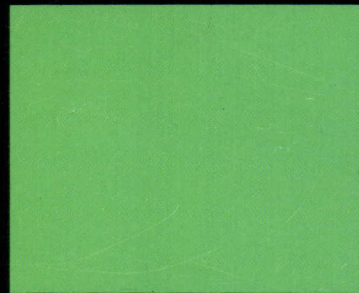
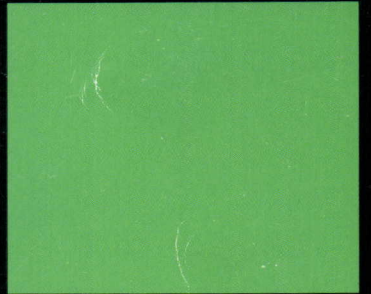
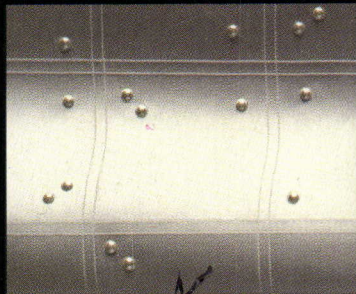
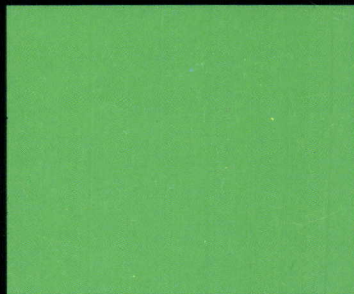
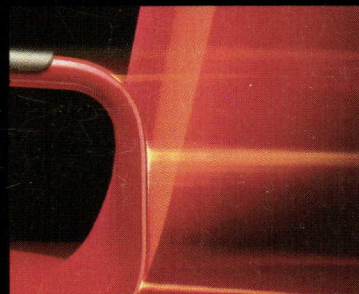
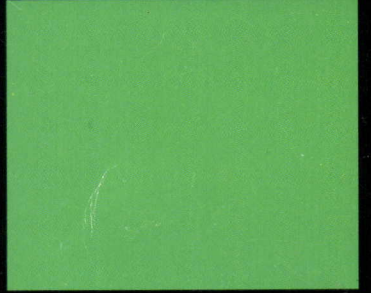
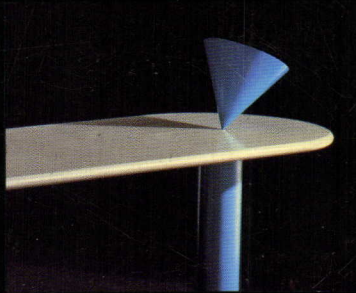
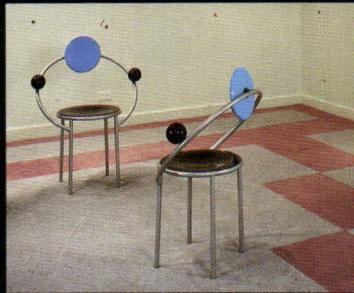
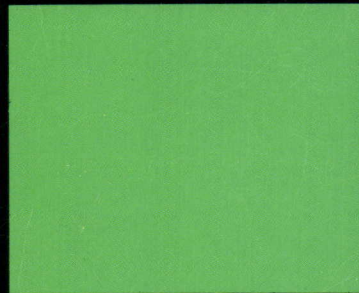
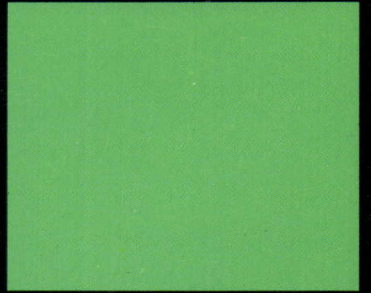
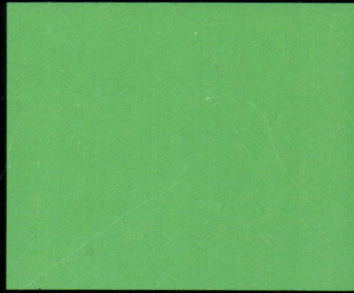
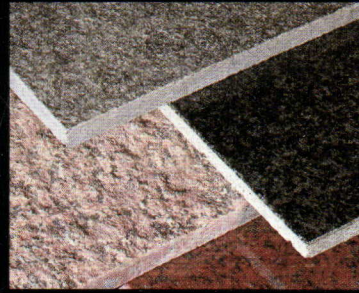
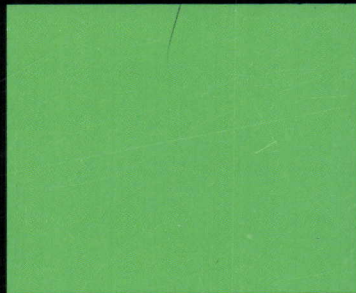


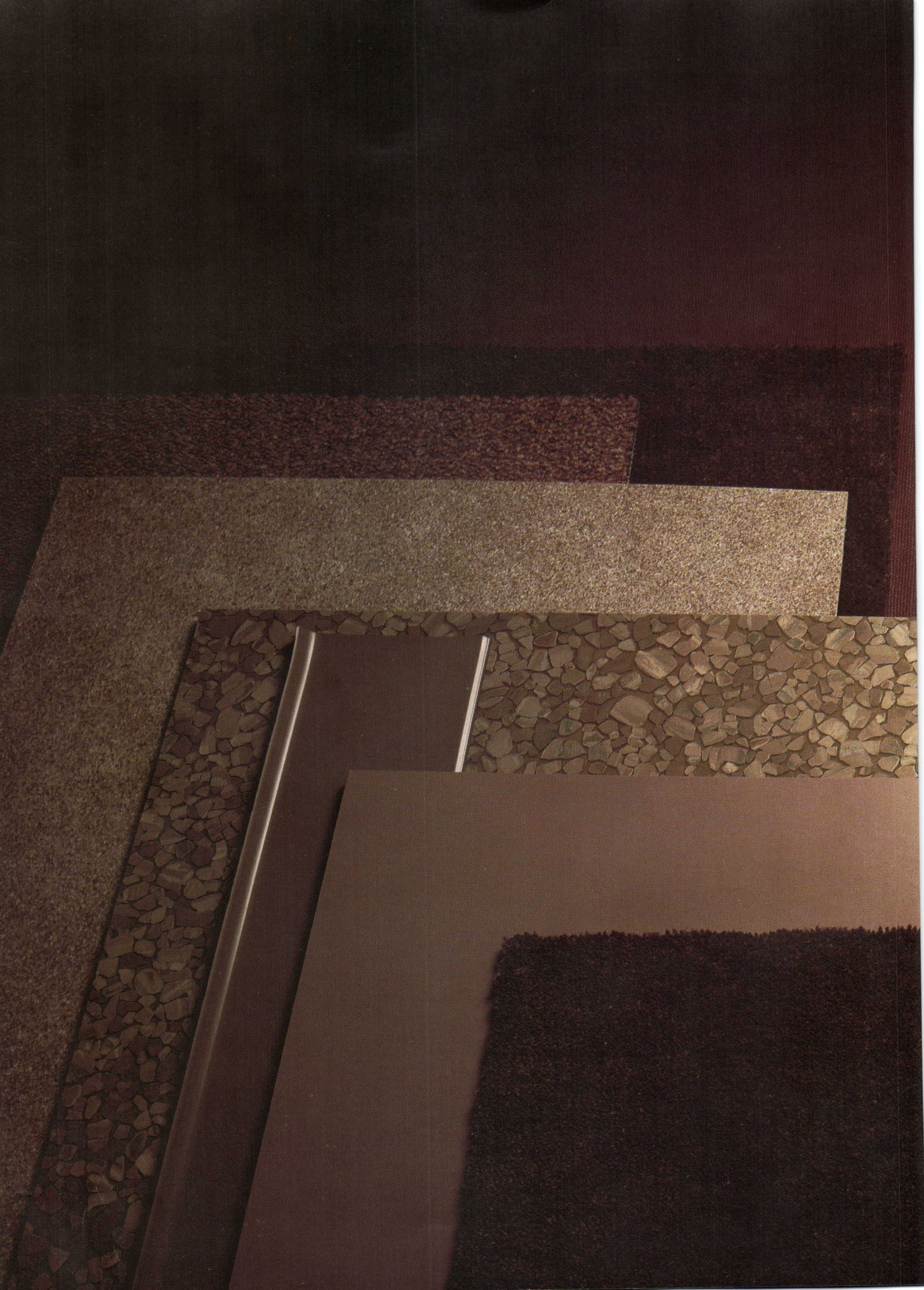
ARCHITECTURAL RECORD

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Product Reports
1986







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The choice of one of Hunter College's pedestrian bridges to register the point of deadened streetscapes in Sarah Williams's article [ARCHITECTURAL RECORD, September 1985, page 75] was a poor one. Worse still would have been a photograph of the skyways linking the multi-racial and multi-ethnic public college's new Lexington Avenue towers. The intersection of 68th and Lex remains one of the Manhattan East Side's busiest, in no small measure because of the school above and the subway station below.

New York City has not been overly generous in granting renewal franchises to cross public streets above or below grade. Medical institutions and educational complexes have been the prime beneficiaries, but such passages have also provided congestion-limiting access between department stores and their warehouses, between the New York Stock Exchange and its annex, and—one of the pre-Minneapolis cases—between the two Toy Center buildings [near Madison Square]. In fact, a long-closed bridge (closed at least to the public) links Gimbels and what was once Saks 34th (now Herald Square Center).

Ms. Williams does raise a serious point about block-straddling megastructures that is really independent of the skyways issue. Perhaps she'll write further on those.

Bruce Rosen
Forest Hills, New York

If you don't receive a raft of letters protesting Theodore Mularz's smug assessment of the licensing exam [RECORD, August 1985, page 53 et seq.], it is because this year's examinees are all still on the beach recovering from the annual ordeal.

While indicating that the "independent panel" of practitioners was critical of some aspects of the exam, Mularz proceeds to give us only the good news. My unscientific assessment (based on my own, friends', and co-workers' experience) is that the test is an irrelevant horror.

First, the testmakers are lazy. They devise questions that suit the multiple choice format, not the world of the practitioner. Question after question tests rote knowledge of frequently arcane terminology; yet, in spite of Mularz's assurance, relatively few questions require evaluation or analysis. Does anyone need to know off the top of his head what a Swiss Hammer Test is? Dozens of questions focus on requirements for the handicapped when such data are readily referenced in any office. One test required you to remember how many square feet are in an acre in

order to answer correctly a whole series of questions that followed.

Three of the nine test segments are on structures, yet few practitioners actually do the kinds of intricate calculations called for in the tests.

In the real world, countless building problems arise from cookbook solutions to complex situations, but the exam concentrates on memorization and the canned response. Even the design exams require solutions that have to be rapidly and completely documented under unbelievable time pressure rather than solutions that integrate diverse requirements inventively, as required in practice.

Mularz is relieved that passing rates for the current test don't differ substantially from the "old" test. Is a passing range of 41 to 48 percent for building design good? Thus, are more than half of the examinees incompetent? Or are they simply ground down by a grueling and largely irrelevant test? How does this rate compare with other kinds of professional examinations? With lawsuits and building problems proliferating, isn't it time to look a little closer at the registration exam?

James Russell
Philadelphia

P. S. I am a registered architect who passed the "old" exam in 1983 (in one try) and have since attempted, under the auspices of the local chapter of the AIA, to assist aspiring examinees to pass the current version.

Corrections

Coverage of the showroom for Esprit International (RECORD, mid-September 1985, pages 100-105) omitted credit to Mark Hulla, Barbara Callas and Frank Sun as members of the design team at D'Urso Design Inc.

The correct name of the mechanical/electrical engineers for the Ohio Theatre expansion (RECORD, September 1985, pages 114-119) is Environmental Systems Design, Inc. (ESD, Inc.)

The correct name of the energy consultants for the Recreational Arts Center, University of California at Berkeley (RECORD, September 1985, pages 90-95) is BETA, Building + Energy Consultants.

In RECORD's coverage of the State of Illinois Furniture Design Competition (September 1985, pages 62-63), the honorable mention chair designed by Tom Owensby of Naperville, Ill., was inadvertently omitted from the list of award winners.

Through January 2

Canada Collects: Contemporary Sculpture from the Art Bank, an exhibit of 25 sculptures selected from the permanent collection of the Canada Council Art Bank; at Washington Square, Washington, D. C. Under the auspices of the Public Art Trust, the exhibit will travel later to Pittsburgh, Atlanta, Dallas and San Diego.

Through January 3

Exhibition, *Beatrix Farrand's American Landscapes: Her Gardens and Campuses*; at the Gund Hall Gallery, Harvard University Graduate School of Design, Cambridge, Mass.

January 14 through March 2

Master Drawings from Titian to Picasso: Curtis O. Baer Collection, an exhibition organized by the High Museum of Art and the National Gallery; at Indianapolis Museum of Art.

January 16-17

Symposium, "Land Use Law for Planners and Lawyers," sponsored by Planners Training Service, American Institute of Certified Planners; at Santa Fe. The program will be repeated May 29-30 in Anchorage. For information: June McIntosh, American Institute of Certified Planners, 1313 E. 60th St., Chicago, Ill. 60637 (312/955-9100).

January 17-20

Convention, National Association of Home Builders; at Dallas. For information: National Association of Home Builders, 15th and M Sts., N. W., Washington, D. C. 20005 (202/822-0200).

January 29-31

CONDES '86, 13th annual design/contract show, with the over-all theme "Information That Works," at the World Trade Center, Dallas. For information: Deborah Eschenbacher, Dallas Market Center, 2100 Stemmons Freeway, Dallas, Tex. 75207 (214/655-6100).

February 5-7

Conference, "Design Management and the Computer," directed to management professionals in graphic design, communications and industrial design, sponsored by the Design Management Institute; at the Charles Hotel, Cambridge, Mass. For information: Susan Sandomirsky, Design Management Institute, 62 Huntington Ave., Boston, Mass. 02115 (617/232-4496).

February 29-29

MICAD '86, Third International Conference and Exhibition on CAD/CAM, sponsored by World Computer Graphics Association and MICADO; at the Palais des Congrès, Paris. For information: Caby C. Smith, World Computer Graphics Association, Suite #399, 2033 N St., N. W., Washington, D. C. 20036 (202/775-9556).

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A panel formed by the Department of Justice and headed by assistant attorney general Richard Willard will seek "legislative, regulatory, and litigious responses to the current crisis of the tort system," the legal system by which cases that allege wrongdoing by design professionals, among others, are pursued by those who would claim to be in some way damaged.

And indeed it is a crisis (see *Business News* last month). Willard is quoted by the American Consulting Engineers Council as saying that rising insurance premiums and even the refusal of brokers to insure at all could be solved by "a return to the view that tort law be based on real fault, rather than on searching for defendants with deep pockets."

Architects have become allied, in recent times, not only with other design professionals, but with such groups as doctors and accountants in efforts to find solutions. The ACEC is one of those groups of design professionals that have crossed traditional boundaries in their search for help. Half of its 51 member organizations have joined such state coalitions.

Addressing the ACEC in an October meeting in Colorado Springs, Willard cautioned against expecting quick fixes from the federal government to a problem that has reached unprecedented proportions. "It is important to keep in mind that the crisis of the tort system has been developing over many years and has many aspects. There is no panacea."

Willard reported that insurers recently suffered the worst underwriting losses since the San Francisco earthquake of 1906—\$21 billion—translating into "astronomical premium increases for all professionals and most companies." This year, the demand for coverage will exceed the insurance industry's capacity to provide it by about \$7 billion, and the shortfall is expected to total \$62 billion by 1987, he said.

Small firms are among the hardest hit: "Many underwriters are scrambling to drop small clients altogether. It is easier, less risky and more profitable to sell lots of insurance to a few big, stable customers," he observed. "Large

corporations also generate heftier premiums for less administrative work, and thus wield greater leverage with underwriters than small firms."

Separate from the problems of small companies in finding insurance are the problems of firms handling toxic waste cleanup: "The involved companies," Willard noted, "are faced with the disappearance of virtually all commercial liability insurance, because the insurers cannot measure the risk of potential lawsuits." A few well-established firms may still obtain such insurance, but at premiums quadruple those they once paid.

"Some serious cleanup jobs, usually the ones the public would like most to see cleaned up, cannot be undertaken by anyone because of the potential liability and corresponding lack of coverage," he said. He also cited the example of vaccine and drug manufacturers, and of accountants, doctors, engineers and other professionals.

Willard believes the country got into "this mess" because of the actions of "activist judges and tort lawyers who see no bounds to the ever-increasing expansion of tort liability." They use tort law not only to deter "undesirable conduct" but as a vehicle to "restructure society and give massive social insurance."

High on the list of problem areas is movement towards no-fault insurance, he said. Tort law is supposed to punish those who have done wrong by making them pay compensation to the victims but, increasingly, "tort law now punishes those who have done nothing wrong, simply because they often have the resources to compensate the unfortunate."

This trend is especially pronounced in the expansion of strict liability doctrines to include design defects and failure to warn, he said. "In the right situation," Willard noted, "it is a useful tool, but overzealous application has resulted in unreasonable damages."

Willard cited one case in which a plaintiff won more than \$1 million after claiming he suffered a heart attack while starting a lawn mower with a difficult starter rope. "Yet," said Willard, "had the rope been easier to pull, the company might have been liable for damages when

a child started the machine."

Other troubling developments are the "extraordinary increase" in the size of awards and the dramatic increase in the awards for punitive damages. Damage awards totaling over \$1 million escalated from one in 1962 to 360 in 1983, and average medical malpractice awards have grown from about \$200,000 to \$1 million in ten years. "While the frequency and size of punitive awards grow, the opposite should have been expected as tort moves away from fault."

In asbestos-related cases, Willard said, attorneys' contingency fees are a major cost-escalating factor. Studies by the Rand Corporation indicated a typical case ran to \$380,000, of which \$239,000 went for legal fees, "outstripping plaintiff compensation by nearly two to one," he noted.

"While the intellectual force driving this expansion of tort law is the desire to provide benefits to the unfortunate, the primary beneficiaries have not been the unfortunate—unless you count lawyers in that class."

Having government assume more of the burden and creating a new government bureaucracy is not the answer, Willard asserted. "We must attack this problem at its root by seeking to reform tort law. We must rein in the runaway tort system and its costs."

One important aspect would be to keep damage awards proportional to economic loss by placing a cap on awards for "intangible injuries" such as "pain and suffering" or "mental distress."

Willard said he was pleased that the U. S. Supreme Court recently refused to hear a challenge to a California statute that places a \$250,000 cap on awards for noneconomic losses in medical malpractice cases. "I believe this opens the door for other states to adopt a similar approach in all tort cases to limit noneconomic damages so that risk can be more easily evaluated and insured."

At the conclusion of the meeting, ACEC president Arnold Windman said: "We and the entire design community are absolutely delighted."

Peter Hoffmann, World News, Washington, D.C.

Cogeneration on the wane?

Easing energy prices and increased fuel availability, coupled with current proposals to do away with tax credits, could set back progress on the once promising production of steam and electricity through cogeneration—the conversion of heat produced as an industrial by-product. Large projects are expected to be especially affected. While industrial facilities may well continue to find it profitable to use

cogeneration for their own use, the major market that would have stimulated large-scale production of energy in this way—regional utility companies—is now not profitable because these companies do not pay the high rates they used to. And current energy tax credits will expire on December 31, with no expectation of renewal, and may be eliminated altogether under current tax-reform proposals.

Computers: Don't let your input walk out the door

An experienced attorney talks about protecting your designs, programs, and confidences from piracy by ex-employees—your rights and theirs

By C. Jaye Berger

A spate of recent interest in computer security—protecting the information and techniques users have developed and incorporated into their systems—testifies to the growth of a problem. Ideas for a solution range from keeping data in a vault (either private or owned by the system supplier) to a double log-on procedure with passwords or numbers that are not, as they usually are, easy to guess from numbers and words associated with a legitimate user's personal life. Of course, these remedies assume that the person or persons to worry about are not the legitimate users themselves. While raids can come from outside as well as inside an organization, Ms. Berger concentrates on those assaults from within. C. K. H.

As computer-aided design and drafting, along with automated general information retrieval, become increasingly commonplace in architectural and engineering offices, it is all the more important for employers and employees in such firms to be aware of the legal issues created by these systems' use. The employers must be on guard against potential abuses of and breaches in the security of the information their systems contain. And the operators, if employees, must know their rights—especially in instances when they are the authors of the computer programs being guarded. Much of what we must consider is equally applicable to key employees and freelance consultants who have access to important information stored in a design office's computer.

CAD systems, for example, are useful because of the ease with which an operator can draft large numbers of drawings, often with attendant specs, store them, and later make changes without having to re-do the drawings from scratch. It is this same ease, when we talk about pirating designs and the systems that produced them, that can create security problems when the wrong people have access to computers.

As we all know, working drawings are usually large and bulky, and are stored in big, unwieldy rolls, while the same amount of information on CAD can be stored in a neat, compact, and very portable disk or tape. Drawings which took hundreds of hours to put into a CAD system can be very easily duplicated and used in someone else's office in another location. It is for this reason that the security of these systems has become extremely important.

Ms. Berger is an attorney practicing in New York City.

Although the main issue in CAD is the protection of total designs from use by others, there is also the problem of individuals taking standard portions of drawings, such as stair details and using them on competitors' projects. And there is the issue of proprietary information, such as the design for a bank vault, that should be protected.

Balanced against owners' needs for security are the needs of young design-office employees, a mobile group, who often work for several firms in the course of their careers. Both employers and employees have very particular interests as a result of computers.

It is important to understand the legal issues, the ways to prevent the misuse of proprietary and confidential information, and the ways in which both employers and employees can protect their rights.

There are two basic issues an employer should cover in an employee contract

The first is to keep personnel who are proficient with computers from leaving—especially to competitors. The second is to ensure that, if personnel do leave, they do not take company secrets with them.

In the latter circumstance, there are two categories of information to protect. One is information, such as specifications, that took an operator many hours to put into a system and that could be instantly useful elsewhere. This information may not be secret, but would certainly save someone a lot of time if he had to create it from scratch. This category would also include, for instance, lists of suppliers—similarly not secret but a big time-saver for someone who does not have to create them. Still, that person could have gotten this information by himself; it just would have taken a lot longer. This information may be legally protectable but not worth extensive legal costs to do so.

The second type of information is secret or proprietary information, including trade secrets, such as a computer program that a design firm has developed that, if pirated, could cause considerable damage if competitors had it and were able to use it without the developing firm's knowledge or consent.

But not all new programs may be worth such considerable efforts to protect: Occasionally, an employee may develop commands that speed up the number of steps required to do something. Although this information is very useful, any skilled user could probably figure it out without too much difficulty. Such an employee would be in demand, not for secrets possessed, but for his skill on a computer.

There are other instances, however, in which a user may develop a whole new program. This is the area in which both employers and employees should be most careful to protect their interests.

The most usual way in which proprietary information is disseminated is through either employees or independent consultants. Accordingly, an employer should have contracts with those employees and consultants who have access to his systems.

Effective contracts with employees and outside consultants and, when necessary, enforcement of these contracts, will help ensure that a design firm's secrets remain secret. Employees will also be protected because they can negotiate the scope of what will or will not be covered within their contract.

To define more closely what should be protected, let's look at trade secrets

A trade secret is "any formula, pattern, device or compilation of information that is used in one's business and that gives the owner an opportunity to obtain an advantage over competitors who do not have access."

In proving a trade secret in a courtroom, there are a number of factors that are usually considered and which employers should use as guidelines for setting up or improving their internal computer security systems. These factors are:

- Whether this information is known outside of the owner's business. In other words, it must be something unusual. If, for example, you draft standard specifications for a door on your CAD system, and every licensed architect knows how to do this, they may just be common knowledge and therefore not secret.
 - The extent to which employees and others in your business know about this information. If you have not made any effort to keep the information a secret, then perhaps you did not *intend* for it to be secret. Thus, it is important to have an established security system.
 - The value of the information to your company and your competitors. The test is similar to the one for the first factor: The information must be special and not just something anyone can figure out in a short period of time.
 - The measures taken by your company to keep the information safe. The test is similar to the one for the second factor. If you can show that you had a security system in your office, this lends greater weight to your argument that you intended that the information remain secret.
- Continued*

• The ease or difficulty of duplication by others. This would involve showing how much time, effort, and possibly even money went into developing the information or program.

In a situation in which you are suing your competitor, you would want to show how the competitor acquired the information. The fact that your CAD operator went to work in your competitor's office may obviously be a significant factor for your case.

Who owns it, if, in fact, an employee has developed a program himself?

Since CAD systems haven't been around all that long, it is difficult to conceive of all their possible uses and the types of programs which may be created for them. It is possible, however, that a particularly skilled CAD operator in your office will develop a new program.

This situation raises the question of who owns this program—the employer or the employee. Regardless of who owns it, remember that these programs and drawings should have copyrights to ensure that all your rights and remedies are protected.

Generally, copyright ownership rests with the author. However, ownership can be transferred to another person. In the case of work done by an employee or "work for hire," the employer or other person for whom the work was prepared is considered the author, unless the parties agree otherwise.

From the employer's point of view, it is important to adequately describe the work, as well as the fact that it is work being done within the scope of employment and that it is for hire. In addition, the employer must exercise control, and direct or supervise the employee's work. If these provisions are not carefully drafted and followed in practice, a court may find that the work was done outside the scope of the employee's job and that he is the author for copyright purposes.

An extreme end result would be a situation in which an employer has to pay his employee for the use of a program that was developed on the employer's time and in his office. For instance, a draftsman who occasionally does computer programming in the office is still a draftsman, and the programming would probably be viewed as being outside the scope of his employment, unless otherwise provided in a written contract. If an employer wants to retain ownership of all work done in his office, this must be specifically spelled out—cast in stone, as it were—in a written agreement.

What other issues should be covered by an employment agreement?

Employers may want to have employment agreements with only some key computer-operator employees. There should always be a contract with outside consultants. One of the most important provisions in an employee agreement is a proprietary covenant made by the employee. The employee promises in such a covenant not to disclose to any unauthorized person any information identified in the agreement as proprietary. It is important to adequately describe in such agreements what is proprietary, since areas not described may fall outside of the agreement and not be protected.

The agreement should contain a provision in which the employee acknowledges that such information is proprietary and that he or she understands that breaching this agreement may result in having to pay the employer damages. A similar provision can be drafted for a shareholder or principal in an organization to the effect that the individual promises not to take any confidential or secret information and use it for a period of time, or at all, after leaving a firm.

Another clause which can be used in such agreements is one restricting the employee from working for a direct competitor for a specific period of time after leaving the contracting company. Employees may also be contractually restricted from doing freelance computer work for other companies.

These clauses often restrict the geographic area in which an employee may work after leaving employment. Obviously the need for such a clause will be determined by the nature of the firm's practice.

But be careful. The key to having such a clause stand up to legal scrutiny is not to make it too restrictive. If you are going to limit someone's employment opportunities, then you are probably going to have to pay the employee's salary during this time as well. Restrictive covenants should be drafted by an attorney, lest they result in claims by an employee of involuntary servitude.

Covenants such as these can be used to protect trade secrets as well as just confidential information. Your legal rights are much stronger if all issues are incorporated into a written agreement. Discussing these issues with an employee in the course of the negotiation of that agreement will help both sides to understand each other and prevent future problems without recourse to legal enforcement.

Having an employee agreement is half the battle, but what happens if it must be enforced?

The most common legal way to invoke restrictive covenants is an injunction that blocks an employee suspected of giving information away or a competitor from using it. If an employer can meet the criteria for a court to grant a preliminary injunction, it can usually be obtained rather quickly. The criteria is that the potential problem be of such magnitude and time be so critical that unless the employee is immediately prevented from using protected information, the damage will be such that money alone will not be sufficient compensation.

Specifically, the test for a preliminary injunction is that the plaintiff show:

- A substantial probability of success at trial.
- Irreparable injury if the injunction is denied.

These actions are usually brought against employees who have had legitimate access to information and have left to go to work for a competitor or in competition with their former employer.

Also, patent and copyright infringement actions may be appropriate, depending on the circumstances. But these tend to focus on the technical aspects of the protected information; they therefore require expert testimony and cost more money to pursue.

Employers must know that accusing a former employee of disclosing a trade secret or revealing confidential information is a serious matter. It could, if not properly substantiated, subject the employer to a defamation action. Of course, if the employer's statements are proven true, he cannot be found liable for defamation.

The cases in which preliminary injunctions have been granted are those in which there has been compensation or legal consideration for the noncompete period, in which there was protected information in fact, and in which the covenant was not too broad.

As in every legal pursuit, there will have to be substantiation; records are all-important

Architectural firms should have controls, in addition to contracts with employees, to restrict and guard against the unauthorized disclosure of information by employees. This will not only prevent breaches in security, but will lessen the likelihood of a legal action against an employee.

Security systems should include:

- In-house rules for employees working on computers;
- Records of the number of copies of disks and tapes;
- A record of the names of all

individuals with access to systems;

- A duplicate set of disks which are kept in a safe place, such as a bank vault, off the premises;

- A tape made every evening of the work done that day, which is also kept in a safe place;

- A daily log of who is using systems, with sign-in and sign-out sheets. There should be a daily inventory check to see that the disks and tapes have been returned to wherever they are stored;

- Depending on the level of secrecy needed, the personnel having access to systems should be limited;

- The systems themselves should be in one location and linked to a main computer, if possible, so that the operators are only using workstations and cannot delete or change drawings stored in the main computer;

- Firms can limit one individual's access to the entire set of drawings for a project. For example, an individual may only be allowed to work with mechanical drawings, while another can only work on electrical. This inhibits the possibility of an individual taking a copy of all the drawings for a project;

- In general, terminals should be located in an out-of-the-way-floor area to avoid the possibility of visitors inadvertently gaining access.

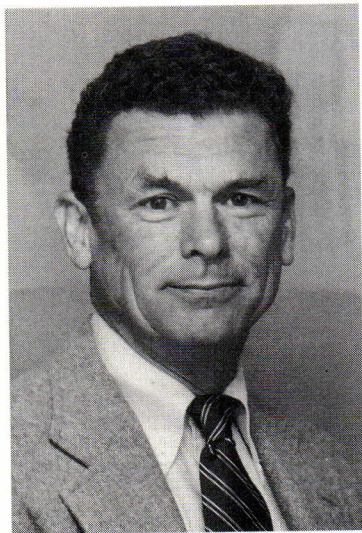
This is by no means an exhaustive list of security measures. The measures will vary, depending on the particular office and how its systems are set up. Offices with one system will not have the same potential security problems as offices with 20 workstations, of which some are linked and others are independent. The important point is to begin to think about security programs in the design office.

If employers and employees begin now to consider the security issues created by systems, there will be fewer bad feelings and less to worry about in the future. Negotiating an employment agreement gives both employers and employees an opportunity to express their concerns before any problems arise.

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Architectural education: An open letter to intern-architects

By William Wiese II



Architectural practice, as you know, has changed dramatically over the past five years. Computers are commonplace in the office. Fast tracking, design-build, and construction management are now familiar terms to us and to our clients. Whole new businesses have sprung up to provide seminars on how to deal with the many changes taking place. Our clients expect more and more services of a higher quality—and all to be done in less and less time. These same clients want specific cost proposals for the work they want done, and they often solicit competitive proposals from several architects. So it is clear that we architects must not only improve our creative architectural skills but also become more efficient professionals and better business managers.

I have sketched here the world in which you find yourself starting your architectural career. Your timing could not have been better. There is so much to learn, and almost all of it will probably be made easier by techniques and equipment that did not exist when today's established practitioners were getting started. IDP might very well be the key through which you can gain access to these vital new components of practice. Without this key, such access may be extremely difficult to acquire.

Let me assume that you are reasonably familiar with IDP and the fourteen areas of work experience which make up the program (see box). I would like you to consider some of my thoughts on how you may interest your employer in IDP, how you may encourage him/her to offer it to you, and how it may help to expand your horizons.

Architects, as I noted above, must now work in a very competitive marketplace. The competition today, as always, is based primarily on the quality of our product. In addition, however, our clients have expanded the base for competition to include the cost of our services. Recognizing this development, it is clear that the cost of training intern-architects cannot be passed on to our clients.

How, then, can the practicing architect make IDP available? As a practical matter, it can only be done with the fullest cooperation from you, the intern-architect. It requires your understanding of the problems your employer is up against.

Quite likely, your first assignment in an office will be in the production of architectural working drawings under the guidance of an experienced production person. You probably will not get much relief from that position for several months. If you came to the office right out of school, you probably will work

At the recent end of his term as co-chairman of the Intern Development Program Coordinating Committee, Bill Wiese offered the following gentle and sensible advice in the IDP newsletter—which we relay here as food-for-thought for both interns and practitioners

about a year before you become economically productive to the firm. Given this limitation, you cannot expect your firm, at its sole expense, to involve you in activities that will simply add to the overhead.

But this is not to say that you cannot expand your opportunities to gain experience. If you are resourceful and willing to spend some of your free time, there are things you can do. I cannot imagine, for example, that management would object if you asked to borrow a set of specifications written around one of the projects on which you have worked so that you could study it over the weekend. You will certainly learn a lot more about the product and a great deal about the relationship of the specifications to the drawings.

Similarly, I doubt that anyone in the firm would object if you went out to the job site to see a project on which you may have worked. Most contractors start work early in the morning before your office opens. Of course, you must get the contractor's okay to let you do this, if not on an early morning then maybe on the weekend when, in fact, you could spend more time looking at the work.

Most offices have copies of the *AIA Handbook of Professional Practice*. You could ask someone in the office if you could borrow it for the weekend to study the contract forms, change order forms, schedules, and all the other administrative forms and procedures which it contains. The idea is to lay your hands on resource materials that you may study on your own time. Following this strategy of self-help brings to your employer's attention the fact that you are interested and motivated, that you want to learn as quickly as possible, and that the more quickly you learn, the more productive you will be to the firm.

Sometime during your internship, you will want to participate in discussions with clients, engineers, and contractors. You may want to be an observer at an interview or a presentation. I can assure you that in most firms, those who have shown a desire to learn, and who have established themselves, will naturally find and participate in such opportunities. You must understand, though, that until you gain proficiency in your assigned activities, the time you may take in the beginning to do other things probably cannot be charged to the client; the office may have to absorb the expense.

If such situations arise, you should recognize them for what they are. You might volunteer to make up the time. I believe such an offer would make a deep and favorable impression on your

employer, who might then better appreciate your interest in gaining a balanced training experience.

My point is that in this new era of professional practice, there is little financial latitude, and that if IDP is to work it must be pursued as a cooperative arrangement between you and your employer. If you expect to receive the unusual opportunities that come with IDP, you must be prepared to earn them through an unusual effort to be productive in the office, as well as to learn on your own time.

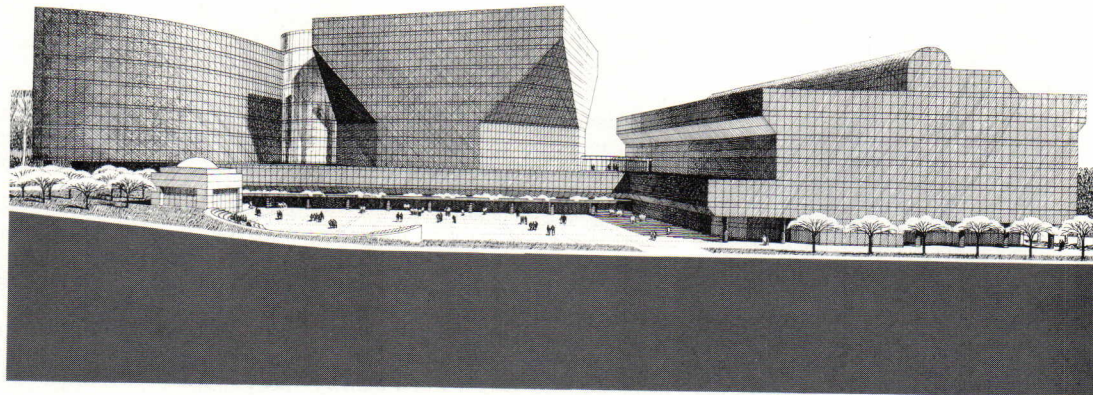
I feel sure that when you ask for IDP in your firm—and make clear your awareness that you are willing to balance opportunity with extra effort—you will find yourself talking to a very interested employer. And when the opportunity to participate in IDP does come, it is worthwhile to understand that a business or a professional office thrives on creative energy and hard work, and what you put into your organization is quite likely to balance with what you get out of it.

To complete the IDP program, the intern must obtain a minimum (yet meaningful) exposure in the following 14 areas:

- Programming and client contact
- Site and environmental analysis
- Schematic design
- Building costs analysis
- Code research
- Design development
- Construction documents
- Specifications and materials research
- Documents checking and coordination
- Bidding and contract negotiation
- Construction phase (office)
- Construction phase (observation)
- Office procedures
- Professional activities

William Wiese II, AIA, is recent past NCARB co-chairman of the national IDP Coordinating Committee and past secretary of NCARB. He is currently a member of the NCARB Architectural Registration Exam Administration and Methodologies Committee. He is also a principal of Freeman, French, Freeman, Architects of Burlington, Vermont.

West Hollywood's Blue Whale to spawn a colorful offspring

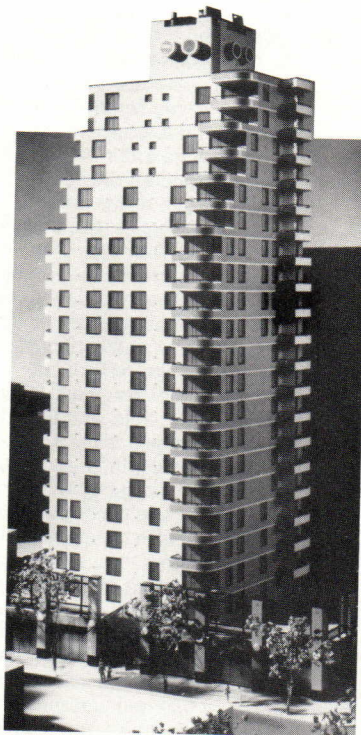


Back in May of 1984, RECORD reported on an expansion proposal for the Pacific Design Center that comprised three light-blue hexagonal towers designed by Gruen Associates. "Disappointingly conservative" was our judgment at the time, an opinion that seemed fair given the vigorous architecture of Cesar Pelli's landmark Blue Whale and the project's importance to the West Coast design

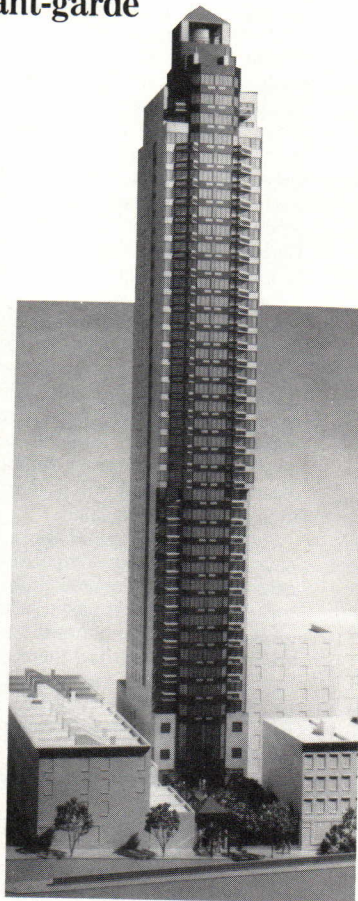
community. The powers-that-be at the PDC apparently agreed: After scrapping the original scheme, they reunited Pelli with his former Los Angeles practice, and together the two firms have come up with a proposal, shown above, that exhibits a considerable degree of panache. The new plan incorporates 825,000 square feet of showroom space in two new buildings (left in rendering) that will rise from a blue

glass base. The first structure, an eight-story cantilevered tower topped by a domed skylight, will be clad in green glass; the second, by contrast, will be gently curving and sheathed in maroon glass. Pelli has characterized the project as a "large-scale sculpture," and he notes optimistically that the individual fragments "will all come together in what will be a handsome and beautiful complex of forms."

Apartments for the avant-garde



In Manhattan's overheated real-estate climate, condominium developers are pulling out all the stops to attract potential buyers. A case in point is a pair of new towers being marketed as the first buildings in the United States inspired by Italy's Memphis movement, the collaboration of Milanese artists whose innovations in colors, volumes, and textures have had a major impact on



European furniture design. The two towers, dubbed Memphis Downtown (left) and Memphis Uptown (right), will feature colorful brick facades in "classic Memphis patterns" and "Memphis-styled" interior furnishings. Architects are the (usually) un-Memphis firms of Rothzeit, Kaiserman, Thomson and Bee (downtown) and The Gruzen Partnership, with Abraham Rothenberg Associates (uptown).

Competition calendar

- The Architectural League of New York seeks entries from architects out of school 10 years or less to its annual Young Architects forum and competition. This year's theme is "Behind Closed Doors." Selected designs will be exhibited at the Urban Center in New York, and winning entrants will present their work at a series of lectures this spring. Entry deadline is February 1. For details contact Betsy Feeley, The Architectural League, 457 Madison Ave., New York, N. Y. 10022 (212/753-1722).

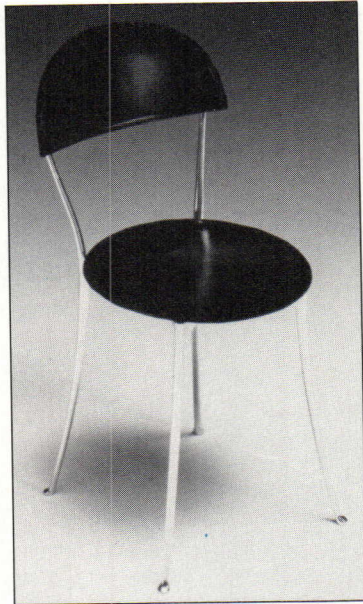
- In a competition for interior design and architecture students, Dupont seeks contract interior projects that utilize the company's Antron nylon carpeting. Cash awards will be given to the winners and their schools. Entry deadline is January 31. For details contact Dupont Antron Student Design Awards, Box 5509, Grand Central Station, New York, N. Y. 10017.

- Robert Morry, Inc., and the Institute of Business Designers seek entries to a student competition for the design of a hypothetical floor of an office building in San Francisco. Prizes totaling \$3,000 will be awarded to three winners. Entry deadline is January 6. For information contact Christina Hatfield, Robert Morry, Inc., 310 Seventh St., San Francisco, Calif. 94103 (415/861-1166).

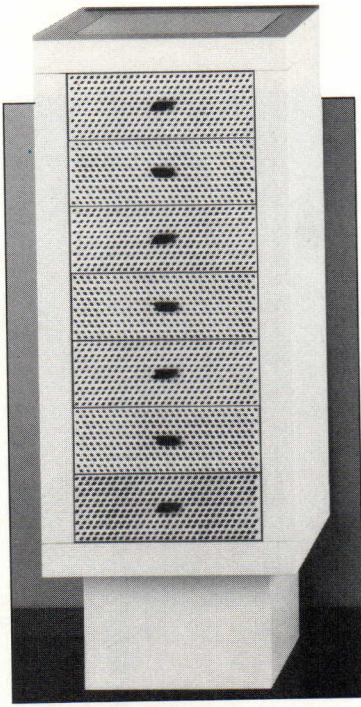
The nearly 40,000 foreigners who traveled to Milan in late September for the 25th Salone Del Mobile Italiano—better known as The Milan Furniture Fair—came for a variety of reasons. Although this year's 2,050 exhibitors were all Italian (in 1984 the 2,149 exhibitors were from a total of 25 countries), they still drew over 150,000 visitors. American designers, buyers, and representatives of contract furnishing manufacturers came not only to visit their European colleagues and assess the foreign scene, but also to find new products to bring back to the United States. Considering that Americans for years have associated "Made In Italy" with sophisticated design, and given that the vast marketplace here is a potential gold mine for Italian firms, the match of Italian product and American market should be a happy one. But due to each nation's different motivating forces, the marriage has been, by and large, unfulfilling.

Some of those attending the Fair view the difference between the furnishings industries in Italy and the United States as the difference between market-driven and design-driven approaches. "In Italy the designer is responsible for the idea, and the manufacturer is responsible for making it," observed Leonard Pate, an industrial designer and consultant to Herman Miller. "Once a designer's reputation is established, the companies he works with perpetuate a supportive environment and, because of their respect for this *architetto*, they will often invest in projects that might not make good business sense." Achille Castiglioni's *Stylos* floor lamp for Flos represents such an endeavor. The nearly 6-foot-high column is made from acrylic, and—rumor had it—those on display during the Fair were poured by the 67-year-old Milanese master himself. By this method clearly only a limited quantity can be produced. "But in Italy an idea is less precious, and a company can produce five or six of them a year—a much quicker pace than the typical design-development cycle in the United States," continued Pate. Zanotta, for example, promotes a pantheon of designers, including Castiglioni, Gae Aulenti, and Enzo Mari, and does not limit its introductions to the work of just one. Several American companies—including ICF, which buys from Zanotta, and Atelier International, which is closely tied to Cassina and carries Arteluce and its parent company Flos—make these products available in this country and in so doing have helped to disseminate Italian design.

The work of other notables turned up at the Fair, at times in



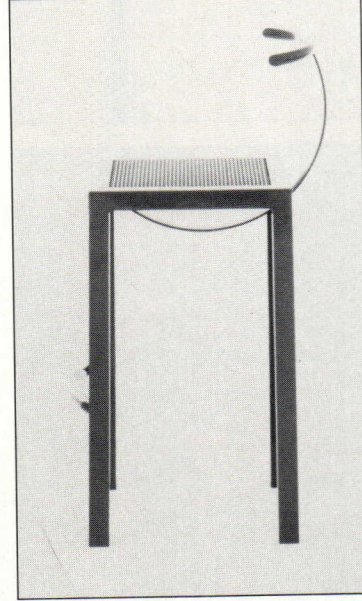
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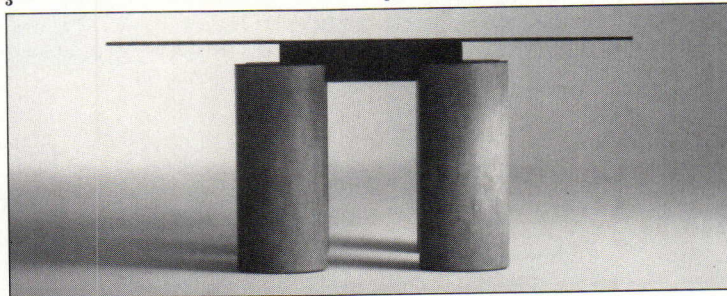
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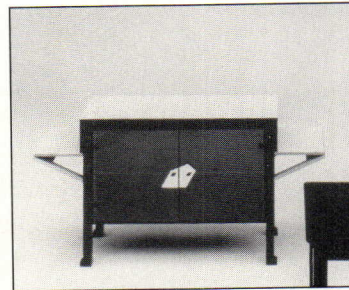
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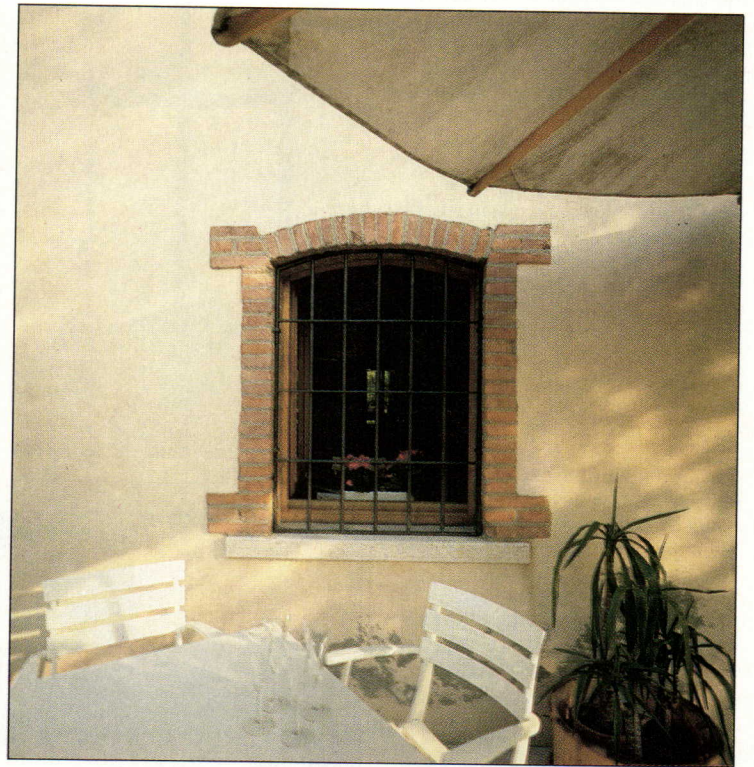
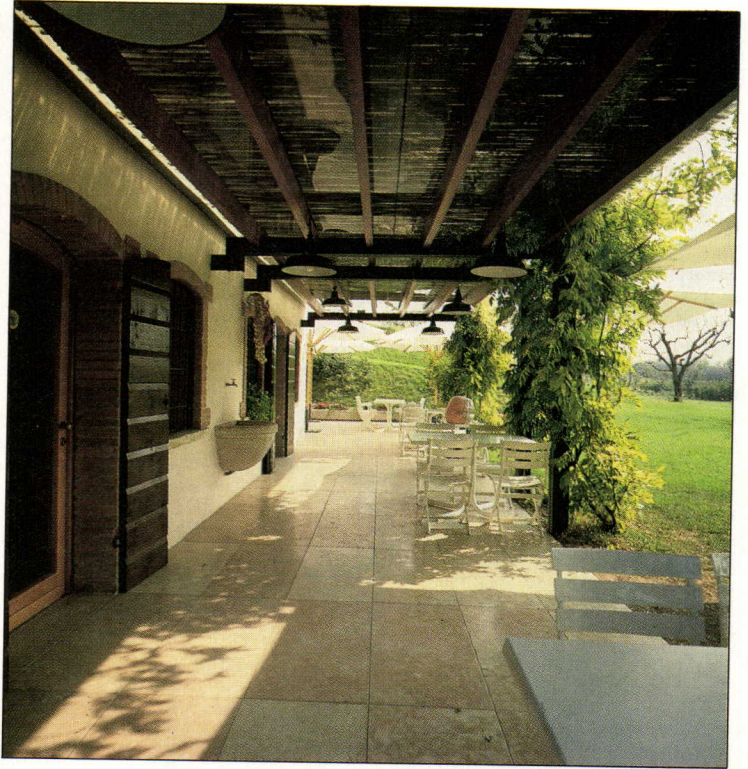
unusual places. Swiss architect Mario Botta, whose furniture designs have been featured in the United States by ICF for several years, has now created a lighting line for Artemide. *Enfant terrible* Philippe Starck, who designs for an assortment of European manufacturers, thus allowing no firm to call him its very own, was on hand to unveil several new items for Driade. Ex-Memphis designer Matteo Thun introduced furniture and lighting collections for Bieffeplast, while several of his former colleagues displayed their newest, and in some cases most perplexing, items at the opening of their new Via Monzoni showroom. Lella and Massimo Vignelli, as well-known in the United States as in their homeland, designed with associate David Law a glass-top conference table with stuccoed metal legs that was on display at Acerbis International.

