect illumination on walls and ceilings. Available in a number of light sources from fluorescent to tungsten halogen, the brackets come top and bottom lighted, or top lighted only. Architectural Lighting Systems Inc., Taunton, Mass.

671 Redwood posts
An outdoor lighting series is made of laminated California redwood in bollard, post, or wall-mount configurations. The redwood post with a Lexan globe is available in heights of 26 to 60 in. with direct burial installation. The unit can be wired for low voltage or standard incandescent luminaires. LiteForms, Inc., Portland, Ore.

672 Art Nouveau fixtures
Cable-hung and bracket lighting fixtures are said to be inspired by Art Nouveau architect Charles Rennie Mackintosh. Illustrated is a two-light cable-hung design in a black-satin finish; shades are verde-green copper. Other designs have etched glass shades. Fixture measures 40 in. long, and takes two 100W dimmable halogen lamps. Thomas Industries Inc., Louisville.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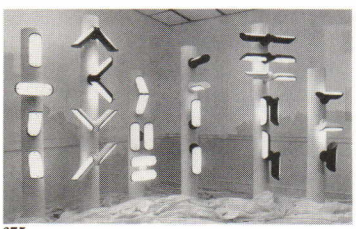
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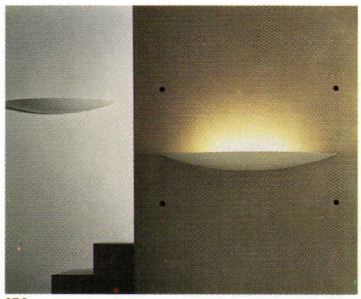
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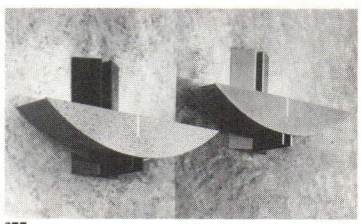
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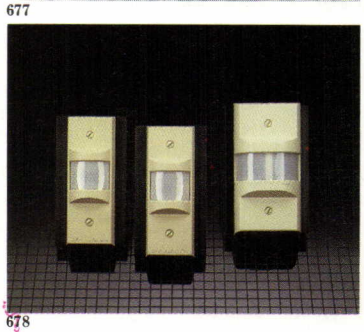
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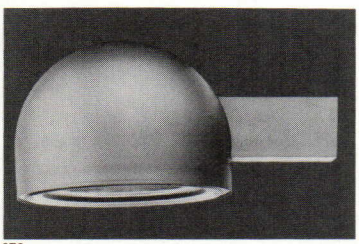
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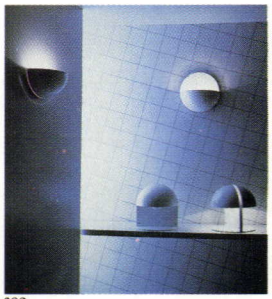
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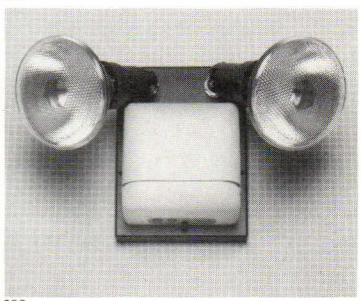
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673 Track lighting
The Expanded Line Network of low-voltage track lighting systems offers a variety of configurations and individual head designs. Designed by Perry A. King and Santiago Miranda, the Channel Four/Channel Six model (shown) has a 1.4-in. diameter. Flos Inc., Huntington Station, N. Y.

674 Office task light
The CAD-LITE, a workstation task light, is said to keep overall illumination levels low enough to maintain VDT contrasts, but to supply enough light for reading documents. The light has two 9W PL-type lamps with a 10,000-hour life. Waldmann Lighting Co., Wheeling, Ill.

675 Modular lighting
Ovalla, an indoor/outdoor modular lighting system, offers a variety of one- or two-light designs in horizontal, vertical, or 45-degree angled configurations. Ideal for mounting on walls, ceilings, or posts, the basic components are light pods, canopies, and uprights. Progress, Philadelphia.

676 Up-light
Designed by Ron Rezek, the Cirrus model is a minimal, slender up-light. The wall-mount sconce, measuring 4 in. high, 36 in. wide and 7 in. deep, is cast aluminum. The sconce is available in white or custom colors and finishes of gold leaf, silver leaf, or brushed aluminum. Artemide, Inc., Long Island City, N. Y.

677 Wall lamp
A torchiére, table, and wall lamp series, called Motto Yubi, was designed by Robert Sonneman. The wall lamps measure 9-1/2 in. high by 5-1/2 in. deep, with a 18 in. by 4 in. shade with glass insert. Finishes include satin aluminum with gray backplate and detail or jade patina with gold backplate. George Kovacs, New York City.

678 Occupancy sensor
The H-Moss 1000 wall switch occupancy sensor uses a passive infrared detector to automatically operate lights. With a 170-degree field of view, a single device can control incandescent or fluorescent lighting in offices of up to 1,000 sq ft. Hubbell Inc., Bridgeport, Conn.

679 Luminaires
Domed cutoff luminaires, available in 18-in. and 22-in. diameters, can house HID lamps up to 400W. Fabricated from heavy-gauge aluminum, the luminaires offer a variety of mounting options including spider mount. Finishes available are dark bronze, charcoal, and textured gray. Devine Design, North Kansas City, Mo.

680 Prismatic-glass luminaire
A low-wattage metal halide bulb enclosed in a prismatic glass fixture provides true color rendition and sparkle without glare for retail areas, shopping malls, and high-tech interiors. Available in a white finish, with a standard stem length of 36 in., the pendant fixture may be ordered in lengths up to 48 in., and in other finishes. Holophane Div., Manville, Newark, Ohio.

681 Indirect lighting
Designed for small offices, or those requiring small-scale ceiling elements, a 4-in. by 4-in. indirect fixture is suspended from overhead. The Mod-44 is available with a variety of system connectors, to create room-specific patterns. Litecontrol, Hanson, Mass.

682 Interior accent lighting
The Brendel Light series offers wall, table, floor, and ceiling models. New to the line are three models which begin with an elliptical extruded aluminum tube. A task light features a swiveling head, and a 250W halogen elliptical uplight has an illuminated matte-glass spherical shade. Staff Lighting, Highland, N. Y.

683 Security fixture
Recommended for home and commercial security lighting, the D12L floodlight is fully automatic, using microwave sensors to detect motion and turn on the light. The detection pattern averages 30 ft by 30 ft. The light may also be turned on from a remote switch. Microwave Sensors, Inc., Ann Arbor, Mich.

684 Exit light
An exit sign can be used in bank lobbies, office buildings, hotels, and theaters. The fluorescent 1/4-in. sign has a self-contained power pack that guarantees ninety minutes of lumen output in emergencies. Siltron Illumination, Inc., Cucamonga, Calif.

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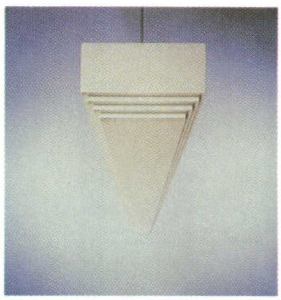
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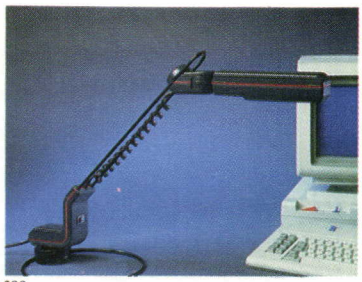
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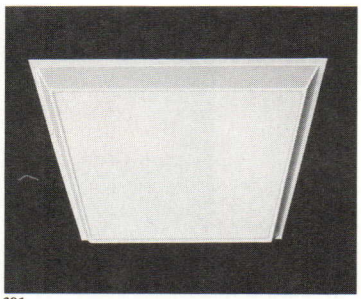
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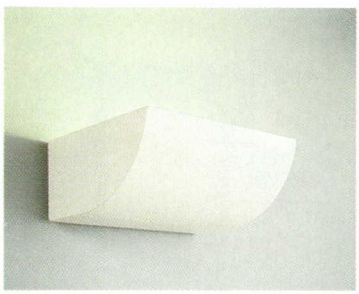
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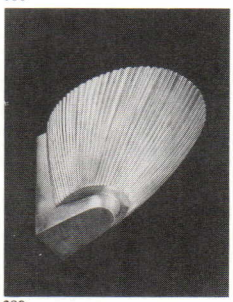
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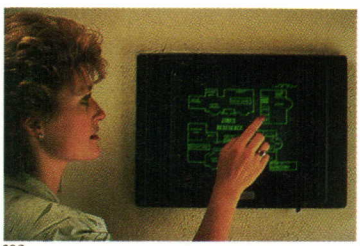
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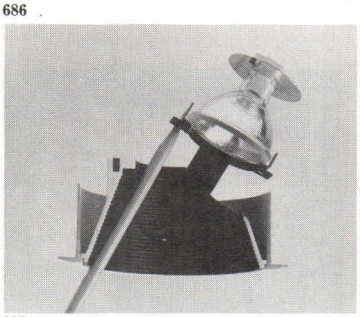
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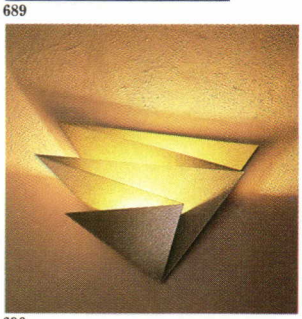
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685 Indirect lighting
A new series of indirect lighting products called Widelume offers wide distribution lighting under both low and high ceilings. The product is available in designer shapes that will accept three T-8 or two T-12 lamps. A variety of color finishes is provided. Lam Lighting Systems, Wakefield, Mass.

686 High-powered lamps
A special feature of the Esconce series is the asymmetric reflector enclosed within the decorative sconce, which projects light evenly across the ceiling. The series includes high-powered models for 250W and 400W metal-halide lamps. Elliptipar Inc., West Haven, Conn.

687 Downlights
A low-voltage 4-in. aperture downlight series has been added to the manufacturer's line. The product is available in a wide selection of fixed and adjustable diecast trims. Also included are optical accessories such as hexcell louver, beam elongator, spread lens, softening lens, and color filters. Prescolite, San Leandro, Calif.

688 Task lights
Designed especially to work in concert with CRT screens, these personal and desk task lights come in swivel-arm form or in a stationary position. The fixtures are said to reduce and almost eliminate glare from the working environment. Lightolier, Secaucus, N. J.

689 Scallop-shell sconce
According to the manufacturer, the U-500 scallop-shell wall sconce is coming back due to popular demand. Fifty years in use in gothic and classic building interiors, the 10-in.-high sconce is available in natural aluminum or custom colors. Rambusch Co., New York City.

690 Geometric sconce
Designed by Paul Ruine, the hand-wrought geometric Zag wall sconce is 12-1/2 in. high, measures 17-1/2 in. wide, and has a projection of 6 in. The fixture takes three 60W incandescent bulbs. Finishes are available in solid bronze, copper, nickel-chrome, or aluminum. Ruine Design Associates, New York City.

691 Fire-rated diffuser panels
The manufacturer offers over 40 traditional and contemporary designs of vinyl light-diffusing drop-out panels. Available single- and double-nested, the panels are UL-labeled for use under sprinklers. Standard sizes of the modules run 2 ft by 2 ft and 2 ft by 4 ft. Custom sizes can also be ordered. United Plastics Corp., Oakland, Calif.

692 Home automation system
The Home Manager allows homeowners to control their home's functions from a touchtone telephone or personal computer. The system provides such applications as outdoor lights responding to visitors, fans turned off in response to smoke alarms, and room-by-room heating and cooling schedules. Unity Systems, Inc., Redwood City, Calif.

693 Desk and floor lamps
The Glass Pan 250W halogen floor lamp directs light up and out to illuminate a broad space. The manufacturer also offers a 50W desk lamp (shown here) with an adjustable arm and head. Basic Concept, Div. DFT Lighting, Inc., Cleveland.

