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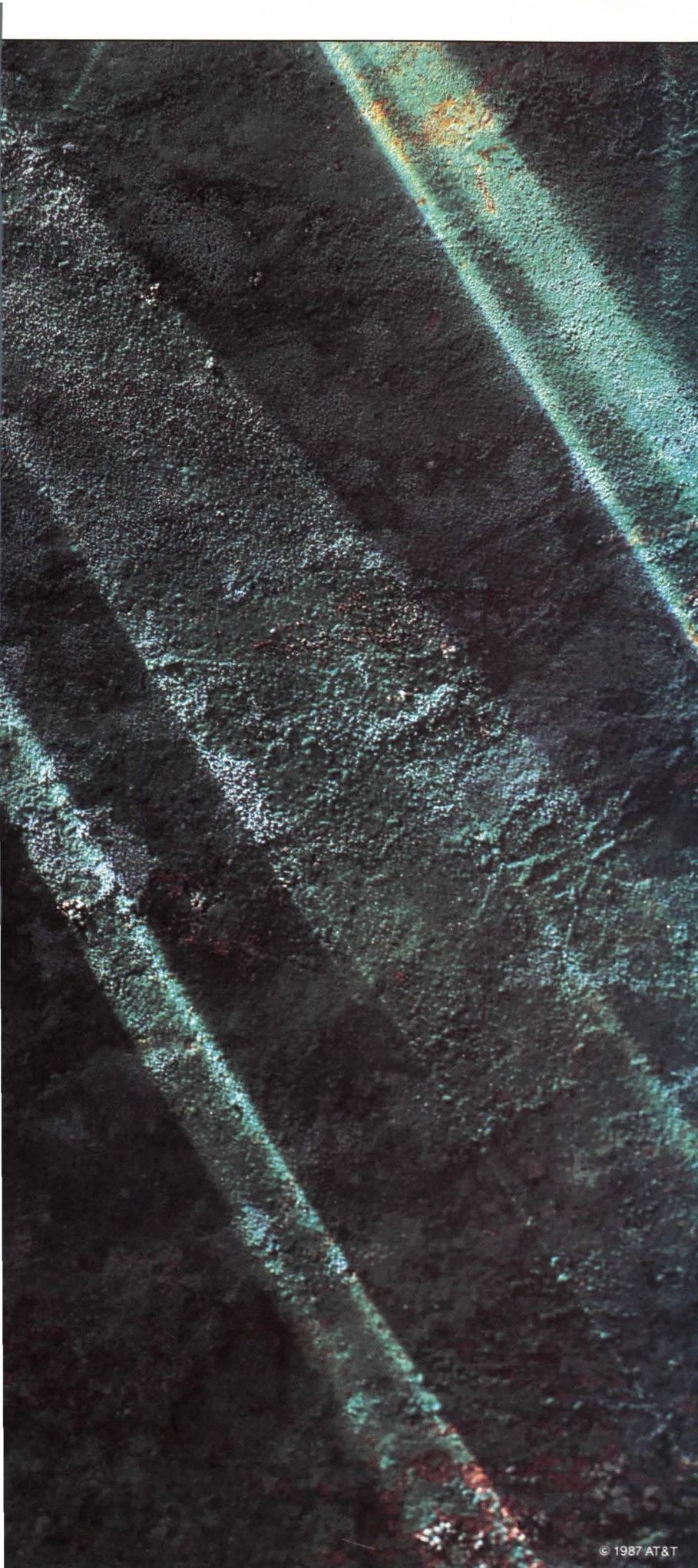
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Sales reps or service reps: what do architects need from them?

By William F. Koelling

"Sales" rep may be a misnomer. We don't really want to be "sold" anything by the rep. We want "service" reps. What we want is information. When it comes to new products, we want technical expertise. Tell us how we can use the product. Even with products that have been on the market for a long time, we still want that technical information—even though we may know the product well through previous use, or through advertising.