Beyond the confines of the Fair itself, which this year also included the 10th Euroluce International Lighting Exhibition and the 3rd International Exhibit of Office Furniture, individual galleries had previews of their own. The German company Rosenthal, best-known for its china and glassware, introduced its first furnishings collection with items by Vico Magistretti and the Vignellis. Zabro featured the Nuova Alchimia line of almost-art items by former *Domus* editor Alessandro Mendini, Andrea Branzi, and others. And the gallery of silversmith Lino Sabattini displayed carefully crafted re-editions of Charles Rennie Mackintosh's silverware, bowls, and vases.

Those who came to Milan to see the best of Italian design were also confronted—as is the case in most trade shows—with a sampling of the worst. In the end, all the unbelievably garish items that made up a significant portion of the Fair and prompted a disbelieving "this stuff is still being made?" do hold their own allure. For as Memphis's first experiments revealed some five years ago, what appears as "bad" taste to some can teach others quite a bit about "good" taste. *K. D. S.*

1. Zanotta: Tonietta chair, Enzo Mari.
2. Bieffeplast: Container system, Matteo Thun.
3. Driade: Mickville chair/table, Philippe Starck.
4. Driade: Sarapis chair, Philippe Starck.
5. Acerbis International: Serenissimo table, Lella Vignelli, Massimo Vignelli, and David Law.
6. Pallucco: Gambaluca table legs, Luca Leonori.
7. Poltronova: Carton cabinet, Franco Raggi.

Sergio Anelli



Renovation of the 19th-century farmhouse dubbed La Casa di Papi began in 1976 and was completed in April 1985. In addition to refurbishing the extant building tissue, new materials were introduced such as reinforced concrete window frames and exposed structural steel (see overhang, upper right, and bridge at first level, opposite page, lower photo).

Stones of Verona

For 23 years the Marmomacc trade show has been held outside Verona in Saint Ambrogio. Fine marbles, granites, travertines, and pietras from Italy are on display, as well as stones from around the world imported to Italy to be cut. The fair offers a splendid opportunity to compare an almost overwhelming variety of stone now available to architects, and to survey the latest technologies for fabricating and installing the material. In contrast to the international character of the fair, the city of Verona itself presents a rich exhibition of locally quarried stone that traces the evolution of regional styles and techniques from classical times. I was curious to learn how Veronese architects currently use their stone, which led me to La Casa di Papi. This 19th-century farmhouse-turned-conference center has a kitchen and dining area that can accommodate as many as 100 guests, as well as an orchard, a vineyard, herb and vegetable gardens that supply the kitchen. It is also a residence for nine members of the extended Goldoni family. An interesting blend of past and present, the new installations incorporate some of Verona's most time-honored building materials.

Pietra di prun is a variety of stone found only in the region. For centuries, it has been used both as a paving stone (the streets and courtyards of Verona are covered with it) and for buildings (for example, the Romanesque Basilica of S. Zeno Maggiore). Although a number of fine marbles and granites are also actively quarried in the area, Alfonso Bonetti and Guiseppa Caloi, partners in Professionisti Riuniti and architects of restoration, prefer *pietra di prun*. For them, *pietra di prun* is the quintessential stone of Verona. Soft in color, sensitive to warm light, marked by irregularities in patterning, they describe the stone as "tender." At La Casa di Papi, they used the stone sparingly but with great effect.

Like all natural stone, *pietra di prun* takes on different textures and tones depending upon the finish given to its surface. At La Casa di Papi, it was used in its polished form as a flooring material both inside, in the ground level rooms and outside for a walkway and a patio that skirts the building on three sides (see photos at left and lower right). The architects exploited the textural possibilities of the material in the detailing of stairs. As seen in the left two photographs on page 31, stones have been carved into a chunky bullnose held within the span of the step. To further mark the bullnosed width as a tread within the step, that area has been overlaid with a bush-hammered surface. Simple, eloquent, functional, the steps at once express the weight, plasticity, texture, and tone of *pietra di prun*.

The architects also incorporated local stone in a surprising way on the interior walls and ceilings of the building, using a basic technique virtually unknown in North America. Here, finely ground and powdered stone, selected for its color, was worked into the final layer of plaster. The architects developed the plastering methods with the assistance of a master craftsman primarily devoted to the restoration of frescoes. The walls of the conference room (page 31, lower right illustration) were treated with a marbelized plaster called *impasto*, composed of milk-of-slaked-lime, finely-ground marble dust, white cement and polyvinyl resins. To make the surface, the mixture is spread with a metal trowel over a coarse plaster substrate. After the *impasto* has been built up, it is troweled forcefully again in all directions. The heat generated by this action enables the brilliance of the *impasto* to shine through. A similarly glossy, but translucent finish for the dining room fireplace was obtained by using an encaustic technique (see page 30). In this method, a mixture of finely ground gesso extracted from local stone, natural clay pigments, portions of cellulose glue, polyvinyl resins, pure heated oil, and unpurified wax is applied to a plaster base in three successive applications. Then, it is energetically worked in all directions until the surface becomes hard and shiny. The hand-crafted techniques using local materials produce beautiful surfaces throughout and greatly contribute to the charm of this rustic retreat in northern Italy. *Darl Rastorfer*



One of the most striking materials introduced at the farmhouse during restoration was a locally-quarried stone, *pietra di prun*. The stone was used outside to pave a walkway and a patio that wraps around the building on three sides, (opposite page and above). Inside *pietra di prun* was also used as a flooring material and for the sensitively detailed stairs (overleaf).

In addition to dimensional stone, finely-ground stone was incorporated into the final plaster layers for texture and color. The upper portion of the dining room fireplace (below) is finished with an encaustic technique that results in a glossy, translucent surface. The walls and ceiling of the dining room and major sections of the exterior walls are coated with a tincture composed of milk-of-slacked-lime

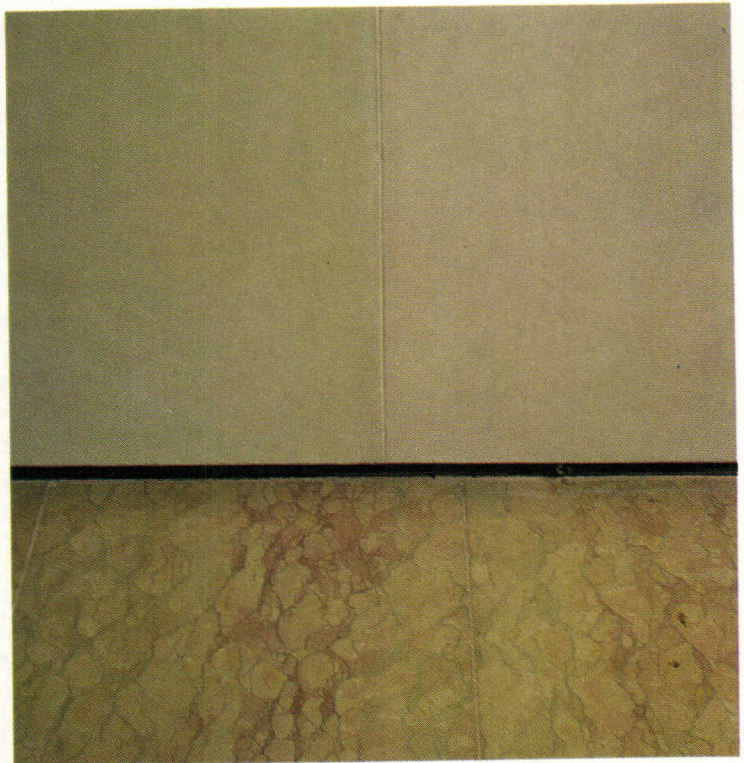
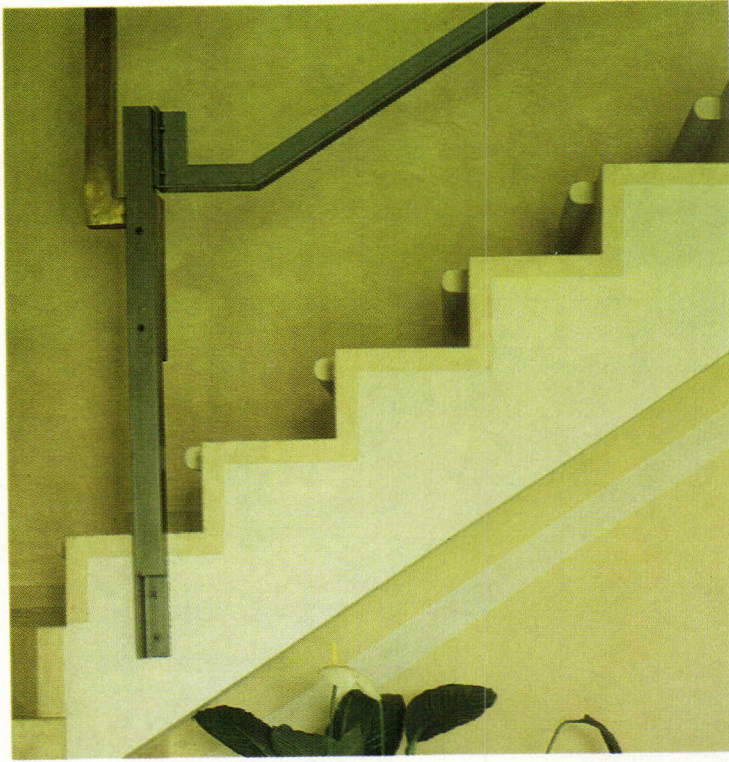
and pigments from natural clays. The conference room walls (opposite page, lower right) were done with an impasto plastering technique that results in a uniform, marbelized surface. Subtle variations in tone were obtained with pulverized stones of different colors.

Nearly all the dimensional stone used in the renovation is pietra di prun, with one exception: the conference room floor is polished

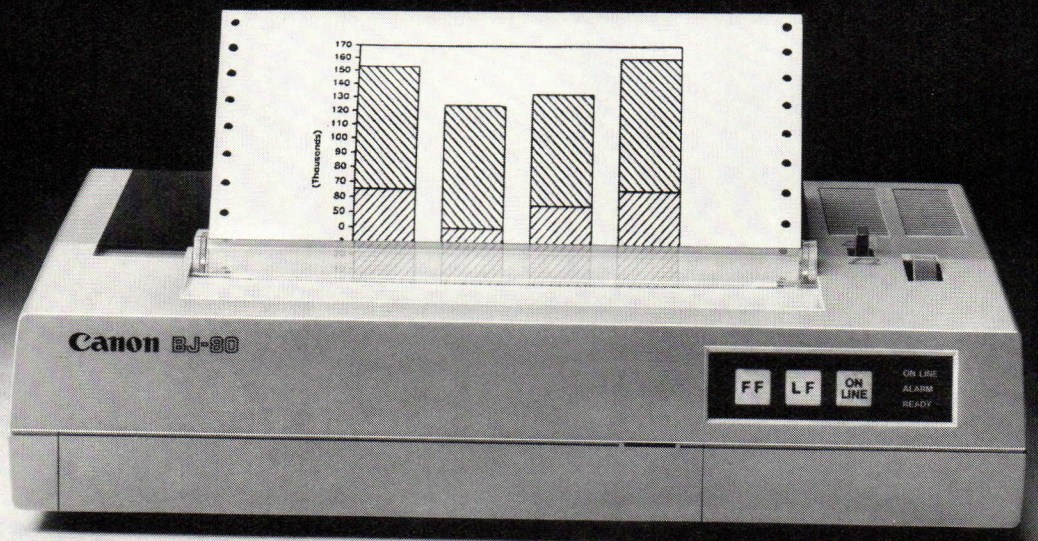


nembro rosato, also a stone of Verona (see below, lower right). In selected areas of the floor paving and on the stair treads, the stone has been bush-hammered (see below, upper right and lower left) which introduces variation in the texture and tone of the stone from that of a polished surface, demonstrating the inherent richness of the natural material.

La Casa di Papi
Lazise, Italy
Owner:
Mr. Roberto and Mrs. Papi Goldoni
Architects:
Professionisti Riuniti—
Alfonso Bonetti, design; Giuseppe Caloi, engineering



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Product Reports 1986

A survey of quality

The first time we published our annual *Product Reports* issue, back in October 1972, we organized it within the familiar 16-division Uniform Construction Index (UCI) format that we have used ever since. Thus it is easy to compare the content of this year's issue (our 14th) with all that has gone before, noting patterns of change and development. Apart from the not surprising increase in the number of entries in the computers and information systems category, a review of this year's products reveals little else of quantitative significance. There have, however, been notable qualitative improvements. Importantly, as you might expect, manufacturers continue to improve their products to meet the standards of the architect specifier and the needs of the marketplace.

The manufacturers of glass, insulation, air-conditioning equipment and lighting, for example, continue to focus upon energy conservation. Methods of thermal and moisture protection have improved in part through the development of new materials, but also through inventive uses of existing materials. The technology of pre-assembled structures becomes ever more sophisticated as manufacturers continue to find better ways to assemble air-handling mechanisms, partitions, lighting, ceilings and access floors into integrated packages. A look at interior finishes reveals a greater variety of materials, colors, patterns and textures than were available only a few years ago. Access flooring systems now offer a wider range of surfacing materials and more varied load-bearing capacities. Modular, interchangeable furniture systems continue to be improved or newly invented, some of them designed to store and conceal communication cables and power lines. Wonderful new chairs have appeared as older modern classics are re-introduced to the market. (A too short and random list, as you will discover as you study this issue's products for yourselves.)

Karen Stein, editor-in-charge of *Product Reports 1986*, chose a total of 720 products from over 3,600 submitted. She corresponded with 3,750 manufacturers, approximately 900 of which sent in an average of four products each. To inquire about any product or literature item, use either the Reader Service cards or your STAC card, the latter being particularly useful should you need a reply at once. Last year's *Product Reports* drew a total of 851,767 inquiries, each one promptly matched by a manufacturer's response. Such a precedent makes us hope that you readers will (collectively) make 1,000,000 inquiries this year and receive 1,000,000 replies. We try to be useful. *M. F. S.*

Ask for America's finest drafting room furniture and equipment by name... **MAYLINE**



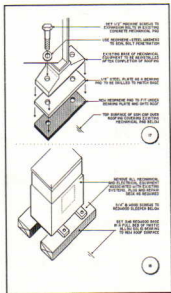
Mayline Company, Inc., 619 N. Commerce Street, Sheboygan, WI 53081
Circle 1019 on inquiry card

1 Office Equipment

UCI 1, Office equipment:
Computers
Information systems
Instruction manuals
Maintenance/operational
equipment
Office machines
Office supplies
Reproduction equipment



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1 Workstation

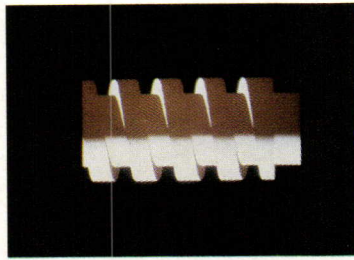
The *Artech 217* desktop graphics workstation consists of four components: a 14-in. monochrome video display unit; a system processor with over 2 mb of memory; a keyboard and numeric pad; and a graphics tablet and electronic stylus. Skok Systems, Inc., Cambridge, Mass.

2 Software

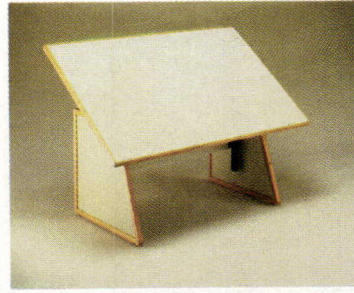
The *Artech* software document system utilizes a library of architectural symbols, details, fixtures, and specifications to create construction drawings. The drawings are generated from predrawn software files and documents that are accessible through the Macintosh computer. Go, San Francisco.

3 Expandable CADD system

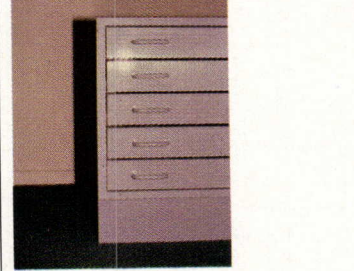
The *Sigma IIIa* turnkey system incorporates a stand-alone Motorola *M68010* microprocessor, the Unix operating system, and CADD software. The hardware includes a graphics monitor; a keyboard, joystick, and push-button menu; and a tablet with stylus. The software package also provides project management capabilities. Sigma Design, Inc., Englewood, Colo.



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4 Solid modeling system

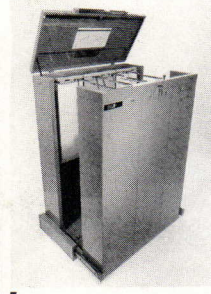
The *SynthaVision-CADAM* solid modeling system allows the user to design in three dimensions. The design can be displayed as a monochrome wire frame, or as a wire frame in multiple colors with or without hidden lines. Finished drawings can be created by adding dimensions and additional necessary information. Mathematical Applications Group, Inc., Elmsford, N. Y.

5 Drafting table

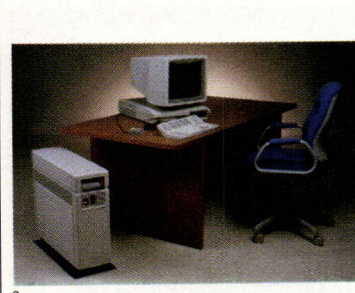
The manufacturer's new drafting table has a solid oak frame and ivory-colored melamine surfaces. The 37 1/2-in. by 60-in. table has a height adjustment of up to 9 in. and a board tilt of up to 70 deg. Charrette Corp., Woburn, Mass.

6 Flat file

A line of flat files made of high-density, smooth-finish particle board is available for 24-in. by 36-in. and 30-in. by 42-in. sheet sizes. The hardboard drawer bottoms operate on lubricated runs. The files can be specified in custom colors. Pacific Filing Concept, Atascadero, Calif.



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7 Vertical file

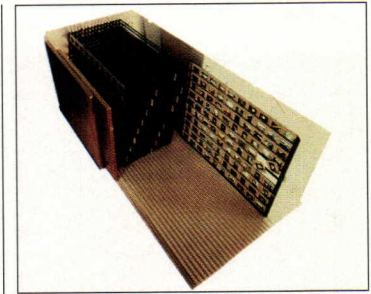
A French-made vertical filing system can store 800 to 1,200 drawings, depending on their thickness. Selector bars facilitate drawing storage and retrieval. The unit can be locked and is said to maintain a dust-free interior. Flax Artist Materials, San Francisco.

8 Entry-level graphics system

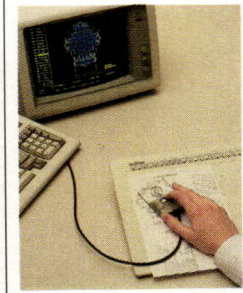
The *A/E Micro II* graphics system consists of a data-processing system, the *IntroPro 32* workstation, and A/E software. Supporting up to four workstations, the data-processing system features 5 mb main memory, two 140 mb disk drives, and 100 mb of 1/2-in. cartridge tape for archival storage. The *InterPro 32* workstation offers 2 mb of memory and built-in fixed and floppy disk drives. Intergraph Corp., Huntsville, Ala.

9 Project management system

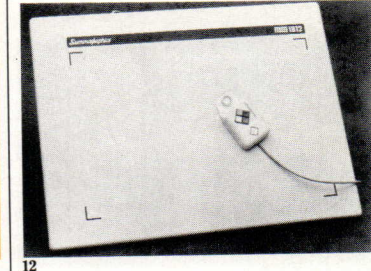
The manufacturer's *PMS-11* system can be used to create project management graphs and reports. The critical path network analyzer and scheduling package has a menu-driven mode of operation, and is said to be capable of managing up to 2,750 activities per project. North America Mica, Inc., San Diego.



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10 Slide storage

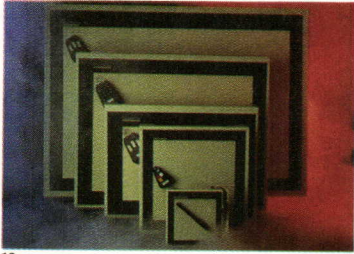
The *Abodia* line of slide storage and viewing systems feature pull-out storage racks and illuminated viewing panels. A slide-in magnifier that fits into the cabinet is available. Elden Enterprises, Inc., Charleston, W. Va.

11 CAD system

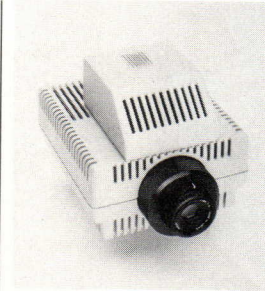
The *DataCAD2* two-dimensional computer-aided design and drafting system runs in color and is available with several screen resolutions. The menu-driven system allows the user to select commands from the screen with the mouse or with the function keys, and the drawing commands can create lines, circles, arcs, and free-form shapes. Microtecture Corp., Charlottesville, Va.

12 Digitizer

The new *MM 1812* digitizer employs electromagnetic technology to provide up to 1,016 points of resolution per inch on an 18-in. by 12-in. active area. The digitizer features mouse capability, and it comes with a solid-state pen-tip stylus. Summagraphics Corp., Fairfield, Conn.



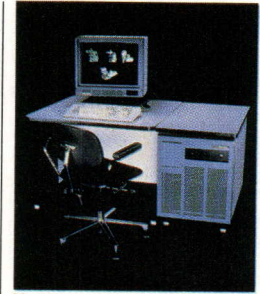
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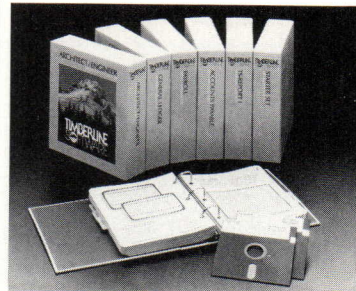
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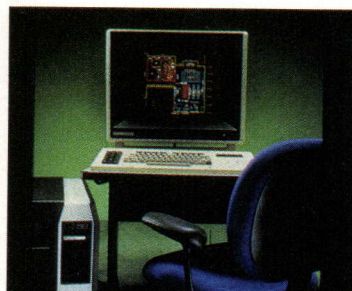
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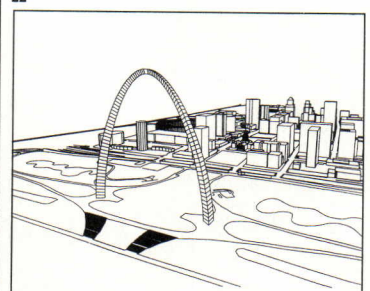
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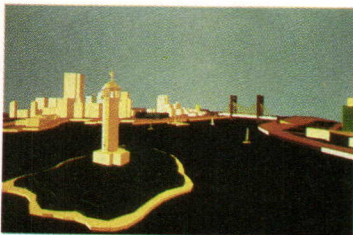
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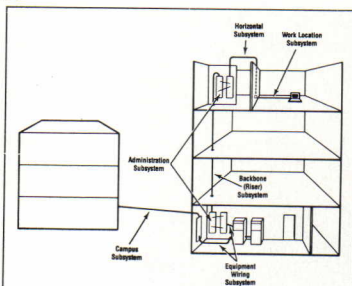
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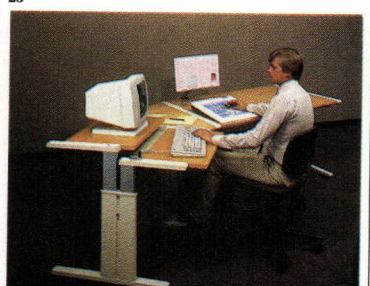
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13 Digitizers

The manufacturer's new *True Grid* digitizers are designed for mechanical, electrical, surveying, mapping, and architectural applications. The digitizers feature a resolution of .001 in. and an accuracy of .01 in. Houston Instrument, Austin, Tex.

14 CAD system

The *RUCAPS* CAD system produces construction drawings from a single three-dimensional model. The single model is said to ensure drawing coordination, since once changes are made to the model all subsequent drawings reflect that change. GMWComputers, Inc., Seattle.

15 Software

Arview design and modeling software can be used to create three-dimensional models of a single structure or an entire city block. The models can be rotated through 360 deg with viewpoints positioned at ground level or in the air. Hard copies of the models can be generated. Skok Systems, Inc., Cambridge, Mass.

16 Digitizing camera

The new *Model 620* digitizing camera has a resolution of 3,456 by 4,472, 8-bit picture elements. Scan times range from under 40 seconds per frame in the continuous mode to practically indefinite in the incremental mode. The *Model 620F* is available with a built-in focus and framing aid. Datacopy Corp., Mountain View, Calif.

17 Project management software

Apex software includes project management, general ledger, payroll, accounts payable, and custom report generator modules. The software is designed for use by small- to medium-size architectural and engineering firms, and runs on the IBM PC. Timberline Systems, Inc., Portland, Ore.

18 Light table

The manufacturer's new *Forester Lite* light table has a removable light box that can be used independently of the table base. Air vents in the back and bottom of the box provide necessary cooling. The table is available with optional front storage compartments. Mayline Co., Inc., Sheboygan, Wis.

19 Lettering system

The *Merlin Jr* lettering system is said to produce high-quality type on adhesive-backed tape. Each type disk is available in a variety of sizes and type styles, and includes 101 upper and lower case letters, numbers, and symbols. Varitronic Systems, Inc., Eden Prairie, Minn.

20 Graphics workstation

The *AGW/50* graphics workstation runs the manufacturer's advance graphics software and a range of packages for architectural, engineering, construction, and mechanical applications. Each system contains its own 32-bit processor. Auto-trol Technology Corp., Denver.

21 Distribution system

PDS is a voice, data, graphics, and video communications distribution system. The system includes cables, adapters, electronics, and protective devices, and uses fiber-optic cable and twisted-pair copper wires. AT&T, Morristown, N. J.

22 Display system

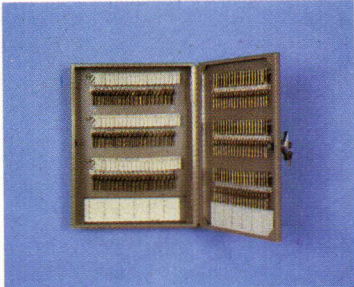
The *CX 1536* display system features 500,000 transformed vectors per second and 1,536 by 1,152 viewable resolution. Designed for mapping, simulation, animation, and solid modeling applications, the system can support a range of input and output devices. Chromatics, Inc., Tucker, Ga.

23 CAD system

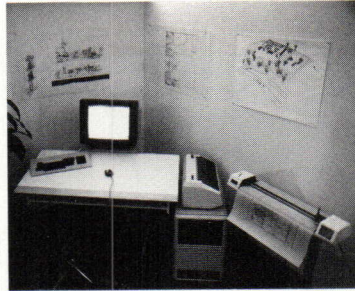
HOK Draw is a three-dimensional computer-aided design and drafting system that creates computer models of the user's drawings. System features include switching between two- and three-dimensional views; the ability to work in plan, section, or elevation; the construction of wire frame and shaded models; pan and zoom capabilities; and circle, arc, and line generation. HOK/CSC, St. Louis.

24 Workstation

The *Americad-101* workstation, intended for drafting applications and finite element analysis, comes with a hard disk, a tape drive, color graphics, and a communications modem. System peripherals include a digitizer and a plotter. Group Socomet, Inc., Los Angeles.



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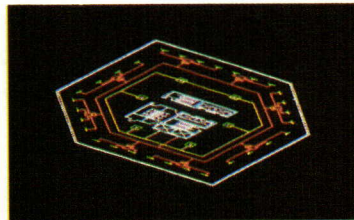
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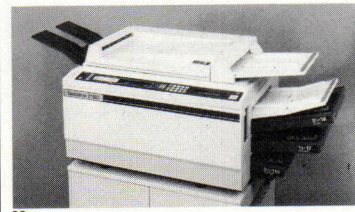
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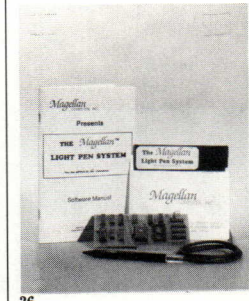
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25 Key cabinet

The manufacturer's 20-gauge steel key cabinet can hold between 60 and 240 individual keys. The cabinet has continuous piano-type hinges and a lock built into the handles, and is 19 7/8 in. high, 15 in. wide, and 5 3/8 in. deep. Ke-Master, Media, Pa.

26 CAD system

The *GEOCAD* drafting system uses a computer with full-color graphics, 640K of RAM, and one floppy and one 20 mb internal hard disk. The application package contains approximately 800 menu commands and architectural and engineering symbols. *GEOCAD*, Inc., Pound Ridge, N. Y.

27 Hvac software

The manufacturer's *HVAC* design and drafting system can be used to create heating, ventilating, and air-conditioning construction documents. Piping systems for hot, chilled, or domestic water and gas, sprinkler, waste, and vent lines can also be created. Customizing capabilities allow the software to be tailored to specific user requirements. Auto-trol Technology Corp., Denver.

28 Turnkey system

Graph/Net includes a personal mainframe computer; a workstation; and space and interiors planning, layered working drawings, and three-dimensional perspective simulation software. The system also includes a high-resolution graphics screen and a digitizing tablet. Graphic Horizons, Inc., Cambridge, Mass.

29 Computerized lettering

The *Graphix 4B* computerized lettering system can automatically prespace and align layouts, scale an entire layout for approval or archiving, and fit a layout into a given space. Plug-in program modules allow users to add new capabilities to the system. Gerber Scientific Products, Inc., Manchester, Conn.

30 Product information system

The dual-screen *Showroom Online* search system can be used to store and retrieve product images and information. One screen displays an image of the product while the other screen lists detailed product descriptions. Products can be accessed by type, manufacturer name, features, or price range. *Showroom Online*, New York City.

31 Drawing bag

The manufacturer's drawing bag is constructed of 11-oz, water-repellent nylon and leather, and is designed to carry standard-size rolled drawings. The bag comes with an adjustable shoulder strap and is available in several standard lengths, diameters, and colors. Abrams-Schletzbaum Ltd., Charlotte, N. C.

32 Slide printer

The *Diamond* has a miniature dot-matrix printer that can print directly on slide frames. The unit can print up to 20 characters per line and up to 12 lines. A liquid crystal display allows the user to check and correct typing before printing. Elden Enterprises, Inc., Charleston, W. Va.

33 Copier

The manufacturer's new *2150Z* plain paper copier has both zoom reduction and enlargement capabilities. It accepts paper sizes of 5 1/2-in. by 8 1/2-in. to 11-in. by 17-in., and produces up to fifty 8 1/2-in. by 11-in. copies per minute. Gestetner Corp., Yonkers, N. Y.

34 CAD software

Technique CADD microcomputer-aided drafting and design software can be used with an IBM microcomputer. Keyboard entry eliminates the need for a mouse or digitizer. The program is said to feature sophisticated text editing capabilities. Ryerson Polytechnical Institute, Toronto, Ontario.

35 Software

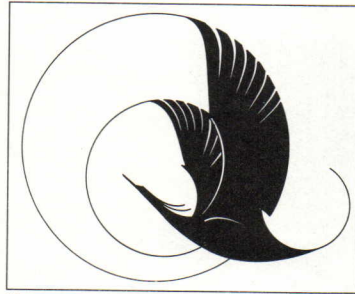
MultiDraw drafting software permits three-dimensional wire frame and surfaces-of-revolution representation, and perspective and axonometric viewing. Other features include automatic dimensioning, a user-customized menu, and a variety of text fonts. The software runs on the IBM PC AT. Cymbol Cybernetics Corp., Ottawa, Ontario.

36 Light pen

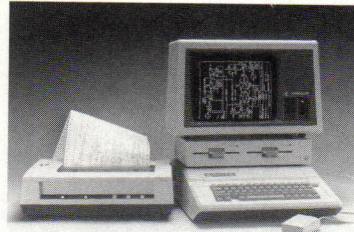
The manufacturer's new *Light Pen System II* for the Apple II and compatible computers interacts directly with the monitor or graphics screen to create drawings with single-dot accuracy. A built-in push-button on the pen is said to give the user increased control over drawing operations. Magellan Computer, Inc., Indianapolis.



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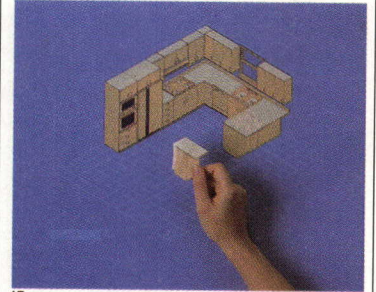
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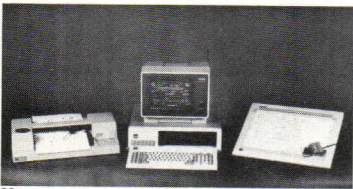
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37 CAD system

The *System 25* computer-aided design system features a 32-bit central processing unit, distributed processing, and modular system expansion. The system can be used to generate information and bills of material from stored drawings, and to create or edit drawings and plans. CalComp, Anaheim, Calif.

38 Mapping workstation

The *GWS IV* mapping workstation features on-board processors, high-resolution graphics, dynamic pan and zoom capabilities, and color or monochrome displays. The graphics processing system can perform real-time map distortion, cursor tracking, and grid generation. Synercom Technology, Inc., Sugar Land, Tex.

39 Drawing processor

The manufacturer's menu-driven *Drawing Processor II* can be hosted on the IBM PC, and can be used in a variety of architectural, mapping, engineering, and facility planning applications. Component functions include rotation and scaling. Editing functions include moving and removing sections of drawings. BG Graphics Systems, Inc., Kent, Wash.

40 CAD software

Architech two- and three-dimensional software is designed around the pin-bar method of overlay drafting. Features include an architectural symbols library, bill of materials, and multiple viewing windows. Phoenix Advanced Software Systems, Inc., Altamonte Springs, Fla.

41 CAD system

The manufacturer's new *Cascade VII* features dual monitors (one for command menu display and one for color graphic display), a 10 mb hard disk and floppy disk drive for archiving and software updates, and a graphics tablet for drawing input. Cascade Graphics, Santa Ana, Calif.

42 Printer

The manufacturer's new *Bronco 44* whiteprinter can print up to 15 feet per minute and includes frontal print exit and a pump suspension system. A lamp cooling system is designed to provide faster starts and prolong lamp life. The unit is constructed of steel. Blu-Ray, Inc., Essex, Conn.

43 Graphics package

The *Graphics Tool Kit* is a high-resolution graphics package for use with the Apple II. The kit can be used to create printouts of floor plans, mechanical drawings, schematics, charts, graphs, maps, and musical compositions. Demco Electronics, Inglewood, Calif.

44 Software

Versacad Advanced is a new computer-aided drafting program for the manufacturer's system. The software features 100 available commands, symbol libraries, geometric calculations, and bill of materials and database extraction capabilities. T & W Systems, Inc., Huntington Beach, Calif.

45 Graphic system

The *Orca3000* raster graphic system, intended for architectural and engineering applications, features monochrome or color resolution of 1,024 by 1,024. The system supports stand-alone, host-attached, and local-area networked modes of operation. Orcatech, Inc., Kanat, Ontario.

46 Lettering system

The manufacturer's *Kroy 290* lettering system contains a two-line 80-character liquid crystal display for text viewing and modification. The system also features prompting instructions, typestyles programming, and concurrent input/output operation. Kroy, Inc., Scottsdale, Ariz.

47 Design kit

The *Kitchen Designer* is the newest addition to the manufacturer's line of design kits. The kit includes adhesive-backed building components, fixtures, appliances, and other symbols that can be arranged and rearranged on a gridded layout sheet in plan and axonometric views. Plan-A-Flex, Div. of Procreations, New Orleans.

48 Solid modeling

The *ModelMaker* series of hardware and software products can be used to create three-dimensional, shaded-surface solid models. The keyboard-driven system can display, manipulate, modify, rotate, enlarge, and store the models. Cubicomp Corp., Berkeley, Calif.



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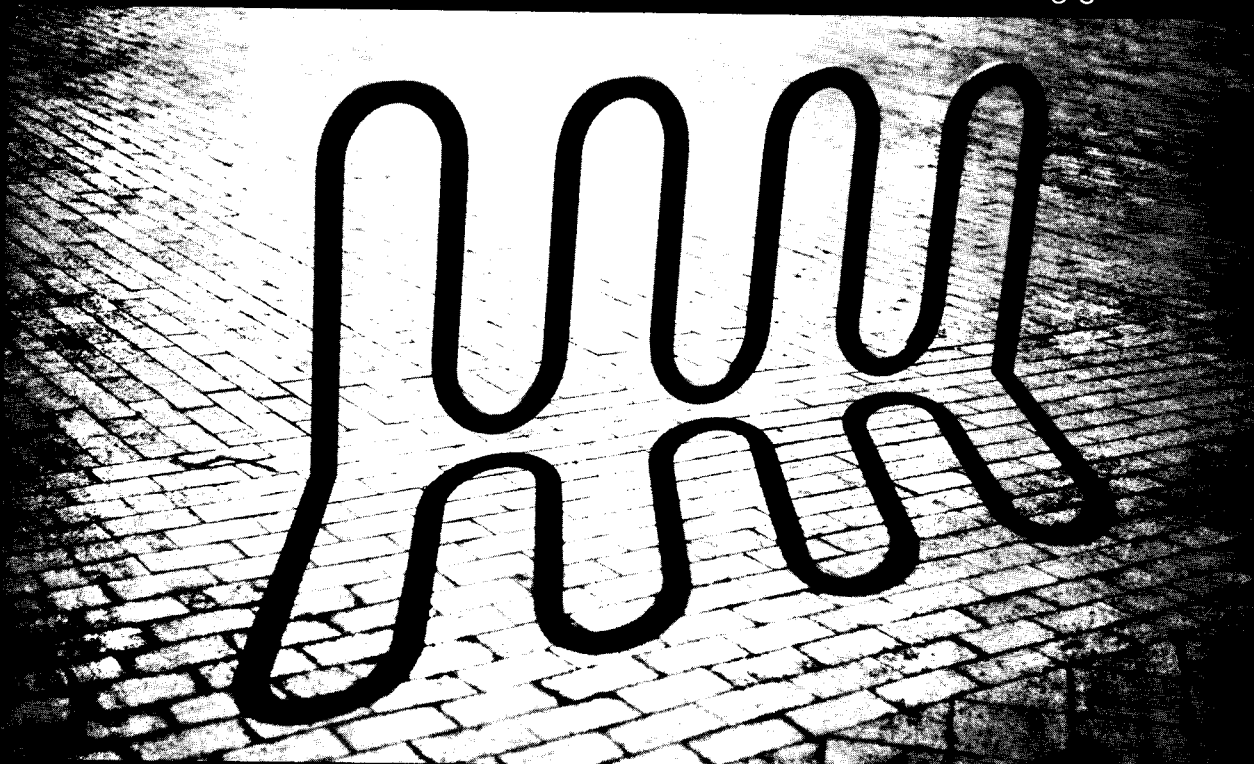
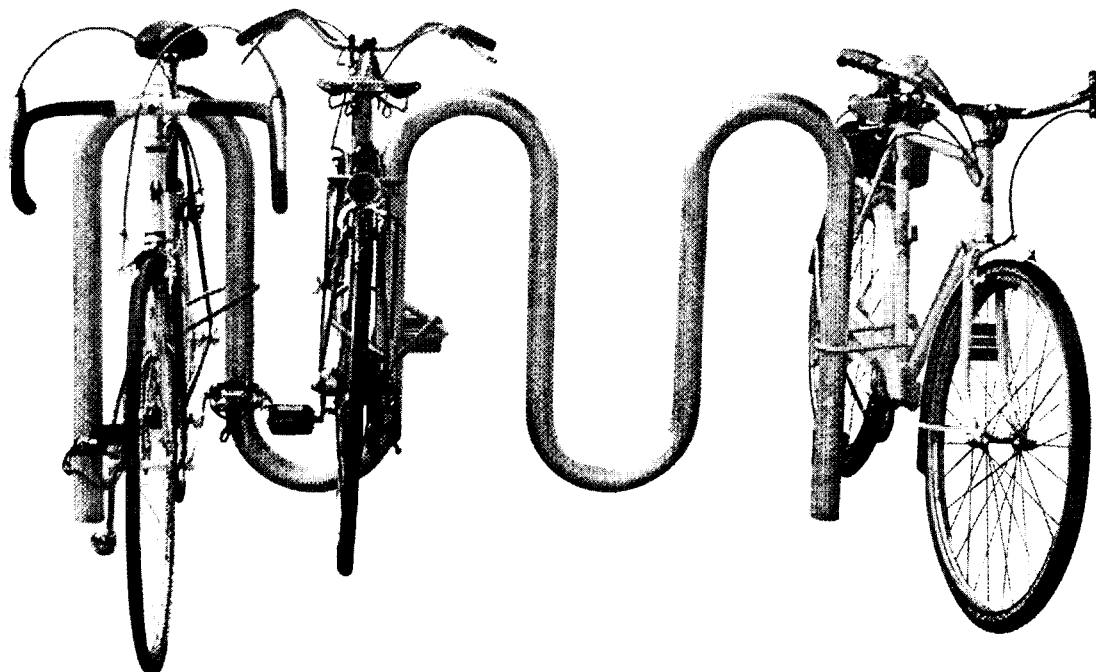


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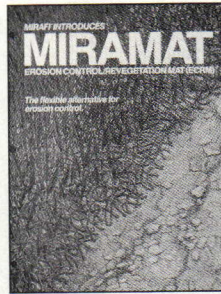
2 Site Work Product literature

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73 Tree grates

A 40-page color catalog details the manufacturer's line of cast-iron tree grates for street and mall plantings. The grates are available in square, round, octagonal, and custom shapes, and in a range of sizes. A new model for retrofit applications is featured in the literature. Neenah Foundry Co., Neenah, Wis.



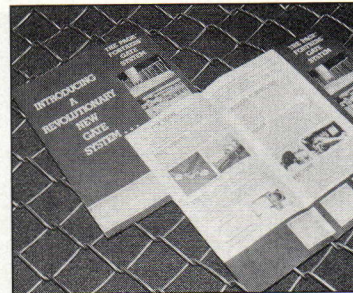
79 Erosion control

A 6-page pamphlet describes the manufacturer's erosion control product, a three-dimensional web of bonded vinyl filaments that can be rolled out in mats over bare soil. Illustrations depict the product's soil-retaining properties. Installation guidelines are given in the literature. Mirafi, Inc., Charlotte, N. C.



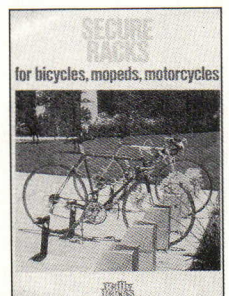
74 Dust retardant

The dust retardant described in a 6-page brochure can be applied to heavily traveled areas to create a hard, dust-free surface. The literature details application methods and includes a chart of volume requirements. Midwest Industrial Supply, Inc., Canton, Ohio.



80 Slide gates

Prefabricated modular slide gate panels constructed of aluminum alloy are shown in a 4-page brochure. The literature contains ordering instructions and technical specifications. Chain-link and picket models are available. Page Fence, Div. of Page Wilson Corp., Monessen, Pa.



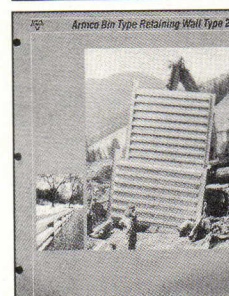
75 Bicycle racks

Five bicycle rack models and two types of rack braces are shown in an 8-page color brochure. Diagrams illustrate typical bicycle space requirements and parking layouts. A coin-operated rack for public parking facilities and a stand for motorcycles are featured. Rally Racks, Div. of Rally Enterprises, Inc., Sonoma, Calif.



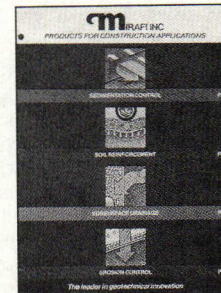
81 Outdoor furnishings

A 12-page color booklet describes a line of outdoor furnishings that features park benches, litter receptacles, and planters. Photographs show furnishings in a range of styles and materials, including wood, fiberglass, concrete, and terrazzo. GameTime, Inc., Fort Payne, Ala.



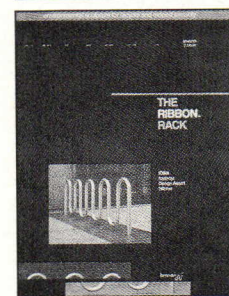
76 Retaining wall

A 14-page catalog describes the uses for the manufacturer's bin-type steel retaining walls. Tables and diagrams contain technical data for various applications and site conditions. Armco Construction Products, Div. of Armco, Inc., Middletown, Ohio.



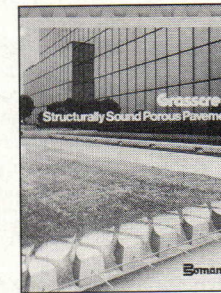
82 Construction products

An overview of the manufacturer's construction products and their drainage, soil-reinforcement, sedimentation, and erosion-control applications is given in a 10-page color brochure. Recommended products and installation guidelines are reviewed for each category. Mirafi, Inc., Charlotte, N. C.



77 Bicycle rack

The bicycle rack shown in a 4-page brochure is made of tubular steel bent into a series of parallel curves. A chart lists the number of bicycles each size rack can hold, and photographs show racks arranged in a variety of configurations. Brandir International, Inc., New York City.



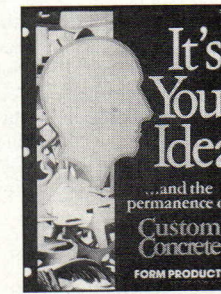
83 Porous concrete

A 4-page color brochure describes the manufacturer's perforated concrete pavement system that allows grass to grow through the holes and cover the pavement. Diagrams and photographs showing installation methods are included in the literature. Bomanite Corp., Palo Alto, Calif.