694 Single-track light
The 36 track light, suitable for retail display and office accent lighting, offers a choice of 25W, 36W, or 50W low-voltage sources, and four beam spreads from very narrow to very wide, in the same fixture. An integral dimmer further reduces energy use and heat output. Lighting Services Inc., Stony Point, N. Y.

695 Articulating fluorescent
Billed by the manufacturer as a new light source for office settings, the Asymmetria task light uses a compact, 13W fluorescent lamp (included with fixture). The asymmetric diffuser is said to greatly reduce glare on work surfaces; all models have a no-spring, articulating friction arm with a 34-in. reach. Asymmetria comes in floor-, clamp-on, and desk models. Pencar Associates, Advanced Lighting Technology, Flushing, N. Y.

696 Wall fixture
Akros is called a transitional wall fixture, combining motifs of past and present. A brass, chrome, black, or white metal dish rests on three linear metal arms, holding a dimmable 300W or 500W halogen bulb. Tech Lighting, Chicago.

16 Electrical Product literature

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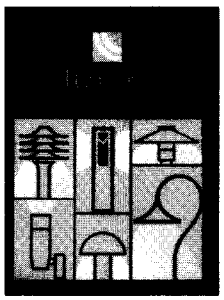
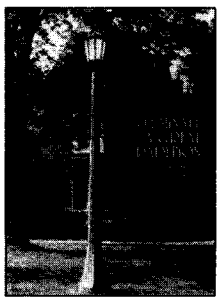
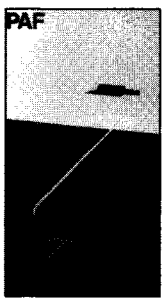


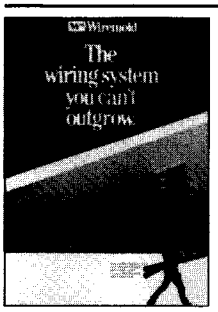
697 Outdoor lighting
A color brochure illustrates small-scale landscape lights on-site; each fixture has an integral transformer. Dimensions and lamping information are given for floodlights, path and border lights, wall brackets, and adjustable illuminators, including one shaped like a mushroom. Lumière Design and Mfg. Co., Westlake Village, Calif.



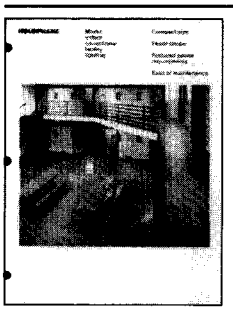
698 Gas lanterns and poles
The manufacturer introduces the return of the authentic gas lantern in a new catalog. Twenty-six traditional styles of lanterns and poles, suggested for historic urban areas as well as residential use, are offered. Specification data are provided. U. S. Gaslight, Div. of TrimbleHouse Corp., Norcross, Ga.



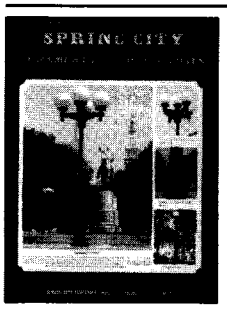
699 Halogen lamps
A foldout brochure features the Logo Collection of halogen lamps and fixtures. Designed by Mario Barbaglia and Marco Colombo of PAF, an Italian lighting firm, the lamps snap together with no exposed wiring. Many styles have adjustable heads to direct light where it is needed. Koch + Lowy, Long Island City, N. Y.



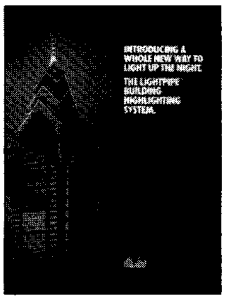
700 Surface-mounted raceway
An eight-page color brochure presents the manufacturer's perimeter raceway in various practical applications, stressing the flexibility and convenience features of the surface-mounted system. Raceways are available in painted steel, plastic, and satin-anodized aluminum. The Wiremold Co., West Hartford, Conn.



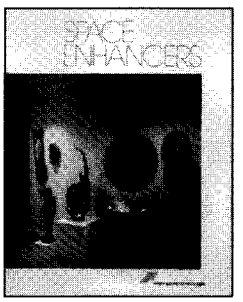
701 High-impact fixture
A color catalog insert reviews the damage-resistant features of the Maxim light, and details specialized correctional facility options, such as a built-in speaker. Fixture may be ceiling-, wall-, or corner-mounted; photometric and use-test data are provided. Holophane Div., Manville, Newark, Ohio.



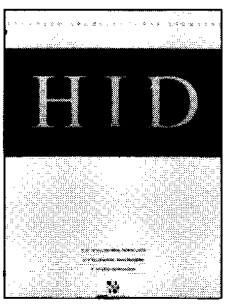
702 Ornamental lighting posts
On-location photos of lighting posts are included in a full-color, six-page brochure. Posts are shown adapted for use as ornamental columns, bollards, and supports for signals, signs, clocks, and parking meters. Spring City Electrical Mfg. Co., Spring City, Pa.



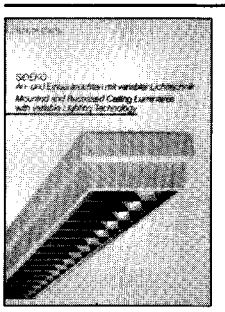
703 Building highlighting
Introducing a Whole New Way to Light Up the Night, a color brochure, explains the lighting physics that make the Lightpipe possible, and illustrates the system used to highlight major structures in New York City, Philadelphia, and Minneapolis. Product description and ordering data are provided. TIR Systems Ltd., Burnaby, B. C.



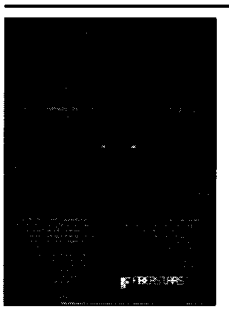
704 Commercial fixtures
A 22-page color catalog presents an overview of Alkco lighting fixtures for a variety of space-enhancing applications, including linear fluorescents, Lumenizer architecturally-designed accent lights, and new Recessed-Trak totally-concealed spotlights. Alkco, Sub. JAC Jacobsen Industries, Inc., Franklin Park, Ill.



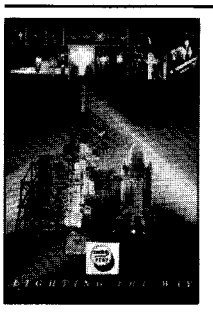
705 Recessed lighting
Literature offered on the manufacturer's high-intensity-discharge recessed lighting includes Ellipsoidal Down-Lites, Ellipsoidal Wall Washer, and Lens Down-Lites. Also included are lamp choices, dimensions, and accessory options. Juno Lighting, Inc., Des Plaines, Ill.



706 Eliminating glare
A side-mounted recessed light is described in *Introducing a Baffling New Way to Eliminate VDT Glare*, an eight-page illustrated brochure. The manufacturer's workplace louver is explained, with photos and technical drawings demonstrating how the curved baffles work. Siemens Lighting Systems, Iselin, N. J



707 Fiber-optic lighting
A full-color brochure outlines the features of the manufacturer's low-voltage system, which transmits pure light through flexible plastic fiber-optic cables up to 200 ft long. Examples stress the system's superiority to neon in various applications. Standard products and safety features are included. Fiberstars, Inc., Fremont, Calif.



708 Specialty light bulbs
A gatefold brochure highlights main product types from among the hundreds offered by this maker of specialty light sources for commercial, institutional, and industrial applications. A new product shown, the Vita-Lite, is a full-spectrum fluorescent said to simulate natural sunlight, improve see-ability, and reduce VDT glare. Duro-Test Corp., Fairfield, N. J.

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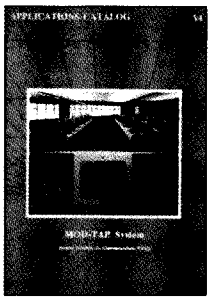
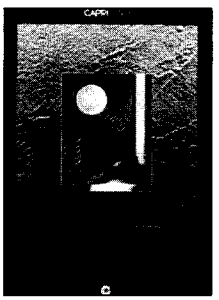
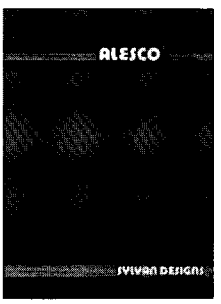
709 Small-office lighting
An eight-page photo survey compares the lighting performance of the Peerless Lensed Indirect fixture, designed for offices up to 12 by 15 ft, with that of three popular systems—lensed downlight, paracube, and deep-cell parabolic—demonstrating the different glare, shadow patterns, and lighting levels produced. Peerless Lighting Corp., Berkeley, Calif.



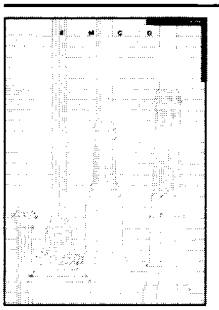
710 Voice and data wiring
A 40-page applications catalog from Mod-Tap explains why the modular communications wiring system is guaranteed to interconnect any compatible equipment using twisted-pair media. The material is written for the specifier and facilities manager. Mod-Tap System, Harvard, Mass.



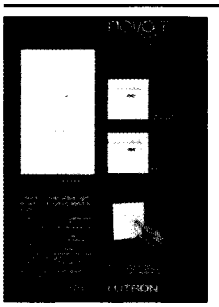
711 Track lighting
All the designer needs to know about contemporary track fixtures and accessories is contained in the 52-page Capri catalog, according to the manufacturer. Photometric charts illustrate the performance of many popular lamps. Capri Lighting, Los Angeles.



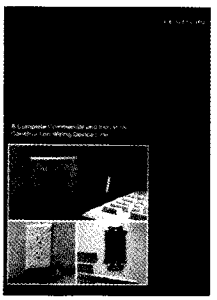
712 Low-voltage fixtures
A 40-page specification catalog features Alesco low-voltage architectural lights, including many small enough to fit within normal 2- by 4-in. framing space. The 12-volt miniature fixtures accept energy-efficient, long-life incandescent or quartz-halogen lamps. Sylvan Designs, Inc., Northridge, Calif.



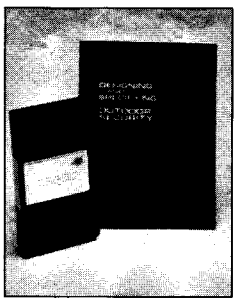
713 Decorative standards
Poles ranging in height from 8 to 80 ft are available for exterior site lighting designs. A product catalog uses line drawings to illustrate the various standard profiles, constructed of aluminum, steel, wood, and fiberglass. Emco Environmental Lighting, Milan, Ill.



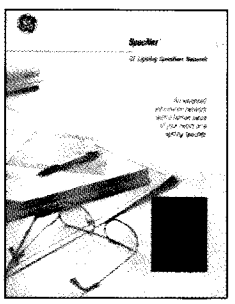
714 On/off switch
A color catalog page introduces the Nova T-Star electronic touch-switch, which has a two-level status light to indicate on/off lighting status where fixtures are not visible from the switch location. The single-location switch can control up to 1,000W of incandescent, low-voltage, or fluorescent lighting. Lutron Electronics Co., Inc., Coopersburg, Pa.



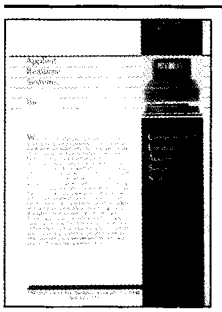
715 Wiring devices
Leviton's complete commercial- and industrial-construction wiring-device line is presented in a 16-page specification catalog. Color photographs show dimmers, wallplates, receptacles, and switches; product features and code acceptances are listed. Leviton Mfg. Co., Inc., Little Neck, N. Y.



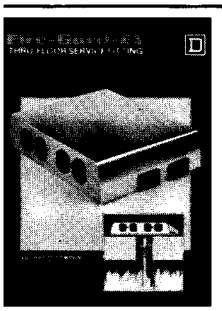
716 Outdoor security
A manual for designers and specifiers of outdoor security systems provides detailed information on types of equipment available; factors to consider when evaluating a site for security protection; and three case histories using buried, beam, and barrier systems. Outdoor Security Systems, Portland, Ore.