The information we need can be expedited in two ways. One, the rep can be sufficiently knowledgeable about his product to tell us first hand how we can use the product. Preferably, he can pull the information out of his briefcase as an immediate response to our questions. Second, if he can't do that, then let him go back to his company and get the information.

The first case demands a well-trained, technically knowledgeable rep. It's been our experience, however, that at best only about 25 percent of reps calling on us have the necessary technical expertise. This situation isn't helped by the rather fast turnover among reps: their average "life" seems to be about three years.

The second case involves the organization of information within the rep's company. We would like to see the product-producing firm be so organized that even the newest rep can go back to his office and get the necessary information to us quickly and efficiently. He has to know either whom he has to consult within his own firm to get the necessary facts, or to whom we should be referred. As things now stand, there is usually an unconscionably long lapse between the time the rep gives us a sample, and the time he is able to return with the information and technical backup we need.

We would like to see firms hire technically qualified reps, or else institute a training period for those newly hired to make them thoroughly familiar with their product. Train them to understand, for instance, the laws (such as those governing flammability) that concern what we do. But it's equally important to enable the rep to be a true "service rep" by backing him up with fast access to information, and training him in how to get it from his company.

The rep also needs to be aware from the beginning that most architectural/interiors firms seldom place the actual order. We specify. Many reps do not seem to fully understand this. The materials are ordered as part of a contract, through a contractor. So the emphasis on "selling" to us needs to be modified. The emphasis should

be on giving us the right technical information so we can specify intelligently.

Without question, the salesman who can really help you is more likely to be considered because of that helpfulness. Companies make a big investment in their sales reps. If they don't, they should. They need to provide them with good catalogs, good samples, quick, easy use of mockup samples, and a good



Howard Ray Katz photos

William F. Koelling, moderator for his firm's round table on sales reps, is director of public relations for Swanke Hayden Connell Architects.

showroom. They need to train the reps to provide technical service, which we find to be a rare and special commodity.

Reps should understand the unpredictable process of new-product development

We're constantly involved in product design. Within most projects, we modify, customize, create new solutions to address particular functional requirements. We influence the refinement and further development of existing products, and even of new additions to existing lines. It's important for the rep to know this—and to be helpfully involved in it.

A 2-million-square-foot headquarters building that SHCA designed is a good case in point.

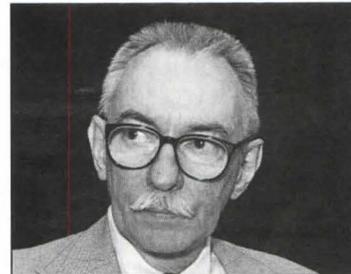
We worked with many manufacturers to develop products. Some were in the process of development already. For example, the systems furniture was not a complete product when we began. We worked with their research department to come up with the final product.

Because of the color palette of that project, we worked with another manufacturer to develop a fabric. By combining one filament of each of 12 different colors, we created a fabric that could be applied throughout the project. We worked with a lamp manufacturer to develop a clamp that would allow us to use one of his lamps in the furniture system. This is a good example of a manufacturer being ready and willing to put the R&D time into making his product

Recently, Swanke Hayden Connell Architects held an in-house round table with seven of their staff, to discuss their relations with, and expectations of, manufacturers' representatives. William Koelling, of SHCA, presents here a compilation of the various opinions expressed.

compatible with another product that was going to sell well.

In architecture, the cooperation of manufacturers and designers happens all the time, and it is often the designers who are stretching the industry. Right now we're designing three new office buildings in mid-Manhattan. For one of them, we're in the middle of obtaining curtain-wall bids. We have a certain design in mind, and



Robin Moore, specification writer for Swanke Hayden Connell Architects, suggests, "We must do more than update catalogs."

work with the manufacturers to recognize the economies of their particular manufacturing processes. A minor modification in appearance may realize significant economic benefits. We will also use a curtain-wall consultant during this process to ensure performance.

When we work together with manufacturers in this way, we're always looking for technical information which will confirm that our ideas are workable. When we "stretch the frontiers" of what is being done with a product, we're creating a need for new tests, new measures. And the sales rep who can guide us through this process is the one who is most valued.