78 Composite pile shells

A 4-page brochure explains the advantages of the manufacturer's composite pile shells, composed of concrete-and-wood sections encased in steel. Photographs show several on-site applications. The literature includes ordering specifications. Armco Construction Products, Div. of Armco, Inc., Middletown, Ohio.



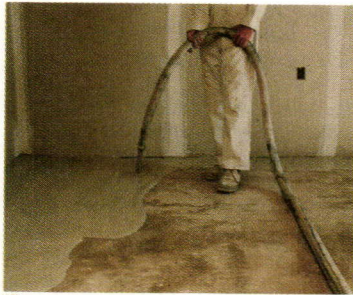
84 Custom concrete products

The manufacturer's method of creating custom concrete products in a range of aggregates and surface finishes is detailed in a 4-page color brochure. The literature contains photographs of the design and production processes and samples of finished pieces. Form Products, Div. of Wausau Tile, Inc., Wausau, Wis.

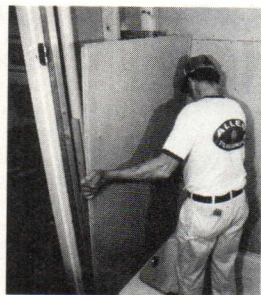
3 Concrete

4 Masonry

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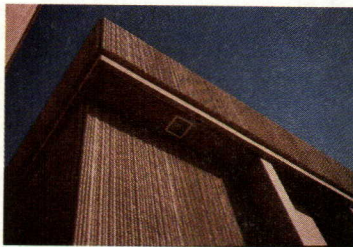
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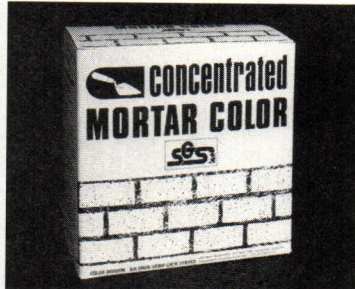
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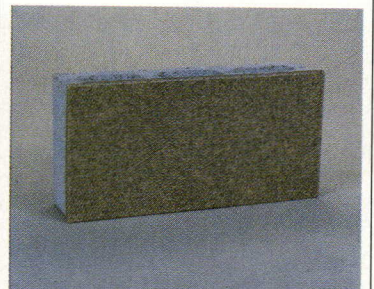
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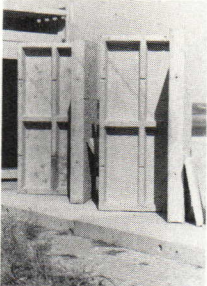
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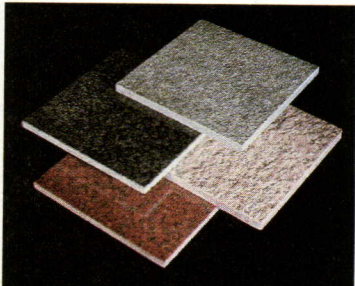
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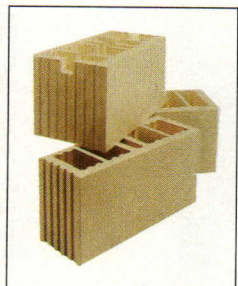
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85 Topping

The manufacturer's new commercial topping is intended for use over interior structural substrates, primarily prestressed concrete planks and cast-in-place concrete. The topping can be installed in thicknesses of 1/4 in. to 3 in., and is said to accept most adhesives and finished floor products. Gyp-Crete Corp., Hamel, Minn.

86 Composite concrete

Micro-cotta is a polymer-based composite concrete intended for new and replacement architectural ornament. Designed to simulate the look of terra-cotta, brownstone, slate, concrete, cast stone, or cast iron, the product is said to feature fine detail reproduction and color-fastness. Simplex Products Div., Adrian, Mich.

87 Retarder

New *Heat-Cote Blue* abrasion-resistant retarder is said to produce a finely detailed, acid-etched surface when applied to concrete. The product can also be used as an alternative to sandblasting to create a frosted appearance. Fosroc-Preco Industries Ltd., Plainview, N. Y.

88 Tile backer board

Durock tile backer board is a factory-made Portland cement mortar panel that is said to provide the durability of a cement mortar bed. The board is available in 3-ft by 4-ft, 3-ft by 5-ft, and 3-ft by 6-ft sizes and can be installed with nails or screws. Durabond, Div. of USG Industries, Inc., Chicago.

89 Form liner

Elastomeric *Flex-Liner* can be used to obtain a variety of architectural surface treatments on poured-in-place or precast concrete. The liner comes in standard sizes of 4 ft by 8 ft and 4 ft by 10 ft, but larger sizes can be custom-specified. The Scott System, Inc., Denver.

90 Hardwall system

CW-100 hardwall structural system of precast concrete panels is intended for commercial and industrial applications. The proprietary ribbed design of the panels is said to use 53 percent less concrete. The system is available in a variety of finishes. Armcoc Atlantic, Inc., Cincinnati.

91 Stone

The manufacturer's line of dimensional stone and its recently expanded selection of granites are available in a variety of patterns, textures, colors, and finishes. Intended for interior and exterior applications, the tiles come in 3/8-in. through 6-in. thicknesses. Cold Spring Granite Co., Cold Spring, Minn.

92 Mortar color

The manufacturer's milled iron-oxide pigments can be added to mortar to complement or accentuate the color of brick, stone, and colored block units. The mortar color is available in pre-weighed bags. Solomon Grind-Chem Service, Inc., Springfield, Ill.

93 Granite

A line of thin granite intended for interior and exterior applications can be installed using thin-set latex mortars; no mechanical anchors are needed. The granite is available in standard and custom sizes and thicknesses, and in a selection of colors. Marble Technics Ltd., New York City.

94 Sandstone

Brownstone Russet is intended for restoration and renovation applications, including interior and exterior cladding and paving. The product is available in veneer, cube, and tile form. Vermont Marble Co., Proctor, Vt.

95 Masonry block

The facings of the new *Olympia Block* are bound with a clear chemical compound that is said to be chip-, crack-, and fade-resistant. The blocks are available in a selection of factory-applied standard and custom-specified colors. The Burns & Russell Co., Baltimore.

96 Facing tile

The manufacturer's vertically cored structural glazed facing tile is intended for use in earthquake zones and correctional facilities, and is available in 4-in., 6-in., and 8-in. bed depths. The tile comes in eight colors. Stark Ceramics, Inc., Canton, Ohio.

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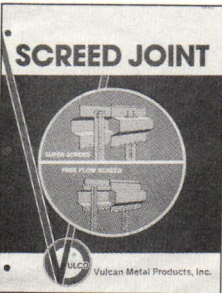
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3 Concrete Product literature



97 Cement pigments
Twenty-six of the manufacturer's metal oxide pigments for concrete and cementitious building materials are shown in a 6-page brochure. Red, yellow, black, and shades of orange, tan and brown are illustrated at recommended pigment levels for gray cement. Mobay Chemical Corp., Pittsburgh.



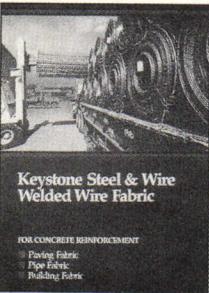
98 Screed joint
A 4-page brochure features installation procedures and product specifications for the manufacturer's screed joint, a mechanical cold joint used in concrete slab pouring. Drawings of two screeds and four related products are included in the literature. Vulcan Metal Products, Inc., Birmingham, Ala.



99 Concrete additive
A 4-page concrete-engineering data report details the advantages of the manufacturer's polypropylene fiber concrete additive. The literature gives the results of shatter-resistance tests on concrete columns and slabs that contain the product. Fibermesh, Inc., Chattanooga, Tenn.



100 Concrete stamping tools
Information on the manufacturer's concrete stamping tools and pigments is given in a color folder that contains a data sheet, pattern selection charts, color cards, and a price list. The products are intended to simulate tile, stone, and brick. Stamprite Enterprises, Inc., Boca Raton, Fla.

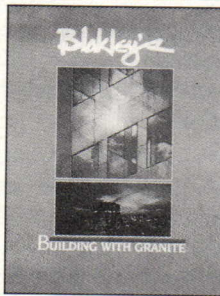


101 Welded-wire fabric
A 4-page brochure describes three types of welded-wire fabric for concrete reinforcement applications, including paving, pipe work, and building. Photographs show on-site applications of the products. Charts list specifications for each fabric type. Keystone Steel and Wire Co., Peoria, Ill.

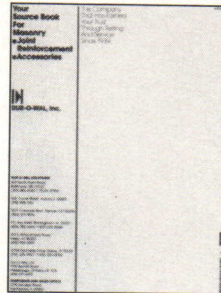


102 Veneer installation systems
A 10-page color booklet is illustrated with photographs of buildings sheathed in thin veneer that is attached with the manufacturer's installation materials. Cutaway drawings show how the products can be used to install different veneers. Stress-test results are also given in the literature. Laticrete International, Inc., Bethany, Conn.

4 Masonry Product literature



103 Granite-to-steel panels
Granite panels mounted on steel frames are featured in a 6-page color brochure. Photographs show how the frames are hoisted and welded into place. Diagrams of typical panel assemblies are included in the literature. The Blakely Corp., Inc., Indianapolis, Ind.



104 Steel reinforcement
A 16-page illustrated catalog features a variety of masonry wall and precast/prestressed concrete reinforcement products, and reviews their construction applications. A guide for selecting masonry wall reinforcements and specification tables are also included in the literature. Dur-O-Wall, Inc., Arlington Heights, Ill.



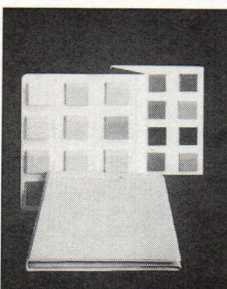
105 Pre-mixed mortar
A 6-page color brochure details the advantages of the manufacturer's pre-mixed mortar, which contains an additive to retard setting. The literature discusses the chemical composition of the product, storage methods, and compressive strength-test results. W. R. Grace & Co., Cambridge, Mass.



106 Concrete information
A 4-page newsletter features case histories of building projects that used concrete products. The literature is illustrated with photographs and drawings of the buildings, including details of concrete construction. Portland Cement Association, Skokie, Ill.



107 Mortar mixture
A pre-mixed mortar with additives that retard setting is described in an illustrated 4-page color brochure. The literature explains the applications and benefits of the product, which is said to remain workable for up to six days. Master Builders, Inc., Cleveland.



108 Clay products
A binder contains an assortment of sample chips of structural glazed units that are available in 24 different colors and textures. The sample chips accompany the manufacturer's 1986 brochure, which reviews a line of structural glazed units, coping units, and additional clay products. Elgin-Butler Brick Co., Austin, Tex.



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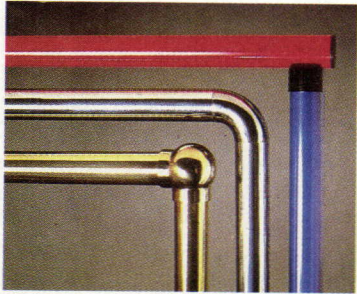
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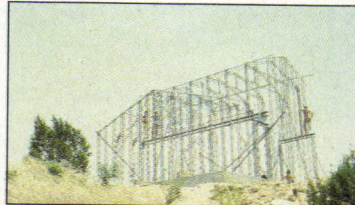
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5 Metals

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109



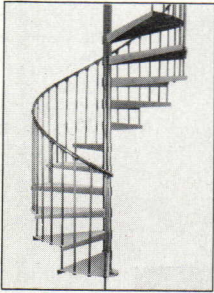
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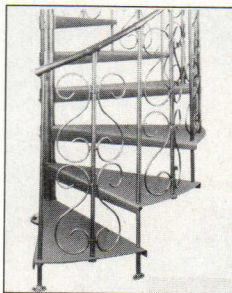
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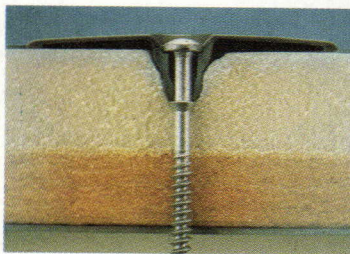
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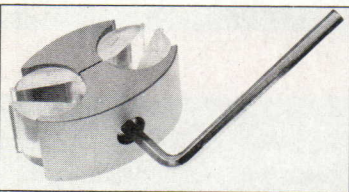
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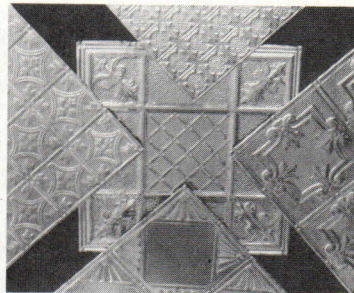
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109 Railing system

The *Kolortube* railing system is made of vinyl-coated steel. Available in a selection of a standard and custom colors, the railing system is said to be weatherproof when installed with the manufacturer's fittings. Ship'N Out, Inc., Pawling, N. Y.

110 Metal stair

The manufacturer's 5 ft and 6 ft diameter metal spiral stairs now come with four baluster rods per stair for additional strength. Intended for residential applications, the spiral stairs have reversible treads that accommodate right- or left-handed entry. Logan Co., Div. of Figgie International, Louisville, Ky.

111 Connector

The *Klem* connector is designed to hold various panels of different sizes, shapes, and materials. The stainless steel grip has plastic inserts, and can hold 3/16-in. to 3/4-in.-thick panels and 1 1/2-in.-diameter tubing. Klem, Div. of The Nimlok Group, Morton Grove, Ill.

112 Steel framing system

The manufacturer's steel framing system features framing members in 2-in. by 6-in. and 2-in. by 8-in. sizes. The steel channels at the edge of each member are machine-welded into triangles. The members are connected using self-tapping screws and a screw gun. Melco Building Systems, Strafford, Mo.

113 Wrought-iron balusters

Ornamental scroll attachments for 5-ft- and 6-ft-diameter, three-baluster spiral stairs are constructed of 3/8-in.-diameter wrought iron. The scrolls can be installed over the balusters and feature welded collars for increased support. Logan Co., Div. of Figgie International, Louisville, Ky.

114 Expansion joint system

New *FB-83* expansion joint system includes a fire barrier that is designed to protect joint areas in walls and slabs. The barrier is said to meet the requirements for a two-hour fire-rating. Construction Specialties, Inc., Muncy, Pa.

115 Flange beams

Rolled wide flange beams are 42.45 in. deep and have a linear weight of 848 lb per ft. Intended as an alternative to fabricated, built-up columns, the beams are said to meet the allowable drift tolerance of a building's tubular wind system design. Trade Arbed, Inc., New York City.

116 Fastening system

The *Tapdek-SP* system for single-ply roofing consists of a fastener with a locking collar and a stress disc with locking tabs. When the fastener is driven through the disc, the locking collar and tabs hold the disc under the head of the fastener. Elco Industries, Inc., Rockford, Ill.

117 Decorative metal

A line of embossed metal for ceiling and wall applications includes 18 designs produced from the original dies that range in style from Victorian to Art Deco. The coverings are available in 2-ft by 8-ft sheets with patterns of 6-in., 12-in., and 24-in. repeats. Chelsea Decorative Metal Co., Houston.

118 Spaceframe system

Modular *Power-Strut* metal spaceframes can be used for interior and exterior applications. The system's structural tubing is finished in a thermoset polyester powder applied by an electrostatic spray process, and is available in 12 colors. Elcan Metal Products Co., Franklin Park, Ill.

119 Metal framing system

The manufacturer's metal framing system consists of linear channels and cavities that run the length of the extrusion. The members are joined by sliding an insert into the cavity of one extrusion and joining it to the channel of another extrusion. Click Systems, Inc., New York City.

120 Fire stairs

A line of fire stairs includes 30 combinations of rail and tread designs such as glass-fiber-reinforced and steel-backed concrete treads and metal sweep rails. The stairs are available in custom sizes. American Stair Corp., Willow Springs, Ill.

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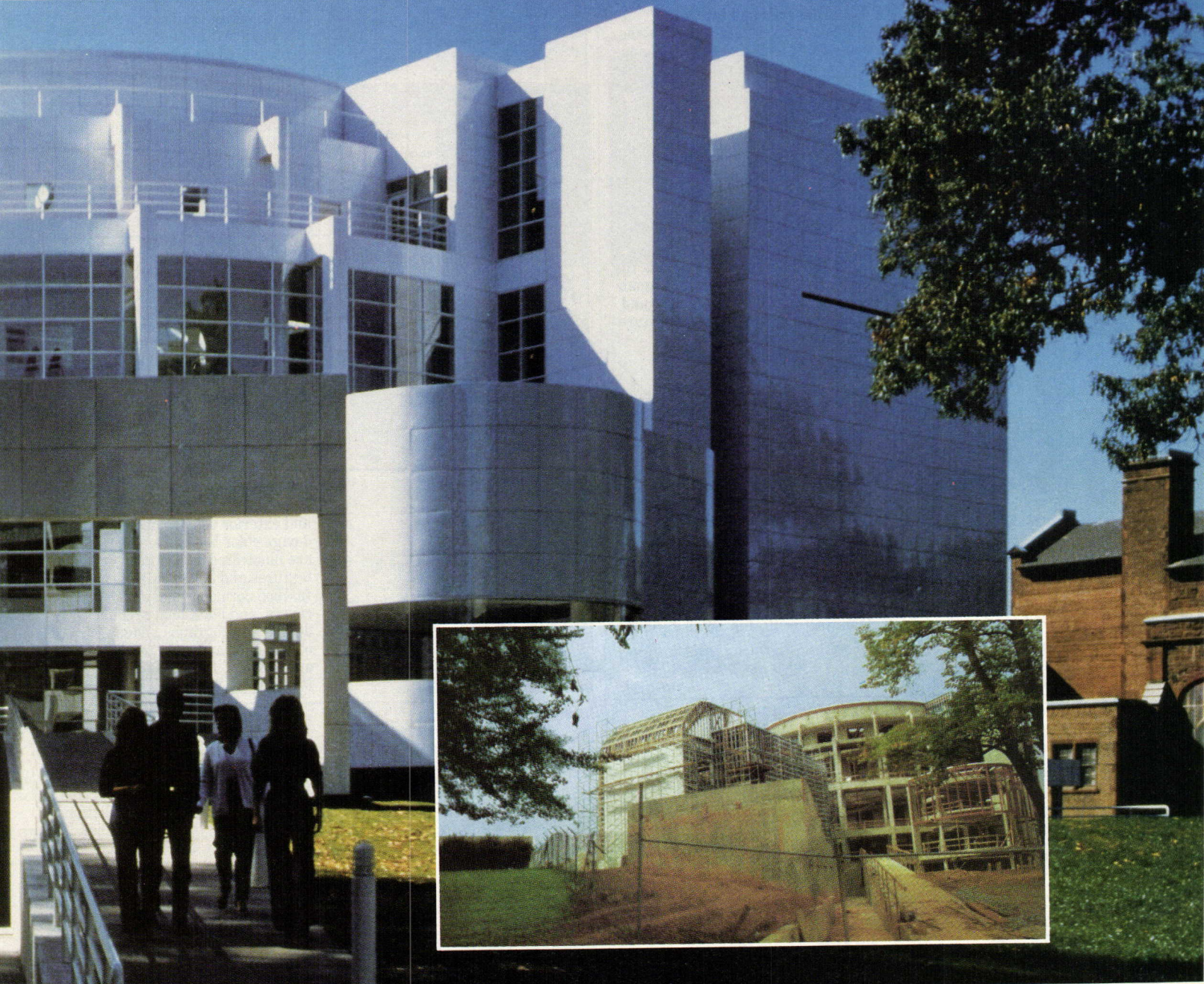
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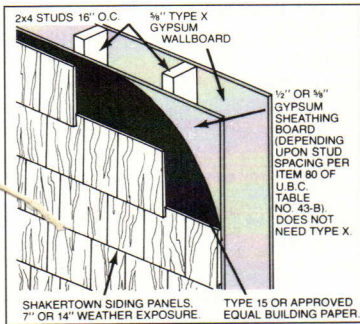
Architectural Grid

Shown: Seaspray.

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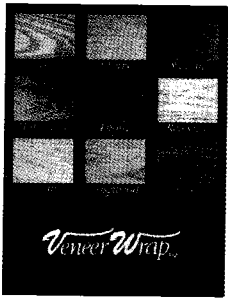
Architect: David Furman/Architecture
Developer: The Lake Norman Company



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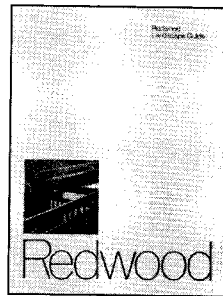
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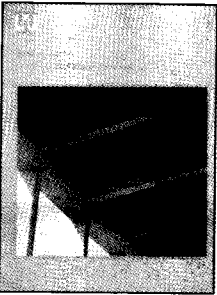
146 Veneered moldings

A 4-page color brochure describes the manufacturer's line of hardwood-veneer, particle board-core moldings. The sliced veneers, which have the grain pattern of the boards from which they are cut, are primarily produced from red oak. Cherry, teak, mahogany, and other woods are also available. WCCO, Inc., Wahpeton, N. D.



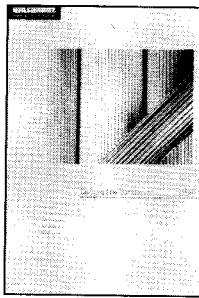
152 Redwood

The advantages and properties of redwood are detailed in a 6-page, illustrated color brochure. The literature identifies redwood lumber grades for garden and architectural use. Illustrations show possible applications including redwood decks, fences, and trellises. California Redwood Association, Mill Valley, Calif.



147 Floor and roof beams

Lightweight floor and roof beams made of composition wood are described in a 20-page color brochure. Diagrams show cantilever, overhang, and interior bearing construction details. Charts give maximum spans and load-bearing capacities for floor and roof beams. Gang-Nail Systems, Inc., Miami, Fla.



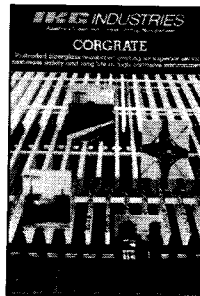
153 Tambours

An 8-page color brochure features decorative tambours and grooved coverings for flat or curved surfaces. The products are shown in wood, metal, and man-made materials and in a range of colors. Tracking systems for roll tops and curved doors are also included. Ralph Wilson Plastics Co., Inc., Temple, Tex.



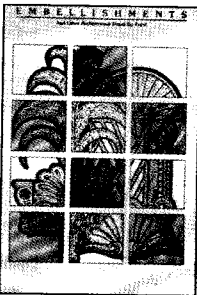
148 Spiral staircases

Four spiral staircase models are depicted in a 4-page color brochure. Drawings show each model in plan with dimensions. The literature details the special features of each type of staircase. One model is shown with an optional solid wood handrail. Spiral Manufacturing, Inc., Baton Rouge, La.



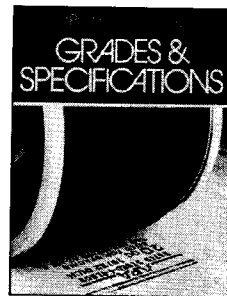
154 Fiberglass grating

The manufacturer's pultruded fiberglass grating for corrosive environments is described in a 12-page brochure. The literature lists applications for the product, which is said to be lighter and stronger than comparable steel products, including sewage- and water-treatment plants, chemical plants, food-processing lines, and oil rigs. IKG Industries, Nashville, Tenn.



149 Architectural details

A 12-page catalog features drawings of the manufacturer's line of interior and exterior architectural details. The products are available in either a high-density polyurethane foam or a Class A material such as noncombustible, reinforced gypsum. Dimensions are given for each product. Entol Industries, Inc., Miami, Fla.



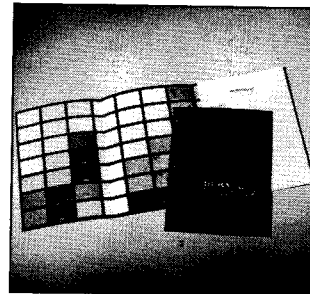
155 Plywood products

A variety of exterior-grade plywood products is shown in a 28-page color booklet. Photographs depict close-ups of different composition wood products in smooth, rough, and grooved finishes. The literature lists specifications for each product. Comparisons between different composition wood products are also given. American Plywood Association, Tacoma, Wash.



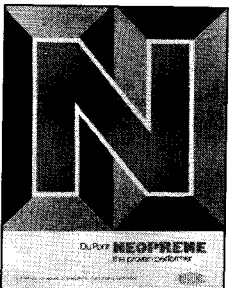
150 Exterior wood stains

Linseed oil and urethane latex solid and semi-transparent stains and wood preservatives are shown in a 2-page color card. Colors include shades of gray, blue, red, brown, gold, and beige. Other lines of stains and wood preservatives are also listed in the literature. California Products Corp., Cambridge, Mass.



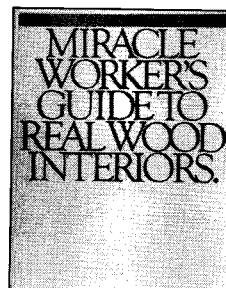
156 Decorative laminates

An 8-page color card depicts 98 varieties of high-pressure laminates. Among the textures and colors shown are several different wood-grain, stone and leather patterns, monochromatic styles in bright and pastel shades, and geometric designs. The material also lists grades, finishes, and sizes. Consoweld Corp., Wisconsin Rapids, Wis.



151 Synthetic rubber

The development of *Neoprene* is described in a 48-page booklet published by the manufacturer. The literature reviews the product's history and describes its various applications. The literature focuses on the product's durability under a variety of conditions. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

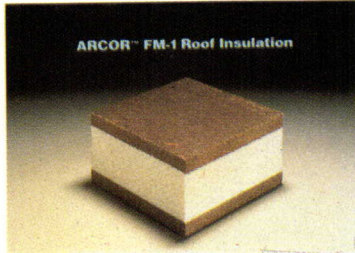


157 Woodwork

Basic design questions are addressed in a 16-page color guide to interior woodwork design. The literature discusses wood types, colors, textures, patterns, and finishes. Drawings show the effects of different interior paneling layouts. Western Wood Products Association, Portland, Ore.

7 Thermal & Moisture Protection

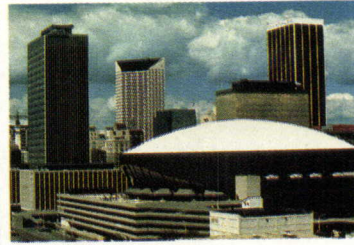
UCI 7, Thermal & moisture protection:
Cladding/siding
Composite building panels
Flashing
Insulation
Membrane roofing
Metal roofing
Roof accessories
Sealants
Shingles and roofing tiles
Waterproofing and dampproofing



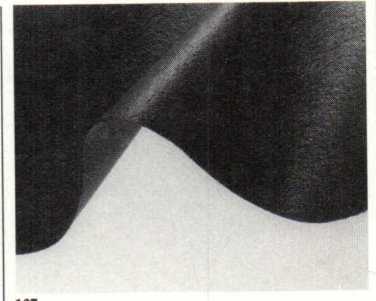
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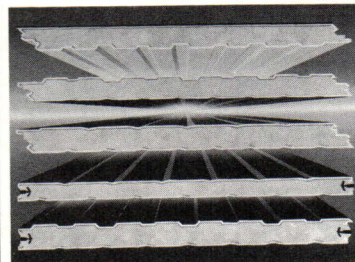
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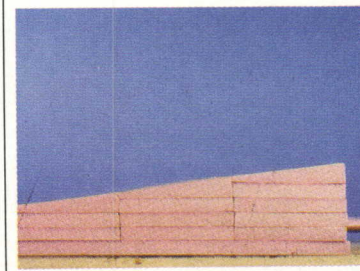
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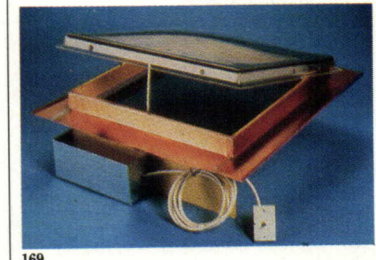
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158 Roof insulation

ARCOR roof insulation for commercial building applications is made of cellular polystyrene that is factory-bonded to inorganic mineral board. The product is said to feature high insulation efficiency, moisture absorption, dimensional stability, and resistance to compression. ARCO Chemical Co., Div. of Atlantic Richfield, Philadelphia.

159 Prefabricated wall panels

The manufacturer's line of prefabricated foamed-in-place polyurethane wall panels is intended for use in the construction of temperature-controlled and non-temperature-controlled industrial buildings. Aluma Shield Industries, Inc., Daytona Beach, Fla.

160 Roofing

Scanroof panels, designed for new roofing and re-roofing applications, are constructed of hot-dipped galvanized steel with a plastic coating. The panels are intended to be used as a weather membrane and a structural roofing component, and are said to be lightweight. Plannja AB International, St. Paul, Minn.

161 Skylight glazing

A four-sided structurally glazed skylight system has no exterior retainer caps since the glass is held in place by a structural sealant. Each panel of glass is independent of the next to facilitate replacement of damaged sections. Custom configurations are available. Super Sky Products, Inc., Mequon, Wis.

162 Shingles

The manufacturer's new *Prestique Plus* laminated fiberglass shingles are coated on both sides with weather-grade granules. The shingles are designed to simulate the look of wood, and are 20 percent larger than standard units. Elk Roofing Co., Dallas.

163 Roof drainage and insulation

The *Contour Taper Tile-X* system is intended to prevent water and ice build-up on roof membranes. The system employs *Foamular* extruded polystyrene rigid insulating foam. Associated Foam Manufacturers, Excelsior, Minn.

164 Single-ply roofing

High-Tuff is a mechanically-attached, single-ply membrane roofing system said to resist the effects of ozone, sunlight, chemicals, and industrial pollutants. The hot-air welding of the membrane produces fused seams for increased strength. The system is intended for new construction and re-roofing applications. J. P. Stevens & Co., Inc., Easthampton, Mass.

165 Shingles

The new *Chaparral II* line of glass fiber shingles is intended for residential applications. The shingles have a Class A fire rating and a 25-year limited warranty. Owens-Corning Fiberglas Corp., Toledo, Ohio.

166 Roofing panels

Stile metal roofing panels are produced in lengths of up to 16 ft and are intended to simulate the look of clay tile. The panels are coated with *Fluropon*, a fluorocarbon paint system, and are said to resist chipping, chalking, and fading. Metal Sales Manufacturing Co., Louisville, Ky.

167 Insulation adhesives

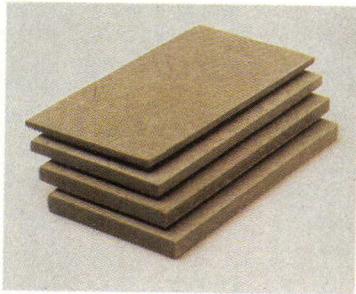
Flexyl below-grade adhesives and ground coats for the manufacturer's exterior insulation systems are constructed of a combination of co-polymers, binders, and cements. The adhesives are said to prevent cracking in cold temperatures. STO Industries, Inc., Rutland, Vt.

168 Membrane waterproofing

The manufacturer's roofing membranes are thermally fused to protect against leakage. During the production process, resin is flowed through a nonwoven fiberglass or woven polyester reinforcement to increase the membrane's dimensional stability. Sarnafil, Inc., Canton, Mass.

169 Motorized skylight

A switch-operated motorized skylight features solid copper flashing, a low-profile insulated double dome, a molded dome edge that sheds water, and a built-in screen. Ventarama Skylight Corp., Hicksville, N. Y.



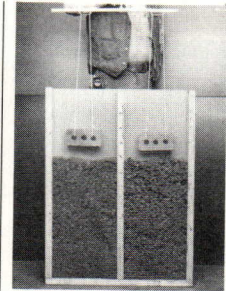
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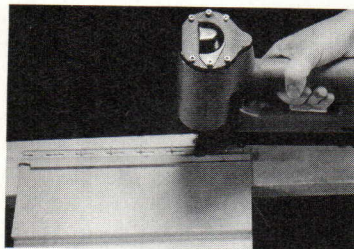
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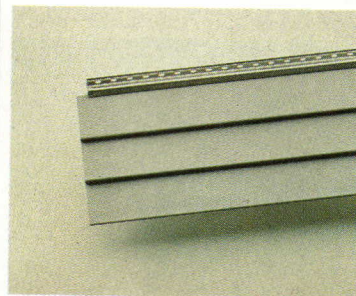
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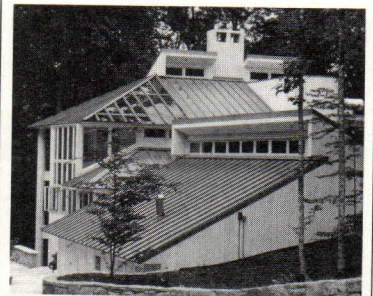
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170 Cement panel

Minerit-HD is an asbestos-free fire-protective panel intended for exterior and interior applications. The panels come in 4-ft by 8-ft and 4-ft by 10-ft sizes, and are composed of cement, marble fibers, and reinforcing fibers. Sanspray Corp., Santa Clara, Calif.

171 Roofing system

The *Therm Mb* roofing system has a continuous filament, spun-bonded polyester base ply-laminated between courses of proprietary hot-melt roofing adhesive. The membrane consists of a mixture of bitumens, modified with synthetic elastomers and woven fiberglass reinforcement. Tremco, Cleveland.

172 Exterior insulation finish

Gemalit is a marble and quartz finish intended for new construction or retrofit exterior insulation systems. Bound in a matrix of clear acrylic polymer resin, the finish is also available in an epoxy-colored quartz stone aggregate. Ispo, Inc., Mansfield, Mass.

173 Membrane

The *Permaflex* group of modified bitumen roofing membrane products includes the *SBS* waterproofing membrane constructed of nonwoven continuous filament polyester fabric and the *APP* membrane, composed of asphalt reinforced with polyester fabric. International Permalite, Inc., Ontario, Calif.

174 Roofing system

The *Cool Top 40* roofing membrane is constructed of chlorinated polyethylene membrane reinforced with polyester, and has heat-welded seams. The mechanically fastened membrane is intended for industrial and commercial new construction and re-roofing applications. Cooley Roofing Systems, Inc., Pawtucket, R. I.

175 Insulation

Insul-Safe III is a fiberglass blown-in-place thermal insulation product intended for installation in attics. The insulation is said to be noncombustible, noncorrosive, and resistant to moisture absorption. CertainTeed Corp., Valley Forge, Pa.

176 Wall insulation

The *Insul/Crete* exterior wall insulation and finish system combines the manufacturer's *Styrofoam* insulation and a polymer-modified coating. The system is installed by mechanical anchors. The cementitious coatings are available in a variety of colors and textures. The Dow Chemical Co., Midland, Mich.

177 Siding attachment

A new siding guide can be used to attach a variety of vinyl, aluminum, and steel siding, and for additional stapling applications. The guide can be used with the manufacturer's *MI* heavy-duty stapler or the *KG* medium-duty model. Senco Products, Inc., Cincinnati.

178 Siding application

The new *Flotrac* siding application system has a rigid, roll-formed nail hem that interlocks with a corresponding flange on the custom-extruded vinyl panel. The system can span wall dips, and is said to aid in the straightening of out-of-plumb walls. Wolverine Technologies, Inc., Lincoln Park, Mich.

179 Insulation system

The manufacturer's *Blown-In-Blanket* home insulation system is designed to fill voids, including areas around pipes and electrical boxes. The insulation can be sprayed or blown in. Ark-Seak, Inc., International, Denver.

180 Ceiling insulation

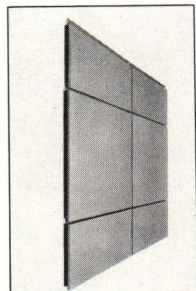
The *Suspend-R* ceiling insulation system consists of a proprietary grid system, white laminate-faced fiberglass boards, fiberglass batts, and adjustable hangers. The insulation can be installed on the underside of metal bar or wood joists, or suspended from joists spaced at 84 in. or less. Manville Corp., Denver.

181 Sheet-metal roofing

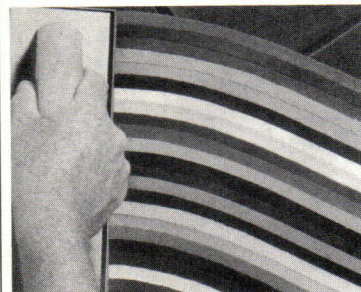
The manufacturer's *Microzinc* sheet-metal roofing is made from a zinc-copper-titanium alloy that gradually attains a gray patina. The metal is said to resist rust and will not stain adjacent materials. W. P. Hickman Co., Asheville, N. C.



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182 Waterproofing

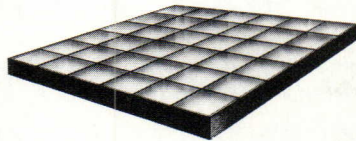
New *Elastomeric* waterproofing coatings are made from a blend of acrylic emulsions that are said to be flexible and fade- and mildew-resistant. The coatings can be used on new and old masonry and concrete, as well as on stucco. Sherwin-Williams Stores Div., Cleveland.

183 Wall panels

A new composite wall panel has a honeycomb core bonded by adhesives to metal skins. The panel skins are roll-formed from aluminum or galvanized steel. The core is available in aluminum or phenolic-resin-impregnated paper. Architectural Engineering Products Co., San Diego.

184 Grouts

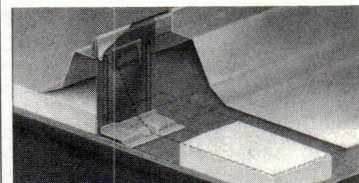
Unsanded grouts, which consist primarily of Portland cement, are intended to fill joints of up to 1/8-in. wide between ceramic, mosaic, and clay tiles in both exterior and interior applications. The grouts are available in a selection of colors. W. R. Bonsal Co., Charlotte, N. C.



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185 Skylights

Plastic skylights have a 6-in. by 6-in. non-conductive interlocking grid core laminated to outer and inner skins, forming a 1 3/8-in. dead-air insulation space. Solartron, San Mateo, Calif.

186 Metal roofing

ColorKlad pre-finished sheet metal can be used in standing seam, batten seam, and mansard roofing applications. The roofing is made from galvanized steel that is covered with a fluoropolymer paint. Nine colors and two textures are available. Vincent Metals, Div. of Rio Algom, Inc., Minneapolis.

187 Roof system

The *Ultra-Dek* standing seam roof system is available in 12-, 18-, or 24-in. width panels, and in 22-, 24-, or 26-gauge Galvalume. The panels snap together at the side. The system is said to prevent water penetration. Metal Building Components, Inc., Houston.



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188 Built-up roofing felt

Perma Ply-R is a built-up roofing felt made from a continuous-strand glass fiber mat with a resinous bonder that is coated with asphalt. The felt comes in 36-in.-wide, 540-sq-ft rolls. Owens-Corning Fiberglas Corp., Toledo, Ohio.

189 Single-ply roofing

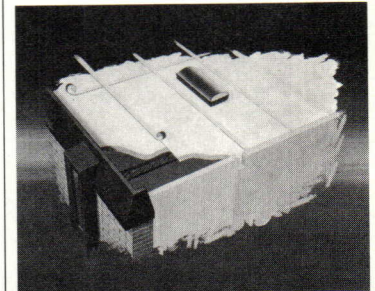
The *Trocacal S-60* single-ply PVC roofing membrane is made from a reflective material that is intended to help reduce peak surface temperatures. The membrane is attached to the roof deck with either a stone ballast or mechanical fasteners. Dynamit Nobel of America, Rockleigh, N. J.

190 Concrete sealer

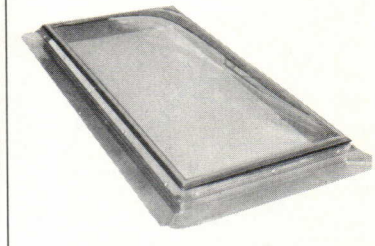
Water-based *S-102* sealer is designed to protect concrete and its contained reinforcing steel from chloride ion or moisture penetration. The sealer does not contain solvents. Sinak Corp., San Diego.



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191 Ventilating skylight

The manufacturer's ventilating skylight features a double-insulated, low-profile dome; copper flashing; a fiberglass insect screen; an overlay wood liner box; and an operator that can be adjusted by hand, pole, or motor. Ventarama Skylight Corp., Hicksville, N. Y.

192 Roof panels

The manufacturer's roof system consists of prefabricated panels with foamed-in-place polyurethane insulation. The panel-to-panel seams and roof openings are heat-welded with a batten strip to be weather-tight and to accommodate expansion requirements. Aluma Shield Industries, Inc., Daytona Beach, Fla.

193 Skylight

The *Flat Curb* skylight is constructed from a polycarbonate material that is said to be shatter-proof. The skylight lens is available in a selection of sizes and in bronze, clear, and frosted tints. Skymaster, Div. of Tub-Master Corp., Orlando, Fla.



ROOFING EXPRESSION I

a design competition to recognize
excellence in the use of metal roofing

Roofing Expression I is sponsored by
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CALL
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ENTRIES

Follansbee Steel Corporation announces a design competition for architectural students and young professionals, aimed at recognizing design achievements in the use of Follansbee TERNE and Follansbee TCS (terne-coated stainless steel).

The competition is now open to senior students enrolled in a full-time program in an accredited architectural school or department and to practicing professional architects with a degree from an accredited architectural school or department and who will not be over 35 years of age as of January 1, 1986.

Awards and recognition will be made in each of the two divisions, Division 1 for students, and Division 2 for professionals. The prizes for each Division will be:

First Prize	\$2,000.00
Second Prize	1,000.00
Third Prize	750.00

In addition, teachers of students will be awarded \$200. Plaques will be awarded to school of winning students. Entrants who submit entries as a group will share awards.

Entries will be judged by a panel of distinguished architects and awards will be based on the combination of esthetic expression, functional suitability, engineering excellence and economy of use.

Deadline for requesting the information kit and entry forms is February 28, 1986. Write Follansbee Steel Corporation, State Street, Follansbee, WV 26037, attention Mr. Jay Carey.

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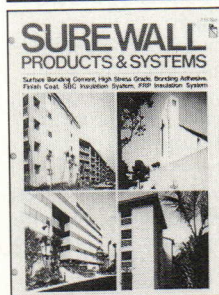
7 Thermal & Moisture Protection Product literature

For more information, write item numbers on Reader Service Card



194 Single-ply roofing

An 8-page color brochure describes the manufacturer's *Hi-Tuff* mechanically attached, single-ply membrane roofing system for commercial and industrial applications. In addition to photos of sample installations, the literature includes a specification chart and cross-sections of various roof types. J. P. Stevens & Co., Inc., Easthampton, Mass.



200 Insulating finishes

The manufacturer's complete line of *Surewall* exterior building finishes—including surface bonding cement, finishing plaster, bonding adhesive, and insulation systems—is described and illustrated in a 2-page color booklet. Structural properties and technical performance data for each product are included. W. R. Bonsal Co., Charlotte, N. C.



195 Fireproofing board

Pabco Super Firetemp is a hydrous calcium silicate insulation used to fireproof structural beams, wall partitions, chimneys, ducts, cable trays, and doors. The material is asbestos-free and is made from lime, silica, and reinforcing fibers. A 4-page brochure describes the product and lists its performance characteristics. Pabco, Div. of Louisiana-Pacific Corp., Houston.



201 Metal coating system

A 16-page color brochure features the manufacturer's *Versacor* protective coating system for metal wall and roof panels. The literature highlights the system's three layers, which include a steel or aluminum substrate, an epoxy coating, and a selection of four finishes. Test results and sample installations are included. H. H. Robertson Co., Pittsburgh.



196 Skylights

The manufacturer's line of custom commercial skylights and sloped glazing systems is illustrated in an 8-page color brochure. Installation photographs depict sample applications of the skylights in 25 completed building projects in California. O'Keeffe's, Inc., San Francisco.



202 Wall and roof insulation

The *Energy Miser* wall and roof insulation system for metal buildings is described in an 8-page color brochure. The literature includes a thermal performance chart that lists U-values for retrofit and new construction. A table lists energy-saving data, while photos depict sample roof and wall installations. Owens-Corning Fiberglas Corp., Toledo, Ohio.



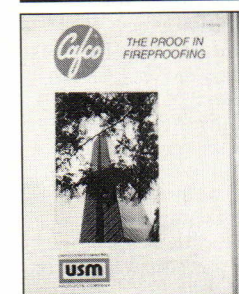
197 Tapered roof insulation

A 4-page color brochure presents a line of perlite rigid tapered roof insulation board. Directed primarily toward roofers who enroll in the manufacturer's Registered Tapered Systems Contractor Program, the literature explains various informational services offered by the company. International Permalite, Inc., Ontario, Calif.



203 Cedar roofing

A 4-page color brochure details the manufacturer's *PermaCedar* roofing, a system of 8 ft-long panels faced with Western red cedar barn shakes or shingles bonded to plywood. Installation instructions and product specifications are included in the literature. A line of decorative roof trim is also illustrated. Shakertown Corp., Winlock, Wash.



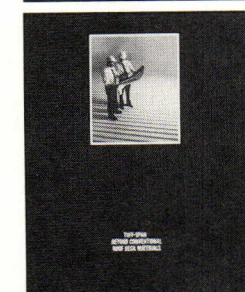
198 Fireproofing

An 8-page color brochure describes the manufacturer's *Cafco* line of asbestos-free, spray-on structural fireproofing materials. The literature includes sections on thermal properties, acoustical performance, and code compliance. Fire-resistance ratings and a specification guide are included. United States Mineral Products Co., Stanhope, N. J.



204 Deck coatings

Scotch-Clad deck coating systems, designed to prevent water and water-borne chloride ions from corroding the structural concrete and steel of parking ramps, are featured in a 4-page color brochure. Three systems for light, moderate, and heavy-traffic areas are described in the literature. 3M/Adhesives, Coatings & Sealers Div., St. Paul, Minn.



199 Roof deck

Tuff-Span, a non-woven, fiberglass-reinforced composite roof deck is said to resist corrosion and the effects of industrial chemicals and gases. A 4-page brochure introducing 6.5-in. and 9-in. models of the new deck includes load-span tables, a list of physical properties, and specifications. Composite Technology, Inc., Fort Worth, Tex.

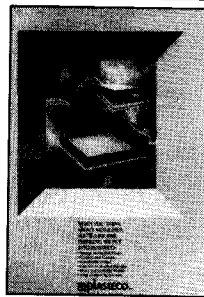


205 Single-ply roofing

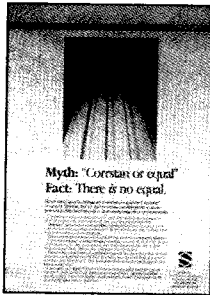
A 6-page foldout brochure features *Futura-Ply II*, the manufacturer's urethane single-ply sheet roofing system. The literature describes the system's triple-seam sealing method, which consists of an adhesive bond of the membrane lap, a urethane-backed seam-covering tape, and a 10-mil aliphatic urethane membrane finish. Futura Coatings, Inc., Hazelwood, Mo.



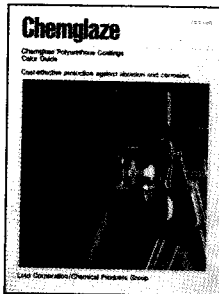
206 Vaulted skylight
Horizonvault is a barrel-vaulted skylight system made up of aluminum sills, caps, and neoprene gaskets. An 8-page color brochure features section drawings of the various available models and photographs of sample installations. Tables give standard sizes and load span data, and specifications outline glazing options. O'Keeffe's, Inc., San Francisco.



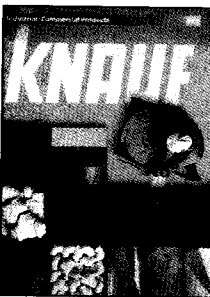
212 Residential skylights
Thermbloc residential skylights feature a double-wall PVC curb and low-profile acrylic double glazing. An 8-page color brochure includes size charts, specifications, and descriptions of the manufacturer's available models and optional accessories. Text describes various factors to consider when specifying skylights. Plasteco, Inc., Houston.



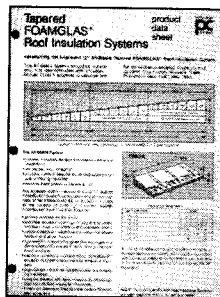
207 Metal panel coatings
A 1-page data sheet gives a concise overview of the manufacturer's *Corrtan* metal panel coatings. The multi-mil, anti-corrosive system is designed for applications that are exposed to acid rain, industrial pollutants, and salt spray. Steelite, Inc., Pittsburgh.