717 Lighting specification
SpecNet, described by GE as an informational network intended to improve the flow of lighting information to specifiers, is explained in a color brochure. Components of the program include the services of architectural lighting consultants, and information centers where products can be tested in real-life situations. General Electric Co., Cleveland.



718 Access control
Written for the designer, a four-page catalog explains how this source's computerized limited-access security systems provide reliable performance in control, alarm monitoring, facility management, and time- and attendance-data collection. Applied Realtime Systems, Inc., Mandeville, La.



719 Service fittings
A single Fire-Gard-EX through-floor service fitting, with an IBM cabling system connector, does jobs that previously required two poke-through fittings, according to a four-page product bulletin. Drawings show installation details; architectural finishes are illustrated. Square D Co., Palatine, Ill.

720 Commercial lamps
All Sylvania large lamp products, for architectural, industrial, transportation, and other commercial applications, are described in a 90-page specification catalog. Data on rated life, lumen output, and bulb dimension and use are provided; incandescent, halogen, HID, and fluorescent lamps are included. GTE, U. S. Lighting Div., Danvers, Mass.

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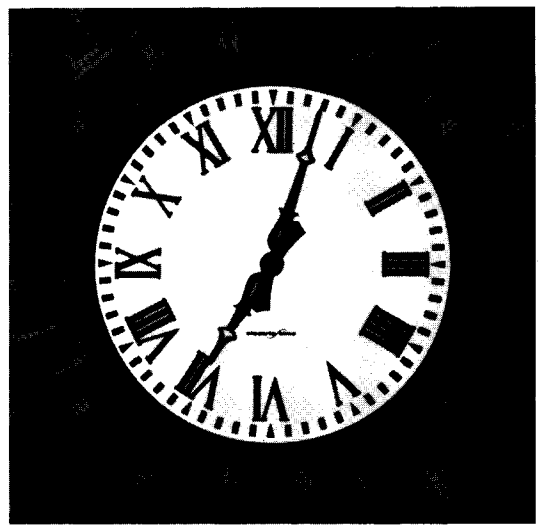

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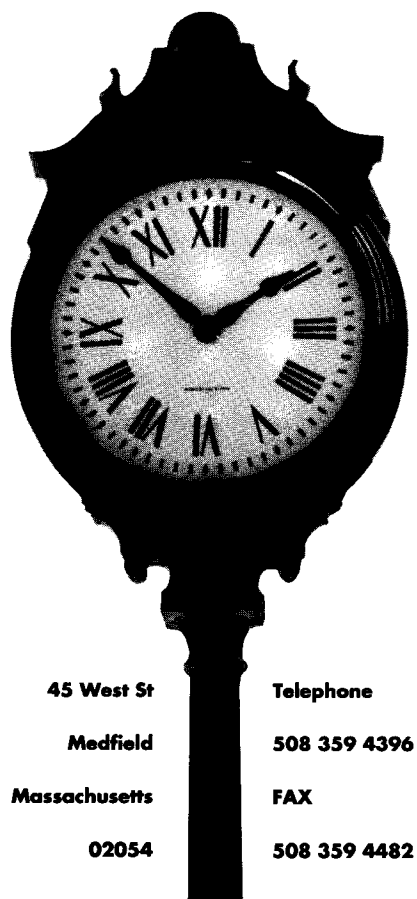

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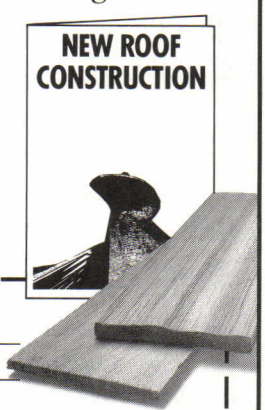

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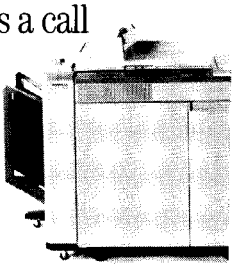

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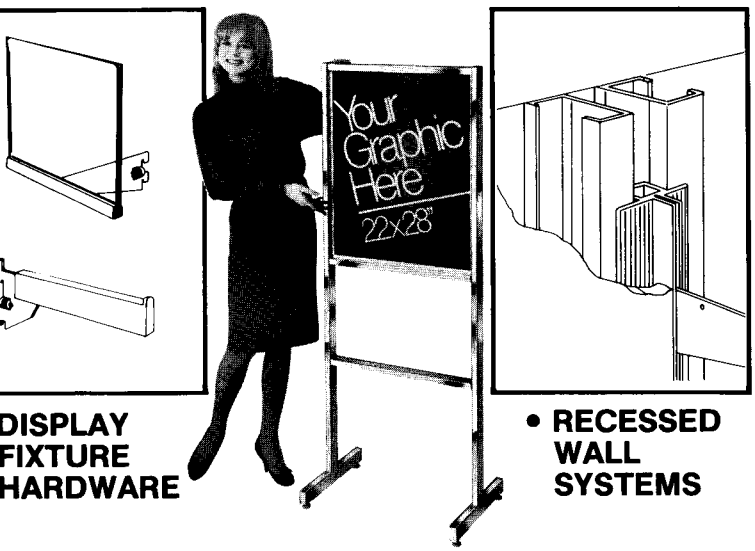

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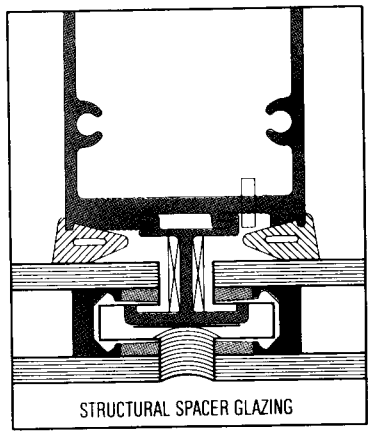
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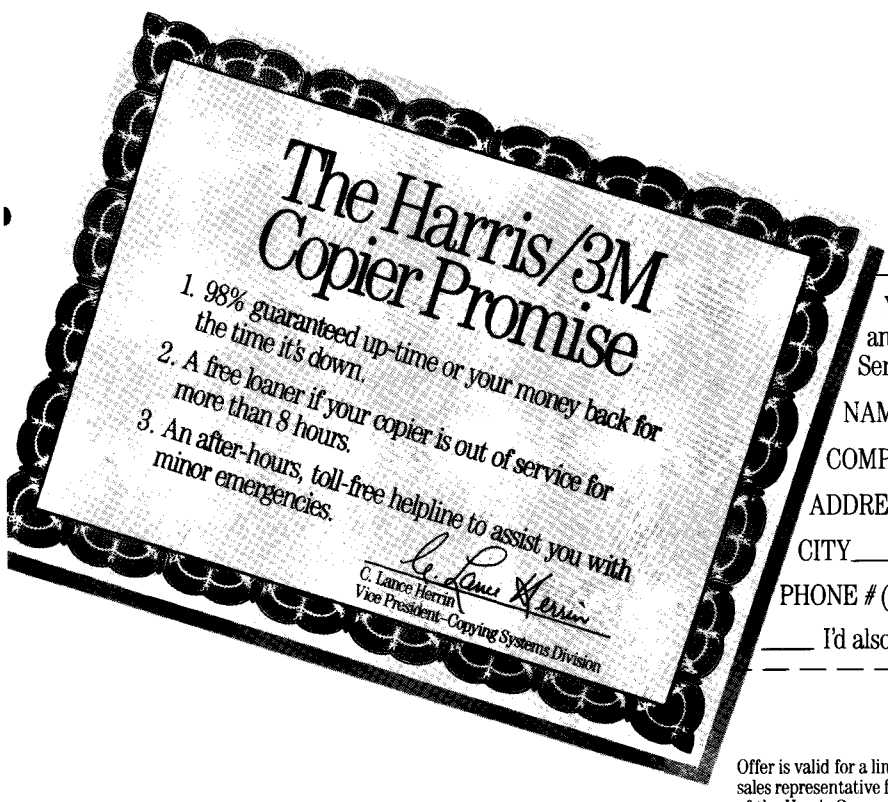

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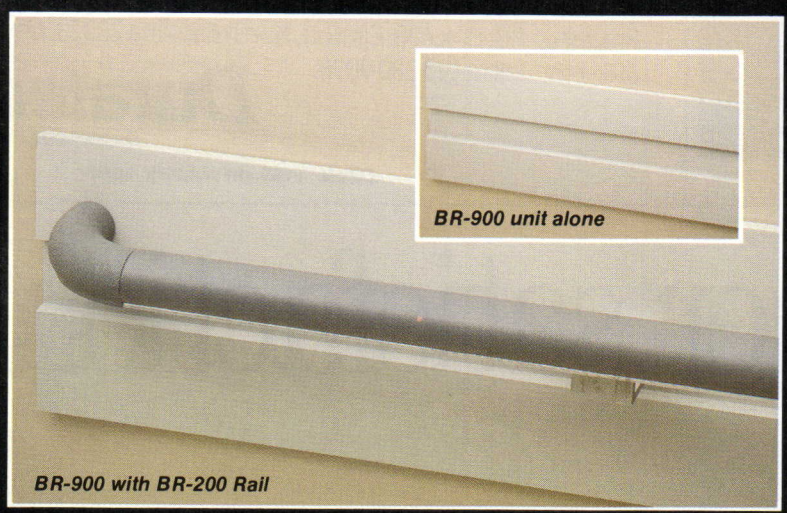

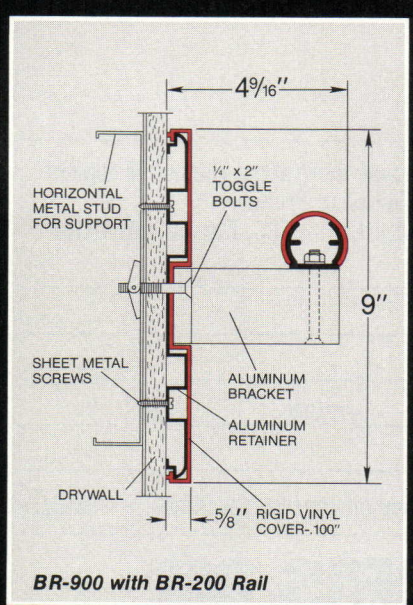

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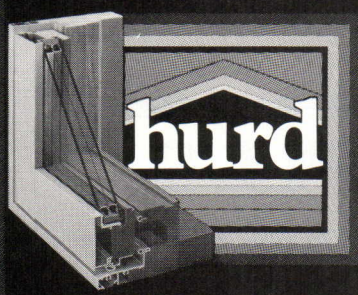

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Please send me more information about Hurd R-4 windows with Heat Mirror transparent insulation.

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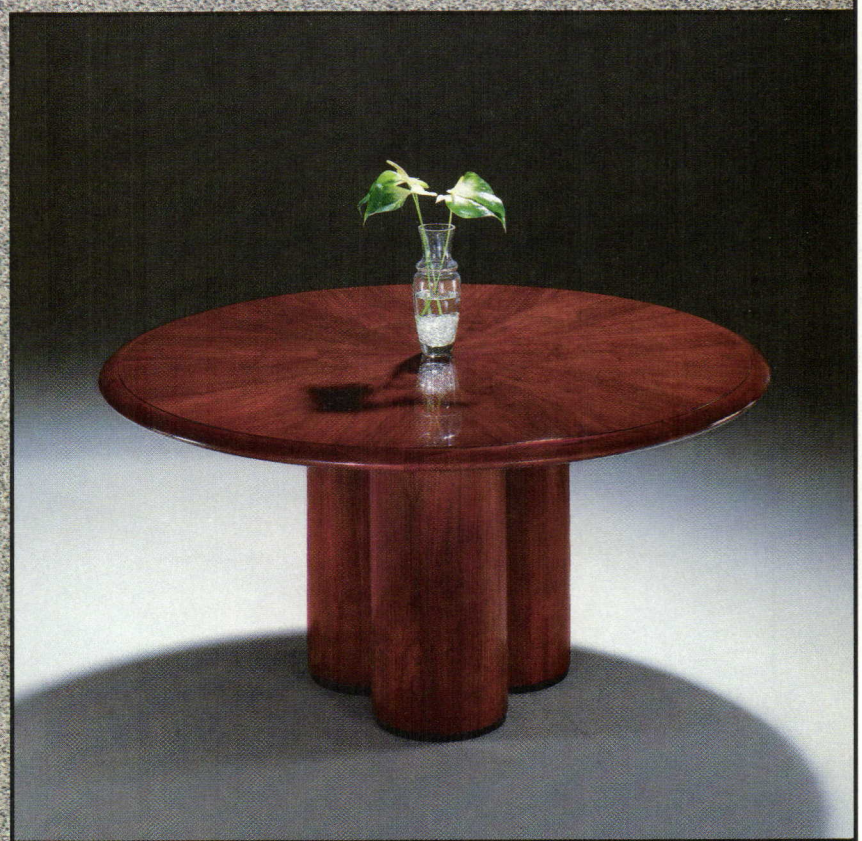

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Hamilton Industries, P.O. Box 1342, Sheboygan, WI 53082-1342. Phone 414-457-5537.