We want to know that reps are willing to go to bat for us

Many companies are reluctant to get into a "new testing" situation. It's an expensive process. Of course, they're more likely to make the investment of time and money if the project in question is a very big one. If the manufacturer believes there will be no market for the item, after our request is fulfilled, he may be reluctant to take on the effort and expense. Often a manufacturer doesn't guess right about the future of a new use for his product. But when new development is used again and again, then we've helped to open up a new market for the manufacturer who took a chance.

It's very important for all concerned that the rep should be willing to go through the difficulty, back at the home office, to justify doing what we need done.

Sometimes the costs may be so great, and the return so unlikely, that the manufacturer will decide it's not feasible. But the rep should be willing to try hard!

It's a matter of trying to find a way to bring together two different aims—we get involved in new-product development for the sake of a particular project; the manufacturer gets involved for the sake of developing a market.



Kathryn Noles, interior design director and SHCA associate, says, "To help stretch frontiers, it's wonderful to find that sales rep who finds the research exciting."

Specifying interior designers and architects have to realize that the chances are minimal that the manufacturer will go through expensive testing processes for a small project. If the manufacturer is presented with a project consisting of 2 million square feet, you've got a little muscle. Then you may have the opportunity to try new things.

We're talking about what we're supposed to get from the sales reps—but they get benefits from us: an education, new ideas.

When our architects and interior designers ask a manufacturer if a new-product development is feasible, it's because we don't know. And often, the manufacturer doesn't know. It's only through persistence that we find out. There is always the problem of liability, too. With an established product, the manufacturer has already gone through product testing. Sometimes he's not anxious to get into a whole new world.

SHCA's experience with the restoration of the Statue of Liberty was full of problems in terms of finding appropriate materials: for the spiral staircase, for the stair treads, railings, paints. SHCA helped develop materials that never existed before. For the stair treads, a stainless-steel casting with a nonslip aggregate was developed. It may seem obvious, but nobody had done that before. Until this new development, it was either cast iron or it was aluminum or bronze with this nonslip aggregate cast in it.

What we were looking for didn't

exist. We contacted the research laboratory of a large manufacturer after calling around the industry. Now, if a sales rep from one of the companies we initially contacted had said, "We don't have that product, but we'll research it for you and we'll do it," he would have gotten the job, and it would have made our life a lot easier. But it didn't happen that way. He went back to his home office, and they said, "We're not interested."

But finally we found somebody who said, "Maybe we'll give it a try. It's for the Statue of Liberty, we can get about \$10 million worth of publicity, and in Sweet's Catalog we'll have The Lady holding up the cast tread."

The salesman worked in reverse here. Seeing the possibilities, he sold the architect's need to his company instead of selling his product to SHCA.

Architectural reps and interiors reps have different sales problems

As of now, architectural products tend to sell themselves just by being there. Generally the rep is called in after the product has been specified by the designer. Architectural products are properly organized for researching and specifying, and the reps tend to be technically oriented, but they may have a much larger regional territory. Therefore, they are not available to meet with a designer as quickly as may be needed to discuss the technical information, and samples are not as readily available for project use.

Interior design reps are constantly knocking at the door. Our designers are sometimes "turned off" by interiors reps because they tend to "sell" too aggressively, even when it's apparent that a sale is not being made.

Interior design products are not as well indexed for researching and specifying, and the reps are not technically oriented to our needs; but there is a better chance of meeting that rep more quickly, and it's easier to obtain interiors samples for project use.

The length of time it takes for a product to get improved or changed is very different in architecture from what it is in interior design. The state-of-the-art interior systems of 15 or 20 years ago are antique today. And the liability exposure in developing new materials in the interiors world is much less than it is in the architectural world. Many interiors items are usable and consumable, and if they don't work it—if a piece of upholstery fabric lasts not five years but two—they're replaced. You learn from that.