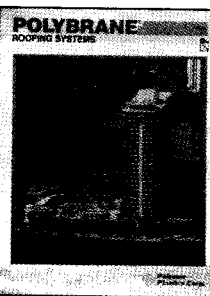
213 Polyurethane coatings
The manufacturer's *Chemglaze* polyurethane corrosion- and abrasion-resistant coatings are intended for industrial applications. A 4-page color guide describes the coatings' characteristics and illustrates 17 standard and 8 special colors. A pastel mixing guide is included in the literature. Lord Corp., Erie, Pa.



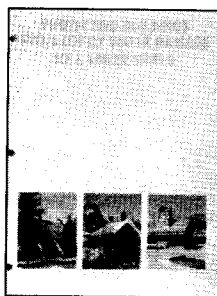
208 Insulation
The manufacturer's industrial and commercial insulating products—including pipe insulation, insulation board, duct wrap, PVC fitting covers, wall insulation, tank insulation, and insulating blankets—are featured in a 12-page color booklet. Technical data and specifications are included in the literature. Charts indicate thermal performance information. Knauf Fiber Glass, Shelbyville, Ind.



214 Roof insulation
A 2-page product data sheet features *Foamglas* all-board and board-and-block tapered roof insulation systems. Diagrams depict system components, and charts list board and block sizes. A table outlines the insulation's physical and thermal properties. Pittsburgh Corning Corp., Pittsburgh.



209 Roofing system
A 4-page color brochure features *Polybrane 186*, the manufacturer's liquid elastomeric polyurethane roofing system designed to provide a waterproof coating over most new or previously applied substrates. Drawings depict system components, and photographs show application techniques and sample installations. Polymer Plastics Corp., Hauppauge, N. Y.



215 Roof waterproofing
Ice and Water Shield is a polyethylene and rubberized asphalt membrane that protects against water damage caused by melting ice along the eaves of residential and commercial buildings. A 4-page color brochure gives specification data and instructions for installing the membrane in new or retrofit applications. W. R. Grace & Co., Cambridge, Mass.



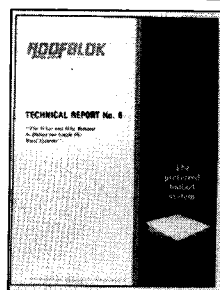
210 Insulating sheathing
Foamular extruded polystyrene insulating sheathing, available in panel thicknesses ranging from 5/8 in. to 1 in., is described in a 4-page brochure. Cutaway drawings illustrate installations of the sheathing in both wood stud and metal framing systems. Charts list typical physical properties and thermal resistance values. UC Industries, Inc., Parsippany, N. J.



216 Roof membrane
A 6-page foldout brochure features *PRM*, a protected roof membrane system formulated of refined asphalts, synthetic rubbers, and extenders. The text reviews the system's performance characteristics, while photos illustrate a typical application sequence. Specifications are included in the literature. American Hydrotech, Inc., Chicago.



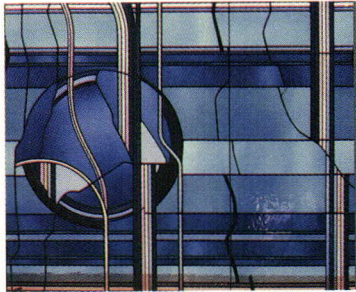
211 Single-ply roofing
CoolTop 40 is a chlorinated polyethylene roofing membrane reinforced with *Fortrel* polyester. An 8-page color brochure features a chart that compares weatherability and fire-, oil-, and chemical-resistance of four roof membranes. Technical data and a list of certified safety approvals are included in the literature. Cooley Roofing Systems, Inc., Pawtucket, R. I.



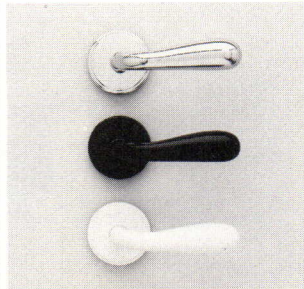
217 Roof ballast
A 12-page report reviews various factors in determining the correct type of ballast for single-ply roofs. The literature covers such considerations as the effect of wind velocity on ballast performance, and it compares stone, tongue-and-groove, and paving block types with the manufacturer's own line of interlocking concrete block ballast. Roofblok Ltd., Lunenburg, Mass.

8 Doors & Windows

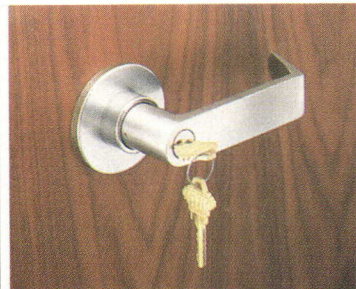
UCI 8, Doors and windows:
Entrances and storefronts
Glazing
Hardware and specialties
Metal doors and frames
Metal windows
Skylights
Special doors
Special windows
Windows/curtain walls
Wood and plastic doors
Wood and plastic windows



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218 Stained glass

The manufacturer's line of decorative glass includes etched, sandblasted, and carved panels; stained, leaded, zinc, and copper foil windows; etched, sandblasted, beveled, painted, and kiln-fired screens and room dividers; and copper foil and zinc lampshades and domes. Elysian Art Glass Co., Denver.

219 Door and cabinet hardware

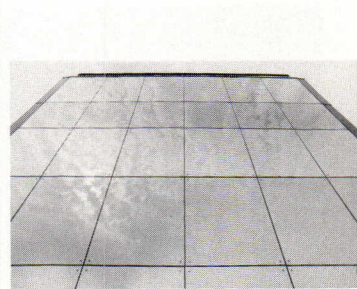
The manufacturer's door and cabinet knobs and levers are cast in solid zinc and can be specified with a chrome, 24k gold plate, or a baked-on enamel finish. Coordinating accessories, including coat and hat hooks, are also available. Fusital Forges, Div. of Valli & Colombo (U. S. A.), Inc., Duarte, Calif.

220 Lock

The *Olympiad* lever lock is intended for commercial, residential, and barrier-free applications. The lock features a solid brass 6-pin cylinder, reversible handing, and a 1/2-in. throw deadlatch with an adjustable front faceplate. Schlage Lock Co., San Francisco.



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221 Automatic door operator

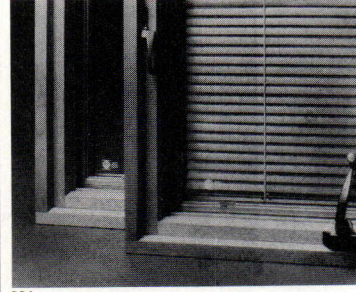
The *Dura-Glide* automatic sliding door operator uses a computerized electronic control system. The *Pozi-Trac* controller keeps track of the door position. The system is said to detect shifts in outside temperature and wind velocity and accordingly adjust the closing speed. Stanley Magic-Door Div., Farmington, Conn.

222 Glazing system

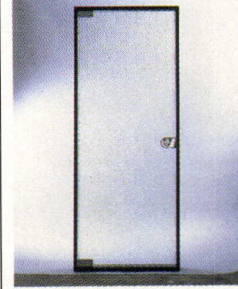
The *Planar* glazing system features an uninterrupted span of glass and countersunk bolts and fasteners. The glazing system can be specified in monolithic or insulating glass with reflective, tinted, or low-emissivity coatings. Ampat Group, Inc., Glen Burnie, Md.

223 Door levers

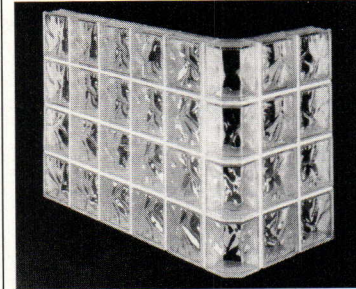
A line of tubular nylon lever handles has steel cores and underplates. The handles are available in a selection of 15 colors that are said to be fade- and scratch-resistant. Normbau, Inc., Addison, Ill.



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224 Window system

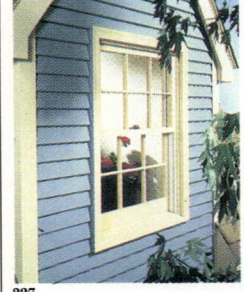
The *Type E* line of windows features glass with a low emissivity coating. In the double-pane version the transparent coating is applied to the removable interior glass panel, and a 13/16-in. air space provides increased insulation. Pella/Rolscreen Co., Pella, Iowa.

225 Glass doors

The manufacturer's tempered-glass interior doors are said to be five times stronger than standard glass doors. Available in 11 types of glass and 23 colors, the doors can be specified with one of three lockset styles in a selection of eight finishes. Colonial Mirror & Glass Corp., Brooklyn, N. Y.

226 Glass block

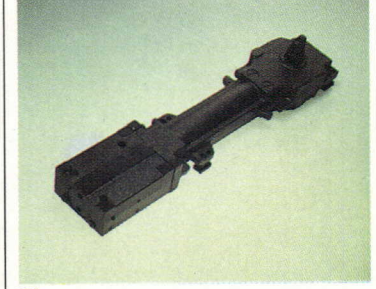
Hexagonal *Hedron I* glass block can be used to form corners in standard glass block panels, walls, and partitions. The block is available in two patterns that feature different light transmission and visibility levels. Pittsburgh Corning Corp., Pittsburgh.



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227 Window

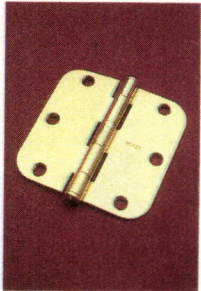
The kiln-dried Western pine frame of the *Colonial Classic* window is treated with water repellent, preservative, and insect toxicant. The wood sash is assembled with mortise and tenon corner joints, and is secured with two millwork pins. Caradco Corp., Div. of Bethlehem Steel, Rantoul, Ill.

228 Gang flashing

A new gang flashing system features prefabricated modules that snap together. The system allows windows to be spaced 4-in. apart and joined side by side and above or beneath each other. The flashings are compatible with the manufacturer's line of roof windows and skylights. Velux-America, Inc., Greenwood, S. C.

229 Floor closer

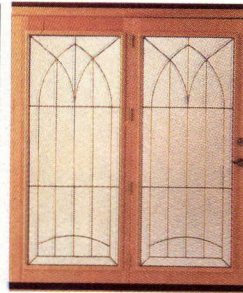
New *50 Series* floor closer is designed to fit into 2-in.-thick concrete slabs. The floor closer can be used on single- or double-acting doors, and is said to meet the requirements of most existing handicapped codes. Rixson-Firemark, Franklin Park, Ill.



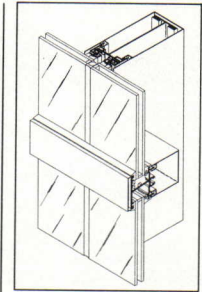
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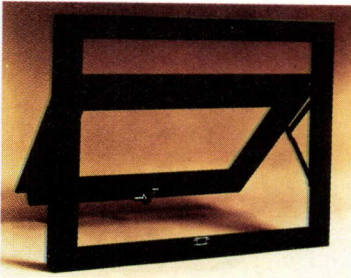
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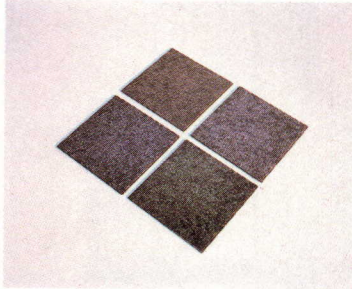
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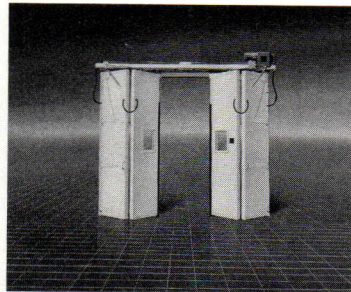
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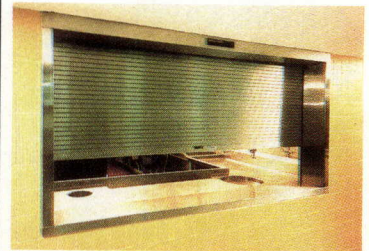
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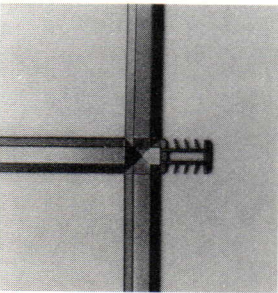
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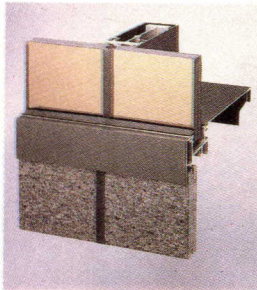
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230 Hinges

New residential hinges are constructed of solid brass. The hinges come in 3 1/2-in. by 3 1/2-in. and 4-in. by 4-in. sizes, and are available with 1/4-in. or 5/8-in. radius corners or square corners. Stanley Hardware, Div. of The Stanley Works, New Britain, Conn.

231 Windows

Thermally broken projected windows feature foam weatherstripping and bead glazing. Additional options include outward or inward opening vents, and magnetic or mechanical venetian blinds. Custom sizes and shapes are available. Season-all Industries, Inc., Indiana, Pa.

232 Muntin bar

Contour muntin bar can be used to hold panes within a window, window wall, or glazed door. A variety of different sizes and tolerances is available. Allmetal, Inc., Bensenville, Ill.

233 Door

New 1 1/8-in.-thick, double hip-raised panel red oak door is intended for interior applications. The door comes in a range of sizes, and bifold closet versions are also available. Morgan Products Ltd., Oshkosh, Wis.

234 Glass spandrel panels

A new line of glass spandrel panels can be installed with the manufacturer's curtainwall glazing system. The ceramic coating on the glass can be custom-designed to simulate granite, marble, or stone. PPG Industries, Inc., Pittsburgh.

235 Doors

The manufacturer's *Oak Collection* of panel and bifold doors includes a six-panel door with oak-veneered stiles and rails. The door also has raised panels of solid, 3/4-in.-thick red oak. Ledco, Inc., Shelbyville, Ky.

236 Terrace doors

The manufacturer's hinged terrace door is now available with leaded glass panels that can be mounted on the interior of the doors. Fixed glass units, sidelights, and transoms can also be specified with leaded glass. Marvin Windows, Warroad, Minn.

237 Industrial doors

Hercules prefabricated insulated industrial doors are available with electrical or hydraulic operators. Foamed-in-place polyurethane insulation is sandwiched between stucco-embossed galvanized steel panels. Aluma Shield Industries, Inc., Daytona Beach, Fla.

238 Wall system

CW-900 is a new glass and granite curtainwall system that features granite infills that are flush with the horizontal members. The system can accommodate a variety of glass, granite, and panels. Vistawall Architectural Products, Div. of Butler Manufacturing Co., Terrell, Tex.

239 Glazing system

3200 Design Wall is a preglazed structural silicone curtainwall system. Exterior horizontal metal covers, available in a variety of finishes, retain the glass top and bottom. The I-beam grid can be used on buildings of up to eight stories. Kawneer Co., Inc., Norcross, Ga.

240 Counter door

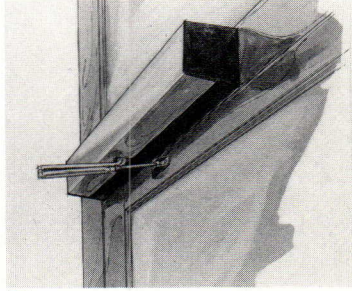
A new rolling metal counter fire door has a safety governor that regulates the speed of the closing door. The governor comes on crank, motor-operated, and push-up model doors. Cornell Iron Works, Inc., Mountaintop, Pa.

241 Levers

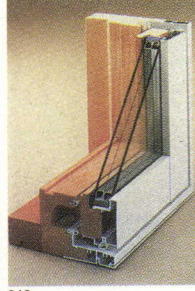
The *Series II* line of solid brass levers is intended for commercial applications. The levers have spring-loaded roses and are available in polished and lacquered brass, oil-rubbed bronze, polished chrome, and satin chrome. Baldwin Hardware Corp., Reading, Pa.



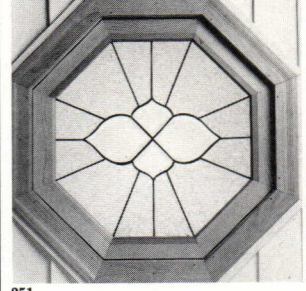
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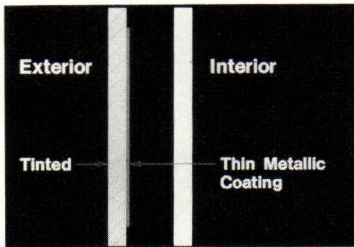
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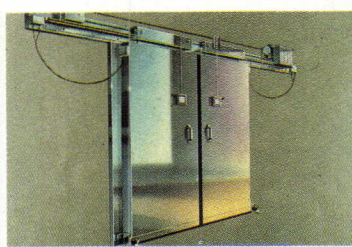
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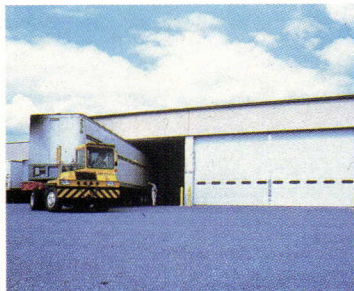
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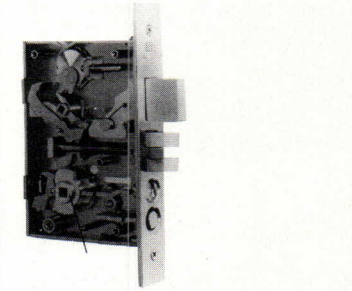
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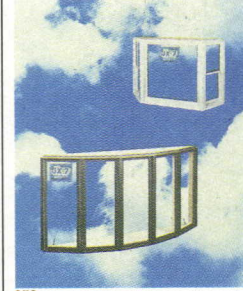
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242 Door
The *Quintette Philippine* mahogany door is 6 ft 8-in. high, 1 3/4-in. thick, and 3 ft wide, and features five 1 1/2-in.-thick raised panels made from solid wood. The manufacturer's joint construction system is meant to assure greater durability. Simpson Door Co., Seattle.

243 Glass
The manufacturer's new *High Performance Sun* insulating glass is intended for hot climates. The exterior pane of tinted glass has a low emissivity coating bonded to its inside surface. The glass is said to lower cooling costs and is intended for commercial applications. Andersen Corp., Bayport, Minn.

244 Overhead doors
Thermospan overhead doors for commercial and industrial applications feature a thermal break that separates inner and outer skins. The doors have a joint seal, a jamb seal, and an optional top seal for additional energy savings. Wayne-Dalton Corp., Mt. Hope, Ohio.

245 Automatic door operators
The *Tormax* line of door operators is intended for commercial applications. The hydraulic operator can open a telescoping door 19 1/2 ft in 3 1/2 seconds, says the manufacturer. A selection of swing-door operators is available. F. L. Saino Manufacturing Co., Memphis.

246 Cold-storage doors
A new line of cold-storage doors features the manufacturer's *Diamond-Trac System*. The doors operate on the system's rail and V-grooved rollers. Hand- and power-operated doors are available. Jamison Door Co., Hagerstown, Md.

247 Locks
The *30H* series of mortise locksets features a 1-in. throw deadbolt, a 3/4-in. throw latch, a heavy-gauge steel lock case, and steel knob hubs and locking mechanism. Knobs made from solid brass and bronze bar stock are available. Best Lock Corp., Indianapolis.

248 Window insulation
Heat Mirror 66 transparent insulation, intended for applications that require shading rather than light deflection, has a shading coefficient of 0.48 and a U-value of 0.23. *Heat Mirror 44*, intended for applications that require high levels of solar protection, has a shading coefficient of 0.21 and a U-value of 0.22. Southwall Technologies, Palo Alto, Calif.

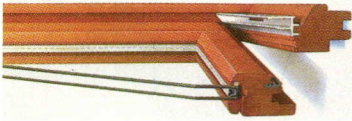
249 Replacement windows
Line of replacement windows features weatherstripped metal interlocks at midrails, 3/4-in. insulating glass in movable sashes, and extruded aluminum frames and sashes. Louisiana-Pacific Corp., Barberton, Ohio.

250 Laminated glass
The manufacturer's laminated glass is composed of two pieces of bent glass bonded together by an interlayer of plasticized polyvinyl butyral. Available in clear, bronze, or gray units, the glass is intended for roof window and skylight applications. Laminated Glass Corp., Telford, Pa.

251 Window
The manufacturer's new *R-K* octagonal window is available in stationary and operating models and can be specified with leaded glass inserts and a removable grille. The window can also be ordered with insulated glass. Reuten-Klein Corp., Schenectady, N. Y.

252 Interior doors
The *Heritage Glass* collection of interior doors now includes a new model with raised pine panels and tempered glass panels that are acid-etched. The doors are constructed from Ponderosa pine and have veneered stiles to prevent warpage. Wing Industries, Inc., Dallas.

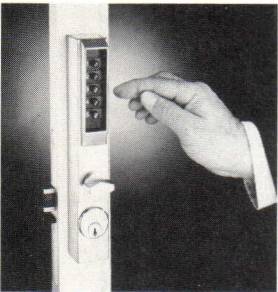
253 Wood windows
JX-7 wood casement and awning windows are clad in aluminum. The windows feature built-in double weatherstripping and 1/2-in. double glazing. A variety of sizes and styles is available. Wenco, Div. of Jeld-Wen, Mount Vernon, Ohio.



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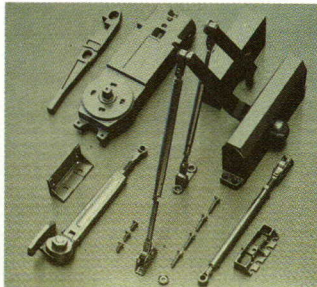
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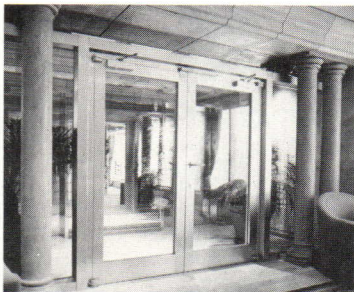
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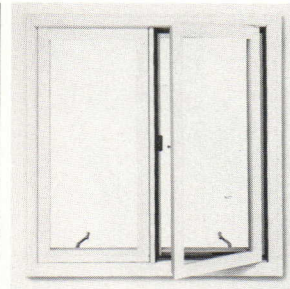
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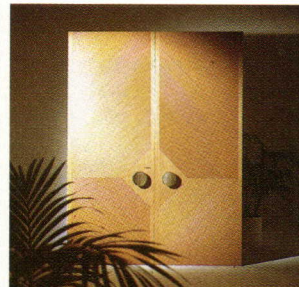
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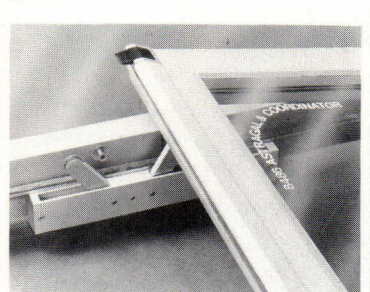
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254 Windows and doors

A line of German-made windows and doors is available in custom-specified sizes, shapes, styles, and finishes. The frames are constructed of Sipo mahogany, chromium-plated steel, and vulcanized rubber. The windows and doors come with a two-year guarantee. Tischler und Sohn, Norwalk, Conn.

255 Casement windows

The manufacturer's new *True Divided Lite* casement windows are available with 3/4-in. insulating glass or single-pane glass. A mortise-and-tenon system joins the muntin bars to the sash. The exterior wood surfaces are covered with latex paint, and the interior surfaces are unfinished wood. Norco Windows, Inc., Hawkins, Wis.

256 Combination locks

The manufacturer's *3000 Series* combination locks are designed for doors with narrow stiles. The locks may also be used in conjunction with existing key cylinders and are available in a selection of chrome and bronze finishes. Simplex Security Systems, Inc., Collinsville, Conn.

257 Roof window

The new *Galaxy* roof window has a solid pine sash and a pine veneer frame and is pivot-hinged at the top. A gas-spring device is said to ensure smooth operation. The window comes with double insulating glass and is available in eight sizes. Roto Frank of America, Inc., Chester, Conn.

258 Door closers

The *Elite* line is a new addition to the manufacturer's collection of concealed and surface-mounted closers. The line's concealed closer is made of cast iron and has two adjustment valves for initial and final closing speeds. Liberty Hardware Manufacturing Corp., White Plains, N. Y.

259 Glass wall system

A German-made glass wall system features 60-minute rated *Contraflam* glass that is meant to prevent the passage of fire, smoke, and heat. The modular system features open glass areas of up to 4 ft by 7 ft, and 85 percent light transmission. Kleiber & Schulz, Inc., Melville, N. Y.

260 Casement windows

The manufacturer's new casement windows feature concealed hinges; primed interiors that can be finished, re-stained, or painted; coordinated interior hardware and screens; white or pewter cladding; and optional grilles. Crestline, Wausau, Wis.

261 Doors

VX axially laminated veneer doors are available in five patterns and in a selection of 12 veneers. The doors are intended for commercial and residential applications. Forms + Surfaces, Inc., Santa Barbara, Calif.

262 Garage door

The *Decade* residential garage door is roll-formed from hot-dipped galvanized steel, and covered with an epoxy primer and a baked-on acrylic finish. The door is available with factory-installed 1 1/4-in.-thick polystyrene insulation. Raynor Manufacturing Co., Dixon, Ill.

263 Windows

The manufacturer's *Sunbelter* line of windows and patio doors can be specified with *Heat Mirror 66* or *Heat Mirror 88* transparent insulation. *Heat Mirror 66* is intended for warm climate applications, and *Heat Mirror 88* is intended for cold climate applications. Hurd Millwork Co., Medford, Wis.

264 Double-hung windows

Thermoclad II double-hung wood windows are now available with vinyl-clad exterior frames and sashes. Vinyl weatherstripping at the head, sill, and check rails, PVC-baked foam on the side jambs, and 1/2-in. insulating glass are intended to eliminate air and water infiltration. Malta, Div. of Philips Industries, Inc., Malta, Ohio.

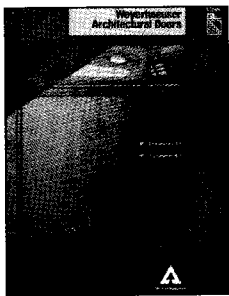
265 Door coordinator

New door coordinator system has an extruded astragal that is riveted to the active leaf door, which is equipped with a mortise exit device. The inactive door has a concealed vertical rod device that latches to the header and threshold. Adams Rite Manufacturing Co., City of Industry, Calif.

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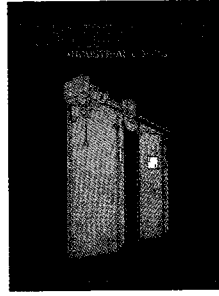
Doors & Windows Product literature

For more information
write item numbers on
Reader Service Cards



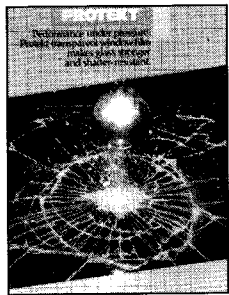
266 Doors

Five categories of doors, including solid-core, hollow-core, X-ray-proof, and fire- and sound-retardant, are described in a 20-page booklet. Cutaway drawings show the construction of each type. Specifications are also given. A 2-page chart of fire-door ratings by different testing agencies is included. Weyerhaeuser Co., Marshfield, Wis.



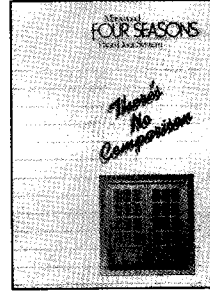
272 Industrial doors

A 4-page illustrated brochure describes the benefits of the manufacturer's industrial doors. Four basic types of doors are shown: horizontal, single-slide bi-parting, bi-folding, and vertical lift. The literature also lists such custom options as radio-control and time-delay opening/closing. Butcher Boy Door Co., Div. of Hussmann Refrigeration Co., Inc., Harvard, Ill.



267 Window film

A 4-page color brochure details the advantages of the manufacturer's plastic safety films that are designed to prevent glass from shattering. Three grades of transparent protective films are listed, and technical data are given for each. Madico, Inc., Woburn, Mass.



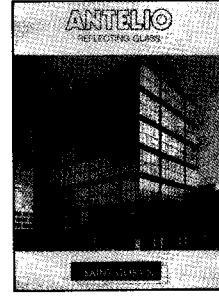
273 Patio doors

Hinged patio doors are featured in a 4-page brochure. Doors with removable wooden grilles that simulate divided lights and authentic French doors are available. The literature describes energy-saving features, construction methods, and such decorative options as transoms and etched, leaded, or beveled glass. Maywood, Inc., Amarillo, Tex.



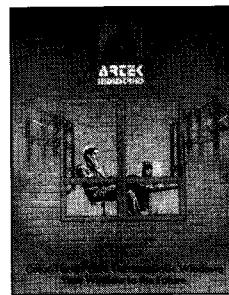
268 Sliding French doors

Weather-tight French doors that slide rather than swing open are featured in a 12-page color brochure. Diagrams illustrate the line's weather-resistant and energy-efficient features. Different sizes and configurations of panes are shown in the literature. Andersen Corp., Bayport, Minn.



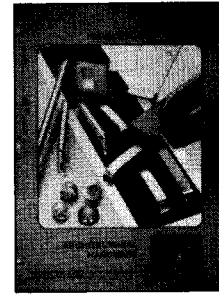
274 Reflective glass

A 6-page color brochure describes the characteristics of the manufacturer's reflective glass, which is coated with metal oxide and hardened by pyrolysis. Both clear and bronze glass is available, and the different properties of each are described in the literature. Euroglass Glasrep Corp., White Plains, N. Y.



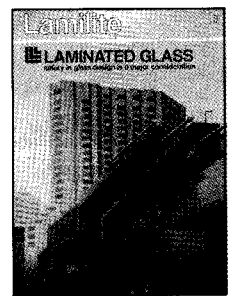
269 Plastic thermal windows

A 4-page color brochure describes the features of the manufacturer's plastic frame thermal windows. The windows come in 13 standard colors, which are shown in the literature, as well as a range of custom colors. Diagrams illustrate energy-saving features. Artek Industries, Warren, Miss.



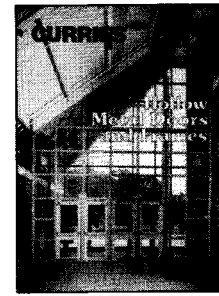
275 Hardware

Metal and heavy-duty plastic hardware is shown in an illustrated, 8-page catalog. Door pulls, push-pull bars and plates, kick plates, and institutional and U. S. Government hardware are listed. Plastic products are shown in several colors. Hiawatha, Inc., Bloomington, Minn.



270 Laminated glass

A 14-page color booklet gives properties, specifications, guidelines, and standards for the manufacturer's laminated glass products. A chart lists thicknesses, sizes, and weights for each type. Photographs show on-site applications. Lamilite Ltd./Ltée., Orangeville, Ontario.



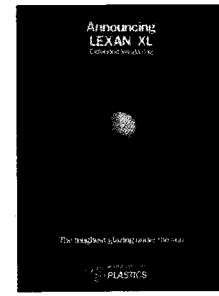
276 Metal doors and frames

A 16-page booklet describes the manufacturer's line of hollow metal doors and frames. Diagrams show construction details and measurements for each door and frame type. The literature lists prices and available colors. Curries Manufacturing, Inc., Div. of Kidde, Inc., Mason City, Iowa.



271 Stained-glass overlay

A stained-glass overlay process, which uses film and lead bonded to glass to imitate stained glass, is described in an 8-page color booklet. Photographs show a variety of residential and commercial applications. The manufacturer's beveled glass panels are also illustrated in the literature. Stained Glass Overlay, Inc., Costa Mesa, Calif.



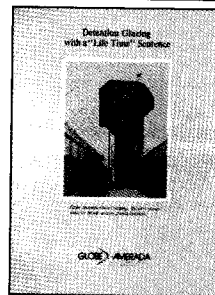
277 Polycarbonate glazing

Weather-resistant polycarbonate glazing is featured in a 4-page color brochure. Test results that demonstrate the product's ability to withstand extreme sunlight are reviewed. Design and economic benefits are also included. General Electric Co., Pittsfield, Mass.



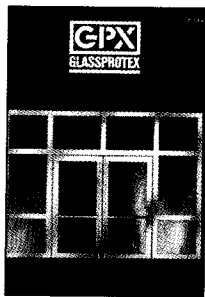
278 Sealing systems

A 28-page illustrated catalog lists the manufacturer's acoustical, air-filtration, smoke-, and light-sealing systems for doors and windows. Diagrams show most components in section with dimensions. Fire-rated products and those designed for use by the handicapped are labeled in the index. Zero International, Bronx, N. Y.



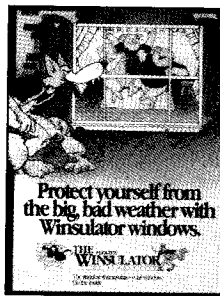
284 Detention glazing

Security glass for detention facilities and psychiatric hospitals is described in a 4-page brochure. Chemical strengthening and polycarbonate laminates are intended to increase glass strength. Photographs of installations are shown as well. Assurance Glass Co., Selma, Ala.



279 Fire-rated glass

A fireproofing system for glass doors and walls rated for 60 and 90 minutes is detailed in an 8-page color brochure. Photographs show a 60-minute door under test conditions. Specifications and drawings of jamb, sill, and head details are included. O'Keeffe's, Inc., San Francisco.



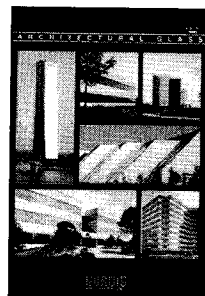
285 Insulating windows

Insulating window systems that consist of clear acrylic glazing and extruded vinyl trim are detailed in an illustrated 4-page color brochure. Graphs compare the R-value, heat-loss rate, condensation-resistance factor, and air-infiltration rate of the manufacturer's window systems with similar products. Plaskolite, Inc., Columbus, Ohio.



280 Thermal windows

The advantages of the manufacturer's thermal windows are detailed in a 32-page color booklet. Thermal and sound insulation features are explained with the help of cutaway diagrams and charts. Photographs of new and retrofit applications are also included. Dynamit Nobel of America, Inc., Rockleigh, N. J.



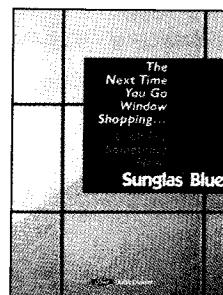
286 Thermal glazing system

A 16-page color brochure shows the design of the manufacturer's butt glazing system for insulating glass. The literature discusses thermal U-values, acoustical STC ratings, structural reliability, and replacement costs. Cutaway photos show system components. Hordis Brothers, Inc., Pennsauken, N. J.



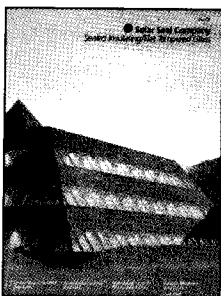
281 Windows and louvers

Decorative molded polyurethane and pine windows and pine louvers are shown in a 12-page color catalog. Illustrations show the windows in oval, round, half-round, quarter-round, and octagonal shapes with removable grilles or glazed-in mullions. Louvers are also shown in a range of shapes. Webb Manufacturing, Inc., Beachwood, Ohio.



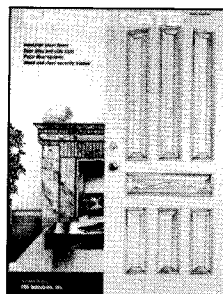
287 Blue glass

A 4-page color brochure features the manufacturer's blue-tinted solar control glass. The literature gives performance characteristics for both single-glazed and double-glazed insulating units, including U-value, R-value, heat gain, light transmittance, and outdoor and indoor reflectance. Ford Motor Co., Tulsa, Okla.



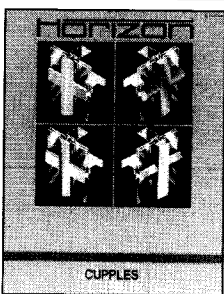
282 Insulating glass

A 10-page color booklet gives information on the manufacturer's double- and triple-glazed insulated glass units. Charts give technical data for each type in different glass tints. Diagrams show construction details. Solar Seal Co., South Easton, Mass.



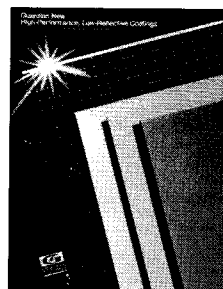
288 Doors

Insulated steel doors complete with hinges, frames, weatherstripping, threshold, and factory-reinforced hardware are described in a 28-page catalog. Doors are available in several styles with a variety of coordinated accessories, including side lights. USG Industries, Inc., Chicago.



283 Curtain-wall systems

The features of a curtain-wall system that can be used with glass, aluminum, stainless steel, or stone panels are detailed in an 8-page color brochure. Diagrams depict the structure of framing members. A color chart shows standard colors for aluminum mullions. Cupples Products, Div. of H. H. Robertson Co., St. Louis.



289 Reflective glass

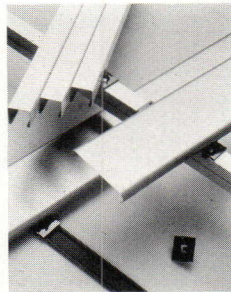
Monolithic and double-glazed reflective glass in bronze, pewter, and royal is described in a 4-page color brochure. A chart gives data on the product's light- and heat-transmittal and reflective properties. The literature includes guidelines for installation and cleaning. Guardian Industries Corp., Carlestown, Mich.

9 Finishes

UCI 9, Finishes:
 Acoustical treatment
 Carpeting
 Ceiling suspension systems
 Painting materials
 Prefinished panels
 Resilient flooring
 Special flooring
 Terrazzo
 Tile
 Wallcoverings
 Wood flooring



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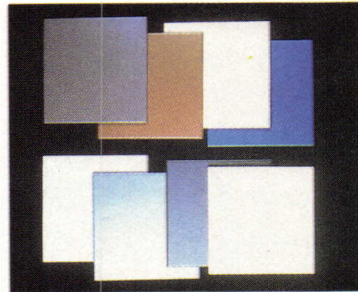
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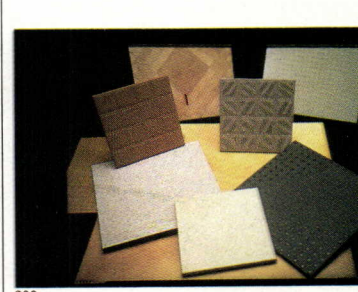
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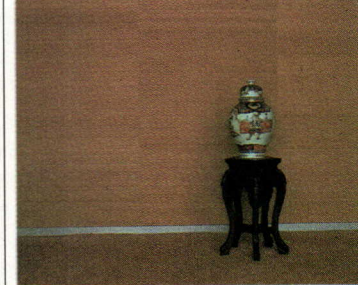
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290 Rubber flooring

The manufacturer's new 9/32-in. ribbed rubber tile flooring can be installed with a two-part epoxy. The flooring is intended for heavy-duty applications, comes in 39.37-in.-square tiles, and is available in a selection of colors. Jason Industrial, Inc., Fairfield, N. J.

291 Aged wood

The *River Woods* line includes woods that have been aged between 100 and 200 years. The wood, which is intended for flooring, is available in random-size planks from 3 in. to 18 in. wide, 2 ft to 16 ft long, and 3/4 in. to 1 1/2 in. thick. Aged Woods, Delta, Pa.

292 Plywood

Plywood floors, walls, and custom-designed furniture can be constructed with the manufacturer's plywood tiles. Plank, ply/parquet, and wavelength flooring patterns can be specified. Plyart L. Crost, Winnetka, Ill.

293 Ceiling clip

The manufacturer's new *Universal Ceiling Clip* can be used with T-bar or aluminium extrusion ceiling systems. The 1-in. clip rotates to facilitate panel alignment. Hunter Douglas, Inc., Architectural Products, Maywood, N. J.

294 Ceramic floor tile

The *Premier Collection* of ceramic floor tile features eight colors for residential and commercial applications. The tiles are available in 4-in. by 8-in. by 24-in., and 8-in. by 8-in. sizes. Gail Architectural Ceramics, Tustin, Calif.

295 Ceramic tile

The new *Nobel* commercial glazed ceramic flooring and wall tile is available in 12-in.-square, 16-in.-square, 12-in. by 24-in., and 24-in.-square sizes. The tile, said to be frost-proof and impact-resistant, comes in seven colors. Marazzi USA, Inc., Sunnyvale, Tex.

296 Carpet

The *Kara-Squares* modular carpet system, intended for heavy-duty applications, is available in *Radiant Star* and *Elation* grades. Woven of cut-pile Dupont *Antron XL*, the carpeting is said to feature soil-concealing and static-control properties. Karastan Rug Mills, New York City.

297 Ceramic tile

A new line of countertop ceramic tile is available in 15 different color and finish combinations. Contoured edge trim in matching colors can be specified. The tile can be installed on top of almost any existing surface in good condition. Wenzel Tile Co., Trenton, N. J.

298 Hardwood flooring

The manufacturer's 3/4-in. *Walnut Monticello* flooring is now available with 1/8-in. brass inlay. The tongue-and-groove sections can be glued down to the sub-floor. The flooring can be specified in a variety of designs, wood species, and inlays. Kentucky Wood Floors, Louisville, Ky.

299 Ceramic mosaics

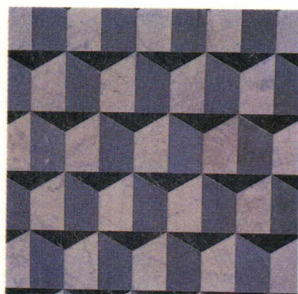
The manufacturer's line of ceramic mosaic tiles now includes 25 new colors. The tiles can be used to create logos, checkerboard patterns, and borders, and are available in five sizes. The tiles are paper-mounted to facilitate installation. American Olean Tile Co., Lansdale, Pa.

300 Ceramic tile

Italian ceramic tiles, designed and produced by several different manufacturers and intended for a variety of flooring applications, are available in a selection of styles, patterns, colors, and sizes. Italian Tile Center, New York City.

301 Silk

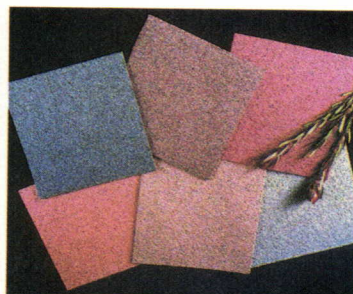
Kemi silk wallcoverings are computer-dyed for improved color uniformity and are paper-backed for easier installation. The collection includes 31 colorways, in widths ranging from 31 to 52 in. Gilford, Inc., New York City.



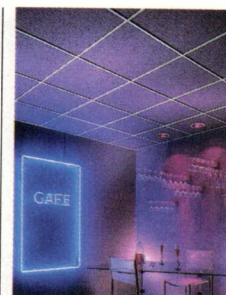
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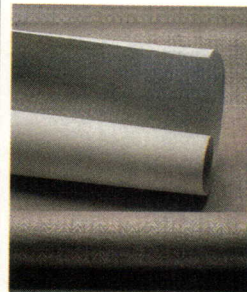
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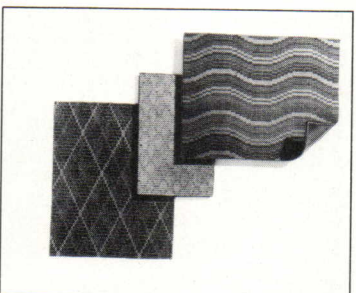
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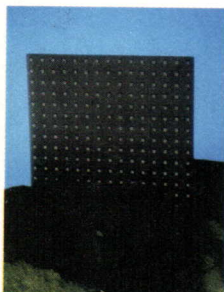
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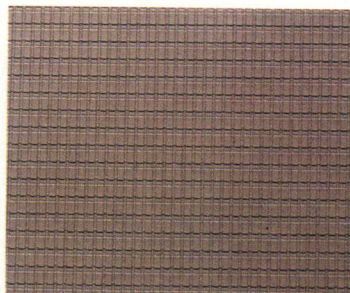
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302 Marble floor patterns

Venezia is one of a collection of 12 decorative marble floor patterns that are made from arranging different kinds of 1/2-in.-thick geometric shapes. The collection includes patterns designed by several Italian architects. Marble Technics Ltd., New York City.

303 Vinyl wallcoverings

Accord 2 textured vinyl wallcoverings are fabric-backed and intended for both commercial and residential applications. The wallcoverings come in 54-in.-wide rolls and are available in a selection of colors and designs. National Gypsum Co., Decorative Products Div., Wakefield, Mass.

304 Ceiling panels

New *Artran* ceiling panels are made from a dry-molding process that molds an unperforated skin around a sound-absorbing core. The 2-ft by 2-ft panels fit onto a 9/16-in. exposed grid, and are available in a selection of styles and colors. Armstrong World Industries, Inc., Lancaster, Pa.

305 Marble

The manufacturer's line of marble tile is intended for residential and commercial applications. Eleven new colors are available, including gray, white, rose, peach, pink, and mahogany. Georgia Marble Co., Inc., Nelson, Ga.

306 Hardwood flooring

The manufacturer's *Northern Oak Parquet* line of hardwood flooring is now available in a new *Pearl* finish. The finish is factory-applied to the fingerblock oak flooring. Robbins, Inc., Cincinnati.

307 Carpet

The manufacturer's new level-loop construction carpet is available in custom-specified patterns and colors. The carpet is made from *Ultron* nylon and is bonded to polyurethane for glue-down or adhesive installation. An extra-dense level-loop is available for heavy-traffic applications. Durkan Patterned Carpet, Dalton, Ga.

308 Carpet tile

Quantum Plus carpet tile is said to resist fading, staining, and static. Available in 48 standard colors, the carpet is made from *Zeftron* solution-dyed fiber with a fluorocarbon finish. Interface Floorings Systems, Inc., LaGrange, Ga.

309 Wallcovering

The *Cavalier* collection of wallcoverings includes paisleys, plaids, batiks, and chinoiserie patterns. Said to draw their inspiration from the Orient, the wallcoverings are available with coordinating fabrics. Albert Van Luit & Co., Los Angeles.

310 Ceramic tile

The *Fiandre Ceramic Granite* line of tile features polished designs on unpolished surfaces. The porcelain tiles come in a selection of 17 colors and in seven sizes. Coordinating trims are available. Trans Ceramica, Ltd., Elk Grove Village, Ill.

311 Ceiling system

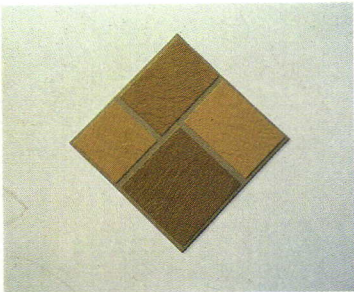
The *Ultraline 3600* ceiling system features a 9/16-in. face grid and mitered intersections for tighter tile fit. The grid holds acoustical reveal-edge tile and standard square-edge tile. Chicago Metallic Corp., Chicago.

312 Fabric wallcoverings

The new *Natural Textures* line of fabric wallcoverings was designed by Laura Deubler Mercurio. The fabrics are Class A fire-rated and are available in a selection of textures, designs, and colors. J. M. Lynne Co., Inc., Smithtown, N. Y.

313 Vinyl wallcoverings

Paramount is a new addition to the manufacturer's *Koroseal* collection of vinyl wallcoverings. The 32-ounce ply and fabric-backed wallcovering has a Class A fire rating. BFGoodrich, Akron, Ohio.



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314 Vinyl floor tile

Dover Slate vinyl composition flooring comes in 1/8-in. gauge, 12-in.-square tiles. Intended for commercial and residential applications, the tiles can be installed on, above, or below grade on concrete, wood, or plywood subfloors. The tiles come in a selection of colors. Azrock Floor Products, San Antonio, Tex.

315 Metal panels

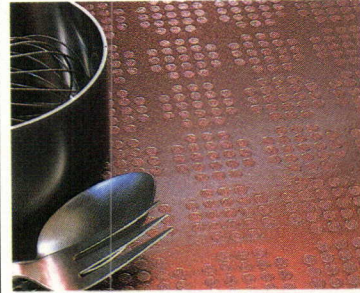
The manufacturer's metal panels are hand-etched and then sprayed with a protective polyurethane coating that is said to be scratch- and stain-resistant. The panels are available in a variety of sizes, and can be used for door and wall paneling or counter tops, and as decorative inserts. Lunstead Metals, Bellevue, Wash.