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Some plain paper engineering copiers make bold claims.
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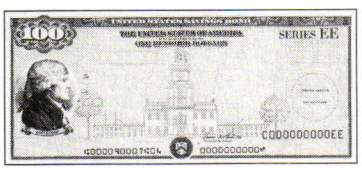

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. . . all you need from one source to create a room resistant to high moisture and corrosive environments. Scrub it. Steam clean it. Components are accepted by USDA, and panels and grid are Class A fire-rated. The fiberglass grid puts an end to failing metal components. Call or write for complete information about the low maintenance Kemlite total wall and ceiling system. Kemlite Company, P.O. Box 2429, Joliet, IL 60434, 815/727-5000.

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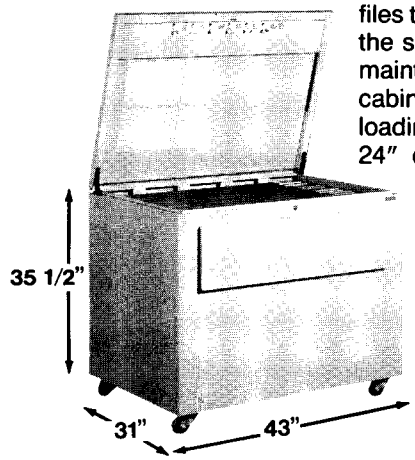
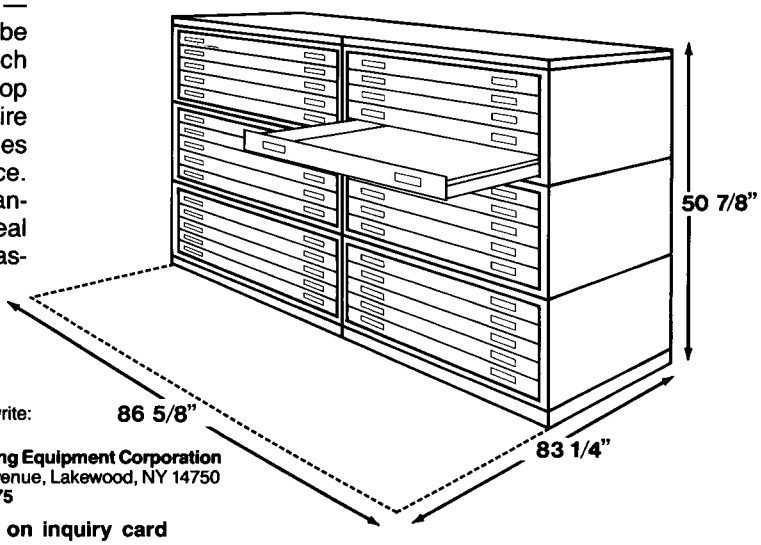
When you choose the right kind of large document filing system you can actually get extra office space for free. Ulrich's vertical filing cabinets not only keep your drawings organized in perfect condition, they take up far less space than any alternative. In fact it takes 6 five drawer flat files to store 3,000 drawings — the same number that can be maintained in just one Ulrich cabinet. And Planfiles are top loading so they only require 24″ of aisle space. Flat files need 50″ of clearance. There are other advantages besides free real estate. Planfiles are caster mounted for easy relocation. Flat files are not designed to be moved. Ulrich cabinets offer fire protection. Flat files don't. The list goes on — easy filing access, water protection and more. For all this you would think Ulrich Planfiles cost more, but they don't.





For free brochures that detail the entire product line, call or write:

Ulrich Planfiling Equipment Corporation
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- MOST COST EFFECTIVE. Unlike other products, there is no water to evaporate. All the ingredients contribute to water repellency and efflorescence control.
- PRODUCT INTEGRITY that assures consistent results: Excellent water repellency, reduced potential for efflorescence, and improved color tone.

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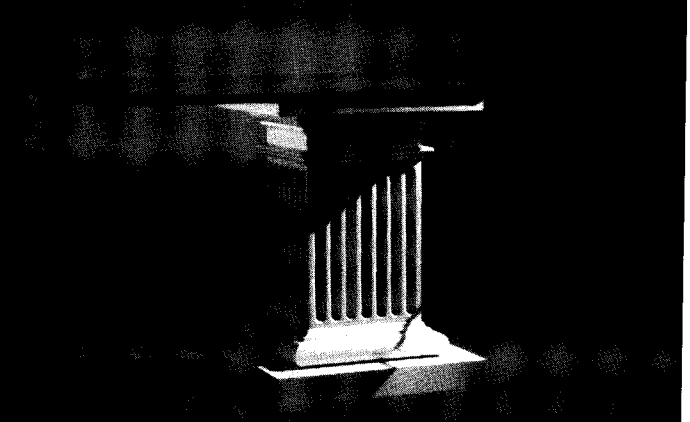

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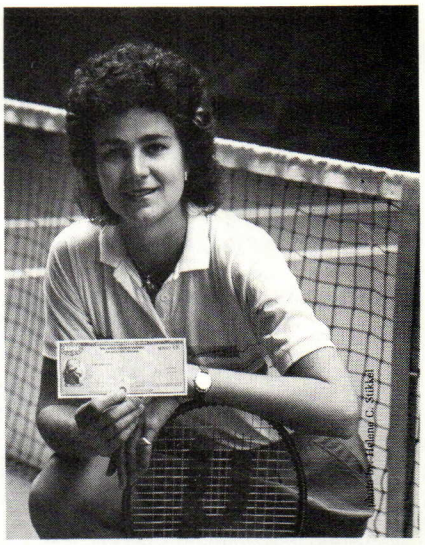

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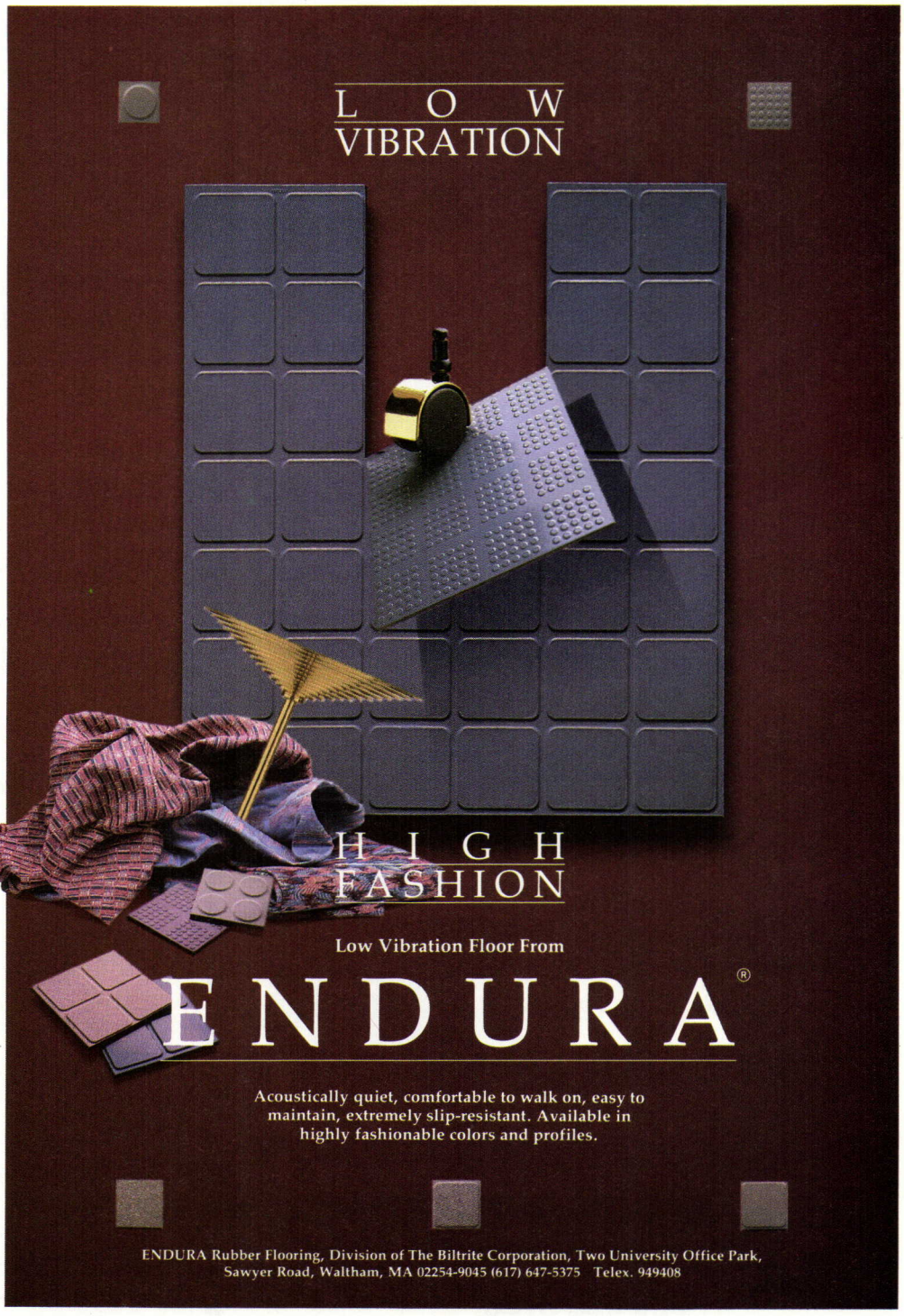

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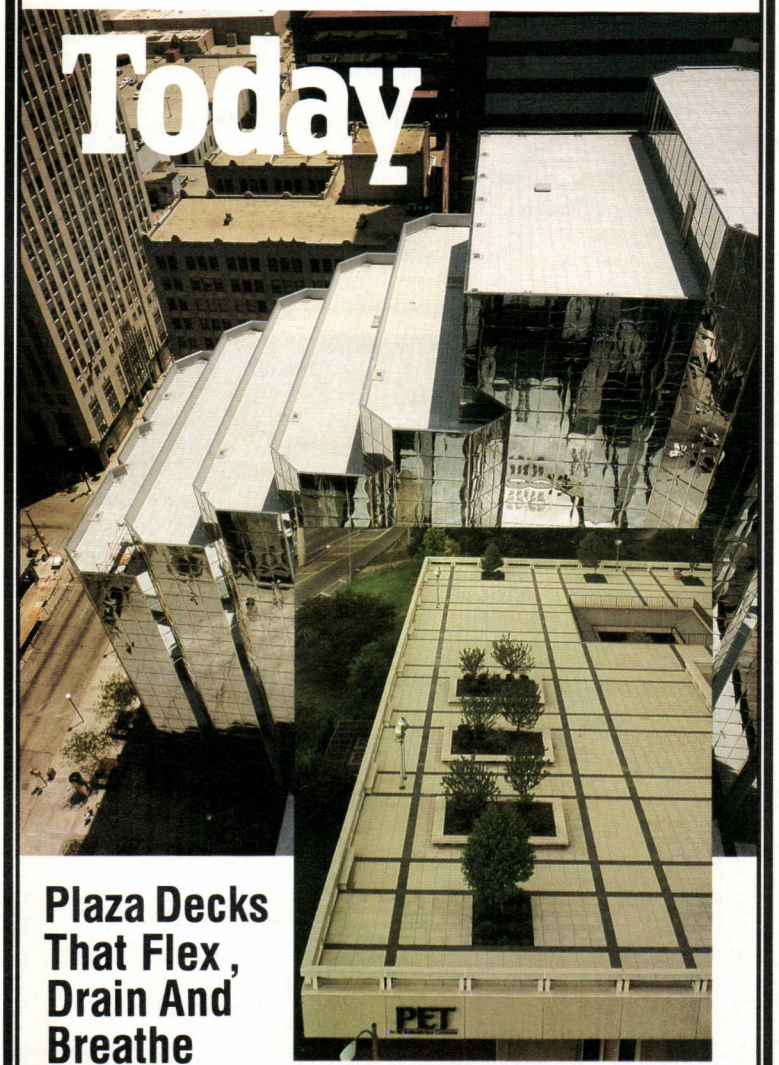