In architecture, the liability exposure involved in going to new

materials is enormous. The curtain wall is a good example. For hundreds of years we architects had been dealing with stone of a certain thickness. Suddenly somebody came up with a new way to slice it, and cut stone an inch-and-a-quarter thick instead of four inches. Now it was lightweight and cheaper. A metal truss system was developed to support the stone.

Everybody rushed to take

In interiors it's often the final product they're selling; in architecture it's more a case of products to be integrated.

Our architectural specifier says that sometimes he is visited by reps of architectural building products, saying "We've got something new." But it would be better if the rep saw the designers. Because all he specifies is what is chosen by the designers, the information he gets

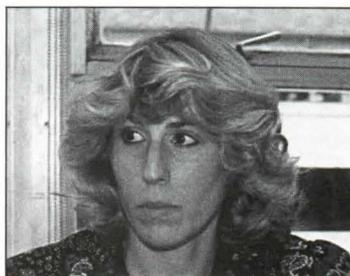
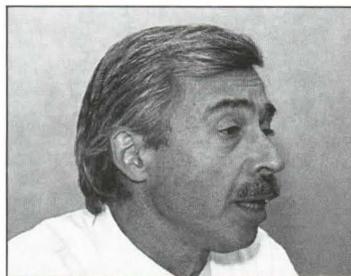
special appreciation for those who are most helpful technically.

The library staff maintains a check list of questions and answers. They don't leave the interview process up to the representatives. The reps don't always realize the depth of work that a firm as large as ours produces—the volume and the pace. As a result, it is often necessary for our librarians to talk to other personnel at the manufacturer's to gather more information. They make appointments with someone in production. They try to make sure they understand the manufacturer's capabilities and production, and its best applications.

We're in a field where there's always a continuing development of materials, of technical application, of sources. New marketing people, new sales approaches. We need to be aware of these developments as they occur. The ideal situation would be more reliable than "catch as catch can." If there were a central training location so all designers could become aware of trends and developments, that would be ideal; as of now, our library is the closest thing to that.

The thrust of this year's product presentation schedule has been to focus on educational, generic presentations by architectural manufacturers. For example, the architectural company that markets stone will discuss all categories of stone and their various strengths and weaknesses, their best application and maintenance, so we all are sharing common information. Architectural reps have always tended to do this anyway—whereas furniture or fabric reps tend to see their product in terms of having to make a sale. Actually, education is the best selling tool.

Our library is in the process of developing the same kind of organization of architectural samples and references that we already have with interiors materials. Our architects point out that they miss 101 Park Avenue in Manhattan, where there used to be showrooms where reps had their architectural samples. Now they use Sweet's Catalog, and it gives the right companies to call, but it's not the same as having reps all in one place. In interior design, we New Yorkers have such a center developing in Long Island City. Not all firms are large enough to support a library like ours. There is a great asset to us and to our clients in having this technical resource. All we need now are more qualified technical representatives to make the picture perfect.



Robert Landsman (top left), architect and SHCA associate principal, argues, "We're looking for technical confirmation that what we've designed is feasible." David Kovacevic (bottom left), as associate principal, architect, and interior designer, feels that "We need more salespersons who focus on being a technical resource."

Chief research librarian, Catherine Von Der Hude (top), notes, "It's give and take—we educate them to be able to educate us." Firm associate, Arthur Marcus (bottom), as architect and interior designer, adds, "Vendors provide important support for our role as impartial professional sources of information."

advantage of this new development. Now we're dealing with a piece of stone that is a fourth of that earlier cross-section. Sealants are used for the joints, but you find out that water is penetrating the stone. The truss is galvanized. And the building enclosure has got to stand up there subject to atmospheric abuse for decades. People are now in a little bit less of a rush.

What is the role of the architectural sales rep in all this? Any salesman tends to look for a client who buys his product without too many questions. Part of the responsibility lies with architects and interior designers to ask the right questions. Sometimes we don't know what the right questions are. So we have to turn to independent testing laboratory reports. If it's an unfamiliar stone, we want to know its strengths, material composition, freeze/thaw cycles, and other performance characteristics.

on a new product may be put away, and may not see the light of day. A technical sales rep will sell more effectively if he sees the designer, the architect, or the firm's librarian.