316 Carpet

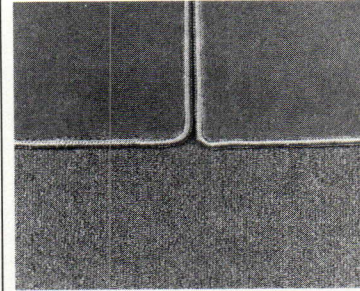
The Solution is a new patterned level loop carpet for commercial applications. The 28-oz, 1/8-in. gauge carpet is made from *Zeftron 500* nylon. The carpet is available in a variety of colors. Monterey Carpets, Inc., City of Industry, Calif.



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317 Wallcoverings and fabrics

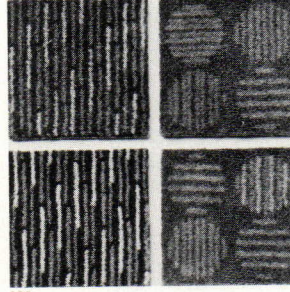
The manufacturer's collection of wallcoverings and fabrics designed for children's rooms includes *All Aboard Boarder* and *Junction Plaid* wallcoverings and *Iron Horse Stripe* curtain fabric. Katzenback & Warren, Inc., New York City.

318 Vinyl flooring

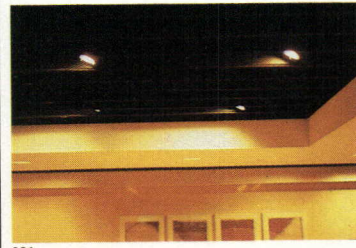
Studded *Tractionfloor* is an anti-slip sheet vinyl flooring intended for commercial applications. The flooring is said to be resistant to wear, abrasion, extreme loads, and temperatures of up to 300 deg C. A selection of 15 colors is available. Forbo North America, Inc., Lancaster, Pa.

319 Carpets

The manufacturer's three new carpets for commercial applications include *Associate*, a 1/8-in. gauge tufted loop pile; *Barrister*, a 32-oz cut pile; and *Summation*, a 42-oz cut pile. Mohawk Commercial Carpets, Atlanta.



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320 Carpeting

The manufacturer's printed carpeting is made from polyamid Dupont *Antron Plus*, and is intended for commercial and residential applications. The *Dessine* collection features small repeating patterns that are available in a selection of colors. Mira-X International Furnishings, Inc., New York City.

321 Ceiling systems

The *Versiline* baffle system is designed to conceal open or old ceilings, and provide acoustical and insulative benefits. The panels are available in a variety of widths and colors, including woodgrain surfaces. Nichols-Homeshield, St. Charles, Ill.

322 Tambours

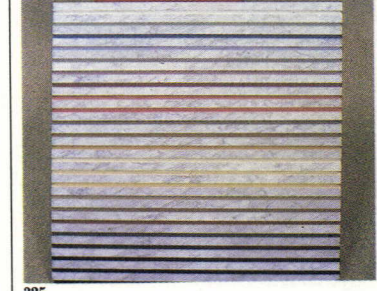
The manufacturer's *Marlite* tambours are intended to cover walls, columns, and counters. Available in two designs, the tambours come in 16-in. by 96-in. by 1/4-in. medium-density fiberboard planks with flexible backings. Masonite Corp., Dover, Ohio.



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323 Carpet

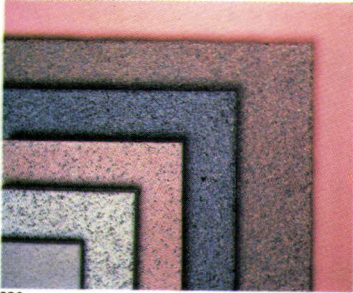
Jupiter textured loop carpet is tufted from Allied Fibers' *Anso IV HP* nylon, and is said to be resistant to soil, staining, and static. Intended for heavy-traffic applications, the carpet is available in 16 colors. Lees Commercial Carpet Co., New York City.

324 Ceramic tile

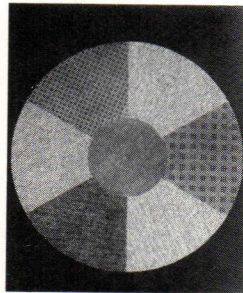
CeramaSuede ceramic tile has a slightly uneven surface that is intended to resemble suede. Designed for counter tops, walls, and light-traffic flooring applications, the tile comes in 4-in. squares. Ten colors are available. Huntington/Pacific Ceramics, Inc., Corona, Calif.

325 Surfacing material

Kerapoxy surfacing material is said to feature high levels of color uniformity and shock and chemical resistance. The material is available in 21 colors and is intended for hospital and laboratory applications. Mapei Canada, Inc., Laval, Quebec.



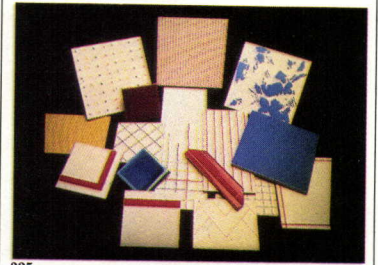
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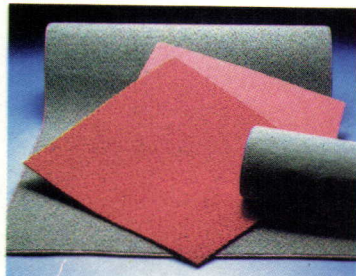
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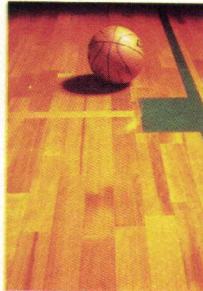
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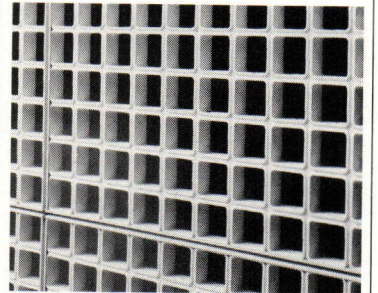
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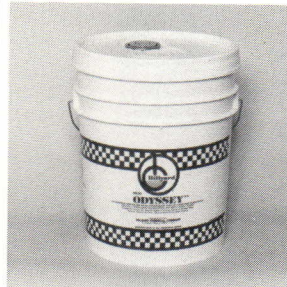
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326 Granite tile

A line of granite tile intended for interior and exterior applications is made from pulverized and pressed granite that is fired at high temperatures. The tiles come in 16 colors and a variety of sizes, and are said to be frost-proof and slip-resistant. Gail Architectural Ceramics, Tustin, Calif.

327 Rubber flooring

The manufacturer's *Low-Disc* rubber tile features 3/4-in.-diameter discs raised .025 in. above the surface. Available in 10 colors, the flooring is intended for commercial applications. The tiles are 24-in. square. The R. C. Musson Rubber Co., Akron, Ohio.

328 Matting

Nomad vinyl-backed matting features an open construction that is designed to trap dirt and grime. The matting is available in two colors and in 3-ft by 5-ft and 4-ft by 6-ft sizes. 3M, Building Service and Cleaning Products Div., St. Paul, Minn.

329 Carpeting

The new *Chatham Gallery* collection includes loop pile, cut pile, patterned plush, printed, and cut pile carpet. Made from Dupont's *Antron III* continuous filament nylon, the carpeting is said to resist static. The collection features 36 colors. Stratton Industries, Inc., Cartersville, Ga.

330 Carpeting

The manufacturer's *CG* line of carpeting, intended for installation in areas with computer and data systems, is said to be anti-static. The carpeting is available in a selection of styles and colors. J & J Industries, Inc., Dalton, Ga.

331 Floor polish

Odyssey floor polish is said to dry to a clear gloss without buffing. The polish can be applied with a mop and is designed to be slip- and scuff-resistant. Hillyard Chemical Co., St. Joseph, Mo.

332 Wall and ceiling panels

Glasbord and *Fire-X Glasbord* fiberglass-reinforced plastic wall and ceiling panels are available in eight colors. The panels are said to resist scratches, stains, and chemical damage, and are available in eight colors. Dyrotech Industries, Inc., Joliet, Ill.

333 Wood flooring

A line of four kiln-dried Douglas fir floorings is intended for residential and commercial applications. The flooring is finger-jointed and glued into 12-ft, 14-ft, and 16-ft lengths. The Pacific Lumber Co., San Francisco.

334 Tile

The manufacturer's *Carolina Colony* tiles are intended for residential and commercial applications. The 1/2-in.-thick tiles come in 8-in. squares and 4-in. by 8-in. rectangles, and in a selection of six colors. Mid-State Tile, Lexington, N. C.

335 Ceramic wall tiles

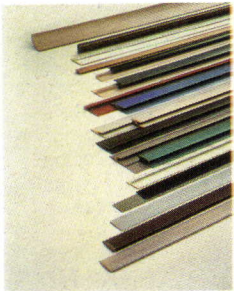
A collection of ceramic tiles, fabricated by several different manufacturers, is intended for wall applications. The tiles are available in a selection of styles, textures, and colors. Italian Tile Center, New York City.

336 Ceiling panels

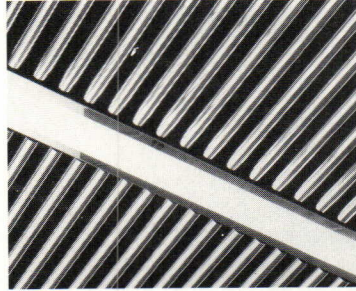
The manufacturer's modular ceiling system, which is designed to hide wiring and piping in the plenum, is available with *Pagolux* panels. The 2-ft-square panels are molded of cellulose resins and are available in white or sandstone. USG Acoustical Products Co., Chicago.

337 Coatings

A line of water-based acrylic latex protective coatings includes *Metalclad* flat primer and finish. The coating is said to be rust-inhibitive and to provide good adhesion to a variety of surfaces, including steel, galvanized aluminum, concrete, and wood. Devoe & Reynolds Co., Div. of Grow Group, Inc., Louisville, Ky.



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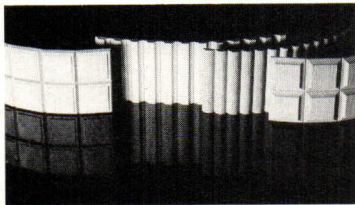
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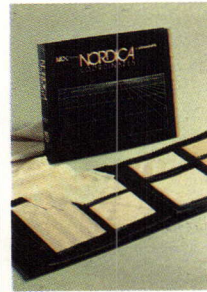
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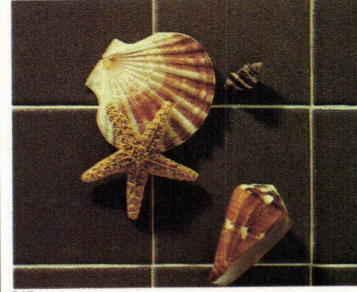
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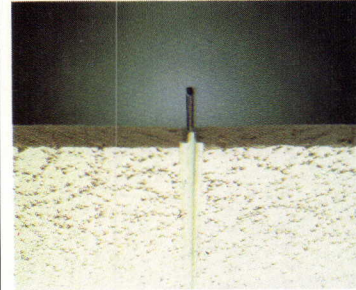
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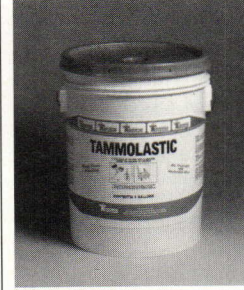
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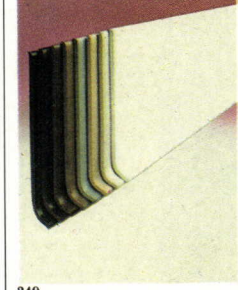
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338 Carpet guards

The manufacturer's line of *Johnsonite* vinyl-edge carpet guards, carpet-to-tile adapters, carpet cover caps, and carpet and resilient reducer strips is now available in 18 colors. The guards come in standard lengths of 12 ft. The Johnson Rubber Co., Middlefield, Ohio.

339 Tambours

The manufacturer's *DecorTambour* tambours are available in 100 designs in solid wood, wood veneer, metallics, acrylics, high-pressure laminates, and paint-grade materials. The tambours are intended for use on furniture and as wallcoverings. Winona Industries, Inc., Winona, Minn.

340 Carpeting

A new line of 100 percent wool carpeting is intended for residential and commercial applications. The *Melrose* pattern is produced from the tufting of five different-color wools. Custom colors can be specified. Collins & Aikman, Dalton, Ga.

341 Ceiling system

The *Tube Line* ceiling system is composed of 1 1/2-in.-diameter cylindrical elements spaced at 2 3/8 in. The elements can be arranged in continuous lines with a concealed junction fitting or with defined joints between the end. The system is available in stainless steel, white enamel on aluminum, and a selection of custom metal and color finishes. Forms + Surfaces, Inc., Santa Barbara, Calif.

342 Wallcoverings

The *Nordica* line of wallcoverings is imported from Sweden and was designed by Anne Nomtak. The collection includes cotton fabrics that coordinate with the manufacturer's sheer window fabrics. The wallcoverings have a Class A fire rating. MDC Wallcoverings, Elk Grove Village, Ill.

343 Ceiling suspension system

The *Spectra 3700* ceiling system has a 9/16-in. face with a center regress of 3/16 in. The system accommodates both 5/8-in. and 3/4-in. lay-in ceiling panels with square-cut edges. Chicago Metallic Corp., Chicago.

344 Wood paneling

A line of light birch paneling comes in 7/16-in.-thick panels that can be attached directly to the studs. The 4-ft-wide by 8-ft-long panels have a plywood substrate and are covered with a catalyzed acrylic finish. Roseburg Forest Products Co., Roseburg, Ore.

345 Tiles

A line of tiles for residential and light-duty commercial flooring is available in 4 3/8-in.-square, 6 1/8-in.-square, and 5-in. hexagonal sizes. The tiles come in a selection of 14 colors and can be specified with coordinating trim and counter stretchers. Mid-State Tile, Lexington, N. C.

346 Coating

Tammolastic is a decorative water-repellent coating for interior and exterior concrete block, masonry, brick, plaster, stucco, and poured or precast concrete surfaces. The coating can be applied with a brush, sprayer, or roller. Tamms Industries Co., Itasca, Ill.

347 Finish restorer

The manufacturer's *H. R. 2000* high-gloss finish restorer is intended to repair scuff and scratch marks. The finish can be applied with a mop or spray device. Hillyard Chemical Co., St. Joseph, Mo.

348 Floor tile

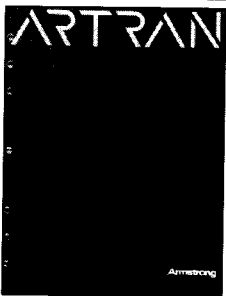
Pavimar 12-in. by 12-in. precast marble tiles can be installed with a latex adhesive. The 3/16-in.-thick beveled tiles are intended for heavy-traffic applications. The tiles are available in a selection of colors. Armstrong World Industries, Inc., Lancaster, Pa.

349 Wall base

The manufacturer's *Vynite/Rubber* wall base material is made from a nitrile rubber alloy, and is said to be scuff-proof and abrasion-resistant. The product is available in a 1/8-in. gauge, and in 4-ft sections of 100-ft rolls. Mercer Plastics Co., Inc., Div. of the Dexter Corp., Newark, N. J.

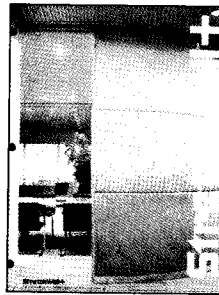
9 Finishes Product literature

For more information,
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350 Acoustical ceilings

A 12-page color brochure describes the manufacturer's line of patterned acoustical ceiling panels. Three different designs are available in five colors: white, adobe, haze, parchment, and platinum. Specifications and installation guidelines are included in the literature. Armstrong World Industries, Inc., Lancaster, Pa.



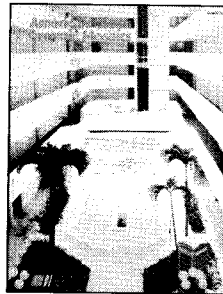
356 Fabric wallcoverings

A system for attaching fabric wall and ceiling coverings is described in an illustrated 8-page color brochure. Charts give performance and design information. Diagrams show typical details of wall and ceiling installations. Stretchwall Products, Div. of Joel Berman Associates, Inc., Long Island City, N. Y.



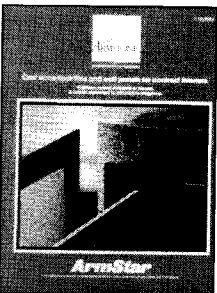
351 Ceiling hatches

Ceiling hatches are featured in a 12-page color catalog. The hatches facilitate access to ducts, wiring, and piping concealed behind dropped ceilings. Reflected ceiling plans and photographs show six types of hatches as they look from the floor and from inside the ceiling. J. L. Industries, Bloomington, Minn.



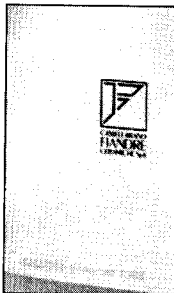
357 Porcelain tile

An 8-page color brochure features porcelain tiles in a range of sizes, shapes, colors, and patterns. Diagrams show corner trim and installation details. The literature also describes the manufacturer's special mural and swimming-pool design services. American Olean Tile Co., Lansdale, Pa.



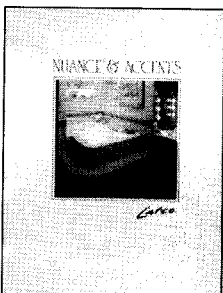
352 Cast-stone tiles

A 4-page color brochure features cast-stone floor tiles and wall panels for interior applications. The marble aggregate tiles and panels are shown in textured and monolithic patterns, honed and polished finishes, and in a selection of 12 colors. Specifications are included. Armstar, Lenoir City, Tenn.



358 Porcelain stoneware

A 50-page color catalog, written in Italian and English, displays the manufacturer's line of porcelain stoneware tiles. The tiles are illustrated in 17 colors and several skid-resistant patterns. Photographs show applications in factories, banks, shopping centers, restaurants, and office buildings. Trans Ceramica, Ltd., Elk Grove Village, Ill.



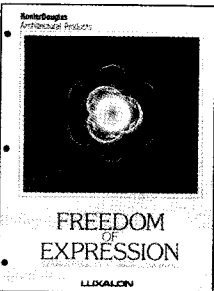
353 Ceramic tiles

A folder contains illustrated information sheets describing the manufacturer's line of colored ceramic tiles for interior and exterior use. Colors and trim patterns are shown. Photographs depict wall, floor, and countertop applications. Latco Products, Los Angeles.



359 Floor mats

Vinyl and aluminum floor grid systems and roll-up floor mats are described in a 4-page color brochure. Grid systems are shown with four surfaces: carpeted, extruded vinyl, abrasive, and serrated aluminum. Mats are shown with carpeted and extruded vinyl surfaces. Diagrams show installation methods. Balco, Inc., Wichita, Kansas.



354 Suspended ceilings

A 16-page color booklet details the manufacturer's metal suspended ceiling panels. Photographs show a range of applications in supermarkets, showrooms, athletic facilities, theaters, and offices. Five types of panels are depicted: lineal, wide-panel, screen, decorative, and curved. Hunter Douglas, Inc., Maywood, N. J.



360 Carpet maintenance

An 8-page pamphlet details the manufacturer's carpet cleaning and maintenance service. Tables suggest cleaning and maintenance schedules and over-all cleaning and spot-removal procedures for a variety of common stains. Allied Fibers, New York City.



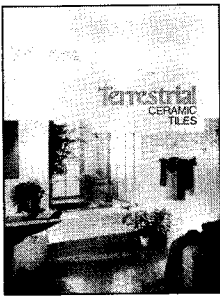
355 Hardwood flooring

Oak floor boards that interlock to form patterned blocks are featured in a 12-page color brochure. The boards are shown in four lengths and three colors: curry, ginger, and nutmeg. Drawings of 16 standard patterns are included. The literature also describes finishing and installation methods. Hartco, Inc., Oneida, Tenn.



361 Quarry tile

An illustrated 4-page brochure shows 12 colors and patterns of quarry tile. Test results describe the products' strength, abrasion-resistance, and ability to withstand temperature extremes. Specifications are also given for wall, roof-deck, and wooden and concrete subflooring applications. Metropolitan Ceramics, Canton, Ohio.



362 Ceramic tiles

Ceramic bath and kitchen tiles in four pastel colors and coordinated floral patterns are described in a 4-page color brochure. The tiles are said to match the colors of most currently available plumbing fixtures and kitchen appliances. Photographs show examples of kitchen and bath applications. Wenzel Tile Co., Trenton, N. J.



368 Commercial carpets

A 48-page catalog reviews a line of commercial carpets. Photographs show a variety of applications. The literature includes a reference guide in chart form that gives specifications for all the manufacturer's carpets. Grifftex Commercial Carpets, Dalton, Ga.



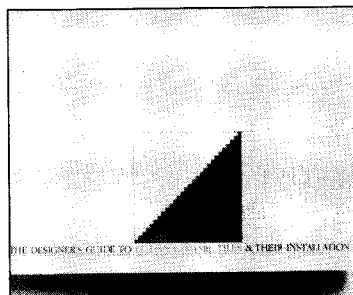
363 Display wall panels

A 12-page color pamphlet describes the manufacturer's merchandising display panels. The grooved, particleboard panels are shown with a variety of coverings, including wood veneer, plexiglass, and high-pressure laminates. Freestanding modular display units made of the same materials are also shown. Masonite Corp., Dover, Ohio.



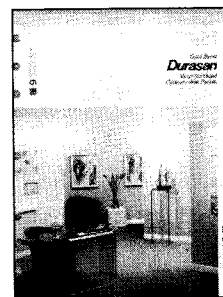
369 Steel coating

A 4-page color brochure describes a polymer and ceramic coating for steel panels that protects against atmospheric pollution and exposure to ultraviolet light. The literature includes photographs of applications, a description of product development, condensed specifications, and a listing of colors. The Dexter Corp., Waukegan, Ill.



364 Ceramic tiles

A 64-page bound color design guide contains information on the types, properties, and uses of ceramic tile. Installation and maintenance procedures and materials are also discussed. Color photographs show tile applications in kitchens, bathrooms, lobbies, foyers, courtyards, and swimming pools. The Italian Tile Center, New York City.



370 Vinyl wallcovering

The manufacturer's vinyl-surfaced gypsum panels are described in an 8-page color brochure. The literature includes information on durability, installation, and color permanence. Thirty-nine colors and eight textures are shown. Gold Bond Building Products, Div. of National Gypsum Co., Charlotte, N. C.



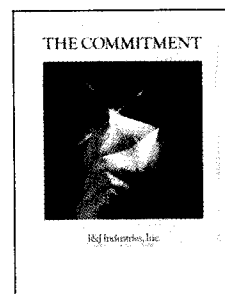
365 Sisal wallcovering

The properties and advantages of sisal wallcovering, including durability and sound transmission, are detailed in a 4-page color brochure. A sample of the fabric is attached, and a list of installations is included in the literature. Design Materials, Inc., Kansas City, Mo.



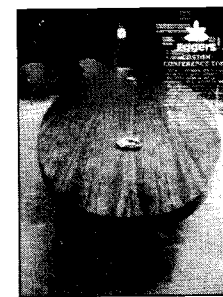
371 Rubber flooring

An 8-page color brochure includes descriptions of the manufacturer's complete line of rubber floorings and accessories. The literature reviews technical data and available colors. Photographs show a variety of installations. Jason Industrial, Inc., Fairfield, N. J.



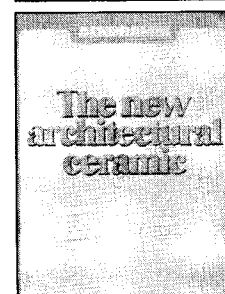
366 Commercial carpeting

Commercial and industrial carpeting available in a range of fabric constructions and patterns is described in an 8-page color brochure. Special types, including static-dissipative carpet for computer facilities, are detailed. J & J Industries, Inc., Dalton, Ga.



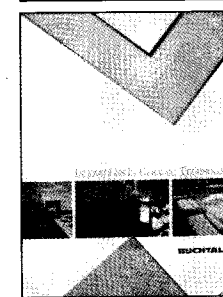
372 Table tops

A 4-page color brochure shows the range of veneer types, edging styles, sizes, and shapes available for the manufacturer's custom conference table tops. Nine different veneer matches are illustrated, including sunburst, burl, box match, and diamond match. Eggers Industries, Two Rivers, Wis.



367 Architectural ceramics

A 16-page fold-out color leaflet shows the manufacturer's architectural ceramics in 56 colors and a range of shapes, sizes, and textures. The literature also gives data on light stability, bending strength, and resistance to surface abrasion, acid, and frost. Amsterdam Corp., New York City.



373 Ceramic tiles

Ceramic tile skin systems and flooring materials are described in a 16-page color pamphlet. The construction of three skin systems is shown in diagrams; available colors are illustrated. Technical support data is also included. Buchtal Corp. USA, Atlanta.

You'll Get Ten Years To Life.

Just for specifying modular carpet systems by Lees.

Lees backs its carpet tiles with performance guarantees that provide ten full years of protection. Against edge ravel. Against delamination. Against cupping, doming, and dishing. Against wear. Against static. It's the kind of long term insurance you and your clients deserve. But you only get it from Lees.

Ten-year warranties are just one of the advantages that have made Lees the world's largest supplier of commercial broadloom and modular carpet systems. Now that we've become a separate, all-contract company, we're giving you lots more.

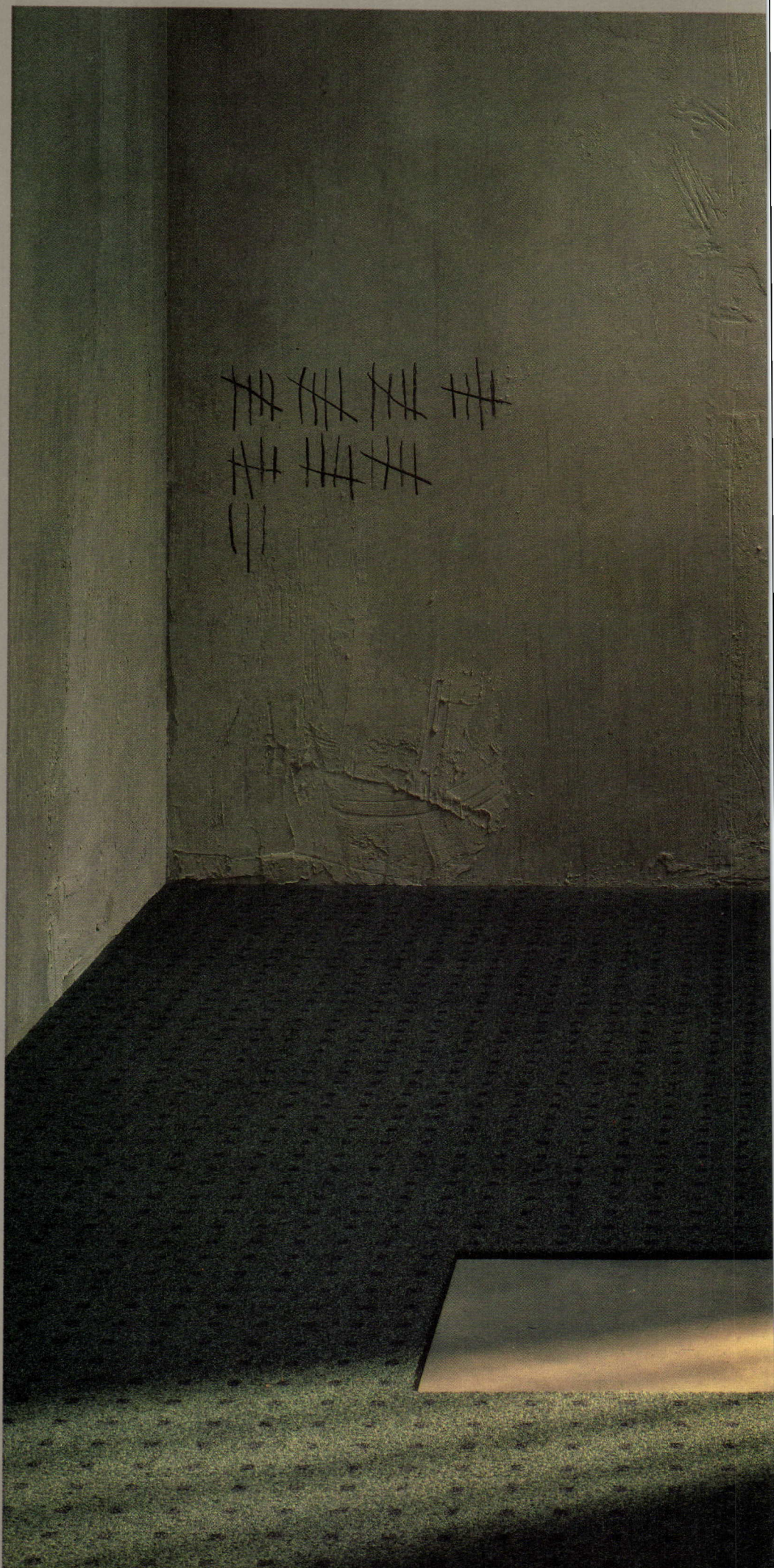
Our hundreds of matching broadloom-and-modular carpet combinations are perfect pairs—in texture and thickness, as well as color and pattern. We're expanding our field support staff and our product lines. We've added hardback carpet tile systems in advanced generation Antron® nylon by DuPont with soil and static protection built in.

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King of Prussia, PA 19406



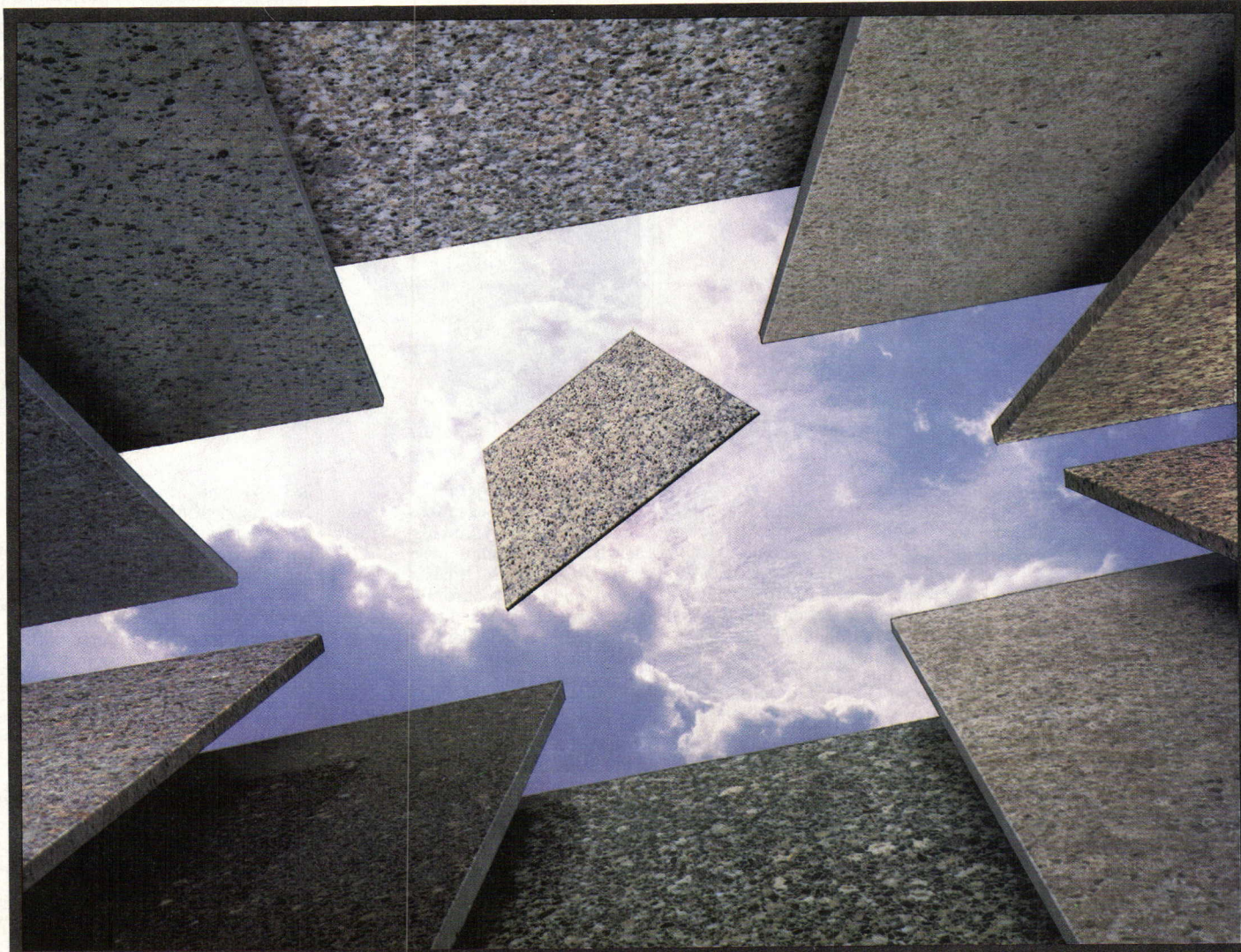
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Tones and textures that whisper greatness.

Floor tiles and wall panels of cast stone for contract interiors. Eighteen colors. Polished or honed. 3/8" and 3/4" thicknesses available for a variety of applications—new work, remodeling and traditional stone-type installations. Made in America to exacting criteria. A classic understatement in affordable elegance.



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flange, which is then snapped onto the back plate. Tubular Specialties Manufacturing, Inc., Los Angeles.

shutter is available in custom sizes. American Heritage Shutters, Inc., Memphis, Tenn.

mechanical services are hidden under 24-in.-square reinforced concrete panels that are supported at the corners by pedestals attached to the subfloor. Floating Floors, Inc., Toledo, Ohio.

is available with a shuttle or retractor to pick up the load. Eaton-Kenway, Salt Lake City, Utah.

Announcing an exceptional louver value from C/S.

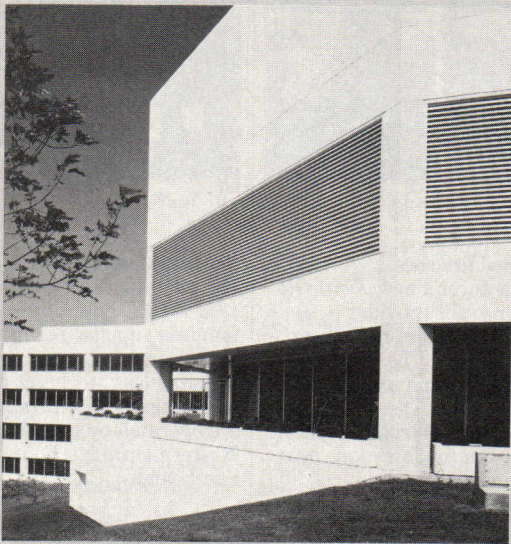
Now, through advanced roll forming technology, the world's premier louver manufacturer is able to offer an exceptional value in fixed and operating louver systems.

C/S Roll Formed Louvers may cost up to 50% less than conventional extruded louvers, yet they are stronger and capable of unlimited blade lengths. And, because of the system's modular design and lower weight, installation costs are lower too — particularly in large projects.

C/S Roll Formed Louver systems are available with blade profiles to meet most ventilation requirements. And, each profile has been designed to provide superior performance, as well as exceptional blade strength.

A complete range of 20 year Kynar® 500 finishes is standard, and jobsite manufacturing is available where extra long lengths are required.

So if you're looking for an exceptional louver value, look to C/S. We've been building valuable innovations into our louvers for more than 35 years.



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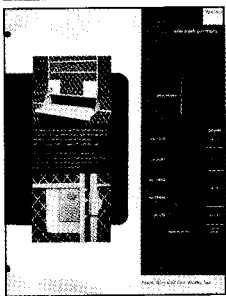
Mississauga, Ont. (416) 274-3611

KYNAR 500 is a registered trademark of the Pennwalt Corporation

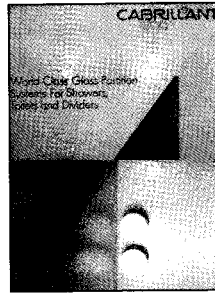
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10 Specialties Product literature

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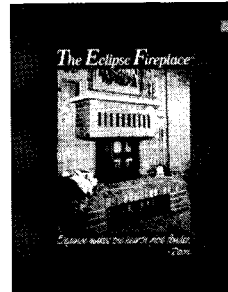
398 Wire mesh partitions
Standardized wire mesh panels, doors, service windows, and corners are described in a 12-page brochure. Diagrams show the components, which can be arranged in a variety of configurations. Dimensions and specifications are included in the literature. Acorn Wire and Iron Works, Chicago.



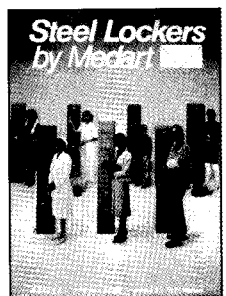
404 Textured glass partitions
A textured glass partition system for showers, toilets, and room dividers is described in a 6-page color fold-out brochure. The literature emphasizes the product's durability, hygienic advantages, and low maintenance requirements. Drawings show the system's different components in perspective and in plan. W & W Glass Products, Ltd., Spring Valley, N. Y.



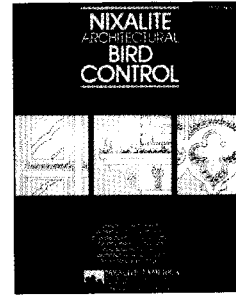
399 Steel structural system
A 4-page brochure describes the manufacturer's lightweight tubular steel structural system for display and exhibition applications. Photographs illustrate the system's components, and diagrams show how the members are connected. Accessories such as casters and lamps are also shown. Abstracta Structures, Inc., New York City.



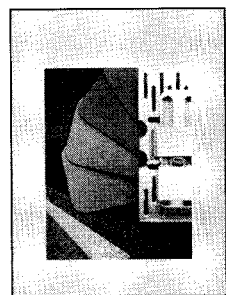
405 Airtight fireplace
A 6-page color brochure features an airtight, zero-clearance, cast-iron fireplace that burns either wood or coal. The literature shows the product installed with a variety of surround options, including ceramic tile and paneling. Installation information and performance data are included. Dovre, Inc., Aurora, Ill.



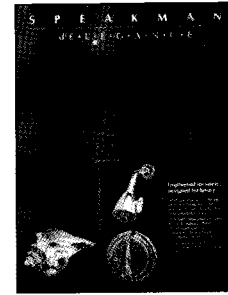
400 Movable wall systems
Prefabricated movable wall systems are featured in a 14-page color booklet. The literature describes the benefits of movable walls versus fixed walls or open systems. Such factors as cost, flexibility, privacy, and ease of installation are reviewed. Gold Bond Building Products, Div. of National Gypsum Co., Charlotte, N. C.



406 Bird-control strips
Stainless-steel needle strips, designed to prevent birds from landing on buildings, are described in a 4-page brochure. Three types of strips are illustrated, along with several typical installations. The product is not harmful to birds, according to the literature. Nixalite of America, East Moline, Ill.



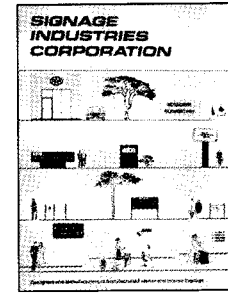
401 Lockers
A 12-page pamphlet lists the manufacturer's line of lockers and accessories. Four types of lockers are described, including a coin-operated locker and a "quiet locker" with cushioned doors. Drawings show installation details and various locker arrangements. Medart, Inc., Greenwood, Miss.



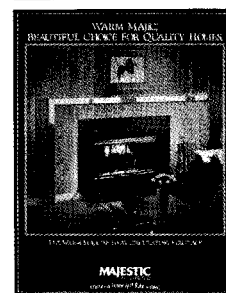
407 Shower heads
A 4-page color brochure features the manufacturer's shower heads and anti-scald pressure valves, available in polished or satin-finish brass and chrome. Diagrams show the internal mechanisms of the balanced pressure and volume control modules. Photographs depict four different models. Speakman Co., Wilmington, Del.



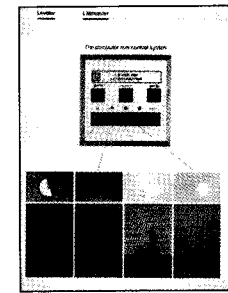
402 Shades
Manual, motorized, and computer-operated window shades are described in an 8-page color brochure. The literature reviews the applications of different types of shades. Photographs show actual installations, and diagrams illustrate mounting and design details. Mecho Shade Corp., Long Island City, N. Y.



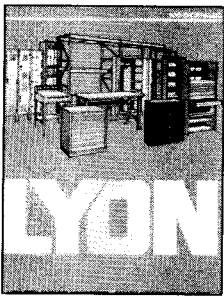
408 Interior and exterior signs
Fifteen types of interior and exterior signs are shown in a 16-page brochure. Each type is illustrated with photographs of actual applications and diagrams of internal construction. The literature includes charts of available type-faces and specifications. Signage Industries Corp., Greensboro, N. C.



403 Fireplaces
A 4-page color brochure details the energy-efficient features of the manufacturer's heat-circulating, steel-lined fireplaces. The literature compares heat-circulating fireplaces with conventional masonry systems. Diagrams show several ways of positioning chimney and fireplace units. Majestic Co., Div. of American Standard Co., Huntington, Ind.

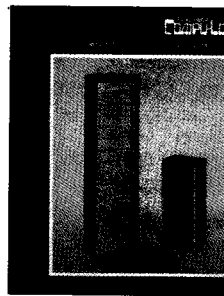


409 Computer-controlled blinds
A computer-controlled venetian blind system that automatically adjusts the angle of the slats as the sun's angle changes is described in a 4-page color brochure. The literature describes the system's components and explains how they operate. Specifications are included. Levolor Lorentzen, Inc., Lyndhurst, N. J.



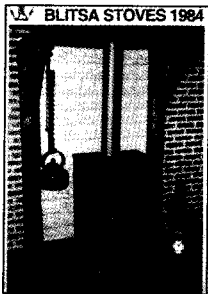
410 Industrial shelving

Modular steel shelving systems for industrial and commercial use are listed in a 96-page color catalog. The literature shows 22 different models along with such accessories as pigeonhole units, swinging panels, drawer case units, and shelf boxes. Lyon Metal Products, Inc., Montgomery, Ill.



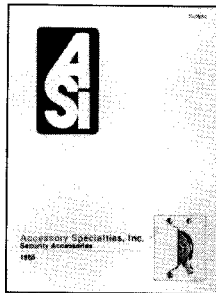
416 Computerized lockers

A 4-page color brochure describes a computerized locker system for the storage and distribution of confidential computer printouts. The literature details the procedures used to gain access to the lockers. Photographs show each component of the system in use. Specifications are included. American Locker Security Systems, Inc., Jamestown, N. Y.



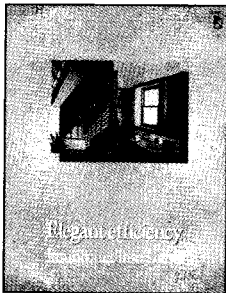
411 Woodstoves

A 4-page illustrated color brochure depicts six airtight woodstove models based on traditional Dutch stove designs. Photographs show both freestanding and built-in units. The literature gives dimensions for each model. Southside Fireside, Inc., Riverdale, Ga.



417 Washroom accessories

Heavy-gauge stainless-steel washroom accessories for correctional, psychiatric, and other facilities are described in a 4-page brochure. Drawings show such items as mirror frames, hooks, toilet-paper holders, and shower seats. Dimensions and mounting information are included. American Specialties, Inc., Yonkers, N. Y.



412 Window insulation

Insulating shutters, louvers, and glazing systems for windows, doors, skylights, clerestories, and greenhouses are described in an 8-page color brochure. Photographs illustrate a range of residential applications. Diagrams give details of energy-efficient features and installation methods. First Law Products, Inc., Keene, N. H.



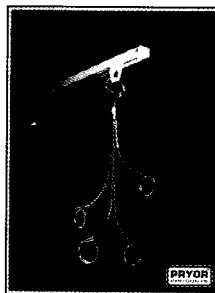
418 Roll-down shutters

Roll-down shutters in wood or extruded aluminum are featured in a 4-page color brochure. Photographs show several residential applications. Sections illustrate raising and lowering mechanisms. Dimensions are included. E. L. R. Enterprises, Inc., Miami, Fla.



413 Safety signs

A 16-page color catalog illustrates the manufacturer's line of signs that convey such safety messages as "Danger," "Caution," and "Exit." Specifications and ordering information are included in the literature. Nutheme Illustrated Safety Co., Elk Grove Village, Ill.



419 Hospital equipment

A 6-page fold-out brochure features the manufacturer's line of stainless steel IV hangers. Photographs show several different attachments including an IV walker, a combination utility stand/lamp, and an IV stand for wheelchairs. The literature includes a price list and dimensions. Pryor Products, Solana Beach, Calif.



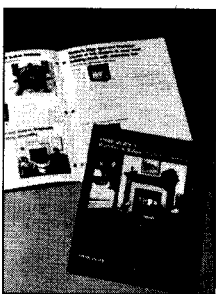
414 Office partitions

A 6-page color fold-out brochure displays the manufacturer's system of modular office partitions and mounted work surfaces, cabinets, and shelves. The partitions, which are made of acoustical or non-acoustical materials, are shown in fabric and glazed finishes with hardwood or high-pressure laminate trim. Contemporary Products, Inc., Brentwood, N. Y.



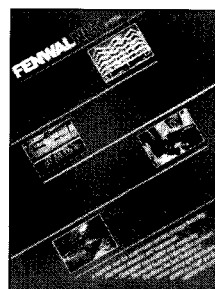
420 Office storage

An 8-page color pamphlet describes the manufacturer's high-volume office storage system that consists of several types of automated file cabinets. Diagrams show several possible arrangements of the storage units in an office. White Office Systems, Inc., Kenilworth, N. J.



415 Prefabricated fireplaces

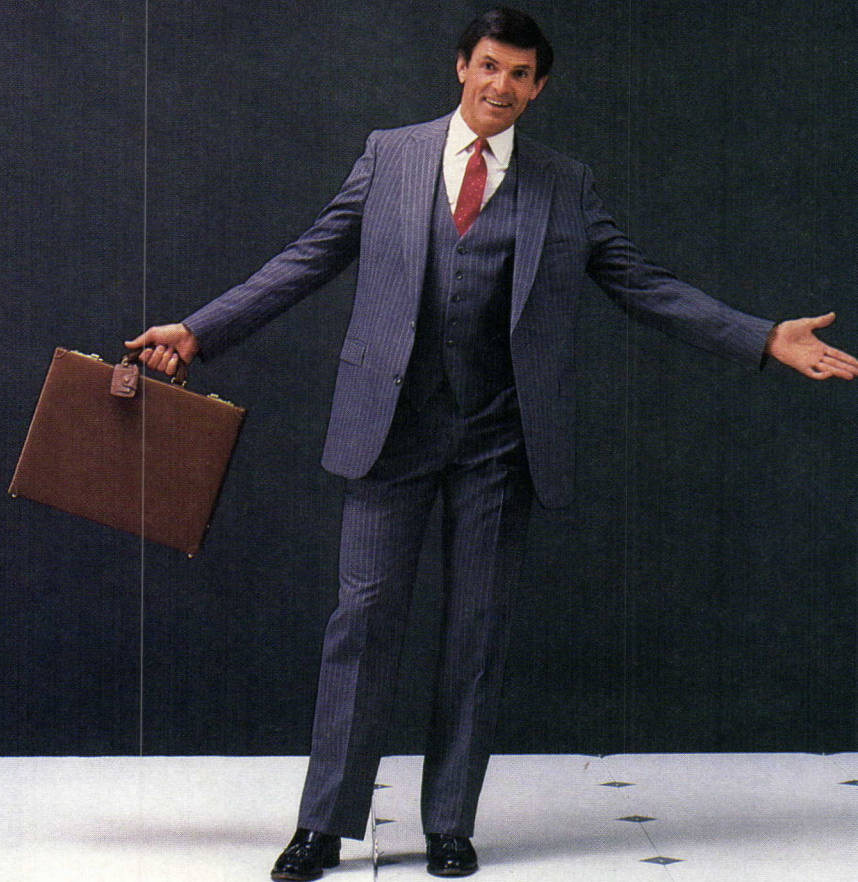
Prefabricated steel fireplaces in circulating or flush-front designs are described in a 4-page color brochure. Diagrams show installation configurations, chimney design, and the air circulation system. Charts give framing dimensions for each model. Preway, Inc., Wisconsin Rapids, Wis.