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THE NEW PRODUCT REPORTS INSERT SECTION

A new section created for you to find additional information about products and services offered by the following companies:

Carlisle Syntec Systems	Pgs. 211-2
CNA Insurance	Pgs. 215-2
Leviton Mfg. Co.	Pgs. 219-2
Hurd Millwork	Pgs. 223-2

QUALITY ROOFS BY DESIGN

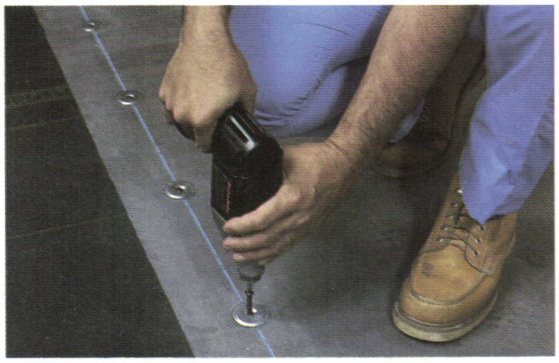
CARLISLE

The New Mechanically-Fastened Roofing System.

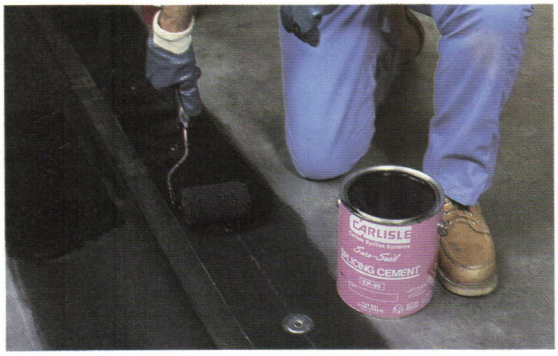
CARLISLE

Carlisle SynTec Systems

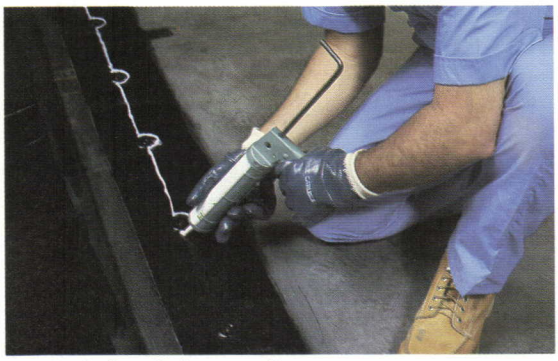
Increased seam strength and reliability, ease and speed of installation earn rapid designer/applicator acceptance.



Securing the membrane with Seam Fastening Plates and Carlisle fasteners.



Coating both cleaned membrane splice-widths with EP-95 Splicing Cement.



Applying In-Seam Sealant according to specifications.

Applying Lap Sealant to the splice edge.

Carlisle's new Mechanically-Fastened Roofing System.

Since its introduction, Carlisle's new roofing system has attracted favorable attention and receptivity among architects, engineers, building owners and authorized applicators. And for good reason.

This Mechanically-Fastened Roofing System secures high-strength, polyester-reinforced EPDM membrane sheets with a new fastening system in a combination that provides material strength, design flexibility, and reliable roofing at competitive prices.

Manufactured as a single-ply sheet, the new membrane derives its strength through design. The innovative reinforcement produces high levels of fatigue and puncture resistance. These qualities coupled with the attachment system increase seam strength and reliability, and improve fastener-load performance. The added strength gained from the combination of these elements enabled Carlisle to develop an entirely new approach to fastening the roof membranes.

Here is how it works.

After insulation has been mechanically attached to the roof deck, the reinforced membrane is secured by a system of seam-fastening plates and Carlisle fasteners. The splice overlap area is thoroughly cleaned with a specially formulated solution that contains no lubricants or detergents which would interfere with seam adhesion. This area is then coated with EP-95 Splicing Cement.

A bead of In-Seam Sealant (patent pending) is laid down three inches from the edge of the sheet and around the outside edge of each Seam-Fastening Plate. A visual inspection will quickly verify the presence of the sealant. As the edge of the sheet is rolled into position, the splicing cement adheres the over-lapping sheets to each other. The splice edge is then sealed with lap sealant.

Aesthetic innovations possible.

The high-strength, polyester-reinforced EPDM roofing membranes are available in designer colors—basic black (Sure-Seal®) and white (Brite-Ply™). The Brite-Ply sheet is a two-layered EPDM membrane, white on top, black underneath. It offers all the benefits of the black sheet while suggesting an exciting, wider range of design possibilities. Proper design coupled with insulation considerations can help reduce energy costs.

Using either the Sure-Seal or the Brite-Ply sheets, the Mechanically-Fastened Roofing System is not intended to replace ballasted or fully-adhered roofing systems. This new system is offered as an alternative for your consideration depending on your requirements and your new construction or replacement budgets.

Installation speed economies.

This innovative roofing system is ideal for almost any roofing project. In addition to their many other qualities, the reinforced EPDM sheets are lightweight, weighing less than half a pound a square foot.

The field sheets are available in widths of seven and ten feet. They require fewer field seams, and are easily installed in hot or cold temperatures. Choice of field sheet widths depends upon wind-load requirements and other roof-deck criteria. Regardless of your choice of color or width, these sheets can be quickly and easily installed.

Join the lengthening list of satisfied users.

This Carlisle designed, Mechanically-Fastened Roofing System meets or exceeds all national ANSI/RMA and ASTM standards for minimum quality of EPDM membranes while providing dependable roofing performance under all normal weather conditions. And the roofing system will withstand severe temperature fluctuations.

Specifications, Factory Mutual Approvals and Underwriters Laboratories classifications are available upon request. Next time you need a roofing system try a Quality Roof By Design—Try Carlisle.

Jefferson School
Davenport, Iowa

COVER PHOTO:
Park Forest Junior High School
State College, Pennsylvania

BRITE-PLY™ SPLICING CEMENT

SURE-SEAL® INSULATION

SURE-SEAL® SEAM FASTENING PLATE WITH HP FASTENER

SURE-SEAL® IN-SEAM SEALANT

BRITE-PLY™ SPLICING CEMENT

BRITE-PLY™ .045 REINFORCED EPDM MEMBRANE

ROOF DECK

CARLISLE

Carlisle SynTec Systems

Accessories

Carlisle supplies virtually everything needed for its roofing systems including:

Adhesives	Fasteners
Sealants	Membrane Anchors
Insulation	Edging
Protective Mats	Roof Drains
Flashing	Counterflashing
Walkway pads	and more.

These roofing systems are backed by a nationwide distribution network, installed by authorized applicators, and inspected by trained technical representatives.

Unmatched warranties:

- Sure-Seal EPDM — 5, 10 or 15 year (Golden Seal) Membrane System Warranty, 20 year Membrane Material Warranty.
- Brite-Ply EPDM — 5 or 10 year Membrane System Warranty; 10 year Material Warranty.

For more information on the strength, flexibility, and reliability of the new Mechanically-Fastened Roofing System, write:

Carlisle SynTec Systems
P. O. Box 7000
Carlisle, PA 17013

Call a Carlisle representative/distributor or call Carlisle toll free — **1-800-233-0551.**
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QUALITY ROOFS BY DESIGN

CARLISLE

The New Mechanically-Fastened Roofing System.

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CARLISL
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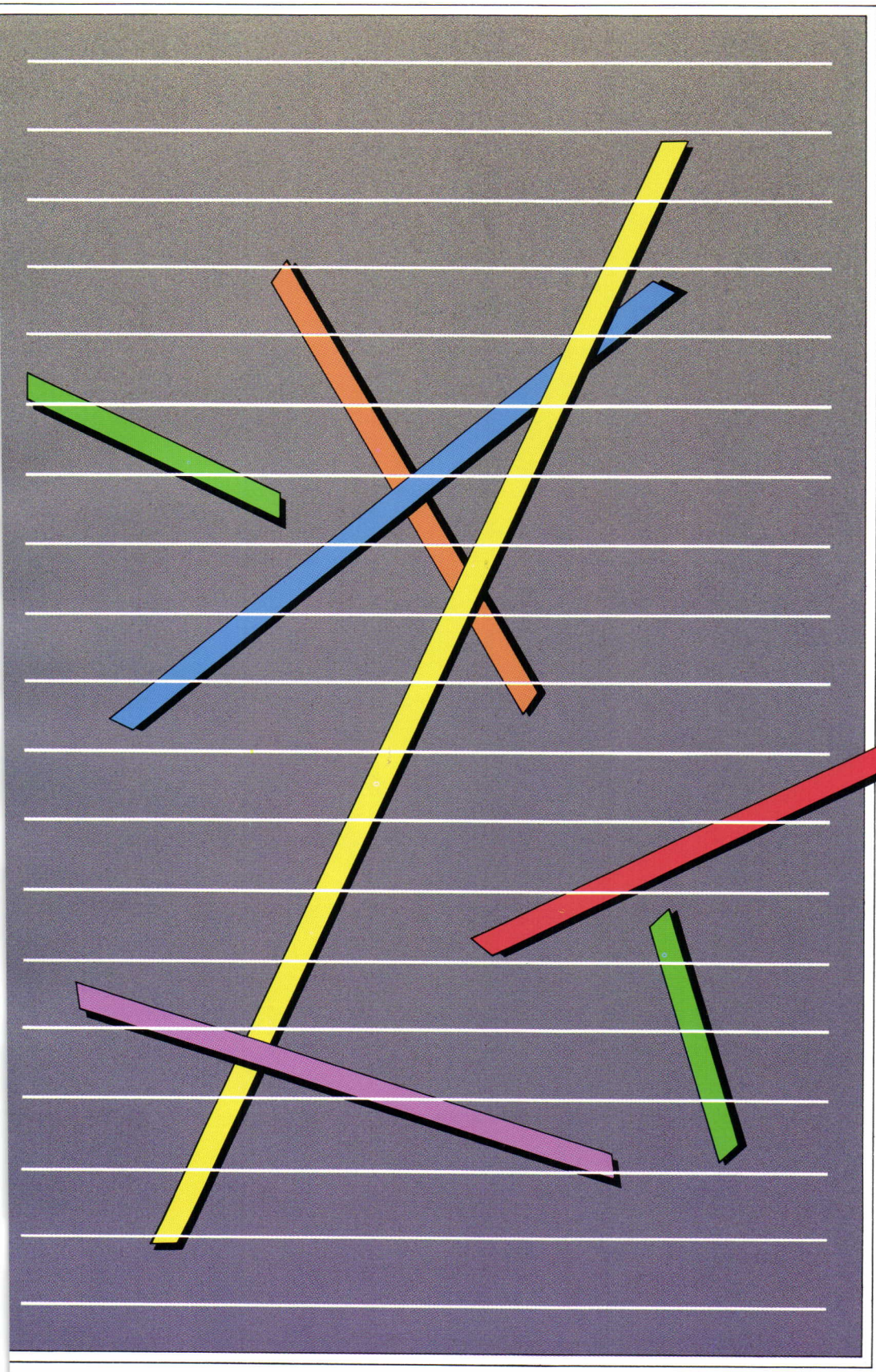
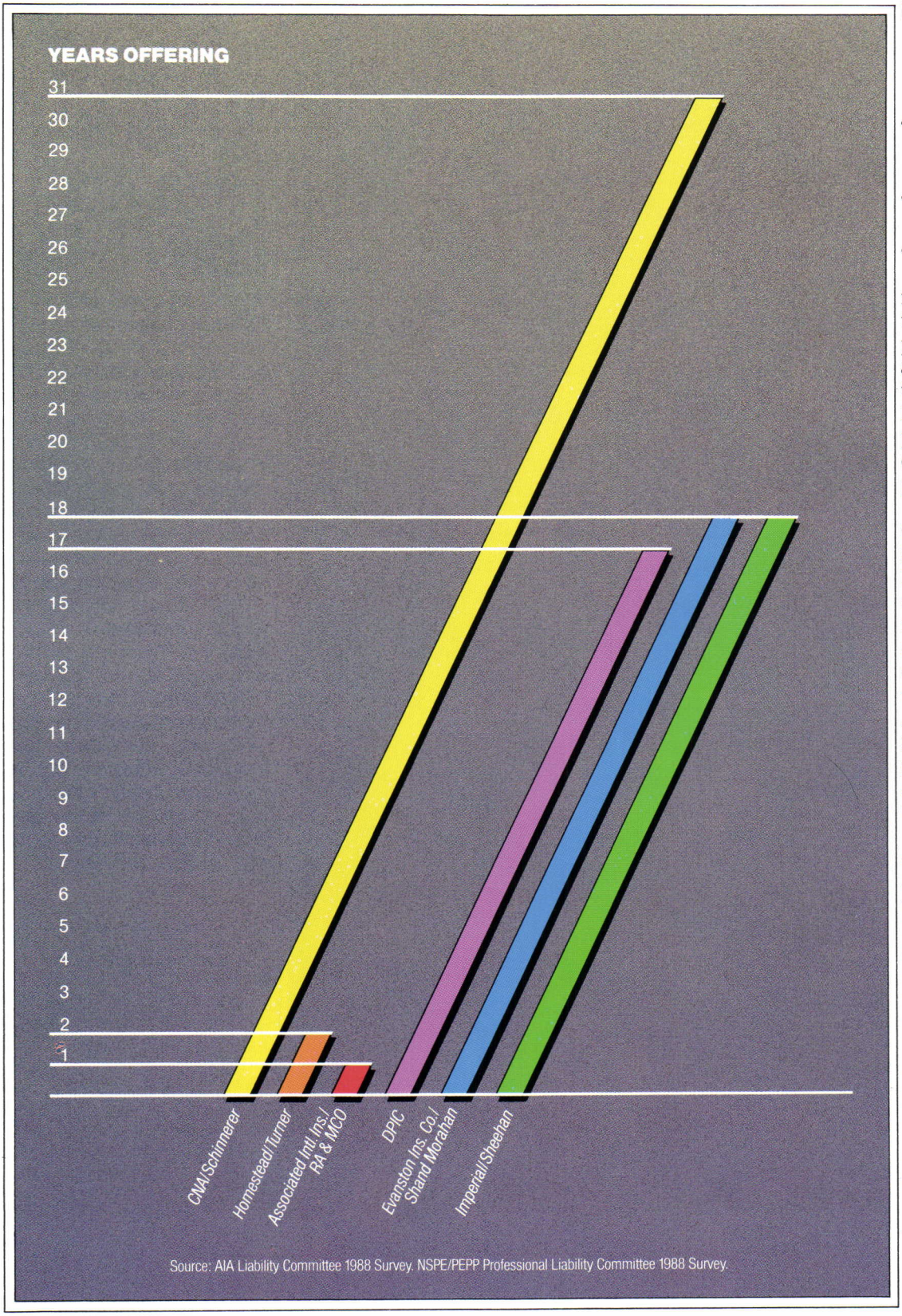
PROFESSIONAL LIABILITY INSURANCE