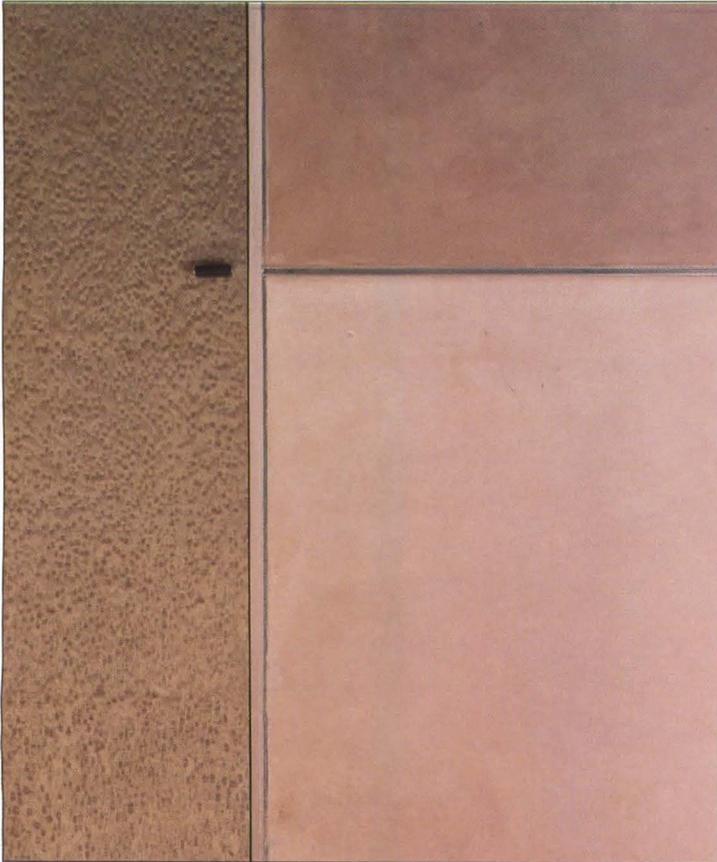
Our library is a product information center
We like to think that our library is an information center not only for our interior designers and architects, but indirectly and most importantly, for our clients.

We become an impartial source of information for the client, as we are in touch with the vendors. We analyze the different products and research the technical expertise so we can recommend a product as the best for the client's use. It is the total residual knowledge developed through long experience which provides that service.

As a result, the SHCA library serves as a central clearing-house for sales representatives and has a

Pigments of imagination

Chris Leone photos except as noted



For a corporate headquarters in New York City, Art In Construction developed a two-tone palette to complement the Arcus Design Group's interior scheme. After seeing the plaster firm's handiwork on display at Clodagh, Ross & Williams, a boutique specializing in accessories for the home, Arcus designer Martin Sosa presented Shelby and Steve Balser with colored paint samples to

match in wall surfaces. Tinted plaster, framed by bird's-eye maple and glass panels, was used on the walls of the reception room (above) and on the curved front of a receptionist's desk (not shown). Sosa selected this particular finish because it conveys "a sense of history" he considered appropriate alongside the traditional wainscoting and moldings he designed.