421 Fire protection

A 4-page color brochure features the manufacturer's fire extinguishing system that uses a gaseous product said to stop fire on contact without causing further damage. The literature describes the advantages of using the system in computer facilities and "intelligent" buildings. Fenwal, Inc., Ashland, Mass.

Access flooring that defies your feet to tell the difference!



Concrete Slab

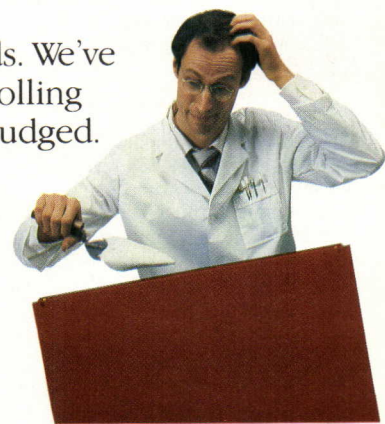
S-Floor

Now there's an access floor system which feels just like a solid concrete slab. Amazing S-Floor. It must be good because IBM, Sperry Univac, American Express, and Motorola, to name just a few, have recently joined the growing S-Floor client list.

The secret of S-Floor's immense strength is its two-foot square steel-grid reinforced panels of Innocrete, the tough space age silicate compound that's the strong silent type – like concrete but a lot lighter. Its stability is the result of an ingenious system of integration that eliminates ordinary access floor "wobble." S-Floor's system of panels and engineered support structure are almost as tough as a slab itself, particularly when it comes to standing up

to an army of rolling loads. We've tested rolling load after rolling load and S-Floor hasn't budged.

Some manufacturers are filling their metal panels with concrete. But only S-Floor is solid Innocrete with engineered reinforcement all the way through. Play safe. Specify S-Floor, the access floor developed exclusively for offices.



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11 Equipment

UCI 11, Equipment:
 Bank & vault equipment
 Darkroom equipment
 Food service equipment
 Laboratory equipment
 Laundry equipment
 Library equipment
 Loading dock equipment
 Medical equipment
 Parking equipment
 Residential equipment
 Waste handling equipment



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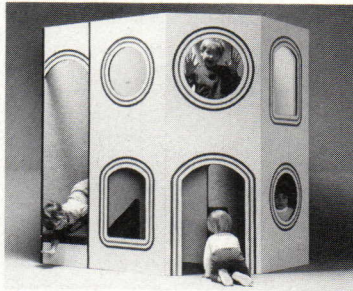
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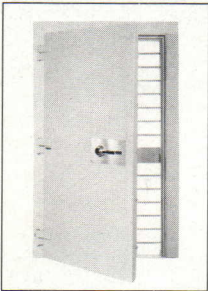
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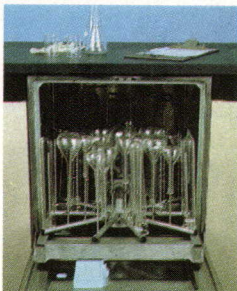
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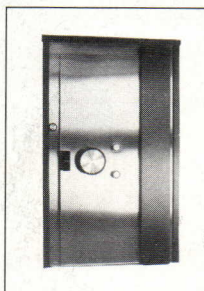
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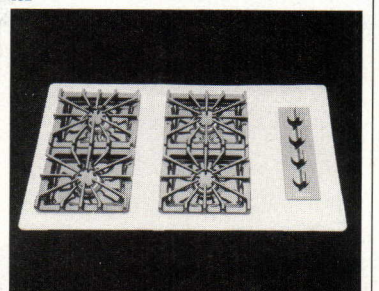
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422 Flask scrubber

The *FlaskScrubber* is designed to clean laboratory flasks, test tubes, beakers, and graduated cylinders. The unit has 36 spindles with adjustable clips that hold the flasks in place and 27 wash-and-dry cycle variations. Labconco Corp., Kansas City, Mo.

423 Microwave

The *MW3520XP* compact microwave provides 650 watts of power. The unit features microcomputer touch control, defrost settings, a temperature probe with "keep warm" setting, a minute timer, and a clock. Whirlpool Corp., Benton Harbor, Mich.

424 Vault doors

The manufacturer's insulated vault doors are intended to protect valuables from fire and theft. The doors have adjustable frames and the openings are 78 in. high and 32 in. or 40 in. wide. Meilink Safe Co., Whitehouse, Ohio.

425 Compact kitchen

Several of the manufacturer's compact kitchen units are now available with dishwashers. The model *RE-72* features 6.4 cu ft of refrigerator space, a double-burner electric stove, a sink, and a 24-in.-wide dishwasher. Cervitor Kitchens, Inc., South El Monte, Calif.

426 Play center

The new *Playscapes Jr* is intended for use in pediatric waiting areas, day-care centers, and hospitals. Available in 4-ft by 4-ft and 4-ft by 5 1/2-ft sizes, the units can be specified with or without a carpeted slide. Playscapes Children's Environments, Madison, Wis.

427 Dishwasher

The *DU1800XP* is an addition to the manufacturer's line of dishwashers. The 18-in.-wide and 22 1/2-in.-deep unit is said to be two-thirds the size of standard models. The porcelain-on-steel interior is designed to be scratch-, stain-, and abrasion-resistant. Whirlpool Corp., Benton Harbor, Mich.

428 Lockers

A line of all-welded lockers features steel handles recessed into the door face. The lockers are available in single, double, and triple tier configurations and in a variety of sizes and colors. List Industries, Inc., Boca Raton, Fla.

429 Sink

The *Bon Vivant* kitchen sink has two 17-in. by 18-in. by 9-in. basins and an additional disposal basin. The entire unit is 48-in. by 21-in. and can be specified in a variety of colors. Self-rimming and square-corner models are available. Kohler Co., Kohler, Wis.

430 Vault door

The *American Century* vault door features the manufacturer's *Superloy* security structure that is said to be more resistant to a cutting torch than steel. The door can be installed in lightweight panel or reinforced concrete walls. Mosler, Div. of American-Standard, Hamilton, Ohio.

431 Kitchen cabinets

The *Q-2000* line of kitchen cabinets is available with a variety of different-style fronts, including all-wood, all-laminate, and wood and laminate combinations. The cabinets have concealed hinges. Quaker Maid, Div. of Tappan, Leesport, Pa.

432 Range

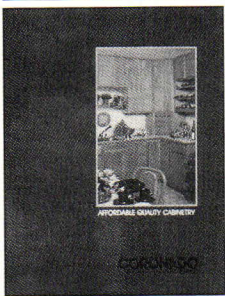
The new 30-in. *Prestige* range is available with the manufacturer's new electric *Ultra Ray* broiler. Other features include a self-cleaning oven, a programmed digital timing system for automatic cooking, snap-out surface units, and a brushed chrome tilting cooktop. Caloric Corp., Topton, Pa.

433 Cooktop

The control panel of the new *Incomparable* gas cooktop is recessed flush with the cooktop surface. The unit is available in 30-in. and 36-in. sizes and can be specified in white, black, almond, and satin. Dacor, Inc., Pasadena, Calif.

11 Equipment Product literature

For more information,
write item numbers on
Reader Service Card



434 Kitchen cabinets

Cabinets constructed of oak and cherry, available in a variety of finishes, are featured in a 4-page color brochure. Six door styles are shown that can be specified in standard sizes and for 36-in. and 42-in. extra-high cabinets. Quaker Maid, Div. of Tappan, Leesport, Pa.



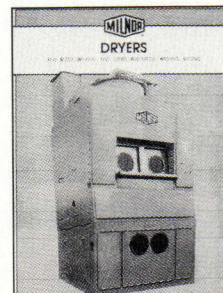
440 Parking machine

A hydraulically operated parking machine can stack two cars in one parking space. A fact sheet reviews several recommended locations for the machine's installation and lists dimensions and general specifications. Space-O-Matic, Inc., Marina Del Rey, Calif.



435 Compact kitchens

A 16-page catalog features the manufacturer's line of compact kitchens. Two new wood finishes and a textured laminate have been added to the kitchen cabinet exteriors. Specifications for each product are included. Dwyer Products Corp., Michigan City, Ind.



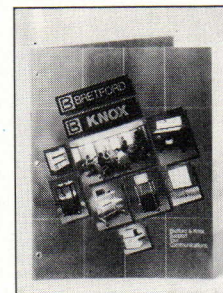
441 Dryers

Pass-through dryers that load at one end and discharge at the other are featured in a 4-page color brochure. Four factors that reduce the dryers' microprocessor-controlled cycle are reviewed in the literature. Different heating sources are described. Pellerin Milnor Corp., Kenner, La.



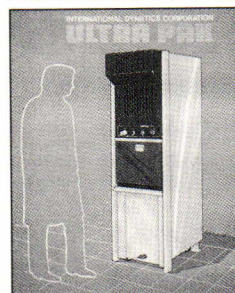
436 Storage racks

A variety of storage racks and related accessories are featured in an 8-page brochure. Intended for department store, warehouse, factory, and office applications, the racks consist of upright frames with I-beams and adjustable shelving decks. Bernard Franklin Co., Philadelphia.



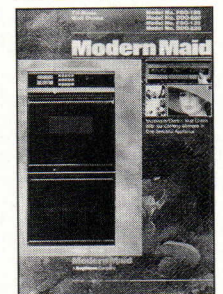
442 Communications furniture

A line of computer-support furniture, office-machine cabinets, media-storage centers, video-support furniture, movable equipment tables, and projector screens is reviewed in a 48-page catalog. Bretford/Knox, Schiller Park, Ill.



437 Compactor

A fact sheet reviews the safety features and available options for the manufacturer's *Ultra Pak* vertical compactor. The unit is constructed of brushed stainless steel and is 24.5-in. by 79-in. by 24.5-in. International Dynetics Corp., South Norwalk, Conn.



443 Ovens

Tri-Mode combination microwave/electric wall ovens are featured in a 6-page color brochure. Four models, including the microprocessor-controlled *FDO 180*, are described in the literature. Modern Maid Co., Div. of Caloric Corp., Topton, Pa.



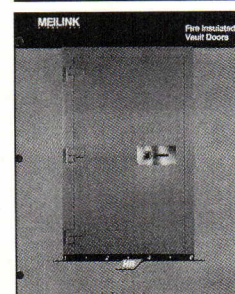
438 Range

A two-page color insert describes and illustrates the manufacturer's restaurant range. The range features in-the-oven broiling and uses an infrared burner. Diagrams of different work- and cooking-surface configurations are shown. Viking Range Corp., Greenwood, Miss.



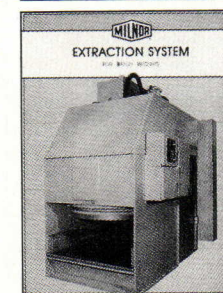
444 Shelving

The available sizes of the manufacturer's clip-type, galvanized-finish shelving are listed in a 4-page catalog. Intended for use in warehouses, factories, restaurants, and refrigerated areas, the shelving can be assembled according to the user's specifications. Bernard Franklin Co., Philadelphia.



439 Vault doors

A 4-page color brochure reviews the features of the manufacturer's fire-insulated vault doors. An emergency release mechanism designed to prevent accidental lock-in is described in the literature. Specifications are given. Meilink Safe Co., Whitehouse, Ohio.



445 Extraction system

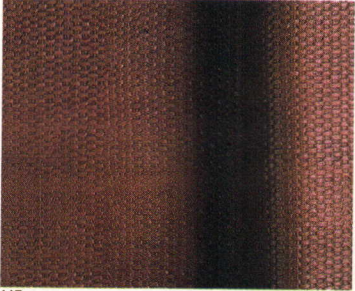
An extraction system designed for use with the manufacturer's batch washer and new pass-through dryer is featured in a 4-page color brochure. Photographs of the shaping basket that transports items to the membrane press section are included in the literature. Pellerin Milnor Corp., Kenner, La.

12 Furnishings

UCI 12, Furnishings:
 Artwork
 Cabinets and storage
 Fabrics
 Furnishing accessories
 Furniture
 Rugs
 Seating



446



447



448

446 Desk system

The *Powerbeam* desk system features separate compartments for communication cables and power lines. The trestle desk frames can be connected by jumper cables, and different-height panels can be mounted to work surfaces. Kinetics Furniture, Rexdale, Ontario.

447 Leather

The *Adirondack* collection now includes *Creel* embossed cowhide. The leather has a basketweave texture and can be used as a heavy-duty upholstery or a wall panel covering. The leather comes in hides of approximately 22 sq ft, and is available in a selection of colors. Gretchen Bellinger, Inc., New York City.

448 Chair

The *Handkerchief* chair, created by Vignelli Designs, is available in arm and armless versions and with a painted or upholstered shell. The chair's frame is constructed of bent steel and can be specified in painted or polished chrome. Knoll International, New York City.



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449 Trolley

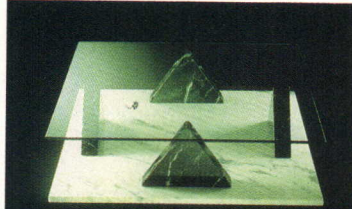
The *Thymus* trolley designed by Antonello Mosca has an extruded aluminum frame and clear or printed glass shelves. The 28 1/3-in.-high, 19 1/2-in.-wide, and 39-in.-long unit can be specified in a selection of colors and finishes. Design Selections International, Inc., New York City.

450 Trolleys

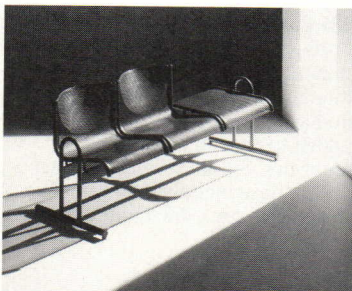
A line of trolleys designed by Friis & Moltke have 1 1/2-in. tubular steel frames and 7/8-in.-thick composite wood core shelves. The trolleys are part of the *Canteen and Work Furniture* series that also includes tables, seating, and shelving. Kroin, Inc., Cambridge, Mass.

451 Sofa

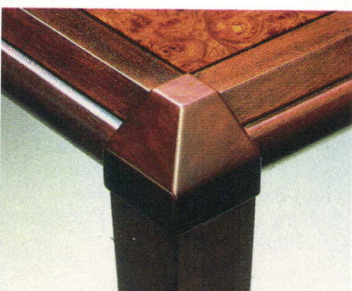
The *Veranda 3* pivoting sofa was designed by Italian architect Vico Magistretti. The three units are constructed of welded steel components that are upholstered and attached to a wood base. The two side units pivot away from the center unit to form a semicircle. Atelier International Ltd., New York City.



452



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452 Table

The *Jaipur* table was designed by Italian designer Ettore Sottsass. The glass top is 120 cm by 120 cm and the base is made from a combination of white Carrara and green Aver marbles. Limn Co., San Francisco.

453 Seating

The *Transit* beam-mounted seating system was designed by Rodney Kinsman and Peter Glynn Smith. The steel system is available in freestanding, wall-mounted, or floor-fixed versions. Bieffe USA, Inc., New York City.

454 Table

The *President's Table*, designed by Michael Goldfinger and John Wall, has an elm burl veneer top that is set into a mahogany frame. Available with 42-in. by 42-in., 36-in. by 72-in., 42-in. by 84-in. and 42-in. by 96-in. tops, the table can be specified in a variety of finishes. Jack Lenor Larsen, New York City.



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455 Chair

The *Homage to Rietveld* chair is part of the manufacturer's *Homages* collection. From Gerrit Rietveld's incomplete sketches, Giandomenico Belotti designed an epoxy-coated folded aluminum chair. The chair is available in several colors. International Contract Furnishings, Inc., New York City.

456 Chair

The *Homage to Theo Van Doesburg* chair is part of the manufacturer's *Homages* collection. From a Theo Van Doesburg drawing that has no indication of scale, Giandomenico Belotti designed a compact chair with a chromium-plated steel frame. International Contract Furnishings, Inc., New York City.

457 Chair

The *Homage to Man Ray* chair is part of the manufacturer's *Homages* collection. From fragmental Man Ray sketches, Giandomenico Belotti designed a chair with a chromium-plated steel frame and upholstered foam seat and backrest. International Contract Furnishings, Inc., New York City.



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458 Office furniture

The manufacturer's *8000 Series* and *8900 Desk Line* are now available with wood trim panels, wood drawer and door pulls, and wood veneer work surfaces. Rift red oak and ribbon mahogany finishes can be specified. All-Steel, Inc., Aurora, Ill.

459 Leaded glass

Leaded glass windows are available in a variety of hardwood frames. The frames can be custom made to fit window and door openings, and can be specified in a selection of painted finishes. Arthur Stern Studios Architectural Glass, Oakland, Calif.

460 Office system

The *TEK 3* office system is now available in the manufacturer's catalyzed lacquer *ModeColors*. The capsule-shaped work surface has a 1 1/4-in. top and a 5-in. radius. The cylindrical bases can be specified in a selection of high-gloss colors, stainless steel, or bronze. Modern Mode, Inc., San Leandro, Calif.



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461 Office furniture

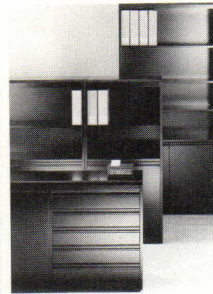
A modular series of office furniture includes rounded and rectangular work surfaces, mobile and lockable storage units, tambour doors, extension tables, CRT trolleys, and glass and wood shelves. Mahogany, steamed beech, white lacquer, and stained gray finishes are available. Round Office, Inc., San Francisco.

462 Office furniture

The *Canto Collection* designed by Norman Diekman includes double pedestal desks, table desks, secretarial desks, and credenzas. The collection is available in maple, sapeli, walnut, and mahogany veneers. Stow & Davis Furniture Co., Div. of Steelcase, Inc., Grand Rapids, Mich.

463 Work surface

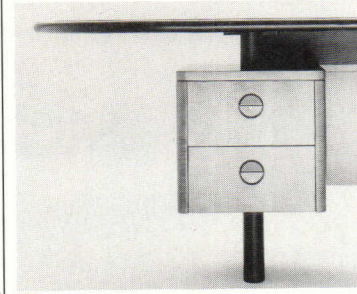
The *NEO 7* office system features work surfaces with cantilever brackets attached to the panel connectors. The inclination of the work surfaces can be adjusted while the pedestal drawers remain in place. Domore Corp., Elkhart, Ind.



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464 Office furniture

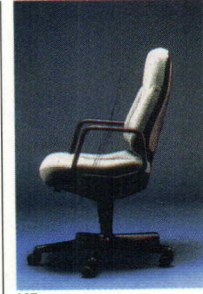
Linear Studio office furniture consists of desks, conference tables, and cabinets. The units can be specified in a variety of finishes, including walnut, matte or glossy black lacquer, and glossy white lacquer. Ambienti, Redondo Beach, Calif.

465 Seating

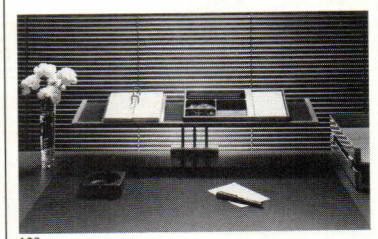
The *Performa* chair is available in six versions, including high- and low-back executive models upholstered in leather. Pneumatic seat-height adjusters are standard on all versions. The Gunlocke Co., Wayland, N. Y.

466 Office furniture

The *Sycamore Series* of office furniture includes desks, tables, and storage units constructed of sycamore with black lacquer details. The series can be stained in a variety of colors. The Buckstaff Co., Oshkosh, Wis.



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467 Chair

The new *Syntop* chair features the manufacturer's *Multamove* mechanism, which regulates the seat and backrest of the chair and is said to follow the movements of the user. A variety of models is available with or without armrests. GF Furniture Systems, Inc., Youngstown, Ohio.

468 Accessory shelf

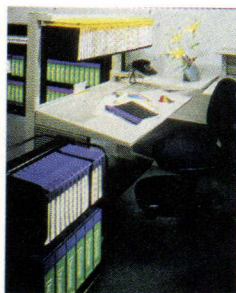
A new mounting device allows the manufacturer's *MP6000* accessory shelves to be mounted above the work surface. The accessory collection also includes letter trays, memo pads, pencil cups, and utility boxes. Smokador, Div. of Sheller Globe Corp., Edison, N. J.

469 Fabric

Timber upholstery and wallcovering fabric is made from 100 percent polyester. The 54-in.-wide fabric is said to be abrasion resistant and flame retardant. A variety of colors is available. Ben Rose, Inc., Chicago.



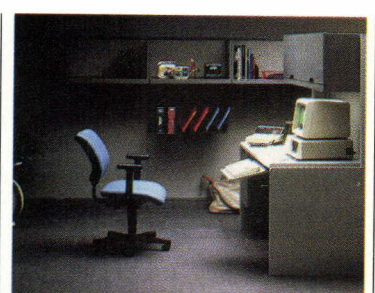
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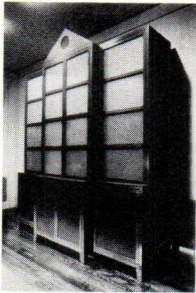
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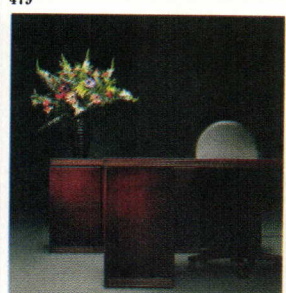
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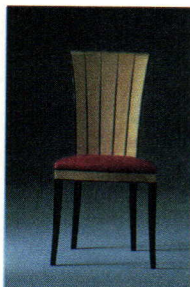
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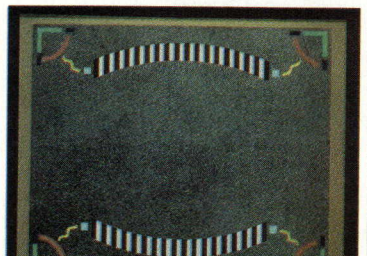
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470 Office system

Ethospace office systems feature 3 1/2-in.-thick walls that are available in 38-in., 54-in., and 70-in. heights. The frames can hold a variety of fabric, vinyl, wood veneer, or transparent panels. A metal bracket that snaps into the floor track is said to provide an expanded passageway for wires and cables. Herman Miller, Inc., Zeeland, Mich.

471 Cabinet

A television cabinet constructed of natural finished mahogany has leather inserts and sandblasted wire glass panels. The cabinet can be ordered in custom sizes and configurations. Adam Dolle Associates, New York City.

472 Cabinets

The *Form 2200 Diagonale* line of Swiss-designed kitchen cabinets features storage units in a selection of three widths and in taller-than-standard heights. The cabinet fronts can be specified in a variety of finishes, including light oak, brown oak, patterned laminate with beech, and jasmine white with beech. Poggenpohl USA Corp., Allendale, N. J.

473 Computer-support furniture

The *Esslinger System* of electronic-support furniture includes work surfaces with cable management capabilities, storage units, printer stands, and accessories. The work surfaces are available in several widths and can be specified with height and tilt adjusters. Wright Line, Inc., Worcester, Mass.

474 Desks

The *Planus* group of double pedestal desks, credenzas, and conference tables is constructed of African mahogany veneers and Honduras mahogany solids. The desk and credenza drawers come with the manufacturer's *Centra* locking system. Artec, Div. of Kimball International, Jasper, Ind.

475 Booths

Courtland booths have plastic laminate seat and tabletop surfaces and oak side panels. The benches are available in one- and two-sided units and can be wall-mounted or installed freestanding. The units can be specified in a variety of colors. Plymold Booths, Div. of Foldcraft Co., Kenyon, Minn.

476 Table and chair

A table and coordinating chairs designed by Mogens Andersen are constructed of light ash. The laminate table top can be specified in a variety of colors. The chair shell is also available in several lacquered colors. Design Selections International, Inc., New York City.

477 Dormitory furniture

The manufacturer's *Roommate Collection* includes beds with storage drawers, dressers, wardrobes, chairs, and desks. The desk pedestal is available with a sliding return to accommodate personal computer keyboards. Adden Furniture, Inc., Lowell, Mass.

478 Side chair

The *Saarenen House Side Chair* was designed by Eliel Saarinen in 1929-1930 for his home at the Cranbrook School in Michigan. The chair has a solid maple frame, ebony and ochre enamel stripes, and a clear lacquer finish. The chair is 37 1/2-in. high, 17-in. wide, and 19-in. deep. Arkitectura, Bloomfield Hills, Mich.

479 Chair

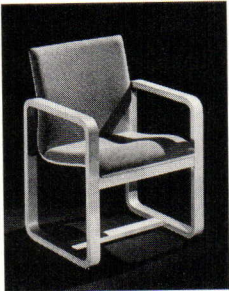
The manufacturer's *Anthro* chair features a pneumatic seat height adjustment of 4 1/2 in. The seat's waterfall front edge and the space between the seat and backrest are intended to provide increased comfort. Harter Corp., Sturgis, Mich.

480 Office furniture

The manufacturer's *Varia* series of office furniture includes a selection of work surfaces and storage components. A variety of styles, sizes, colors, and finishes is available. Mueller Furniture Corp., Grand Rapids, Mich.

481 Rug

The *Nil* rug designed by Martine Bedine is made of hand-tufted wool. The rug is 8 ft 3 in. by 9 ft 10 in. and is part of a limited edition. Limn Co., San Francisco.



482



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484

482 Chair

The *Sled Base* chair comes with removable upholstered back panels and seat. The 32-in.-high by 24-in.-wide by 23 5/8-in.-deep chair has a wood frame and a ply-bent back. Saunder Manufacturing Co., Archbold, Ohio.

483 Fabrics

The *Environment* series of fabrics for office applications includes small-scale patterns and solids in 14 styles and a selection of 116 colors. The fabrics are made of a wool blend and can be specified in custom colors. Boris Kroll Fabrics, Inc., New York City.

484 Office furniture

The manufacturer's *7500 Series* is now available in oak with dark oak or *Accent* oak catalyzed finishes. Designed by Rich Thomson, the series includes modular storage components and casegoods, and computer-support accessories. Kimball Office Furniture Co., Div. of Kimball International, Jasper, Ind.



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485 Cabinets

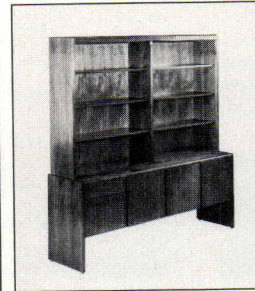
The manufacturer's wood cabinets are now available with *Tarsia* doors. The doors are constructed of European beech veneers and can be specified in a variety of finishes. The cabinet interiors have a melamine laminate surface. Wood-Mode Cabinetry, Kreamer, Pa.

486 Desk system

The modular *Powerflex* desk system consists of a metal chassis spline and attachable storage units. Curved freestanding tables and a selection of adjustable work surfaces can be arranged in several different configurations. JG Furniture Systems, Inc., Quakertown, Pa.

487 Computer-support furniture

The *DataBord 920* line of computer-support furniture includes a variety of single and double work surfaces, printer stands, surface extensions, storage units, turntables, tilt-platforms, and manuscript stands. Krueger, Inc., Green Bay, Wis.



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488 Bookcase

A new bookcase unit is available in oak and walnut. The bookcase has six adjustable shelves and is designed to stack on top of the manufacturer's standard credenzas. Myrtle Desk Co., High Point, N. C.

489 Seating

The *Bellini Collection* of seating, designed by Mario Bellini, features a height-adjustment mechanism. The line includes a variety of high-, medium-, and low-back models that can be specified in a selection of leathers. Swivel and sled bases are available. Vitra Seating, Inc., New York City.

490 Table top

The manufacturer's new *Sandblasted Glass-Top Table* has two crescent-shaped wood legs that are joined by three dowel braces. The oblong glass table top has a sandblasted lower surface. Brickell Associates, Inc., New York City.



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491 Office system

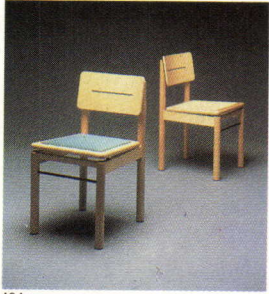
The *Sigma 2000* office system was designed by Gordon Randall Perry. The line includes adjustable work surfaces, filing units, and optional acoustical wall panels. Borroughs, Div. of Lear Siegler, Inc., Kalamazoo, Mich.

492 Swivel chair

The *Luna Swivel Chair* is an addition to the manufacturer's *Executive Seating Collection*. The chair features contoured backrests and a solid steel swivel base that can be specified in a chrome, bronze, or polished brass finish. The chair is 26 in. wide and 28 1/2 in. deep. Donghia Furniture Co., New York City.

493 Tables

Rectangular work tables are part of the *Canteen* and *Work Furniture* collection designed by Friis & Moltke. The tables have 3/4-in. tubular steel legs and 1 1/4-in.-thick table tops with a composite wood core. The table tops can be specified in veneer or plastic laminate. Kroin, Inc., Cambridge, Mass.



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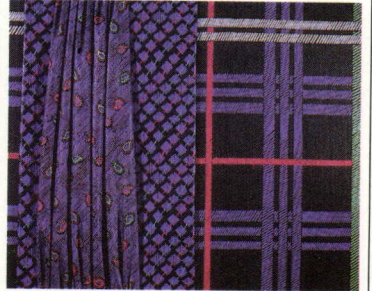
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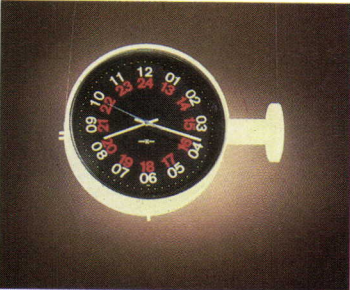
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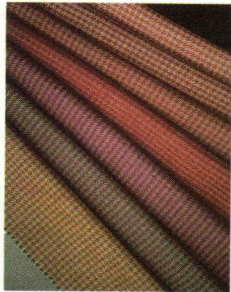
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494 Chair

The *Spresso* chair was designed by Wayne Hunt. The chair has a solid ash frame and backrest with an angled slit. The chair is available with a cane or upholstered seat. Kasprians, Inc., Alhambra, Calif.

495 Seating

The four movable points of the *System 25* chair are said to allow it to respond to the user's movements. Designed by Richard Sapper, the chair is available in a variety of models and can be upholstered in a selection of leathers and fabrics. Comforto, Inc., Lincolnton, N. C.

496 Fabrics

The *Ragtime* collection of upholstery and wallcovering fabrics was designed by Laura Deubler Mercurio. The collection includes *Counterpoint* and *Bagpipes* wool and nylon blends. The fabrics are 54 in. wide. Adam James Textiles, Inc., Hauppauge, N. Y.

497 Table

The *Donahue* collection includes a selection of different size and height tables in a variety of veneers, including natural and ebonized maple, light oak, mahogany, and walnut. Howe Furniture Corp., Trumbull, Conn.

498 Vertical blinds

Dimension III vertical blinds combine three colors of solid vinyl to create an accent stripe along one edge. The blinds come in 3 1/2 in. widths and are available in four color combinations. LouverDrape, Inc., Santa Monica, Calif.

499 Clocks

The *Institutional Series* of clocks includes a variety of dial graphics, mount, and finish options. Electric or battery-operated models are available. Howard Miller Clock Co., Zeeland, Mich.

500 Kitchen cabinet

The door and drawer fronts of the *KK2000* line of kitchen cabinets are finished in melamine laminate. The line also features kiln-dried rails connected by mortise and tenon joints and hardwood veneered end panels. Kitchen Compact, Inc., Jeffersonville, Ind.

501 Side chair

The *Strada* chair was designed by Bob DeFuccio. The chair's frame is constructed of two laminated members and is available in a selection of finishes, including beech, oak, walnut, and ebony. Leather or fabric upholstery can be specified. Domore Corp., Elkhart, Ind.

502 Cabinet

The *Sundance* line of cabinets has door and drawer fronts constructed of particleboard, and covered with 1/8-in.-thick oak veneers. The door and drawer pulls are made from brass-finished wire. Haas Cabinet Co., Inc., Sellersburg, Ind.

503 Carpet

The herringbone pattern of *Chevron* is created from a combination of matte coir yarns and glossy sisal yarns. Intended for contract and residential applications, the carpeting is said to provide acoustical insulation. Jack Lenor Larsen, New York City.

504 Fabrics

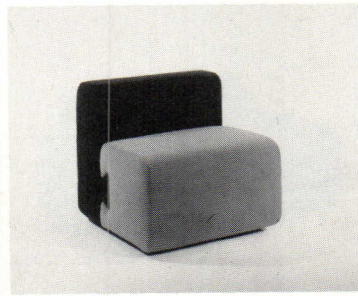
The *Wazato* collection of fabric and wallcovering patterns are printed on cotton. The collection includes several different patterns that exhibit a Japanese appearance. Each pattern is available in a selection of colors. Woodson, New York City.

505 Upholstery fabric

Ascot is a new 100 percent wool contract fabric. The fabric comes in 52-in. widths with a light acrylic backing. A selection of seven colorways is available. Lee Jofa, Inc., New York City.



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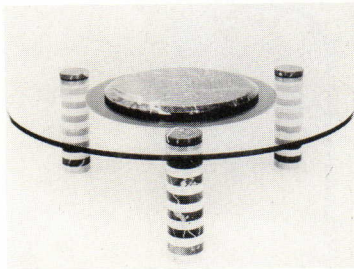
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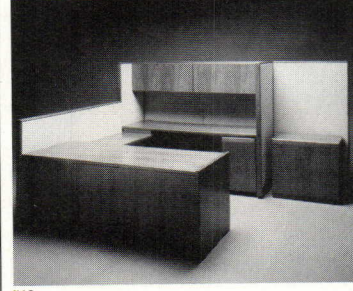
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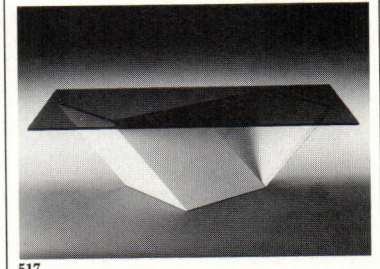
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506 Office furniture

New additions to a collection of desks and credenzas designed by Gwathmey Siegel Associates include bookcases, storage units, closets, and lateral files. The collection is available in medium brown mahogany, medium red mahogany, and maple veneers. Knoll International, New York City.

507 Low table

The *Siena* cocktail table is constructed of layered marble, lacquer, and 3/4-in. clear glass. Designed by Dakota Jackson, the table has a 54-in. diameter and is 17 in. high. Dakota Jackson, Inc., New York City.

508 Pleated shades

The manufacturer's new *FR* line, includes pleated shades, vertical blinds, and drapery fabric. The sun's rays are deflected by the shade's aluminum backing. The metallized backing is also intended to render the shade fabric static-resistant. Verosol USA, Inc., Pittsburgh.

509 Seating

Dovetail seating was designed by Paul Máyen for commercial and residential applications. The units have interlocking upholstered seats and backs that can be specified in contrasting colors. The units are 26 in. wide, 31 in. deep, and 27 in. high. Intrex, Inc., Div. of Habitat International Ltd., New York City.

510 Drawers

The manufacturer's modular *Stacking Drawer System* can be stacked in a variety of configurations. The drawers are available in a selection of colors and can be specified with or without casters. Kartell USA, Greenville, S. C.

511 Cabinets

A group of German-designed cabinets is constructed of laminate with solid oak edges and grab-handles. The line includes open shelving units and glass-front cabinets, in addition to standard-shaped base and wall units. Läger Kitchens (USA), East Providence, R. I.

512 Fabrics

The *Symphonic Collection* of drapery fabrics includes nine new patterns. The polyester fabrics come in 59-in. widths, and two sheer fabrics come in 118-in. widths. Design Tex Fabrics, Inc., Woodside, N. Y.

513 Panel system

A line of office panels has an extruded aluminum frame and can be covered in a selection of woods or fabrics. The veneer surfaces feature mitered and spline joints and have a finish that is said to resist scratches. Techniques In Wood, Rochester, N. Y.

514 Seating

The *Arm Chair Group* designed by Brian Kane includes chairs, loveseats, and sofas. The base can be specified in stainless steel or in a selection of 24 painted colors. Metropolitan Furniture Corp., South San Francisco, Calif.

515 Seating

The new *9000* series includes one-, two-, and three-seater units with high-pressure laminated end panels, nylon-coated steel tube frames, and foam cushions mounted to formed plywood seats and backrests. Interroyal Corp., Plainfield, Conn.

516 Office furniture

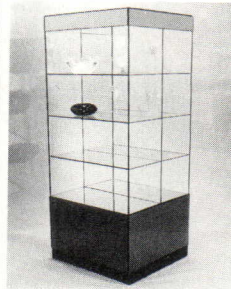
The *Stratus* line of office furniture designed by Norman Cherner features panels that are available in a variety of finishes, including natural wood, catalyzed lacquer, several fabrics, and a selection of the manufacturer's *ModeColors*. Modern Mode, Inc., San Leandro, Calif.

517 Tables

The *Pollock* group of tables have white or gray solid polyester resin bases and gray tinted square or rectangular 3/8-in.-thick glass tops. Designed by Charles Pollock and William Jaremko, the tables come in 14-in., 16-in., and 20-in. heights. Vecta Contract, Grand Prairie, Tex.



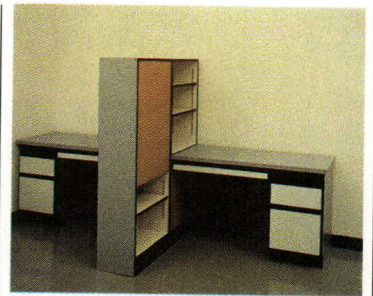
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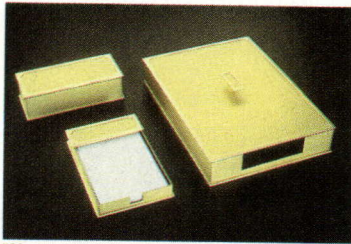
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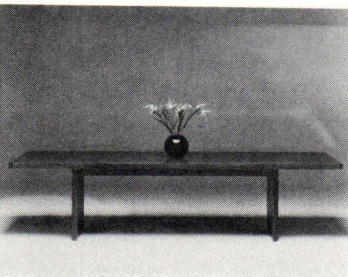
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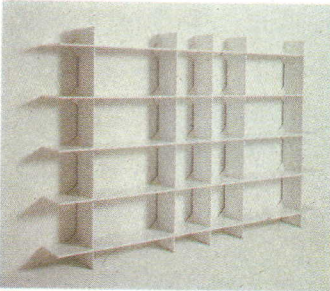
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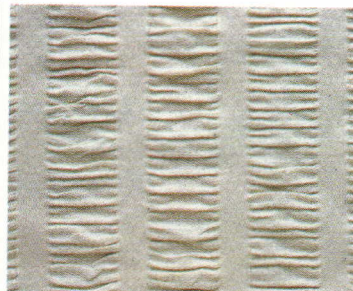
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518 Chairs

The *d chair* is available in wood, upholstered, high-gloss thermoplastic, and new *Softone* versions. The new finish is said to be softer than thermoplastic and to conceal scratch marks. Fixtures Furniture, Kansas City, Mo.

519 Armchair

The *Alfa* armchair, designed by Anna Anselmi, has a tubular steel frame that is finished in epoxy. The 56-cm-deep, 56-cm-wide, and 78-cm-high chair has a seat and back of molded polyurethane. Bieffe USA, Inc., New York City.

520 Conference tables

The *CD-Series* of conference tables are available in sizes ranging from seven to 20 ft. The tables are constructed of hardwood veneers with matching solid hardwood edges. Mahogany, white oak, and walnut can be specified. Tuohy Furniture Corp., Chatfield, Minn.

521 Display cases

A freestanding glass case has 16 cu ft of display space. The case is constructed of 3/16-in.-thick glass panels that are assembled end to end. Four quartz halogen lamps provide illumination. Magic Glass, San Francisco.

522 Desk accessories

The new *Traditional Collection* of desk accessories designed by William Sklaroff includes pen sets, calendars, and letter trays available in mirror brass, mirror bronze, antique brass, statuary bronze, and mirror aluminum finishes. Smith Metal Arts, Buffalo, N. Y.

523 Shelf system

The Swiss-made *WOGG 1* shelf system features 5/8-in.-thick laminate shelves with rounded edges. The shelves can be specified in one of seven widths and two depths, and are available in high-gloss black and white, and matte black, white, and gray. The cross-slotted brackets come in red, blue, yellow, white, and black. Cumberland Furniture Corp., New York City.

524 Couches

Designed by Barry Brukoff, the *Sophia Lounge Seating* series includes a sofa, lounge chair, and settee. The modular elements feature radiused edges for additional comfort and can be arranged in a variety of configurations. Kasparians, Inc., Alhambra, Calif.

525 Chairs

A line of executive and secretarial chairs features contoured seats and backrests, five-point bases with self-breaking casters, seat-back tilt coordinators, and removable arms. Each chair has arms and an outer shell constructed of polypropylene, and a wood seat pan. Spieth America, Woburn, Mass.

526 Fabric

Summerhouse seersucker is an addition to the *Adirondack* collection. Woven in Belgium of 100 percent cotton, the new fabric is available in a 55-in. width. The fabric features a two-to-one ratio of pleated to plane weaves and comes in white, natural, beige, taupe, and gray. Gretchen Bellinger, Inc., New York City.

527 Workstation

The *Multi-Tech* workstation features desk and divider units that can be assembled in a variety of configurations. Constructed of high-density particleboard, the units have a laminate finish that is available in nine colors. Fisher Scientific, Pittsburgh.

528 Chair

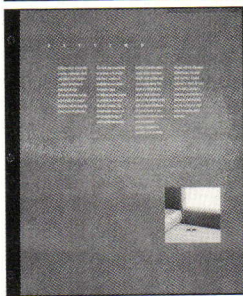
Originally designed by Régis Protière for a café, the *Lizzie* chair can also be used in residential applications. The chair has a two-part tubular steel frame connected by drawn steel rods. The frame and seat are available in black and two shades of gray. Ambienti, Redondo Beach, Calif.

529 Swivel chair

The *Stafford Swivel* chair has a solid oak frame with beveled edges and a tilt/swivel base. The one-piece upholstered frame is designed to provide lower-back support. John Adden Furniture, Lowell, Mass.

12 Furnishings Product literature

For more information
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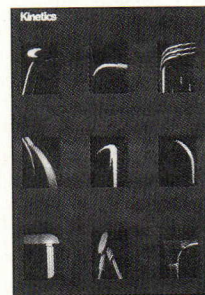
530 Office furniture
A 4-page color brochure describes and illustrates *Settimo*, a new line of open-plan furniture that comprises workstations, wardrobes, file units, storage cases, and bookcases. The radius-edged furniture features a seven-coat, high-gloss polyester finishing process. Five standard oak finishes are also available. Harry Lunstead Designs, Inc., Kent, Wash.



536 Computer furniture
A 4-page brochure illustrates *Triad* computer resource furniture, a group of bevel-edged components that coordinate with the manufacturer's other wood office furnishings. A variety of veneer-clad computer tables, computer cabinets, printer cabinets, and sliding or articulated keyboard shelves is shown in the literature. The Gunlocke Co., Wayland, N. Y.



531 Seating
The manufacturer's full line of seating—including bar and counter stools, side- and armchairs, and office chairs and sofas—is featured in a 32-page catalog. The units are available in wood and metal, and in a variety of finishes and upholstered materials. Loewenstein, Inc., Pompano Beach, Fla.



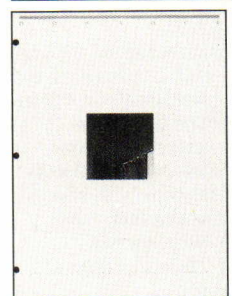
537 Contract furniture
The manufacturer's complete line of contract furniture—including an array of chairs, stools, tables, desks, and modular workstations—is featured in a 44-page color catalog. Photos depict each product, and text outlines available options and dimensions. Kinetics Furniture, Rexdale, Ontario.



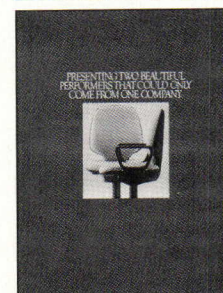
532 Wood trim
A 6-page color brochure illustrates *Wood Accents*, a line of rift red oak and ribbon mahogany trim designed to complement the manufacturer's 8000 series of metal open office furniture. Radius-edged wood drawer pulls, top caps, side trim, and worksurfaces are available. All-Steel, Inc., Aurora, Ill.



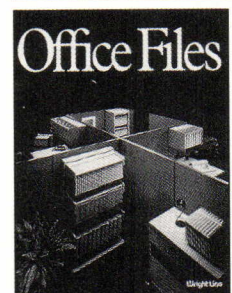
538 Wall graphics
Artist Sergio Artigues has designed a series of wall graphics, acoustical baffles, banners, signage, and lettering constructed of 100 percent wool fabric stretched over wood framing. A 28-page color catalog reviews available designs, colors, and sizes. A fabric sample is included in the literature. Peter Pepper Products, Inc., Compton, Calif.



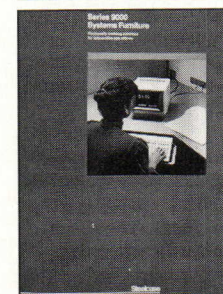
533 Table
The Donahue Collection is a new group of tables that are available in four-leg, single-pedestal, and twin-pedestal models. The collection, named after designer Tim Donahue, is featured in an 8-page color brochure, which illustrates eight veneer and ebonized finish options, and lists available dimensions. Howe Furniture Corp., Trumbull, Conn.



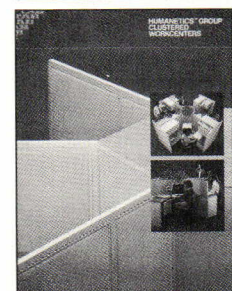
539 Office seating
The manufacturer's *System 16* series of office seating is described and illustrated in a 4-page color brochure. Each chair in the line has a shell of molded polypropylene and is available in a range of upholstery fabrics. The chairs' height, pitch, and swivel are all fully adjustable. Comforto, Inc., Lincolnnton, N. C.



534 Office files
A 16-page color catalog features *Documate*, an office filing and organizing system that includes open and enclosed cabinets for computer printout documents, records and reports, diskettes, and microfiches. The literature highlights the manufacturer's center-hook hanger-bar filing device. Wright Line, Inc., Div. of Barry Wright, Worcester, Mass.



540 Systems furniture
A 32-page color brochure features *Series 9000*, a system of office furniture that can be arranged in freestanding or panel-mounted configurations. Product and installation photos illustrate all components, while the text describes the system's flexibility, dimensions, colors, and optional accessories. Steelcase Inc., Grand Rapids, Mich.



535 Clustered workstations
A 12-page brochure describes a line of clustered office workcenters, available in configurations ranging from one to six stations. The stations are grouped around a central core that houses power and communication cables. Photos illustrate sample installations and optional shelves, pedestals, lighting, racks, and tackboards. TAB Products Co., Palo Alto, Calif.



541 Seating
A 4-page color brochure describes the *A-T Series* of lobby and lounge seating, a system of modular steel-framed components that can be arranged individually or ganged. Photos and text indicate how the system's molded back and base can be removed for easy replacement of zippered covers. A table of dimensions is included. Arconas Corp., New York City.

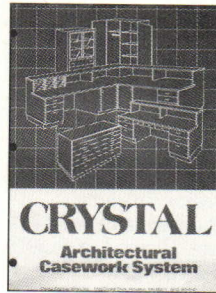


542 Quick-ship program
Flex 2 is a line of contract furniture specifically designed for the manufacturer's special two-week shipping program. A 12-page color brochure describes the program and illustrates the three lounge seating groups, two office chair groups, three conference table sizes, and three occasional table sizes available. Mueller Furniture Corp., Grand Rapids, Mich.



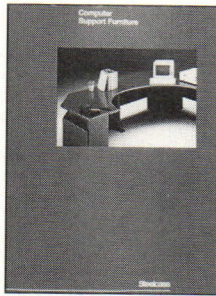
Frankly I didn't think we had the room in that office... but we did. Almost overnight, we created 14 more workstations. Everyone who has much more work surface and much more privacy. The whole place seems more open, too. It's quieter, more productive and very efficient! Everyone is happier... especially me. We did it all without having to build or rent another square foot of office space. We did it all with Datum and the...
Datum
Filing Systems, Inc.