How To Chart A Sensible Course Through The Insurance Jumble

PROFESSIONAL LIABILITY INSURANC



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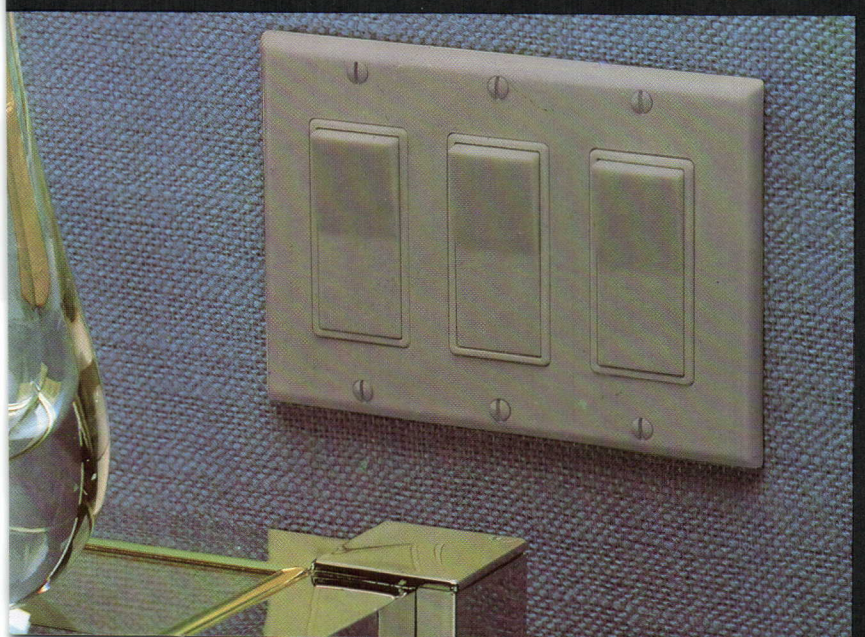
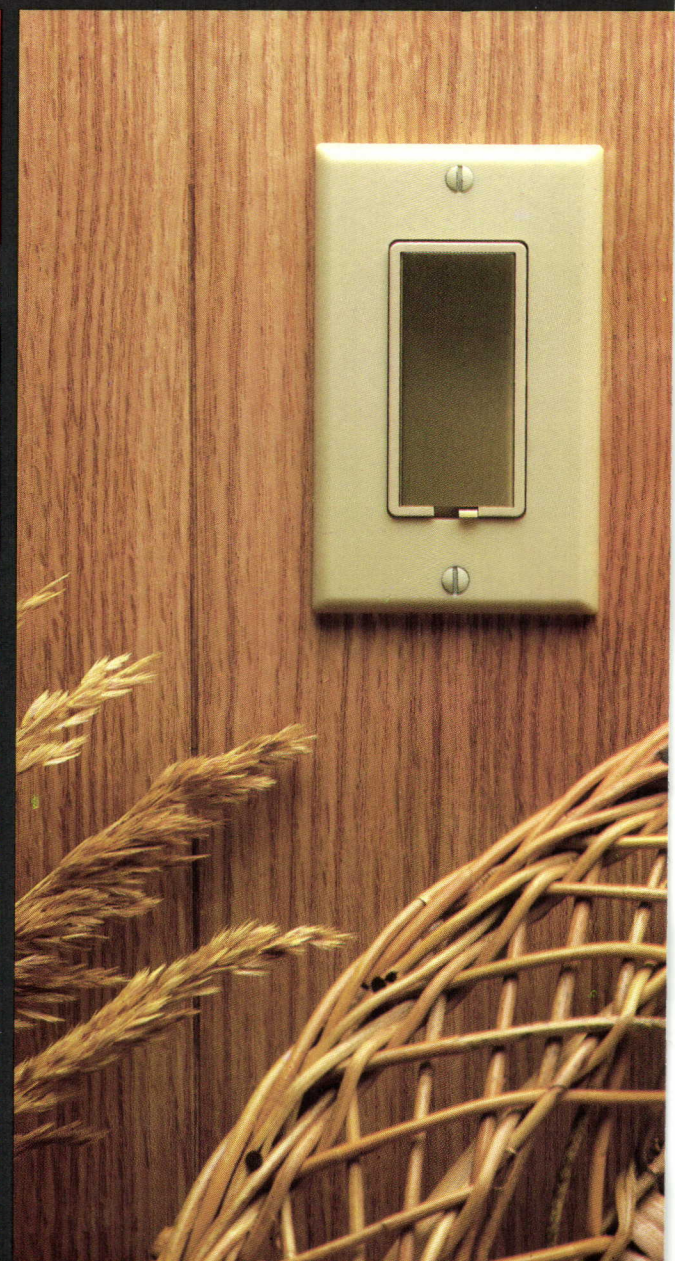
to complement your every interior





"DECORA switches and outlets that grace any wall surface."

Dear Architect:

You strive to create a satisfying look of continuity with wall surfaces—color, texture, balance and contrast are crucial to your design objectives. It's all too apparent when switches and outlets disrupt the appearance of wall surfaces. Your interiors can be pulled together, however, with rocker switches and outlets that harmonize with their surroundings; and no other wiring device line accomplishes this as easily as Leviton's Decora.

Decora's five basic colors bring new and complementary expressions to your wall surfaces with matching or contrasting wallplates and frames. Decora rocker switches and outlets are sleek and smooth, available in plastics, or gleaming and subdued metal finishes that include two types of stainless steel, brass and aluminum. You can make a visual statement with Decora that will be much more than a mere afterthought. Put every last detail in place by specifying Decora and your interiors will take on a balanced pose of completeness.

To find out how you can best use Decora on your next project, fill out and mail the enclosed Business Reply Card on the facing page. We'll send you a sample Decora switch to match the attached wallplate along with more information on products and programs, including free Decora for models to grace your next interior.

Truly yours,

Vic Flagello

Vic Flagello
Product Manager
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Complete and mail the attached reply card for a

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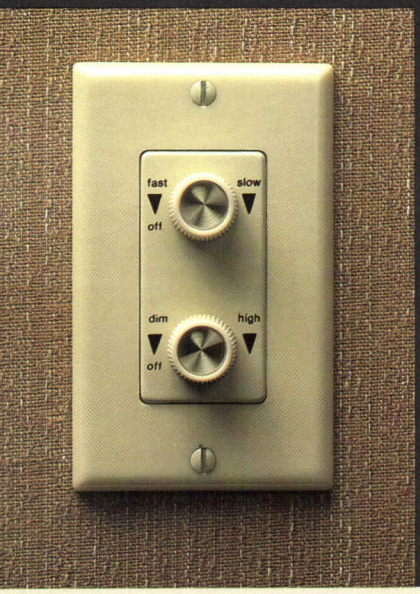
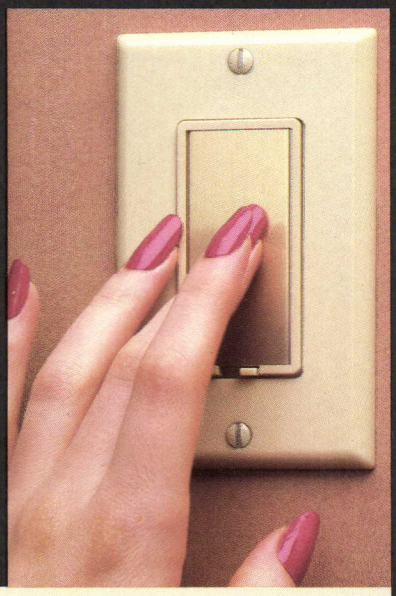
Decora delivers Specification Grade performance and striking good looks! Leviton's Quality Assurance test labs certify that incoming materials and outgoing product are right up to spec. And all Decora devices are UL Listed.