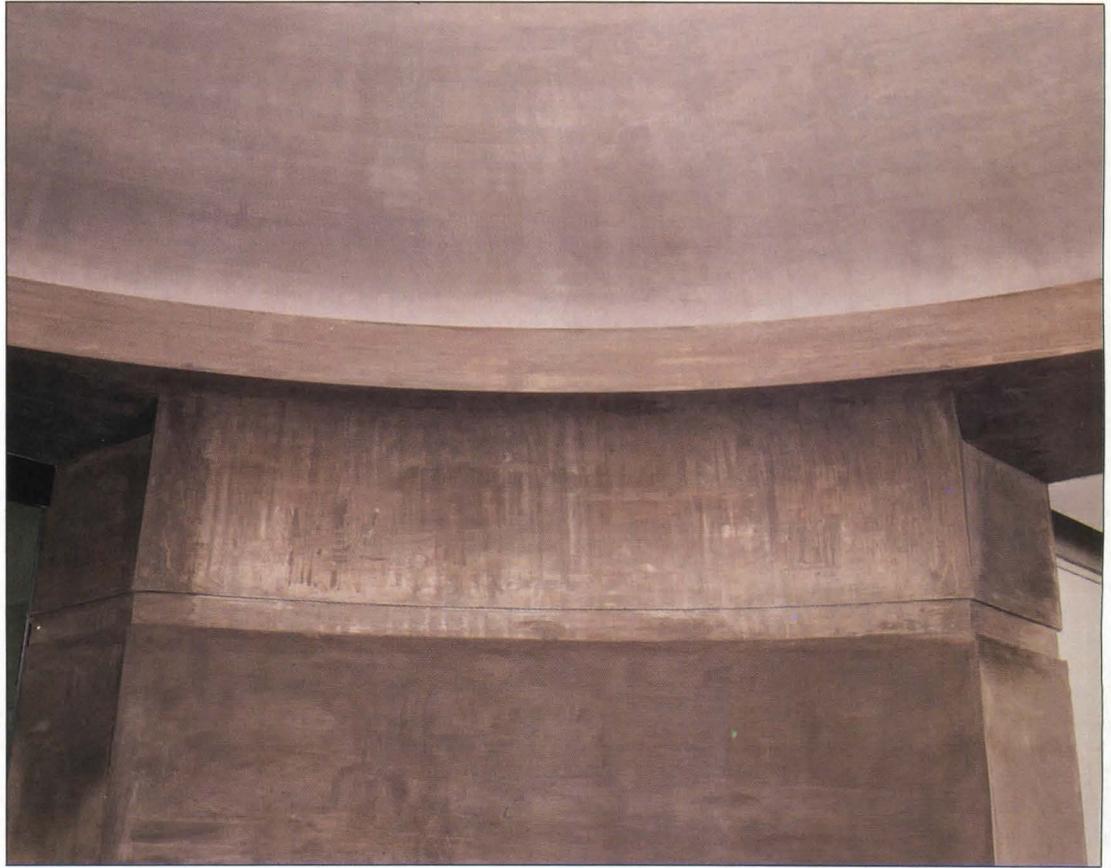
Calling themselves "survivors of the Age of Gypboard" and their firm "Art In Construction," Steve and Shelby Balser have formed a rare combination of artistic expression and technical know-how. Although the husband-and-wife team built the plaster company's reputation on expert restoration work, they have based its long-term agenda on adapting 16th-century *buon fresco* skills to decidedly up-to-date applications. The Balsers opened their Brooklyn, New York, studio in 1979, with a troupe of craftsmen and manual laborers producing replicas of antique cornices and moldings in classic patterns such as egg-and-dart, lamb's tongue, and bundled leaf. Meanwhile, the duo also satisfied their Cinquecento longings by experimenting with tinted plaster on the side. In 1982, the Balsers brought Renaissance craft and modern techniques together when they executed their first integral-colored plaster walls, in a designer's bathroom. Since that humble beginning, Art In Construction has completed over a dozen more ambitious tinted-plaster projects, including entire apartments, office interiors, and a trendy East Village boutique (RECORD, mid-September 1986, pages 90-93).