543 Workstations
A 4-page color brochure covers the manufacturer's *Satellite Computer Center*, a system of open-office workstations grouped around a central core. Text describes how a typical installation of the system will reduce square-footage requirements while increasing individual work-surface area. Datum Filing Systems, Inc., Farmingdale, N. Y.



CRYSTAL
Architectural
Casework System

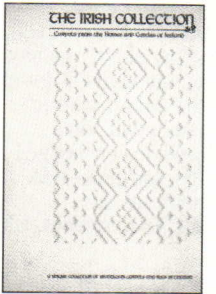
548 Casework
Information on this cabinetmaker's architectural casework is featured in a 6-page brochure. Specification data on materials, construction techniques, door/drawer styles, and standard and optional hardware and accessories are included in the literature. Diagrams and photos depict finished cabinetry and detailing. Crystal Cabinet Works, Inc., Princeton, Minn.



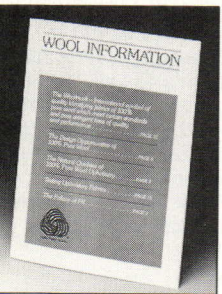
549 Computer support furniture
The manufacturer's 8800 series of electronic-support furniture—including computer tables, curved tables, VDT and printer stands, storage cabinets and pedestals, and a variety of office accessories—is described and illustrated in an 18-page color brochure. The furniture is available in eight muted colors. Steeltcase, Inc., Grand Rapids, Mich.



544 Flame barrier
Uniguard is a coated fiberglass fabric developed as a flame barrier in upholstered chairs, mattresses, and box springs. A 4-page pamphlet reports the results of laboratory tests that show how the fabric stops the spread of fire to untreated foam and upholstery. Uniglass Industries, Div. of United Merchants and Manufacturers, Inc., New York City.



550 Carpets and rugs
A 22-page color booklet illustrates a line of patterned broadloom carpets and area rugs. The collection is based on traditional Irish designs and is manufactured of 100 percent wool in Ireland. The literature contains a photo of each available rug or carpet pattern and information on size, color, and maintenance. Tintawn, Inc., New York City.



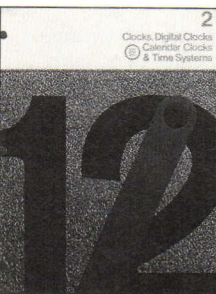
545 Wool information
A 16-page pamphlet published by this manufacturers' trade association discusses the characteristics and advantages of 100 percent wool upholstery. Text reviews such factors as fire-resistance, types of weaves, care, colorfastness, and durability. The literature also has a guide to removing stains from wool fabric. The Wool Bureau, New York City.



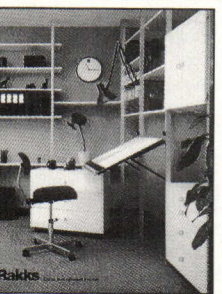
551 Oak booths
Oak booth seating designed for use in restaurants, clubs, or executive dining rooms is featured in a 4-page color brochure. The literature illustrates upholstered and non-upholstered models, and a variety of optional divider tops with stained-glass panels, brass railings, or latticework panels is shown. Plymold Booths, Div. of Foldcraft Co., Dayton, Minn.



546 Fire-resistant fabric
A packet of data sheets reviews the results of tests on the flammability of *Sandel*, a new line of inorganic fire-resistant fabrics designed especially for hotel and motel furnishings. Findings of smoke and toxicity testing and demonstrations involving burning mattresses and pillow ticking are included in the literature. Burlington Industries, New York City.



552 Clocks
A 32-page color catalog features the manufacturer's line of analog and digital LED clocks and electronic message centers. In addition to standard models, calendar and time-zone versions are available. A photo illustrates each available product, and a diagram and specification table show dimensions, colors, and special features. Peter Pepper Products, Inc., Compton, Calif.



547 Wall systems
The manufacturer's line of furniture components, designed to be attached to floor-to-ceiling poles or wall-mounted standards, is described and illustrated in a 16-page color brochure. Installation photographs, product descriptions, and specification tables are included in the literature. Rangine Corp., Mills, Mass.



553 Quick-ship delivery
The manufacturer has selected a group of chairs and tables from its regular line of furniture and set up a program that guarantees delivery within three to five weeks. Photographs in a 12-page color brochure illustrate available models. Upholstery swatches and color samples are included in the literature. Kinetics Furniture, Rexdale, Ontario.

Introducing Cordura® for upholstery. Made tough to survive the corporate jungle.

Contract upholstery will never be the same, now that DuPont brings CORDURA* to the office. CORDURA nylon has proved itself tough enough for backpacks and luggage, durable enough for hunting gear and boots.

It exceeds the standard Wyzenbeek Double Rub Abrasion Test by such a wide margin that testing was stopped at a million double rubs. Nothing else comes even close to that kind of performance.

But CORDURA is a soft touch indoors. We've given it a luxurious hand, a satisfying touch and a smart look that make the most of fabrics for contemporary or classic furniture.

Fabrics of CORDURA nylon are available in a whole range of colors, styles and weaves. In 1000/280 denier, or newer 2000/560 with an even softer surface.

For good looks with strong character, ask about CORDURA. Contact DuPont at (215) 855-7765, and let us give you samples, specifications and names of suppliers.

CORDURA. The survivor.

More stringent modified Wyzenbeek Abrasion Test.



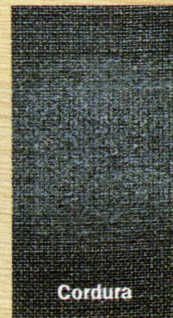
Polypropylene

Polypropylene failed at 164 double rubs.



Spun Nylon

Spun nylon failed at 445 double rubs.



Cordura

CORDURA hardly affected after 445 double rubs. Failed at 1,464.



REG. U.S. PAT. & TM. OFF.

*Registered trademark of the DuPont Company for its air-textured, high-tenacity nylon fiber. DuPont makes fiber, not fabric.

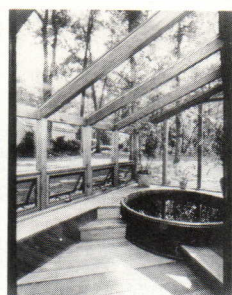
Circle 1116 on inquiry card

13 Special Construction

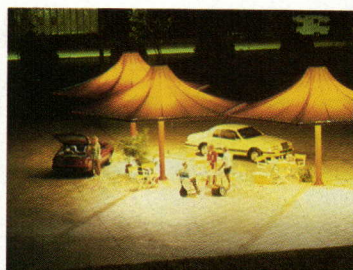
UCI 13, Special construction:
 Air & tension support structures
 Integrated assemblies
 Integrated ceilings
 Prefabricated buildings
 Radiation protection
 Radio-frequency shielding
 Sound & vibration control
 Special purpose rooms & buildings
 Swimming pools
 Total energy systems



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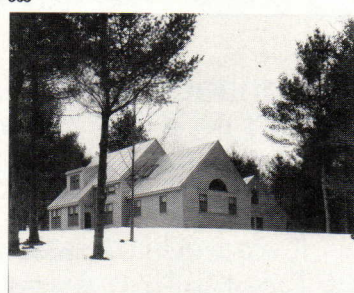
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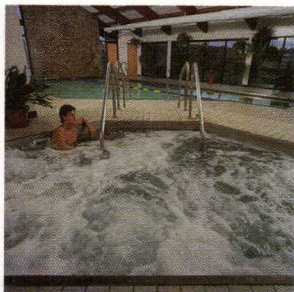
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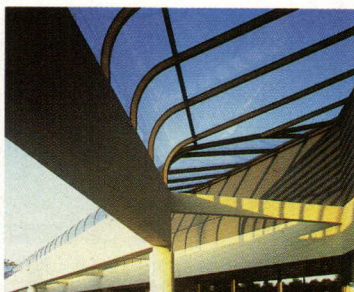
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554 Skylight barrel vault

SkyVault is a barrel-vaulted skylight that can be specified to fill horizontal openings from 8 to 12 ft. The skylight is intended for a variety of applications, including hallways, shopping malls, and terminals. Integrated Ceilings, Inc., Los Angeles.

555 Greenhouse

The *Solaroom* greenhouse features a tubular framing system, concealed connections, a variety of glazing systems, and integral condensation control. The aluminum framing members can be specified in several finishes. Janco J. A. Nearing Co., Inc., Laurel, Md.

556 Pool

The *Uniwall* stainless-steel swimming pool system is available in a variety of configurations and is said to be corrosion resistant. The system can also be used for whirlpools and therapy pools. Recreonics Corp., Indianapolis, Ind.

557 Sunroom

The *Solaroom* is constructed of solid redwood with double-paned glass and features a mortise and tenon framing system. The roof pitch, length, depth, and door placement can be adjusted to the specifier's requirements. Creative Structures, Inc., Quakertown, Pa.

558 Pre-fabricated houses

Pre-fabricated and pre-engineered house packages feature custom mahogany millwork, oil-rubbed bronze hardware, and German-made kitchen cabinets. A variety of house styles is available. SunCourt, Inc., Hartland, Vt.

559 Greenhouses

The manufacturer's greenhouses are designed for a variety of applications, including walkway, pool, hot tub, and porch enclosure. Aluminum extrusions hold the vertical 7/8-in. insulated and tempered glass panels and the overhead 7/8-in.-thick double-insulated and tempered-glass panels. Sun System Greenhouses, Commack, N. Y.

560 Vinyl membrane

A modular shelter available in square and hexagonal shapes has a steel frame and a vinyl membrane. Both versions have 10-ft ground clearance. The membrane is said to be washable and fire retardant, and is available in a selection of colors. Helios Industries, Inc., Hayward, Calif.

561 Ceiling systems

Modular *Noise-Lock* ceiling systems are said to feature high levels of sound absorption. The panels are available in several different perforated panels and can be installed with lay-in or concealed grid systems. Industrial Acoustics Co., Bronx, N. Y.

562 Corner unit

Corner units are now available for the manufacturer's *SunRooms*. The 10-ft-long and 14-ft-wide units are constructed of yellow pine stained with a water-repellent preservative. Garden Way SunRoom/Solar Greenhouse, Waterford, N. Y.

563 Ceiling system

The *Deep Profile* ceiling system features 1 1/2-in.-deep beams that are said to be twice the depth of standard metal ceiling system beams. The beams can be specified in one of four different depths and are available in several finishes. Donn Corp., Westlake, Ohio.

564 Post-and-beam package

A post-and-beam package can be used to construct a variety of different-style houses. The package includes pre-cut mortise and tenon framing, exterior surfaces constructed of 1-ft by 12-ft white pine boards, insulation, and hand-split red cedar shakes. Timberpeg East, Inc., Claremont, N. H.

565 Ceiling system

The *LC4* ceiling system is intended for open-office applications. Lighting, air distribution, and additional services are accommodated in the system's runners so that office modules can be relocated as requirements change. Donn Corp., Westlake, Ohio.

13 Special Construction Product literature

For more information, write item numbers on Reader Service Card



566 Frame buildings

Prefabricated metal frame buildings are featured in a 4-page color brochure. Sectional diagrams illustrate straight column, tapered column, and modular rigid-frame structures. Photographs show industrial and office buildings constructed with the manufacturer's system. National Building Systems, Inc., Hialeah, Fla.



572 Prefabricated sun rooms

A 16-page color brochure details the manufacturer's prefabricated sun rooms and solar greenhouses. Diagrams and photographs explain the structures' thermal construction, including heat storage, ventilation, insulation, and shading systems. Technical specifications are included. Garden Way Sunroom/Solar Greenhouse, Waterford, N. Y.



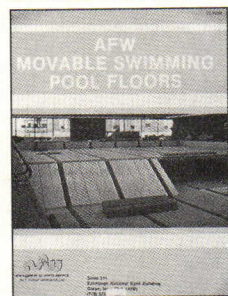
567 Metal buildings

A 36-page color catalog lists the manufacturer's prefabricated metal frame structures and accessories. Diagrams show each building type in section, and photos illustrate actual structures built with the system. Specification charts give dimensions and live load capacities. Metallic-Braden Building Co., Div. of American Buildings Co., Houston.



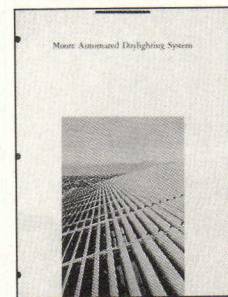
573 Fiberglass roofing

A non-woven, continuous fiberglass roof deck is described in a 4-page brochure. The literature describes the product's characteristics, including its light weight, strength, and ability to resist corrosion. Charts give dead and live loads for two different sizes of roof decks. Composite Technology, Inc., Fort Worth, Tex.



568 Movable pool floors

A 16-page brochure describes swimming pool floors that can be hydraulically raised or lowered to accommodate disabled swimmers. The literature details the mechanics of the system and describes its applications. AFW of North America, Olean, N. Y.



574 Solar louvers

A 16-page brochure describes an automated light-control system that senses indoor and outdoor light levels and adjusts exterior louvers and interior lamps to a designated level. Diagrams show the operating mechanism for the louvers. Charts list required components and give technical information on heat and light control. The Moore Co., Marceline, Mo.



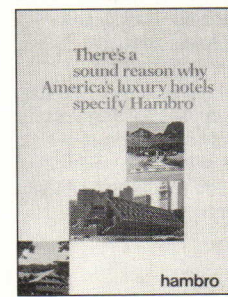
569 MRI specification guide

Architectural specifications for installing magnetic resonance imaging equipment are detailed in a 26-page booklet. The literature lists architectural, electrical, and mechanical requirements for shielding the system from radio frequency interference. Diagrams show construction details. Ray Proof, Div. of Keene Corp., Norwalk, Conn.



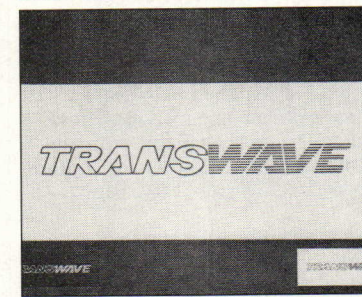
575 Electromagnetic shielding

A 30-page specification guide gives technical data on the manufacturer's system for shielding labs, high-security facilities, and anechoic chambers from electromagnetic interference. The literature is illustrated with performance data charts and diagrams of components. Ray Proof, Div. of Keene Corp., Norwalk, Conn.



570 Composite floor joists

A 4-page color brochure describes the acoustic properties of the manufacturer's floor joist system, which is primarily used in hotels. Diagrams compare the system with conventional floor construction methods, and photographs show 13 installations. Canam Hambro, Div. of Canam Steel Corp., Needham Heights, Mass.



576 Teflon-coated fiberglass

A 4-page color brochure describes a translucent, acoustical fiberglass fabric pretensioned in aluminum frames and suitable for building partitions and ceilings. The literature includes photographs of installations, specifications, and a sample of the fabric. Turner Bateman Associates, Inc., Menlo Park, Calif.



571 Park buildings

Prefabricated wooden shelters, gazebos, cabins, utility sheds, and other park and recreation buildings are depicted in a 12-page illustrated catalog. The literature contains photographs and floor plans of 20 different models. Standard wooden parts are also illustrated. Cedar Forest Products Co., Polo, Ill.



577 Structural fiberglass

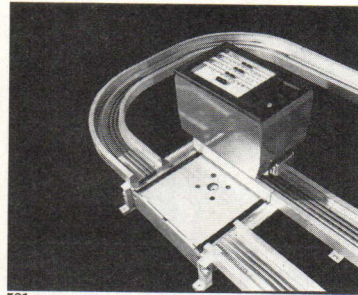
Structural fiberglass shapes, gratings, and sheets are described in a 4-page color brochure. Photographs illustrate a stud and nut system, a walkway/handrail system, and framing members, all made of fiberglass. A list of available products with weights and dimensions is included. Fibertron, Inc., Bessemer, Ala.

14 Conveying Systems

UCI 14, Conveying systems:
 Conveyors and chutes
 Dumbwaiters
 Elevators
 Hoists and cranes
 Lifts
 Moving stairs and walks
 Pneumatic tube systems
 Powered scaffolding



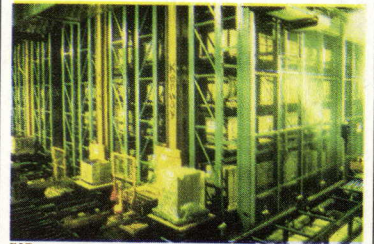
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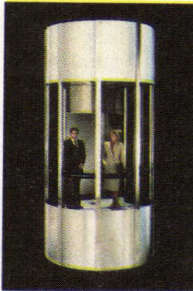
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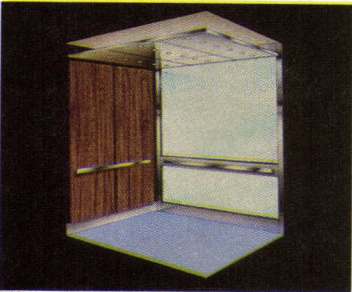
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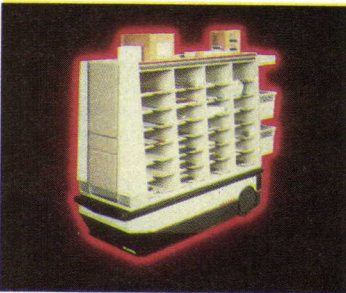
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578 Controller

The *Micro-PLCF* programmable controller is designed for long-distance control applications. The unit features a two-wire transmission system that provides connections to control units up to 10 miles away. Electromatic Controls Corp., Hoffman Estates, Ill.

579 Lift trucks

A line of engine-powered industrial lift trucks has handling capacities of 4,000 to 6,000 lb. The cushion-tire *TC60D SA* model features a heavy-duty air filter, oil-cooled disc brakes, electronic vehicle monitoring, and a contoured fabric-covered operator's seat. Towmotor Corp., Div. of Caterpillar Tractor Co., Mentor, Ohio.

580 Elevators

The *World Class* series of medium-speed elevators can now be specified with splayed and flat glass rear cab walls and cab heights of 8 ft or 9 ft 6 in. The cabs also are available with a selection of suspended ceiling treatments and wall panels. Westinghouse Elevator Co., Div. of Westinghouse Electric Corp., Short Hills, N. J.

581 Track system

The *Televeyor* fixed track system for self-powered vehicles can run horizontally and vertically to service workstations. The tracks feature a maximum travel speed of 110 ft per minute and a weight capacity of 22 lb. Lamson Corp., Syracuse, N. Y.

582 Transport vehicle

The *Optrac* transport vehicle follows a retroreflective guidepath and has a load surface of 21 in. by 32 in. and a payload of 220 lb. The vehicle is designed to transport material from one workstation to another, and is available with an optional roller conveyor top. Eaton-Kenway, Salt Lake City, Utah.

583 Pneumatic tube systems

The *Airtube* computer-controlled material transport system is intended for office building and medical facility applications. Point-to-point and multi-station systems with a capacity of up to 5 lb are available. Lamson Corp., Syracuse, N. Y.

584 Mail conveyor

A solid-state, computer-controlled mail and supply conveyor is designed to transport materials between floors of low- and high-rise office buildings. The conveyor has a capacity of 115 tons or approximately 5,000 transactions per day. Lamson Corp., Syracuse, N. Y.

585 Elevator cabs

A five-ton custom-designed glass cab is part of the manufacturer's line of elevators, which also includes a variety of hydraulic, geared, and gearless elevators, and service for low-, medium-, and high-rise applications. U. S. Elevator Corp., Div. of Cubic Corp., Spring Valley, Calif.

586 Mail delivery system

The *Mailmobile Delivery System* is a self-propelled vehicle that follows a guidepath and stops at designated areas to pick up and deliver mail. The unit is 68 in. long, 24 in. wide, and 51 in. high, and is battery-powered. A built-in detector in the front is said to sense objects in the vehicle's path and stop it before contact is made. Bell & Howell Co., Zeeland, Mich.

587 Storage and retrieval unit

The *Unit Load* storage and retrieval machine can transport a load of up to 5,000 lb from a pickup-deposit stand or an input-output conveyor, convey it down a narrow aisle, and store it in a high-rise rack. Eaton-Kenway, Salt Lake City, Utah.

588 Elevator-operating signals

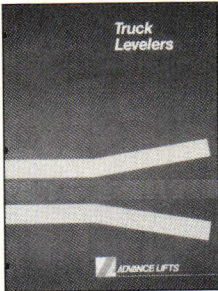
Impulse elevator-operating and signal-control panels feature buttons that are grouped by function. The signage alongside the buttons can be custom-ordered and relocated. Bronze and stainless-steel faceplates with a brushed or polished finish are available. Dover Elevator Systems, Inc., Memphis, Tenn.

589 Stair lift

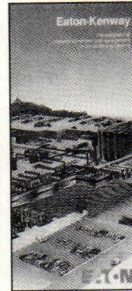
The motor of the *StairLIFT SC* home passenger lift is enclosed under the seat. The unit can carry a person weighing up to 250 lb a distance of 17 ft 6 in. When the unit is not in use, the seat and footrest can be folded to approximately 12-in. against the baseboard. Inclinator Co. of America, Harrisburg, Pa.

14 Conveying Systems Product literature

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590 Truck levelers
A 10-page color brochure features the manufacturer's truck leveler, a hydraulically operated lift that raises trucks to the same height as the loading dock. Photographs illustrate the product's components and show them in operation. Specifications are included. Advance Lifts, Inc., St. Charles, Ill.



596 Material handling systems
Computer-controlled material handling, storage, and horizontal transportation systems are described in a 20-page illustrated color pamphlet. Applications of the system in warehouses and factories are reviewed. The literature includes a list of currently operating systems. Eaton-Kenway, Salt Lake City, Utah.



591 Elevating platforms
Adjustable elevating platforms, designed to give operators a safe surface from which to load tank trucks and cars, are featured in a 4-page brochure. The literature describes such features as push-button controls, self-adjusting stairs, and optional roofing. Drawings show three views of the platform. Benko Products, Inc., North Ridgeville, Ohio.



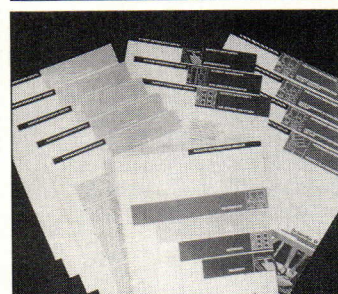
597 Spiral escalators
Spiral escalators, said to be the world's first, are featured in a 12-page color brochure. Drawings show installation configurations in entrances, interior courts, corners, plazas, and around columns. Standard dimensions and over-all loads are included in the literature. Mitsubishi Electric Corp., Mt. Prospect, Ill.



592 Stage equipment
Custom-designed rigging, lifts, and turntables for theaters, sports arenas, and industrial facilities are described in a 4-page brochure. The literature details the uses of the equipment, the installation process, and the technical support available from the manufacturer. Westmont Industries, Los Angeles.



598 Elevator interiors
A 4-page color brochure describes the manufacturer's custom elevator interiors. The interior finishes illustrated include red oak tambour, high-pressure laminate, laminated flexible mirror, burlled elm veneer, and aluminum and grooved laminate panels. National Products, Inc., Louisville, Ky.



593 Elevator modernization
A color folder containing 14 information sheets describes the manufacturer's elevator modernization services. The literature discusses means of improving the safety, reliability, performance, and appearance of old elevators. Schindler Elevator Corp., Toledo, Ohio.



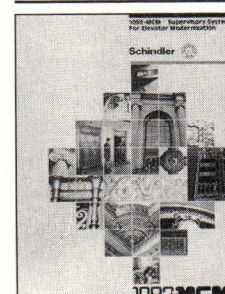
599 Truck latch
A 2-page color information sheet describes an electro-hydraulic powered arm that is designed to secure vehicles to the loading dock during loading and unloading operations. Such features as one-piece construction, hydraulic cylinder design, and switch control are detailed. Blue Giant Equipment Corp., Pell City, Ala.



594 Elevators
A 25-page color booklet features the manufacturer's line of traction and hydraulic elevators. Photographs show 14 door styles in a range of materials, including wood veneer, steel, high-pressure laminate, and composites. Diagrams show mechanical details for both types of elevators. U. S. Elevator Corp., Div. of Cubic Corp., Spring Valley, Calif.



600 High-rise elevator control
A microprocessor-controlled elevator traffic management system for high-rise buildings is described in a 16-page color brochure. The literature details the system's components; drive, operating, and supervisory controls; and peripherals. Installation information is included in the literature. Schindler Haughton Elevator Corp., Toledo, Ohio.



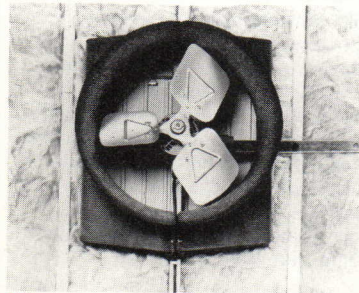
595 Elevator electronics
A 6-page color fold-out brochure explains the manufacturer's software for controlling elevator traffic and meeting call demands efficiently. The literature describes the system's features, including its ability to allot service based on demand, power supply status, and number of available cars. Schindler Elevator Corp., Toledo, Ohio.



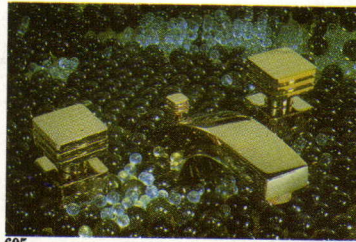
601 Elevator traffic control
A 20-page color booklet details a computerized elevator traffic control system that automatically dispatches, monitors, and coordinates elevators. The technology is explained in the literature. Photographs illustrate the system's internal and external working parts. Westinghouse Elevator Co., Short Hills, N. J.

15 Mechanical

UCI 15, Mechanical:
 Air distribution equipment
 Fire protection equipment
 Heat generation
 Heat pumps
 Hvac equipment
 Mechanical devices
 Plumbing fixtures & trim
 Pumps & compressors
 Refrigeration equipment
 Water supply & treatment



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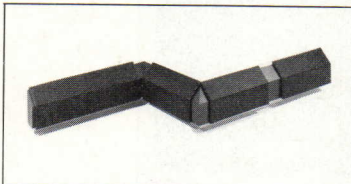
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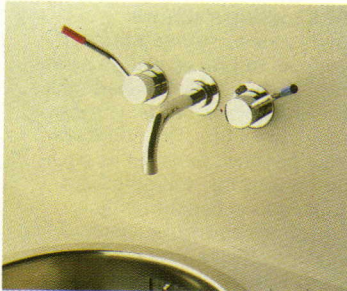
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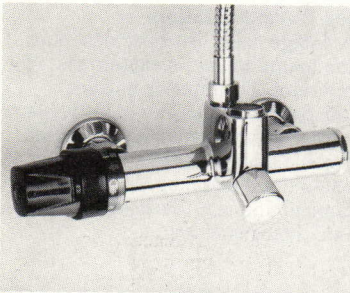
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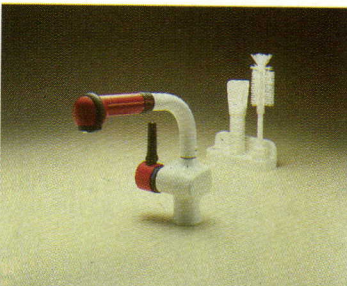
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602 Ventilator

A line of residential ventilators features the manufacturer's *Acoustek* shroud fire-retardant and moisture-resistant sound absorber. The ventilators also have direct-drive ball-bearing motors. Twenty-in., 24-in., 30-in., and 36-in. models are available. Broan Manufacturing Co., Inc., Hartford, Wis.

603 Furnace

The *Plus 90* warm-air gas furnace is intended for residential applications. Air is piped into the furnace from the outside, and heat is extracted from the primary and secondary heat exchanges. BDP Co., Div. of United Technologies Corp., Indianapolis, Ind.

604 Bath and shower unit

The *ARWA Therm* bath and shower unit combines two valves—one for cold water and one for hot—and can be preset to the desired water temperature level. The temperature level remains constant regardless of changes in water volume. Luwa Corp., Charlotte, N. C.

605 Faucets

The French-made *Ariane* series of faucets and accessories for bathrooms includes towel bars, hooks, and soap dishes. Each item is available in polished gold, brushed gold, polished brass, satin nickel, polished nickel, polished chrome, and a selection of colored finishes. Watercolors, Inc., Garrison-on-Hudson, N. Y.

606 Heater

The *HSS* heater has 14-gauge fully or partially perforated steel covers with 1/8-in. holes staggered 3/16-in. on center. The heater comes in 11-in., 14-in., and 24-in. heights and lengths of up to 10 ft. Erincraft Hydronics, Div. of Erincraft Manufacturing Co., Michigan City, Ind.

607 Toilet

The new *Mirage* low-profile toilet is constructed of vitreous china and features a siphon jet. The 25-in.-high unit is available in a selection of colors. Gerber Plumbing Fixtures Corp., Chicago.

608 Faucets

The *Borma Faucet Collection* of kitchen, bathroom and bar sinks can be specified in a midnight black enamel finish. The faucets are also available in four other colors and in chrome and polished brass. ABBAKA, San Francisco.

609 Faucet

A line of lavatory faucets designed by Arne Jacobsen is constructed of brass and is available in polished brass, chrome, and a selection of 10 epoxy finishes. The handles are said to require minimal movement to operate and are intended for use by the handicapped. Kroin, Inc., Cambridge, Mass.

610 Kitchen faucet

The *Ladylux* kitchen deck set includes a pull-out spray hose with two different water settings. The faucet's water temperature and pressure are controlled by a single handle lever. Grohe America, Inc., Wood Dale, Ill.

611 Tub filler

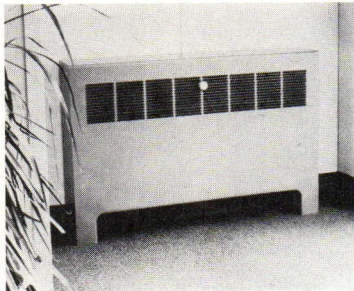
The *Horizon Deck* bathtub filler was designed by Stanely Paul. The 12-in.-diameter unit is made of polished stainless steel and can deliver 15 gallons of water per minute. Paul Associates, Long Island City, N. Y.

612 Toilets

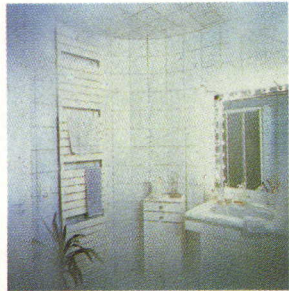
Microflush half-gallon flush toilets feature a 12-sec flush cycle. The toilets are constructed of vitreous china and are available in white, bone, and parchment, and in 22 custom colors. Microphor, Inc., Willits, Calif.

613 Whirlpool

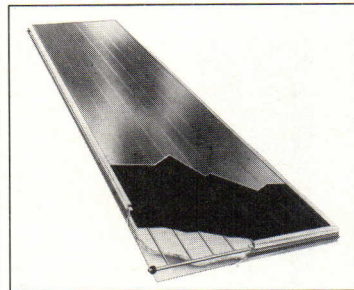
The *Prima II* whirlpool is made of high-luster acrylic reinforced with fiberglass. The whirlpool comes with the *Magic Touch* operation switch and the *Water Rainbow* waterfall spout. Jacuzzi Whirlpool Bath, Walnut Creek, Calif.



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614 Convectors

A line of convectors is designed for forced hot-water and two-pipe steam installations. The convectors are available in freestanding, semi-recessed, fully recessed, and wall-hung models. The enclosures are constructed of heavy-gauge steel. Sterling Commercial Finned-Tube Div., Westfield, Mass.

615 Towel rack radiator

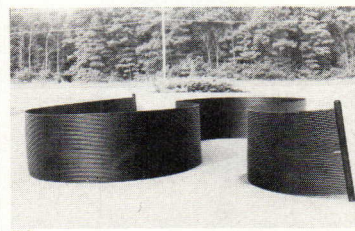
Runtal radiators consist of flattened water tubes that can be arranged in a variety of horizontal or vertical configurations, or in a grid. The radiators can be used as towel rack, and are available in a selection of seven colors. North American Energy Systems, Inc., Hampton, N. H.

616 Solar collector

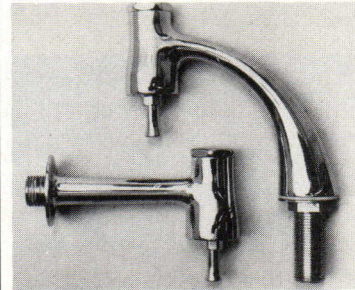
The *Trimline CMT 100* solar collector features an enameled extruded aluminum frame and tempered low-iron glass for increased solar energy collection. The collector is 3 ft by 8 ft and has spun fiberglass insulation. Solar Industries, Inc., Manasquan, N. J.



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617 Service sink faucet

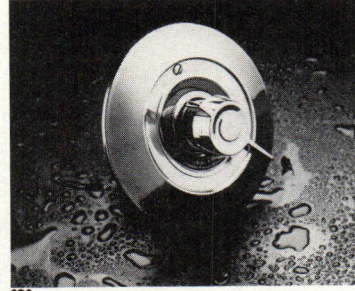
The *S-5811-USA* service and mop sink faucet is an addition to the manufacturer's *Commander II* line of utility plumbing products. The faucet's handles are said to be vandal-resistant. Speakman Co., Wilmington, Del.

618 Heat exchangers

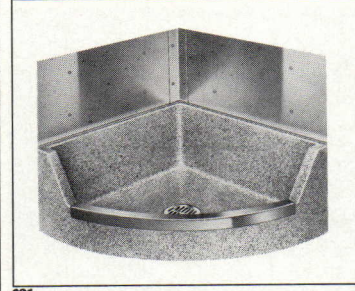
Aqua-Therm HP-Series heat exchangers are designed for use with water-to-water and water-to-air closed loop, earth-coupled heat pumps. The 2 ft-wide, 50 ft-long units can be installed in a slit trench. Solar Industries, Inc., Manasquan, N. J.

619 Faucet

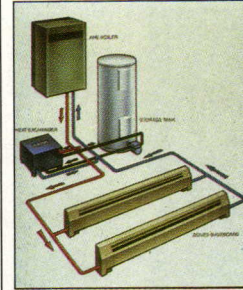
A slow-closing faucet is intended for use in public restrooms. The faucet has a solid brass body that is plated with heavy nickel chrome. Deck- and wall-mounted models are available. Microphor, Inc., Willits, Calif.



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620 Water mixing valves

The *PAM-II* is a pressure-actuated water mixing valve for residential and commercial applications. The valve's interior parts are constructed of bronze, and the pressure-balancing piston is made of stainless steel. Leonard Valve Co., Cranston, R. I.

621 Service sink

The *Crescent* service sink has a precast terrazzo basin and a 6-in. front drop with a stainless-steel cap that facilitates heavy equipment cleaning. The sink can be installed on finished floors. Stern-Williams Co., Inc., Shawnee Mission, Kansas.

622 Gas boiler

The *AHE* wall-mounted gas boiler can be used with the manufacturer's residential water-heating system to provide hot water for kitchen, bathroom, and laundry use. The boiler heats water through a heat exchanger and is said to be 85 percent efficient. Weil-McLain, Michigan City, Ind.



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623 Faucet

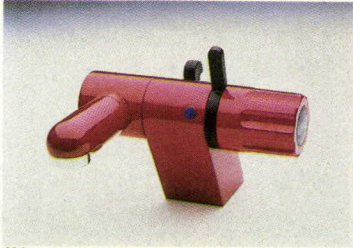
Cora single-lever brass mixer faucets have ceramic disk cartridges instead of washers. The handle regulates water flow and has a sliding water temperature control. Various faucet configurations are available for kitchen and bathroom sinks, showers, and bidets. Porcher, Inc., Chicago.

624 Toilet

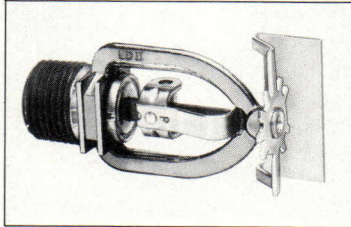
The *Superinse* one-gallon flush toilet has a vitreous china bowl and tank. The toilet is 33 3/4 in. high, 21 in. wide and 28 1/2 in. deep. A 30 1/2-in.-deep elongated model is also available. Thetford Systems, Inc., Ann Arbor, Mich.

625 Electric drinking fountain

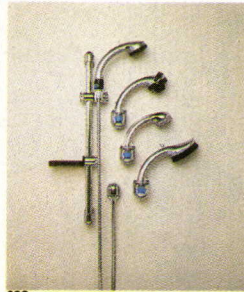
A wheelchair-accessible electric chrome-plated drinking fountain features two round receptors, rounded front brackets, front push bars, and anti-squirt bubblers. Haws Drinking Faucet Co., Berkeley, Calif.



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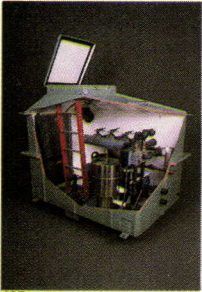
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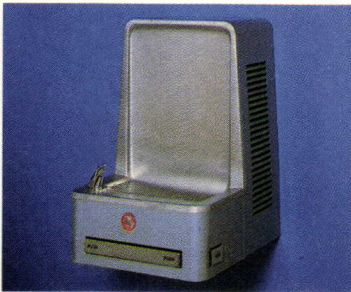
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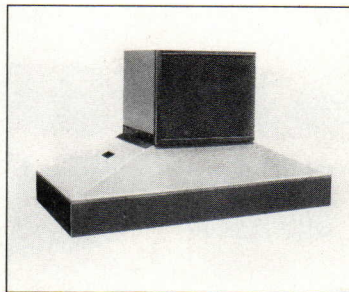
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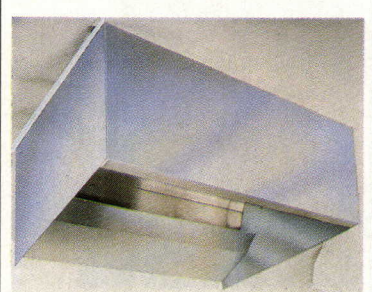
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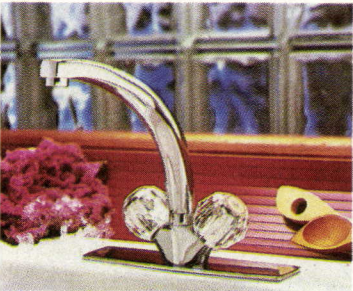
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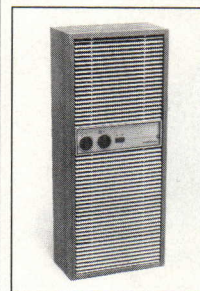
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626 Faucets

The *Bormix 80* line of Danish-designed solid cast-brass faucets for kitchens and bathrooms is available in six enamel colors or with a chrome finish. The faucets have an adjustable temperature control lever that is said to maintain a constant mix of hot and cold water. ABBAKA, San Francisco.

627 Fountain systems

WaterWorks are modular, pre-packaged electrical and mechanical fountain systems. Included in the packages are electrical control systems, automated self-cleaning filtration systems, electronic wind-control systems, and chemical-treatment systems. Imperial Bronzelite, San Marcos, Tex.

628 Faucets

The *Casa* line of faucets includes seven styles of kitchen and bathroom faucets, a bidet faucet, two Roman tub spouts, and additional accessories. The faucets are constructed of brass and are chrome-plated. Moen Group, Div. of Stanadyne, Inc., Elyria, Ohio.

629 Sprinkler

The model *H-LD-2* sprinkler is intended for use in hotels, hospitals, and other public facilities. The sprinkler features a 16-ft by 20-ft range of application and a flow rate of 30 gallons per minute. Star Sprinkler Corp., Milwaukee, Wis.

630 Drinking fountain

The model *HCWC-8-S* wheelchair-accessible electric water cooler features self-closing stainless steel front and side push bars. The unit has a welded one-piece cabinet that is constructed of rolled steel. The basin is made of satin stainless steel. Sunroc/Western Corp., Glen Riddle, Pa.

631 Whirlpool

The *Laser* portable whirlpool features a touch-sensitive control panel, the manufacturer's *Rainbow* spout, three-level seating with room for seven people, jets, a built-in underwater light, and foam insulation. Jacuzzi Whirlpool Bath, Walnut Creek, Calif.

632 Hand shower

The *Relaxa* personal shower system features interchangeable modes, including pulsation spray, "champagne" spray, and adjustable "needle" spray. An adapter can be specified to connect the unit's hose to an existing shower arm. Grohe America, Inc., Wood Dale, Ill.

633 Filter modules

The *CM-600* series of aluminum ceiling filter modules can be installed with conventional grid ceiling systems for clean-room applications. The modules can be moved within the grid system and supplied with air from an hvac system. Liberty Industries, East Berlin, Conn.

634 Waste disposers

A line of waste disposers is available with the *Eliminator* magnet motor that is said to be compact, lightweight, and energy efficient. The *Eliminator* is also said to produce more horsepower with less energy consumption than conventional induction motors. Anaheim Manufacturing, Div. of Tappan, Anaheim, Calif.

635 Sink

The new *La Mer* 25 1/2-in. pedestal sink has a 24-in. by 20 1/2-in. basin. The vitreous china fixture can be specified in a selection of colors and with the manufacturer's chrome-plated faucets. Gerber Plumbing Fixtures Corp., Chicago.

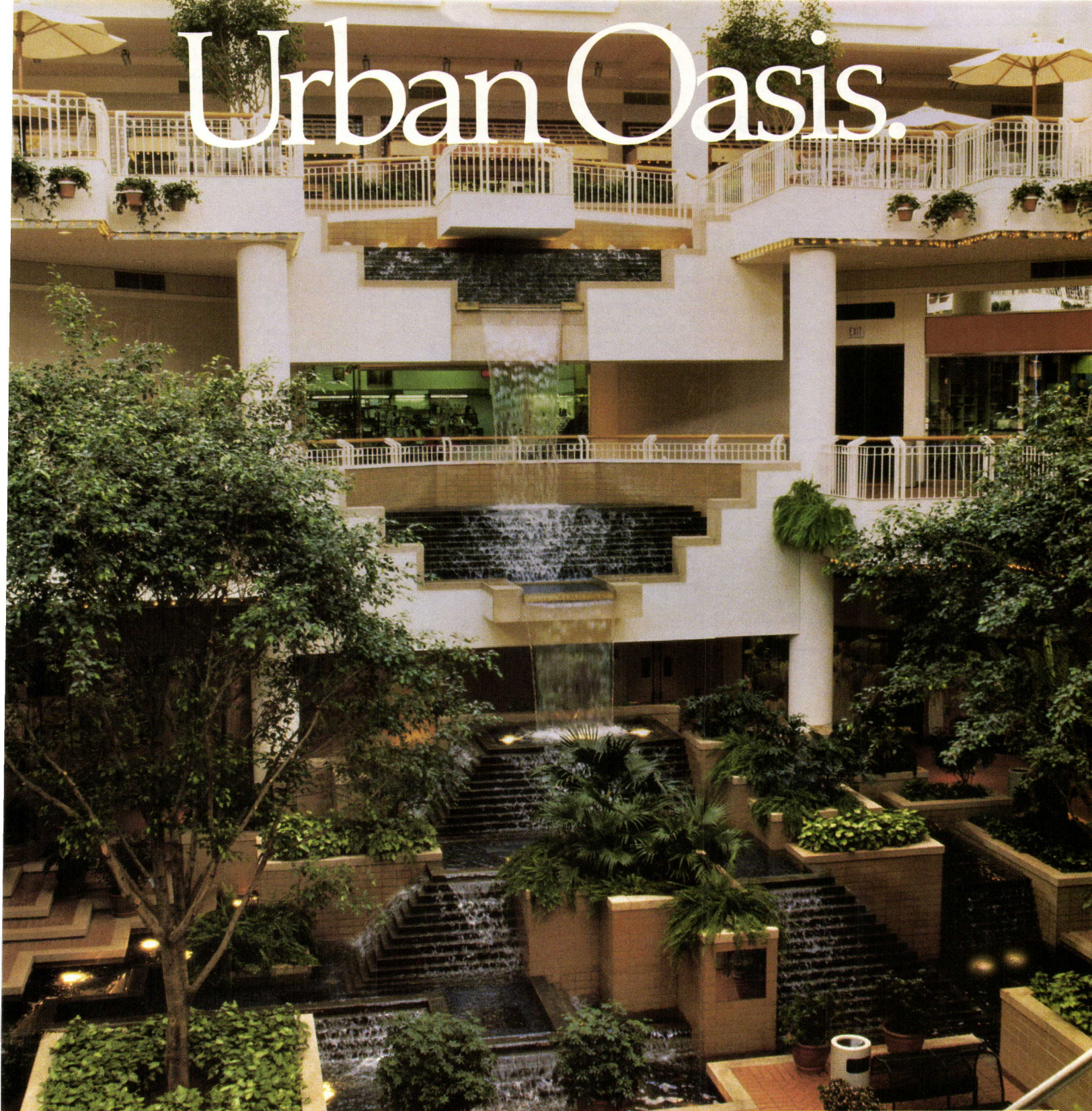
636 Ventilation system

A new two-stage water-wash exhaust ventilation system is intended to improve grease capture and odor removal. The system is designed for residential and commercial applications, and has a hood with a continuous water spray. Econovent Systems, Div. of Maysteel Corp., Mayville, Wis.

637 Fan convector

The *Vertical Fan Convector* delivers heating outputs of 16,000 Btu per hour. The unit has individual dials and a built-in thermostat that permit room-by-room temperature control. Myson, Inc., Fredericksburg, Va.

Urban Oasis.



Fountains and waterscapes by Imperial Bronzelite. They invite and excite. Soothe and relax. They create a welcome oasis. A focal point in the midst of manmade surroundings.

Imperial Bronzelite brings water to life more effectively than any other source. We discovered the secret to long life—the WaterWorks® fountain system. The fountain of use. Our exclusive custom-designed, factory assembled system virtually eliminates design, installation and maintenance problems.

To create an urban oasis in a desert of concrete, just add water.

**Imperial
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Architectural Lighting & Fountains

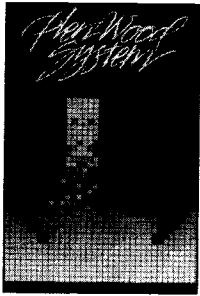
P.O. Box 606,
San Marcos, Texas 78666
(512) 392-8957

Circle 1124 on inquiry card

Imperial Bronzelite architectural fountain system and underwater lighting installation at Charleston Town Center, Charleston, West Virginia. Architects: RTKL Associates, Inc. (Baltimore/Dallas) Developer: Forest City Development (Cleveland)

15 Mechanical Product literature

For more information, write item numbers on Reader Service Card



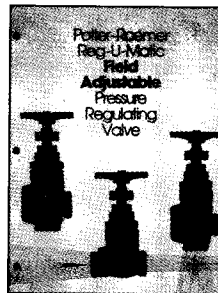
638 Underfloor heating
A 36-page color booklet discusses a heating and cooling system that uses the underfloor space of a building as a sealed plenum chamber. The literature includes an overview of the system, reports from the field, and a description of construction methods. Diagrams show construction and mechanical details. American Plywood Association, Tacoma, Wash.



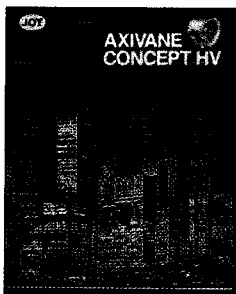
644 Cooling towers
A 16-page pamphlet features industrial crossflow cooling towers. Cutaway drawings illustrate the towers' components. The literature includes a step-by-step guide to selecting a cooling tower and relevant technical data. Baltimore Aircoil Co., Baltimore, Md.



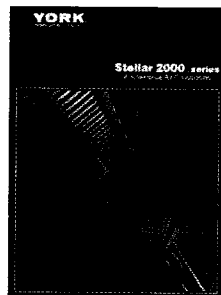
639 Industrial ducts
A 30-page pamphlet shows the manufacturer's ducts, fittings, and related products for heating, ventilating, and air conditioning industrial environments. Photographs and diagrams illustrate the different components. Charts give engineering data. United McGill Corp., Westerville, Ohio.



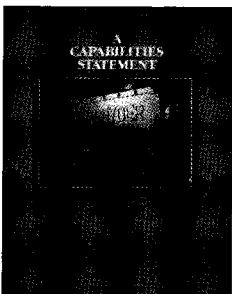
645 Pressure-regulating valve
A 4-page color brochure contains photographs of the manufacturer's regulating valves for high-pressure sprinkler, standpipe, and combined fire-protection systems. Diagrams show different configurations of pressure regulating valves and gauges on a sprinkler line. Potter-Roemer, Inc., Cerritos, Calif.