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Please mail the attached reply card for a

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Mr. Victor P. Flagello, Product Manager
Leviton Manufacturing Co., Inc.
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Little Neck, NY 11362-2591
(718) 229-4040 FAX (718) 631-6439

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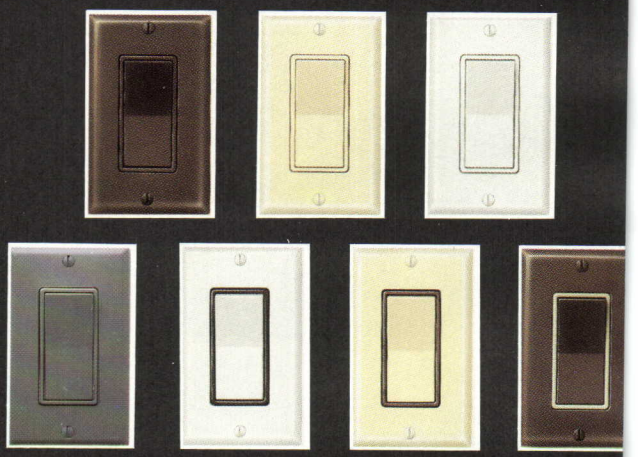


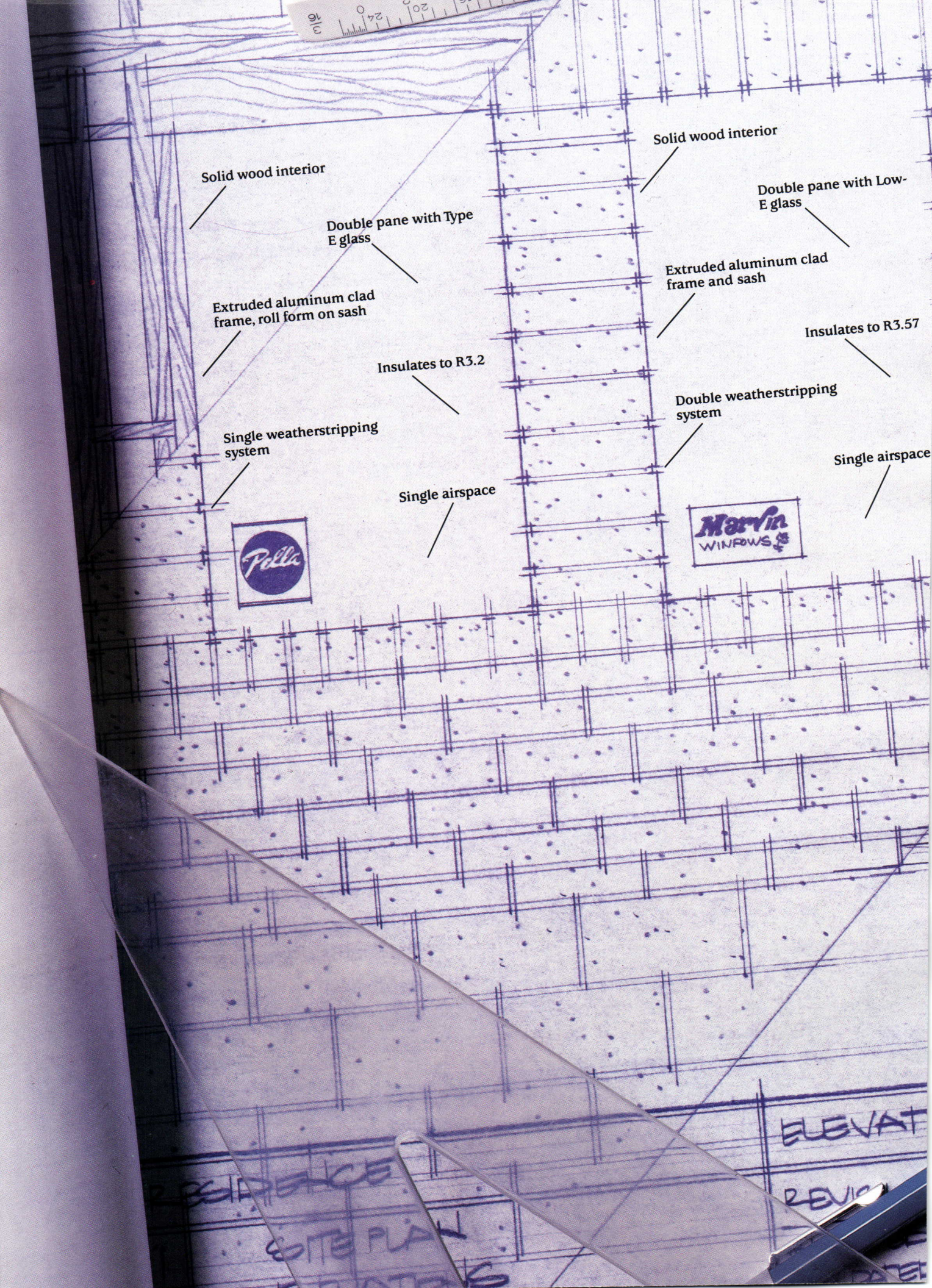
Decora colors

make every interior come alive. Matching or contrasting wallplates and rocker frames surround Decora devices with smooth sleek finishes.

The versatile Decora color selection includes Mahogany Brown, Ivory, White, Gray and Ebony.

LEVITON®

Which leading window gives you more to spec?


Solid wood interior
Double pane with Type E glass
Extruded aluminum clad frame, roll form on sash
Insulates to R3.2
Single weatherstripping system
Single airspace
Solid wood interior
Double pane with Low-E glass
Extruded aluminum clad frame and sash
Insulates to R3.57
Double weatherstripping system
Single airspace
Pella
Marvin WINDOWS
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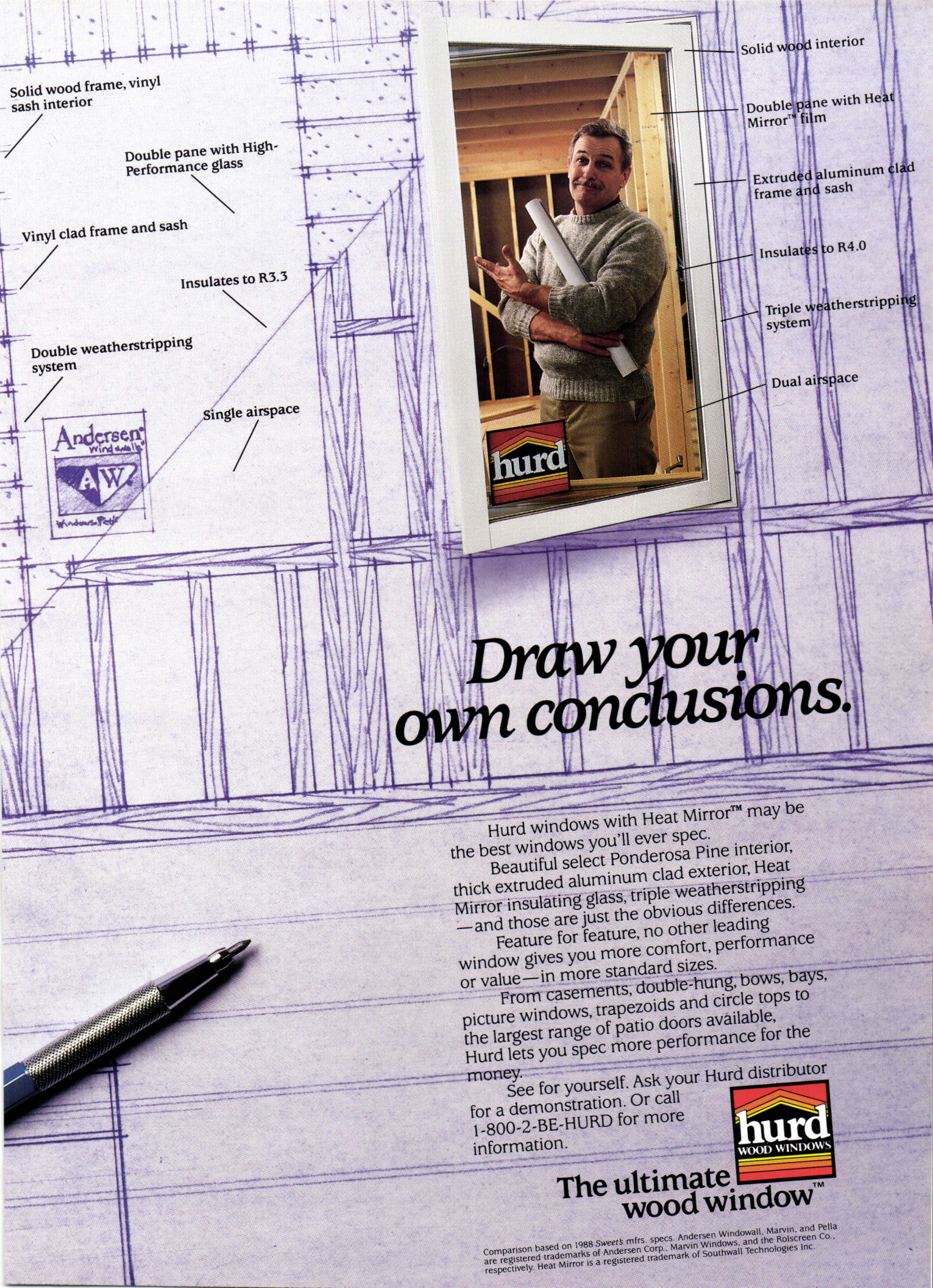

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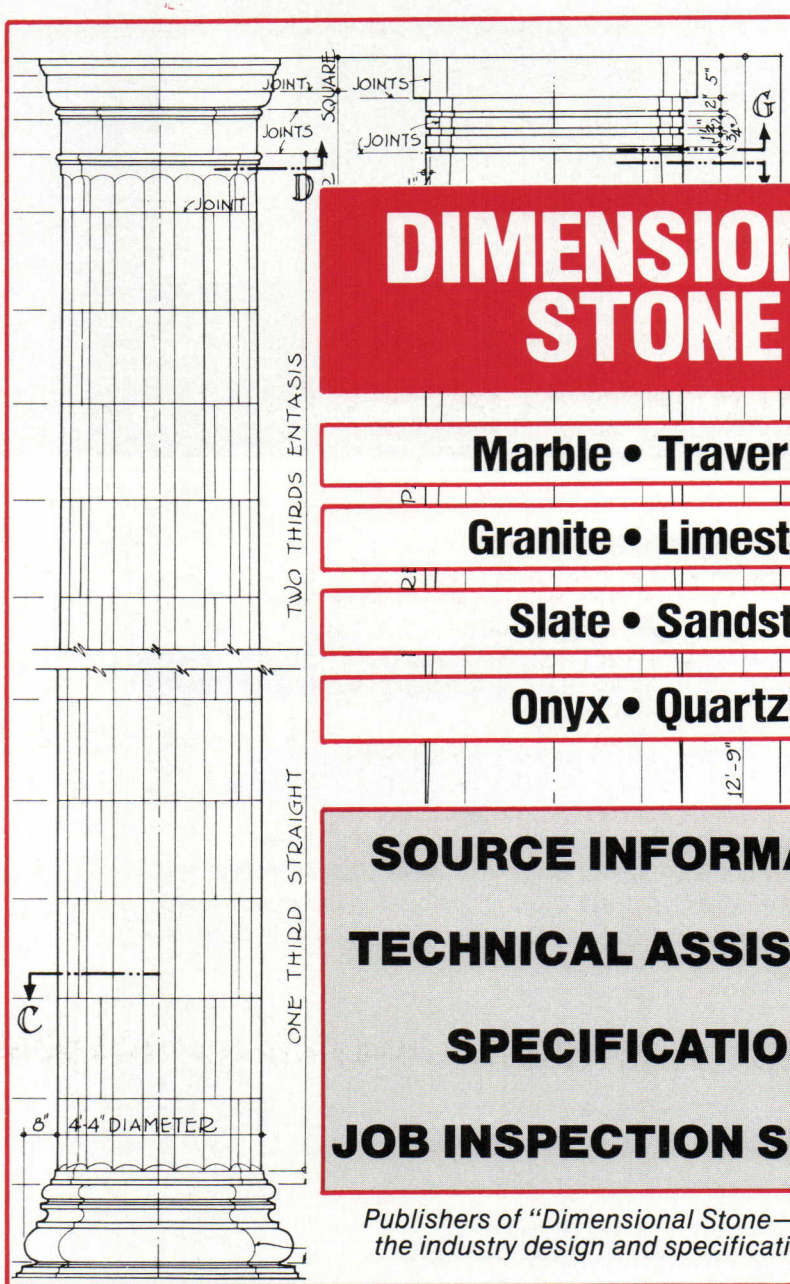