Whereas Renaissance fresco painters brushed pigment onto a wet lime-and-sand-coated surface, the Balsers create their esthetic effects by adding color to a lime, water, and plaster-of-paris mixture, which is then troweled onto a dry 3/4- to 1-inch-thick base of gypsum and sand. To achieve the desired hue, Art In Construction derives its own palette from earth pigments, fine-arts paints, and a variety of lime-compatible chemical compounds. Individual colors are mixed in large tubs off-site, using a secret additive that the Balsers claim allows them to maintain consistent color from batch to batch. In forming the barely 1/8-inch-thick finish coat, Art In Construction will often apply several different colors simultaneously—a process that gives the unpolished surface a mysteriously mottled, three-dimensional look. Although the Balsers continue to expand the range of their palette—they are currently testing ferrous sulphate (rust), copper and bronze powder, scraps of hemp and sisal, and bits of glass and rock in their increasingly unusual finish-coat mixtures—they are more eager to explore the sculptural capabilities of the material.

A reception room recently completed for the U. S. headquarters of the Banca della Svizzera Italiana, in Manhattan (opposite), provided just such an opportunity, and offers an illuminating case-study of Art In Construction at work. Guided by the Phillips Janson Group, interior designers whose partner-in-charge was Dennis Janson, Art In Construction juxtaposed designer-specified marble trim with a cool, brownish-gray plaster—applied to the walls, light cove, and desk—and a bleached version of the same compound inside the dome. The concave ceiling presented a particular challenge to Steve Balser, who constructs all of the company's speciality hardware. In addition to standard tools of the trade—hawks (squares that hold plaster) and flat or curved trowels (opposite, top and middle left)—this job required special extrusions. Choosing to hand-form the shape instead of casting it in sections, Mr. Balser made a giant compass, which was attached to a cut-out mold half the size of the intended dome. To create the finish coat, both Balsers choreographed an unusually frenetic pace: some members of their team threw plaster up onto the ceiling as others pivoted the compass, rotating the mold 360 degrees and smoothing plaster over the entire surface. A custom-made curved knife (opposite, bottom left) was also rotated on the compass to hollow out the light coves. In order to avoid inconsistencies in the finish, there could be no touch-ups once the plaster began to set (opposite, top right); an acidic-based retardant was added to the finish-coat mixture to retain moisture (when fresh out of their standard brand, the Balsers have been known to pour in Coca-Cola to delay drying). Unorthodox though some of Art In Construction's methods may be, the resulting seamless surfaces (opposite, bottom right) are, Dennis Janson asserts, "as close to perfect as possible."

Karen D. Stein

The designer-artisans of Art In Construction adapt 16th-century fresco techniques to tinted-plaster finishes in a wide range of modern installations.



Design

Max Hilaire

Changing the shape of things to come

Not too long ago, concrete masonry figured among the most prosaic materials at the architect's disposal. Its strictly workhorse image owed much to the standard 8- by 8- by 16-in. cinder block. Times, however, have changed. More than 1,200 standard block shapes are now manufactured in the U. S., ranging from a variety of esthetically pleasing split-face block in a broad range of color to recently introduced interlocking paving systems whose popularity is experiencing a rapid ascent. Part of the growth in the use of concrete masonry materials has been stimulated by the commendable efforts of the National Concrete Masonry Association (NCMA). Founded in the early 1930s as a nonprofit corporation, the NCMA represents the concrete block manufacturing industry through a network of professional activities and services aimed at, among others, the engineering, design, and specifying community. Headquartered in Herndon, Va., the NCMA is eager to work with architects through its Technical Services and Research and Development departments. The engineers and technicians in these departments are qualified to address concerns related to concrete masonry-code requirements and specification requirements, and to evaluate new construction products and techniques.

Arguably, the most intriguing division of the NCMA is its Innovative Design and Research department. Formed just three years ago, its mission is to develop new concrete products that expand the traditional use of concrete masonry, thus penetrating new markets for block producers. The NCMA will hold patents to all new products developed in its facility, and license their manufacture to producers. Four of the most exciting new products to emerge from the department's efforts are briefly described below. The Biaxial Block, Heatsoak Block, Footer Block, and Roofcap Paver are the names given to these products, all of which were designed as systems to improve building performance or speed construction.