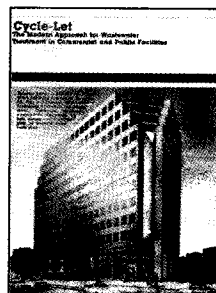
640 Industrial fans
A 6-page brochure describes a variable-pitch fan for heating, ventilating, and air-conditioning systems that allows the operator to control air volume by changing the angle of the rotating blade. The literature includes a diagram of the pitch-control mechanism and charts of typical dimensions. Joy Manufacturing Co., New Philadelphia, Ohio.



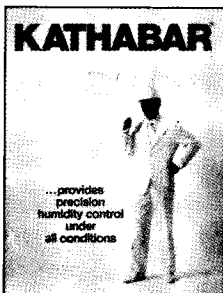
646 Central air-conditioning
A central residential air-conditioning system is featured in a 4-page color brochure. Photographs show both indoor and outdoor components. Diagrams depict closet, basement, attic, and crawl space installations. Borg-Warner Central Environmental Systems, Inc., York, Pa.



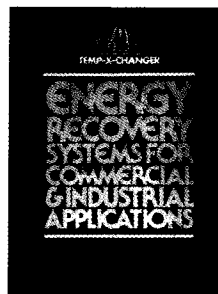
641 Pumps
Pumps for water, volatile liquids, high-pressure service, and refining processes are featured in a 24-page booklet. Photographs show each type of pump. Applications, temperatures, pressures, and design features are given as well. Wilson-Snyder Pumps, Div. of U. S. Steel, Garland, Tex.



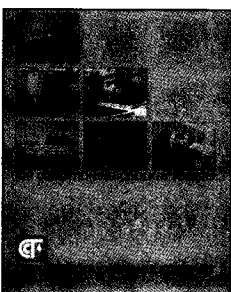
647 Wastewater treatment
A 6-page fold-out brochure features the manufacturer's wastewater treatment system for large commercial and public facilities. Photographs show actual installations, and a flow diagram traces the purification process. Thetford Systems, Inc., Ann Arbor, Mich.



642 Humidity control
A humidity control system composed of two mechanical components and a moisture-absorbing chemical is described in a 12-page color brochure. The literature describes applications in hospitals, the pharmaceutical industry, and other humidity-sensitive environments. Somerset Technologies, Inc., New Brunswick, N. J.



648 Heat-recovery systems
A 12-page booklet details a system for recovering heat from industrial exhaust systems. The literature includes photographs of actual installations in a train maintenance yard, a sewage system, a paper factory, and other industrial facilities. United Air Specialists, Inc., Cincinnati.



643 Ceramic cooling towers
An 8-page color brochure describes the manufacturer's custom-designed ceramic cooling towers. Photographs illustrate the internal mechanism of the towers and show examples of existing ceramic cooling towers that are intended to be architecturally compatible with the buildings to which they are attached. Ceramic Cooling Tower Co., Div. of Justin Co., Fort Worth.



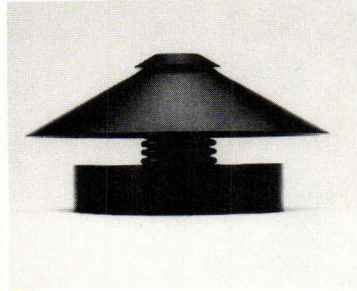
649 Kitchen exhaust fans
A line of exhaust fans for commercial and institutional kitchens is described in a 4-page color brochure. The literature features the manufacturer's new water-wash and low-volume systems, and describes energy-saving, retrofit, backshelf, and island-hood versions. Econovent Systems, Div. of Maysteel Corp., Mayville, Wis.

16 Electrical

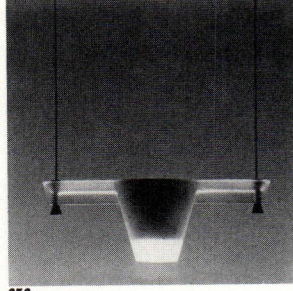
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 Lighting
 Power generation
 Protective systems
 Raceways
 Wiring devices



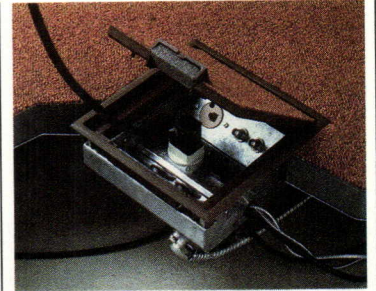
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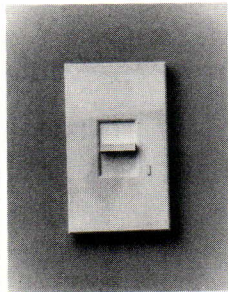
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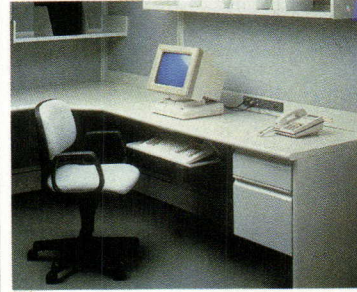
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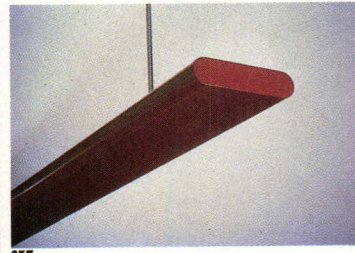
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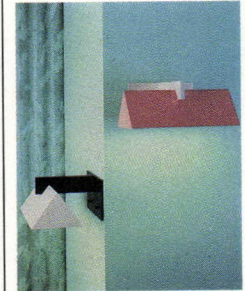
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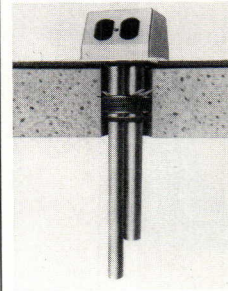
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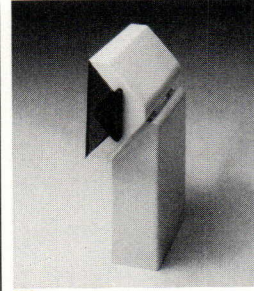
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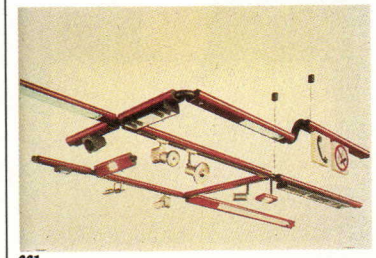
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650 Intercom system

An intercom system intended for commercial applications consists of a master station and remote stations. The master-station units come with self-contained amplifiers and can be wall-mounted. The remote station units are available with one or three call-in switches for communication with the master units. Dukane Corp., St. Charles, Ill.

651 Dimmer

The *Nova* line of dimmers, intended for residential and commercial applications, features linear slide action for one-unit, multilocation on/off lighting control. A button on the master dimmer allows the user to preset lighting levels. Lutron Electronics Co., Inc., Coopersburg, Pa.

652 Pedestals

The *Versa-Trak* undercarpet wiring system now includes new pedestals for power, telephone, and data communications connections. The low-profile pedestals have sliding access covers over the receptacle contacts, and are available in six colors. Thomas & Betts Corp., Raritan, N. J.

653 Lamp

The *Sensu I* table lamp was designed by Sean Corcorran and Jorge Freyer. When a hand is passed above the unit, the lamp rises and turns on. The aluminum base and shade have a satin grained, black anodized finish. Sointu, Inc., New York City.

654 Data module

The *QuickLine* voice and data support module is designed to be used with the manufacturer's *System 2Plus* raceway panels. The 12-in. by 2-in. panel-mounted outlet source is available in three configurations. Panel Concepts, Inc., Santa Ana, Calif.

655 Service fittings

Fire-Gard service fittings provide both power and communications service, and can be specified to accommodate telephone cables. The housing and trim are available in brushed satin aluminum and bronze finishes. Square D Co., Oxford, Ohio.

656 Pendant lamp

The *Crisol* pendant lamp was designed by King, Miranda, and Arnaldi. The lamp's cone-shaped diffuser is made of etched glass and is suspended by two braided-steel cables. An enameled aluminum reflector concentrates light directly below the lamp. Atelier International Ltd., New York City.

657 Lighting

The *Series 62* features two 1-in.-diameter lamps in a flat extruded aluminum enclosure. The panel ends are welded together and are hung from nickel-plated stems. Neo-Ray Lighting, Brooklyn, N. Y.

658 Wall-mounted light fixture

A wall-mounted light fixture designed to provide indirect lighting has an asymmetrical reflector that is said to produce uniform light distribution. The unit uses a 70W lamp. Lita, Lamotte-Beuvron, France.

659 Access floor modules

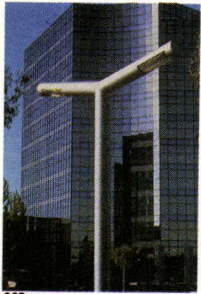
Multi-A-Cell II data, communication, and power wiring floor-deliver modules are available with openings of 28, 64, and 80 sq in. The modules can be installed and relocated in access floors 4-in.-deep or deeper. Midland-Ross Corp., Pittsburgh.

660 Scence

The arm of the *Kavanaugh* scence, designed by Gere Kavanaugh, supports a triangular light shade. The scence is 12 in. wide, 5 in. high, and 9 in. deep, and is available with incandescent, fluorescent, or halogen bulbs. Ron Rezek Lighting + Furniture, Los Angeles.

661 Lighting system

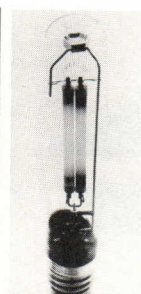
The *Aton Modular* lighting system designed by Ernesto Gismondi consists of different-size modules that can be specified with fluorescent, halogen, or incandescent lighting. The modules are constructed of extruded aluminum and have a lacquer finish. Artemide, Inc., New York City.



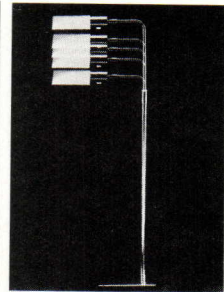
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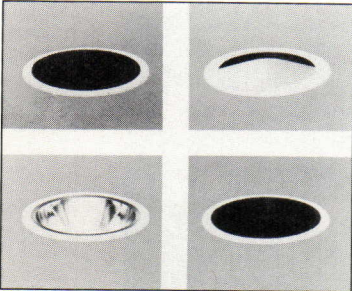
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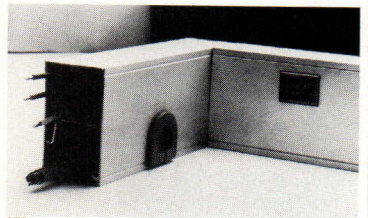
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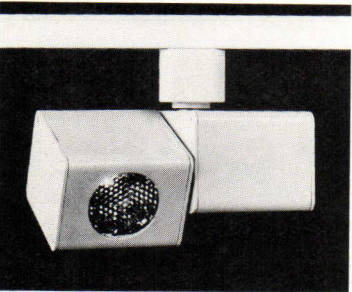
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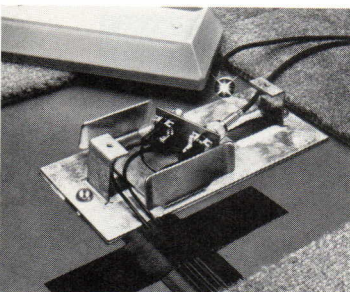
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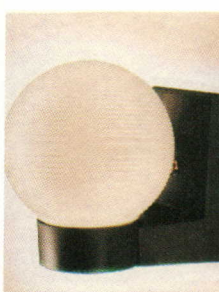
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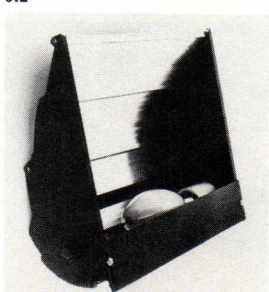
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662 Outdoor lighting

The *Outdoor Tube System*, intended for parking lot and street lighting, is available in 6-in. and 8-in. diameters. The 12-ft to 30-ft poles can be specified with outputs of 70 to 400W. Kim Lighting, City of Industry, Calif.

663 Lighting

Die-cast aluminum fixtures with 4 1/2-in. apertures can be used for display and accent lighting applications. The transformer accommodates 20, 50, and 75W lamps. The housings are available in a selection of colors. Omega Lighting, Div. of Emerson Electric Co., Melville, N. Y.

664 Track lighting fixture

The new *Side-by-Side* track lighting fixture is 6-in. long, 2 3/4-in. wide, and 2 1/4-in. deep. The housing has a honeycomb louver to concentrate the light. The fixture can pivot 358 deg. Capri Lighting, Los Angeles.

665 Loudspeaker

A 12-in.-high by 15-in.-wide loudspeaker has a fiberglass enclosure that can be specified in a variety of colors. The unit features omnidirectional voice dispersion of 270 deg vertical and 360 deg horizontal. Sonic Systems, Inc., Stamford, Conn.

666 Adapter unit

Lightpoint is a medium-based adapter unit that contains a 15W, six-volt halogen reflector lamp and a transformer. The unit can be used to spotlight displays and for decorative applications. North American Philips Lighting Corp., Hightstown, N. J.

667 Undercarpet cabling

Optimate undercarpet fiber-optic cable is an addition to the manufacturer's undercarpet cabling system. The fiber-optic system includes five cable types that can be installed with a variety of cable turning devices. AMP, Inc., Harrisburg, Pa.

668 Lamp

A high-pressure sodium lamp with a standby arc tube will automatically relight approximately one and a half minutes after a power interruption. The two-arc lamp has an average rated life of 24,000 hours and a lumen rating of 116 lumens per watt. GTE Lighting Products, Danvers, Mass.

669 Light fixture

A new light fixture is available with a 12- or 15-in.-diameter crystal ribbed glass half-cone shade. The unit can be mounted with the wide end upward or downward, and can be specified with a lacquered brass or chrome finish. Classic Illuminations, Inc., Berkeley, Calif.

670 Outdoor light

The fluorescent *Side Light* uses a 12W bulb and is said to use approximately one-third the electricity of a comparable incandescent bulb. The unit has a bronze housing and can be mounted adjacent to entry areas. American Electric, Div. of FL Industries, Inc., Southaven, Miss.

671 Lamps

A line of floor lamps is now available with the manufacturer's suede-like black *Nextel* finish that is said to be scratch-resistant and dust-proof. Solid brass and chrome finishes can also be specified. Koch + Lowy, Inc., Long Island City, N. Y.

672 Raceway

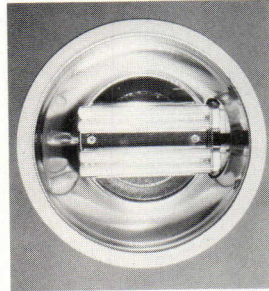
A new aluminum raceway is designed to organize power, data, and communication wiring. The 3 3/16-in.-wide by 1 7/8-in.-deep raceway has a satin anodized finish. The Wiremold Co., West Hartford, Conn.

673 Indirect lighting

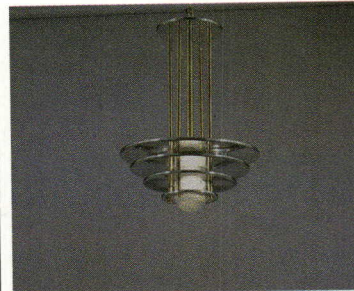
The *Pan-A-Lux* indirect lighting fixture has a segmented, extruded reflector that directs light at walls or ceilings. The 10 3/4-in. by 13 1/2-in. by 5 1/2-in. housing is constructed of glass-reinforced polymerized gypsum. The Rambusch Co., New York City.



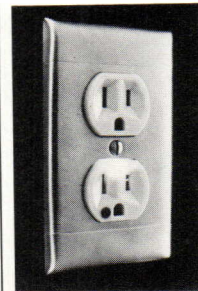
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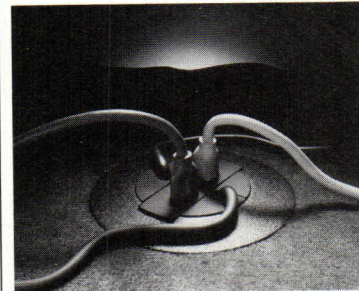
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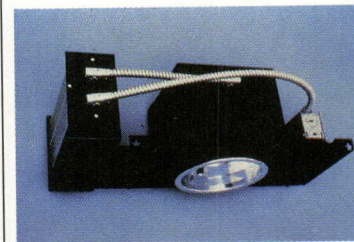
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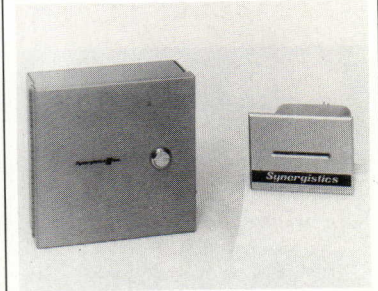
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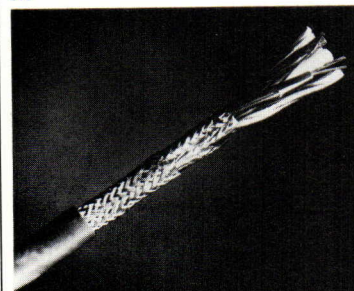
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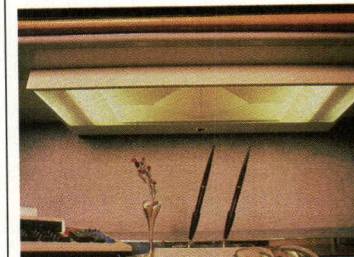
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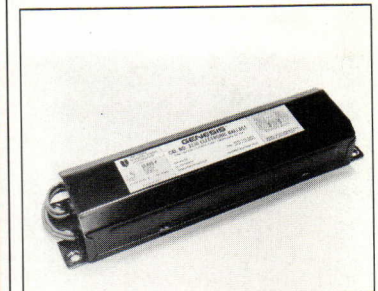
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674 Intercom system

The circuit of the *Chief* intercom system can determine when a station is busy, activate incoming calls, light and ring on the receiving station, and determine whether the receiving station is in private or non-private mode. Talk-A-Phone Co., Chicago.

675 Access system

The *CardAccess 50* single-door programmable system can control access of up to 4,000 individually coded cards. The card reader can program and void each card. A "memory scan" can verify if cards are still valid. Continental Instruments Corp., Westbury, N. Y.

676 Data cables

The *8162 Series* of extended distance multi-pair data cables includes 11 cables. Each pair is covered with a *Beldfoil* shield to reduce crosstalk and improve between-pair signals. Belden Electronic Wire and Cable, Richmond, Ind.

677 Light fixtures

A line of fluorescent light fixtures includes 6-in., 8-in., and 10-in. recessed downlights for 2W, 7W, 9W, and 13W compact lamps. Coordinating 8-in. and 10-in. drumlights for surface or pendant mounting are also available. Prescolite, San Leandro, Calif.

678 Power source and outlet

The *Poke-Thru* electrical unit can be installed flush with the carpet in a 3-in. hole. The unit includes openings for low-tension wiring and comes pre-wired in an integral junction box. Raceway Components, Inc., Nutley, N. J.

679 Emergency lighting

A new series of emergency lighting units and exit signs is controlled by the manufacturer's integrated circuit chip. The *Spectron* units automatically perform diagnostic, monitoring, and battery-maintenance functions. Dual-Lite, Inc., Newton, Conn.

680 Light fixture

A ceiling-hung light fixture consists of four stacked solid brass discs suspended by five brass stems. The fixture has a polished aluminum finish and can accommodate a 100W bulb. A variety of sizes is available. The American Glass Light Co., New York City.

681 Downlight

A low wattage metal halide downlight features a broad distribution of light. The 8-in. aperture reflector is available in recessed and surface- and track-mounted versions. Staff Lighting Corp., Highland, N. Y.

682 Task light

The reflector and lens of the new *Varilux* three-level task light direct illumination laterally across the workstation to minimize glare. The unit's sloped internal walls are said to produce even levels of light. Alcco, Div. of Jac Jacobsen Industries, Inc., Franklin Park, Ill.

683 Receptacles

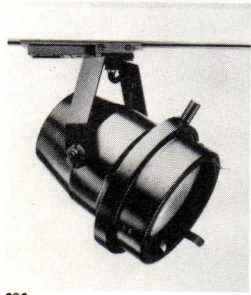
A new line of receptacles designed for use in hospitals, health-care facilities, and nursing homes features illuminated faces. The receptacles can be either side- or back-wired, and are available in four colors. Pass & Seymour, Inc., Syracuse, N. Y.

684 Access control system

MSLR access control systems are designed to provide security in vestibules. The system consists of four access control units that are activated by a plastic card. Synergistics, Inc., Natick, Mass.

685 Electronic ballast

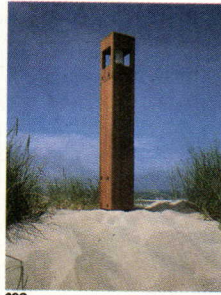
Genesis solid-state electronic ballasts are said to use 33 fewer watts and 25 percent less line current than standard electromagnetic ballasts, allowing the use of more ballasts per circuit. Universal Manufacturing Corp., Paramus, N. J.



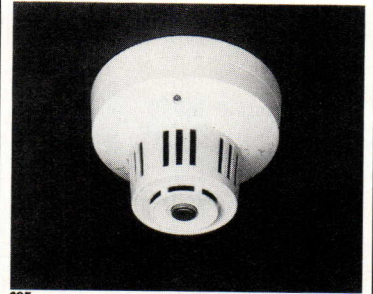
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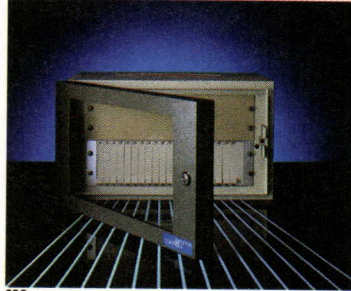
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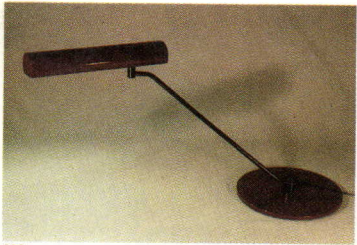
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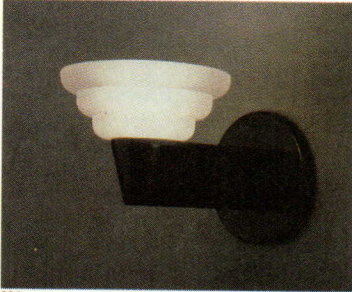
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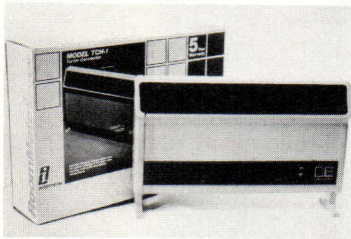
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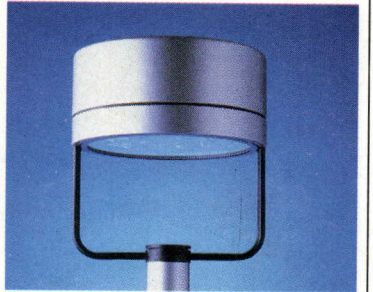
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686 Spotlights

The new *290 Spotlight* series is available in different wattages and with a variety of beam spreads. Several models have special lenses that redirect stray light back into the main beam to reduce energy consumption. Lighting Services, Inc., New York City.

687 Access control system

Class-PC is a limited-access security system that uses the IBM personal computer. Card readers can be placed at the entrance of restricted areas, and users can be issued individual cards. The computer provides status information. Applied Realtime Systems, Inc., Mandeville, La.

688 Desk-top light fixtures

The model *M-5001-FT* light fixture is designed for task lighting applications. The unit is available in 20 enamel colors and uses a fluorescent bulb. Tsao Designs, Inc., New Canaan, Conn.

689 Lighting fixtures

Hazlux compact lighting fixtures are intended for use in hazardous locations. The fixtures are constructed of copper-free aluminum with stainless steel exterior hardware and have a dry-baked enamel finish. Blackburn, St. Louis.

690 Light fixtures

The *Kanthos* pendant lamp has a scalloped disc of white plaster and translucent glass set into each segment. The mounting box of the *Corinthian* wall bracket is also made of plaster. Both fixtures are available in two sizes. Boyd Lighting Co., San Francisco.

691 Wall sconce

Nelly is an Italian-made halogen wall sconce designed by Roberto Pamio. The sconce has a hand-blown glass diffuser that is supported by a metallic, baked-enamel cast-aluminum arm and face plate. The diffuser is available in three colors. Innovative Products For Interiors, Inc., New York City.

692 Outdoor lighting

A line of outdoor lighting fixtures is available in incandescent, fluorescent, or HID versions. The poles can be specified in a variety of hardwoods and softwoods. Matching wall lights and site furnishings are available. WoodForm, Inc., Portland, Ore.

693 Networking product

The *JC/Link* interfacing network accommodates the IBM cabling system and standard twisted pair telephone wiring for data signaling between the control units of the manufacturer's building automation system. Johnson Controls, Inc., Milwaukee, Wis.

694 Portable heater

The new *RoomMate* portable convection heater is 26-in. by 17-in. by 6-in. The unit has a built-in thermostat, dual-wattage indicator lights, and front air discharge. Intertherm, Inc., St. Louis.

695 Smoke detector

The *Phoenix* photoelectric smoke detector is intended for industrial and commercial applications. The detector utilizes a solid-state light emitting diode and a light sensing photovoltaic cell. Pyrotec, Inc., Div. of Grinnell Fire Protection Systems Co., Hingham, Mass.

696 Wire service

A new poke-through power and communication service fitting is now able to handle the IBM cabling system. The fitting face holds both the mounting plate for a data connector and the bracket for a telephone jack. Midland-Ross Corp., Pittsburgh.

697 Lighting post tops

Post Tops housings are available in 17- and 22-in.-diameters and are designed to be mounted at heights between 10 and 25 ft. The housings are available in round and semi-spherical shapes and can be specified in a selection of colors. Gardco Lighting, San Leandro, Calif.

16 Electrical Product literature

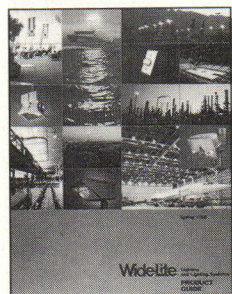
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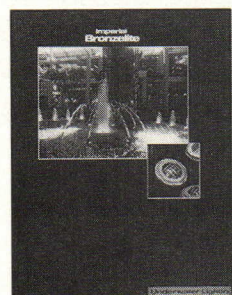
698 Communications package
A 4-page color brochure describes *Com-Pak*, a cable management system designed to keep electronic cables contained within the panels of the manufacturer's *Wes-Group* line of open-office furniture. A specification sheet reviews the system's three kits for telephone cables, data cables, and co-axial outlets. Westinghouse Furniture Systems, Grand Rapids, Mich.



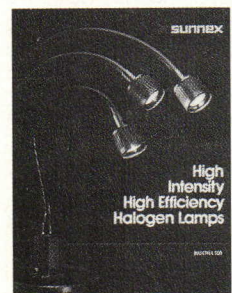
699 Light fixture
The *Sentinall* wall-mounted light fixture features an aluminum housing and a one-piece, injection-molded polycarbonate diffuser. The fixture is highlighted in a 4-page brochure that includes installation photos and information on annual energy costs. Photometric data and ordering specifications are included in the literature. Kenall Manufacturing Co., Chicago.



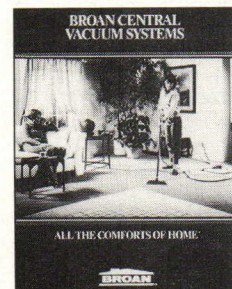
700 Lighting
A 6-page color brochure features the manufacturer's complete line of high-intensity discharge floodlights, luminaires, and lighting controls for indoor and outdoor industrial, commercial, and sports applications. Photos show each lighting system, and text contains information on capabilities, product warranty, and available design services. Wide-Lite, San Marcos, Tex.



701 Underwater lighting
A 6-page color brochure describes a line of freestanding and niche-mounted underwater luminaires and accessories. A selection guide illustrates 14 fixtures for incandescent or quartz illumination of fountains, waterfalls, and reflection pools. Ordering information, safety features, and specifications are included. Imperial Bronzelite, San Marcos, Tex.



702 Industrial lamps
A series of high-intensity halogen lighting systems designed for use on production machinery, in assembly operations, and for inspection procedures is featured in an 8-page catalog. The fixtures are available with either gooseneck or articulated arms. Photos illustrate each fixture, and charts list specifications. Sunnex, Inc., Needham, Mass.



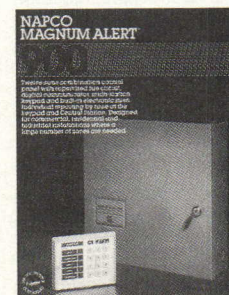
703 Central vacuum systems
A 4-page color brochure describes three models of the manufacturer's residential vacuum systems. A diagram shows suggested locations for the power unit and wall inlets throughout the house, and photos illustrate available accessories and power-cleaning attachments. A specification chart is included. Broan Manufacturing Co., Inc., Hartford, Wis.



704 Suspended lamps
An 8-page foldout color brochure features the *Controluce* line of imported table lamps, created by a variety of Italian designers. Each lamp is illustrated by a photograph and a schematic diagram showing dimensions. Text outlines specifications and available colors. Thunder & Light Ltd., New York City.



705 Light poles
The manufacturer's line of fiberglass light poles, available in heights ranging from 10 to 45 ft, is reviewed in an 8-page color brochure. The literature compares the esthetics and durability of fiberglass poles to metal and masonry models. Photographs illustrate sample installations and available optional accessories. The Shakespeare Co., Newberry, S. C.



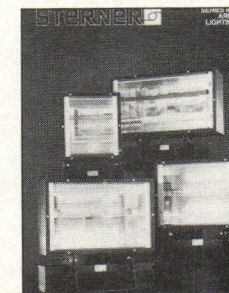
706 Alarm control panel
A 6-page color brochure outlines the characteristics of the *Magnum Alert 900*, a 12-zone, programmable alarm control panel that features a multi-station keypad and a built-in siren. A wiring diagram illustrates technical specifications of the units, which are designed for commercial, residential, and industrial installations. Napco Security Systems, Inc., Copiague, N. Y.



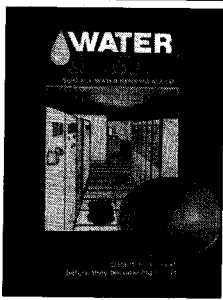
707 Outdoor luminaire
A 6-page color brochure features the manufacturer's *SC* luminaire, an outdoor fixture whose faceted aluminum reflector is designed to provide the sharp light cut-off needed for such applications as car lots and tennis courts. Charts and diagrams give footcandle information, while photographs show sample installations. EMCO Environmental Lighting, Milan, Ill.



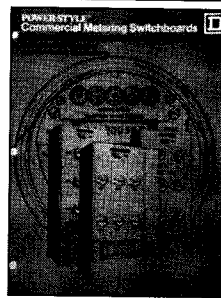
708 Commercial intercoms
A 12-page color catalog describes a line of eight office and industrial intercom systems, together with a coordinating group of speakers, horns, and amplifiers. The literature includes a comprehensive specification chart that compares the features, dimensions, and available options of each system. Aiphone Corp., Bellevue, Wash.



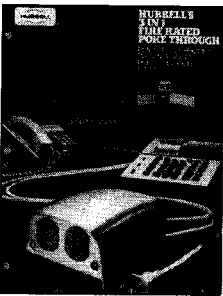
709 Outdoor lighting
Each fixture in the *Series 870* system of outdoor area lighting features an extruded aluminum housing, asymmetrical reflector, and impact-resistant tempered-glass lens. Diagrams and charts in a 10-page color brochure illustrate the fixtures' performance characteristics; photographs show sample installations. Sterner Lighting Systems, Winsted, Minn.



710 Water-sensing alarm
A 16-page color brochure features *Water Alert*, a surface water-sensing system that emits a loud alarm when leakage is detected. For small applications, self-contained, battery-operated units are available; for larger applications the sensors may be hooked up to AC power sources and existing alarm systems. Dorlen Products, Div. of Electro-Consultants, Inc., Milwaukee.



716 Metering switchboards
A 4-page color brochure describes *Power-Style* prewired metering switchboards, intended for multi-metering applications in shopping centers, office buildings, and other commercial installations. The units are UL-listed up to 100,000 amps. Photos illustrate three available models, and a chart lists technical specifications. Square D Company, Peru, Ind.



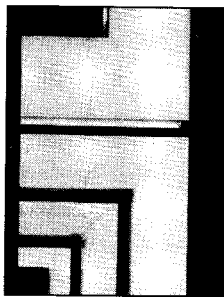
711 Poke-through fittings
A 4-page pamphlet reviews the manufacturer's line of fire-rated poke-through fittings that accommodate outlets for power, telephone, and computer. Designed for installation through the floors of commercial buildings, the one- or two-piece units feature stainless-steel cover plates and integral junction boxes. Harvey Hubbell, Inc., Bridgeport, Conn.



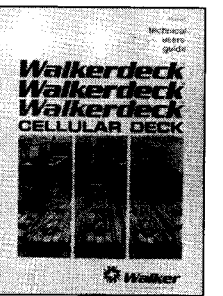
717 Luminaires
The historic Central Park and Battery Park luminaires are among the ornamental street and park lights featured in a new 8-page catalog. The literature also includes descriptions, photographs, and specifications of the manufacturer's wallpacks, floodlights, indoor lighting systems, and luminaire/post combinations. Sentry Electric Corp., Freeport, N. Y.



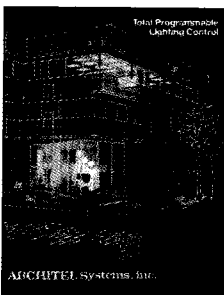
712 Video conference system
Conferscan 2000 is a microprocessor-controlled color video camera system designed to record conferences and meetings. The system features automatic zoom and focus, and it has teleconferencing capabilities. A 2-page data sheet outlines system specifications. Avtec Industries, Inc., Fairfield, N. J.



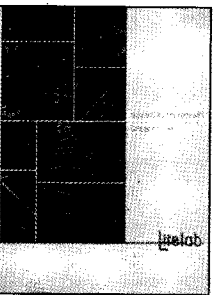
718 Raceways
A 6-page color brochure describes and illustrates five series of surface wiring systems made of anodized aluminum extrusions. Specifications list the size and wire capabilities of each model, and a line of fittings allowing changes in direction, continuous runs, and connection of different-size raceways into a single system is discussed. Airey Thompson Co., Los Angeles.



713 Decking
A 36-page technical users' guide describes the *Walkerdeck* line of subfloor cellular and non-cellular raceway systems. A series of load tables gives structural data for each available deck model, while a section on electrical data provides charts and diagrams illustrating raceway components. Walker, Div. of Butler Manufacturing Co., Parkersburg, W. Va.



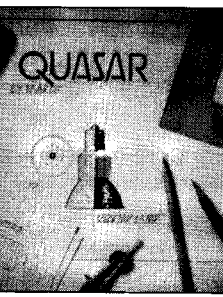
719 Programmable lighting
A 6-page color foldout brochure features a low-voltage, microprocessor-based lighting control system that can monitor such variables as the presence of people, natural light, time, and manual control status to maintain specified lighting environments. A diagram illustrates a system components. Architel Systems, Inc., New York City.



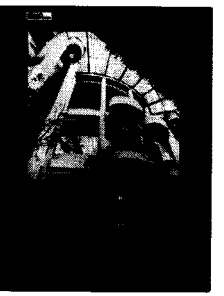
714 Specialty lighting
Color photos in an 8-page brochure depict sample installations of the manufacturer's low-voltage and line-voltage, surface-mount and linear lighting fixtures. The units are intended for display, and other specialized applications. Litelab, Buffalo, N. Y.



720 Post-top lighting
A 22-page color catalog features photos and descriptions of 17 decorative post-top lighting fixtures. Information on size, wattage, mounting heights, wind load rating, diffuser options, luminaire options, and special features is given for each fixture. Nine available luminaire and pole finishes are shown. Sterner Lighting Systems, Winsted, Minn.



715 Accent lighting
Quasar accent downlights, designed for installation in the manufacturer's MX7 housings, feature a new MR lamp that uses standard voltage and requires no integral transformer. A 4-page color brochure illustrates some of the 18 available trim rings; a chart lists lamp options. Marco/Marvin Electric, Div. of Kidde, Inc., Los Angeles.



721 Decorative lighting
Accent lighting for interior and exterior installations is featured in a 4-page color brochure. Anodized aluminum strip lighting with satin or mirror finish is shown, and the manufacturer's custom curving process for specialized applications is described. Both fluorescent and incandescent models are available. Sentinel Lighting, Div. of Airey-Thompson Co., Los Angeles.

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School of Architecture
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Nominations and applications will be reviewed on an on-going basis from December 1, 1985 to March 1, 1986. Correspondence should be addressed to: **Professor Colin Clipson, Chair, Dean Search Committee, College of Architecture and Urban Planning, The University of Michigan, Ann Arbor, Michigan 48109.**



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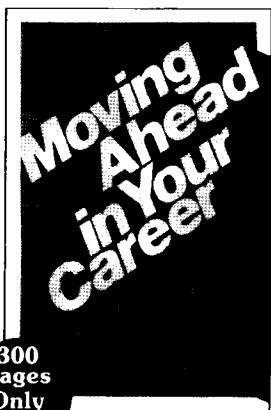
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FACULTY POSITIONS VACANT

SUNY At Buffalo's Department of Architecture will have three or more openings in September 1986 for positions from assistant to full professor rank. The young, developing and fully accredited department is seeking additional experienced design studio faculty and wishes to augment existing expertise in architectural design, graphic communications, building science, advanced building technology, environmental controls, computer applications, history, adaptive re-use, design theory and research methods. Experience and continuing interest in architectural research or design exploration activities will be advantageous to applicants. One open position is designated by the Chairman as Director for Undergraduate Studies. A second position will primarily focus on the further development of our second professional M.Arch. degree program in Advanced Building Technology. Salary for all positions according to rank and qualifications. Applicants should write to Professor Michael Brill, Chairman, Faculty Search Committee, Department of Architecture, School of Architecture and Environmental Design, State University of New York at Buffalo, Hayes Hall, Buffalo, New York 14214. Applications should be submitted not later than 15 February, 1986 and should include: a complete resume; a list of at least three references with full names, addresses, and phone numbers; and samples of professional, artistic, and scholarly work. SUNYAB is an EO/AA employer.

The UCLA Graduate School of Architecture and Urban Planning is looking for an individual to fill the position of Director of Architecture at the Urban Innovations Group (UIG), the practice arm of the School, beginning academic year 1986-87. Candidates should have at least five years experience in architectural practice, including experience in project design and project management. The successful candidate will be expected to work with other faculty members in directing students' work on architectural projects, to be responsible for the overall management and organization of all architectural and urban design projects, and to teach two or three courses each year in the Architecture/Urban Design Program. It is anticipated that the position will be filled at the Adjunct Assistant Professor level, but exceptionally well-qualified applicants at more senior levels will also be given consideration. UCLA is an equal opportunity, affirmative action employer and applications from women and members of minority groups are especially encouraged. Applicants are asked to submit letters of inquiry, including curriculum vitae and the names and addresses of at least three referees, by January 15, 1986 to: Professor William J. Mitchell, Head, Architecture/Urban Design Program, Graduate School of Architecture and Urban Planning, UCLA, Los Angeles, California 90024.

The Graduate School of Architecture and Urban Planning at UCLA invites applications for a full-time, tenure-track position in the Architecture/Urban Design Program, beginning academic year 1986/87. The successful applicant will be expected to teach design studios and to make a contribution to at least one other area of the teaching program, and to actively pursue practice and/or research and scholarly activities. It is anticipated that the position will be filled at a senior level. UCLA is an Equal Opportunity/Affirmative Action employer and the Architectural/Urban Design Program especially encourages applications from women and members of minority groups. Applicants are asked to submit letters of inquiry, including curriculum vitae and the names and addresses of at least three referees by January 15, 1986 to Professor William J. Mitchell, Head, Architecture/Urban Design Program, Graduate School of Architecture and Urban Planning, UCLA, Los Angeles, California 90024.

Dean's Position—The College of Architecture and Environmental Design at Texas A&M invites applications for the position of Dean. The college includes the Department of Architecture, of Construction Science, Environmental Design, Landscape Architecture and Urban and Regional Planning. Preferred starting date: July 1986, Salary is competitive. Address inquiries to: Dr. Clinton A. Phillips, Dean of Faculties and Associate Provost Texas A&M University, College Station, Texas 77843.

FACULTY POSITIONS VACANT

The University of Oregon Department of Architecture is seeking applicants for three fixed-term tenure track positions to begin fall term, 1986. Advanced Structures: Course-work in advanced structures and construction with regular involvement in design studios as a consultant, co-teacher, or principal critic. Assistant or Associate Professor levels. Design and Technology: Architectural design studio and subject courses in structures, construction, environmental control, preservation technology, or professional practice. Assistant Professor level. Design and Theory: Architectural Design studio and subject courses which develop theoretical understandings of the physical, social, cultural, or historic contexts of architecture. These understandings must inform the processes of building design and/or preservation. Assistant or Associate Professor level. For all positions candidates will be expected to have advanced degrees in the appropriate fields as well as experience in teaching, research or professional practice. A Masters degree or equivalent is required for all positions. Completed applications, due January 31, 1986, must include a current curriculum vitae, a portfolio of work (including examples of student work done under the direction of the candidate), a statement of interest which relates the research and teaching objectives of the candidate to a comprehensive view of architectural design, one letter of reference and three additional references to be contacted by the search committee. Further inquiries and completed applications should be addressed to: Chairer, Faculty Search Committee, Department of Architecture, University of Oregon, Eugene, OR 97403. The University of Oregon is an EE/AA employer.

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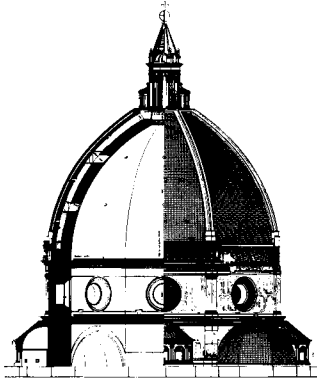
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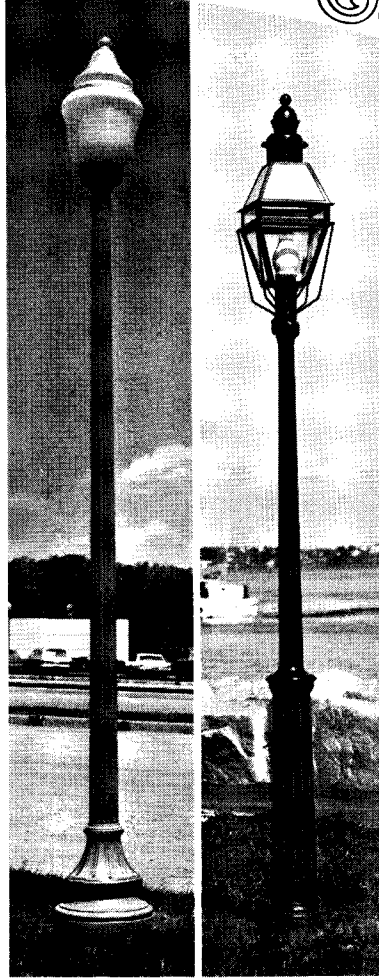


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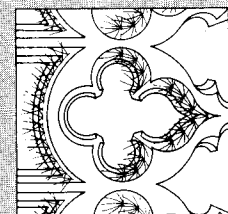
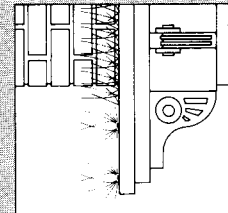
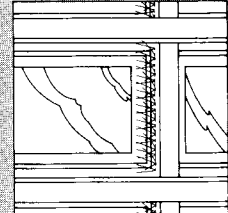
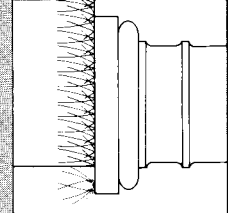
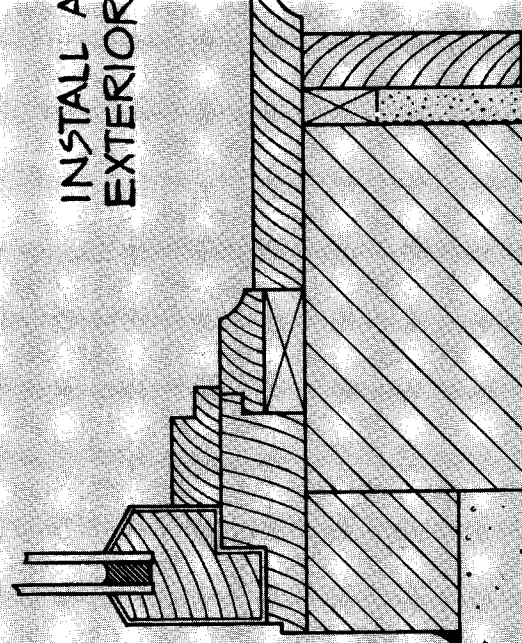
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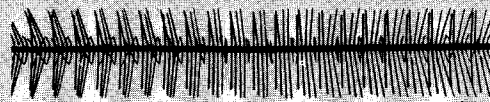
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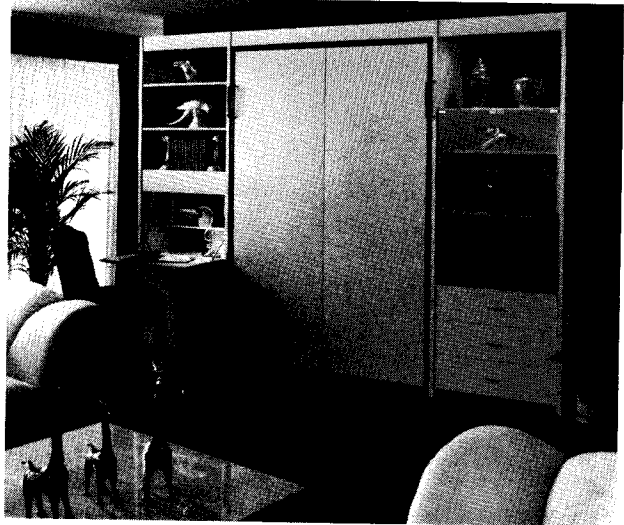
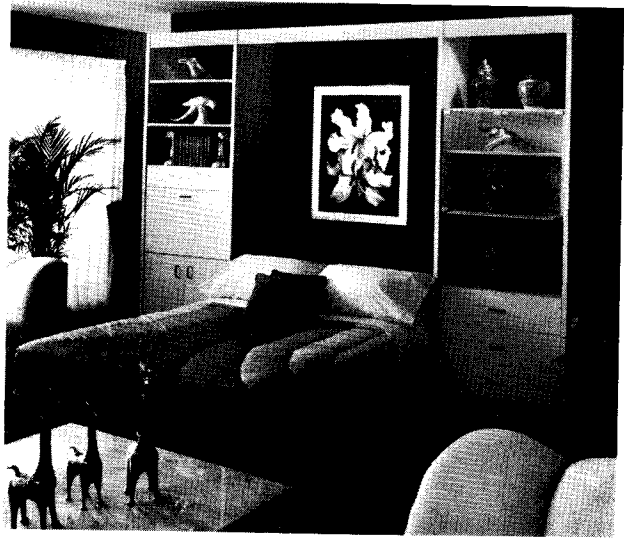
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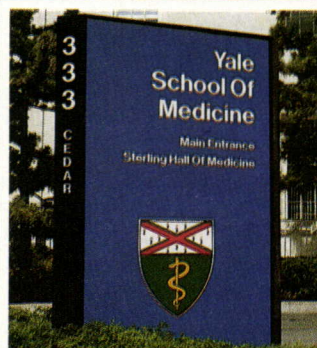
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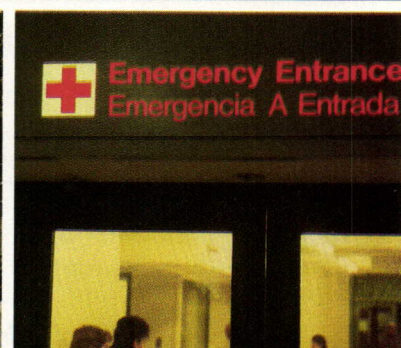
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