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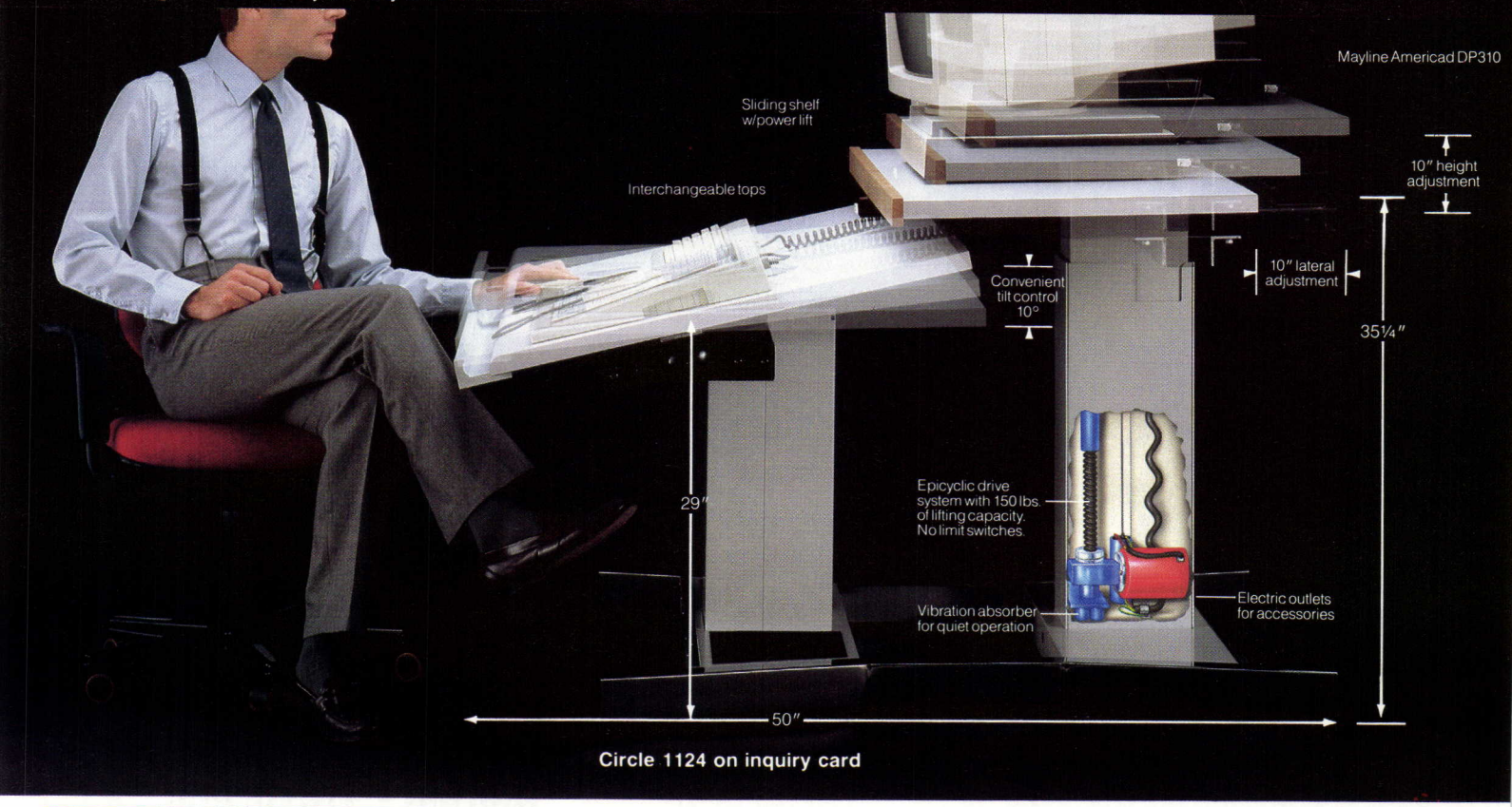

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Zimmer Gunsul Frasca Partnership, archt—Oregon Convention Center, Portland, OR—Jan. 1988, p. 39.

The Marketplace

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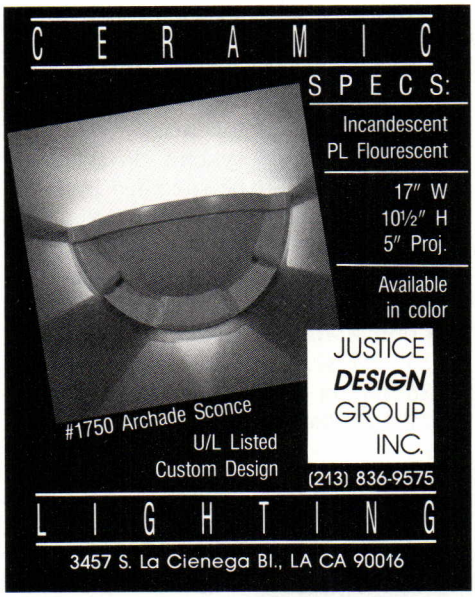

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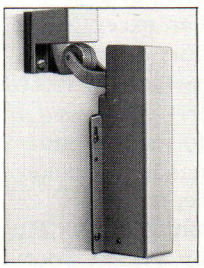

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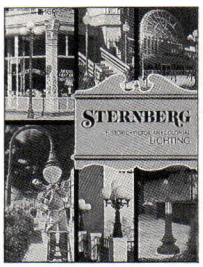

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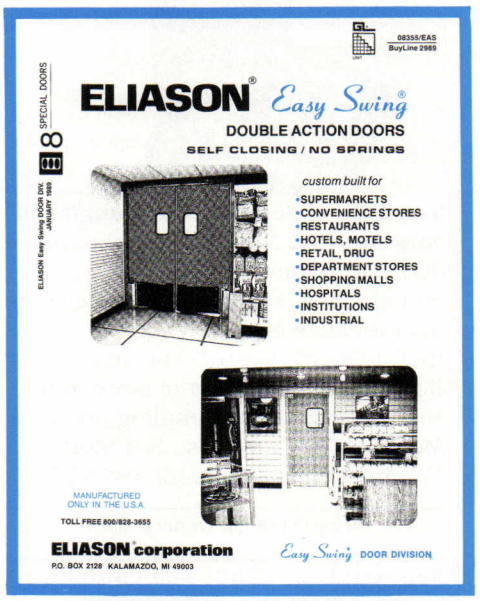

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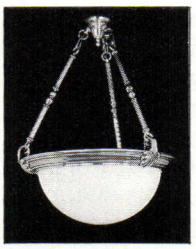

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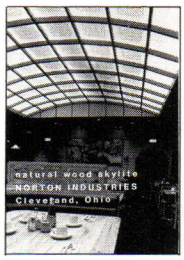

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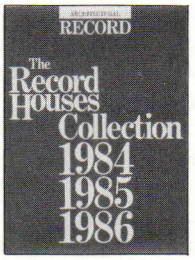

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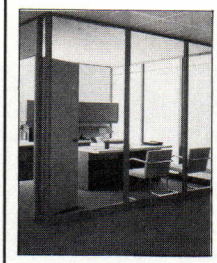

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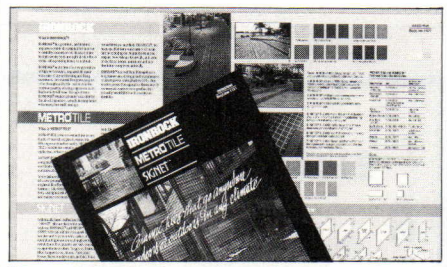

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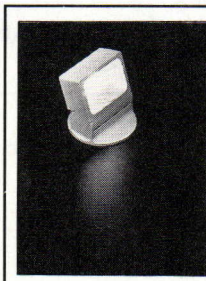

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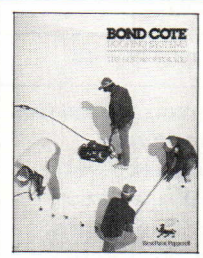

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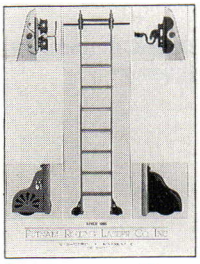

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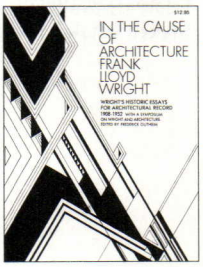

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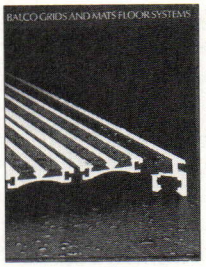

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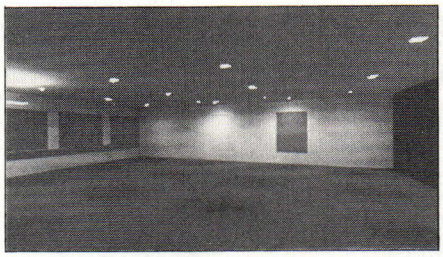

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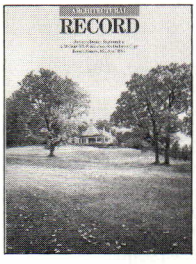

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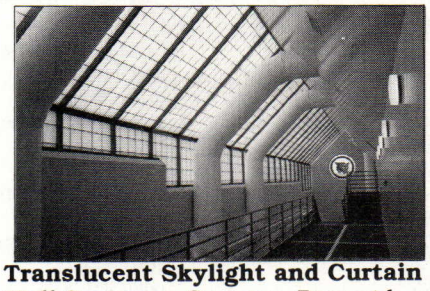

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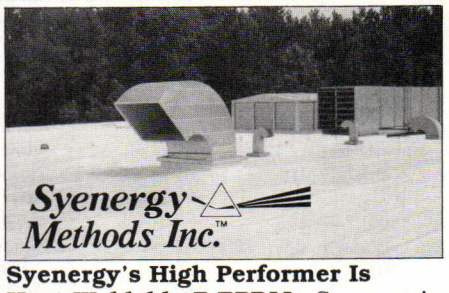

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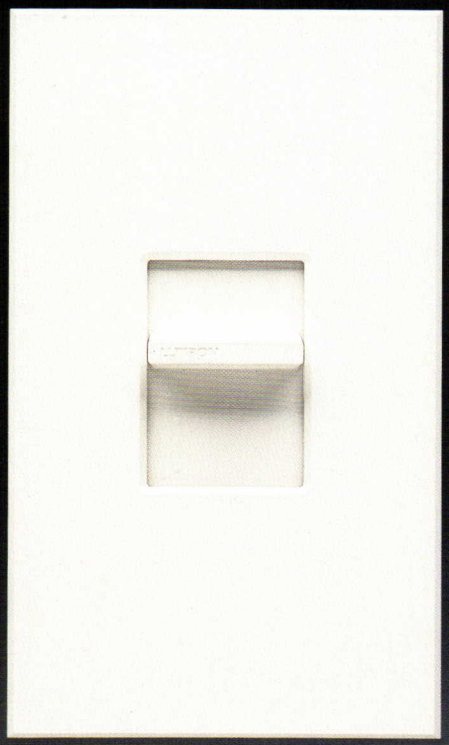

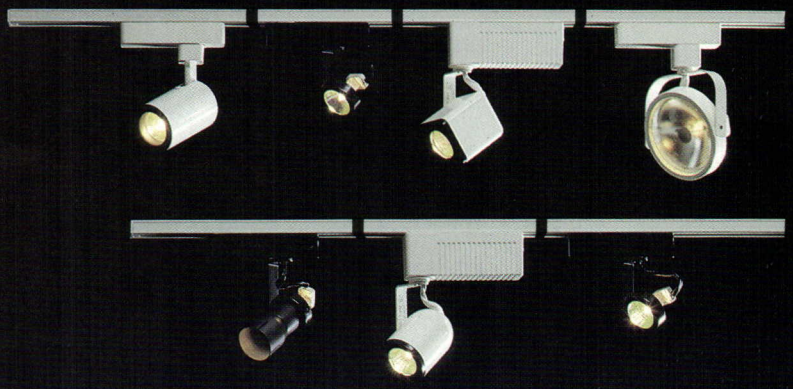

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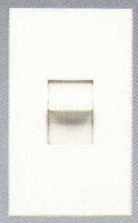

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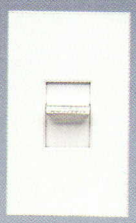

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