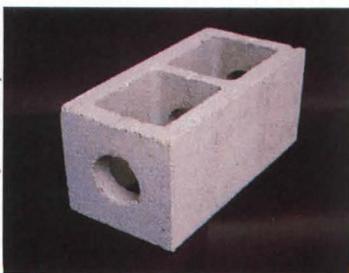
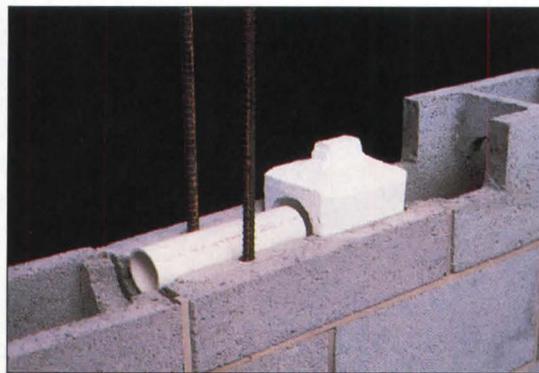
Biaxial Block

Heading the NCMA's list of potential high-growth products is the Biaxial Block (four photo illustrations, below left). The block comprises a system designed to create a network of vertical and horizontal cavities, which permits an easy integration of services within a single wythe of block. Although electrical power networks and supply and process piping are likely to be the most common services threading through the blocks, the cavities are equally appropriate for communications wiring, thermal ventilation, heat exchange, anchorage inserts, acoustical inserts, and structural reinforcement. Each block is faced with a circular access opening that can easily be tapped out, thus allowing great flexibility in the disposition of outlets.

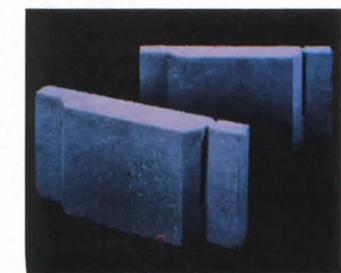
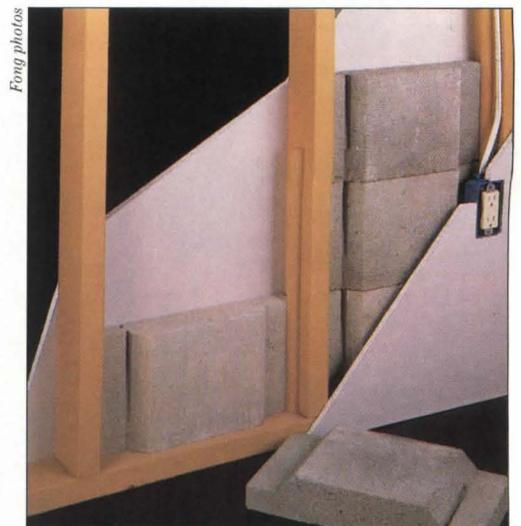
Due to its lighter weight, Biaxial Block reduces the costs of foundations, spandrel beams, and other building elements without compromising the strength of the masonry assemblies. The ergonomically located aperture in the center web allows for easier handling by masons during construction. This, coupled with weight savings, results in higher productivity for masons both in the field and in the plant when prefabricating panels.

Heatsoak Block

Heatsoak units, manufactured of high-thermal-capacity concrete, have been designed for easy integration into most types of construction. As a system, this new block substantially upgrades the thermal and acoustical characteristics of common steel or wood stud walls without interfering with electrical wiring, bracing, and other wall inserts (cutaway photograph below). Independent testing of equally insulated buildings has shown that those with walls of higher thermal mass use significantly less heating and cooling energy than buildings constructed with hollow stud walls. This is due to the ability of the walls with higher mass to store and release heat in counterphase with temperature



Biaxial Block



Heatsoak Block

Photos courtesy NCMA except as noted

Fong photos

In an attempt to foster new uses for one of architecture's most common materials—concrete masonry—the National Concrete Masonry Association has developed an innovative group of products that perform in ways cinder blocks never could.

changes. Heatsoak installations reduce temperature variations by about 65 percent compared to standard wall construction, with corresponding decreases on the heating and cooling loads.

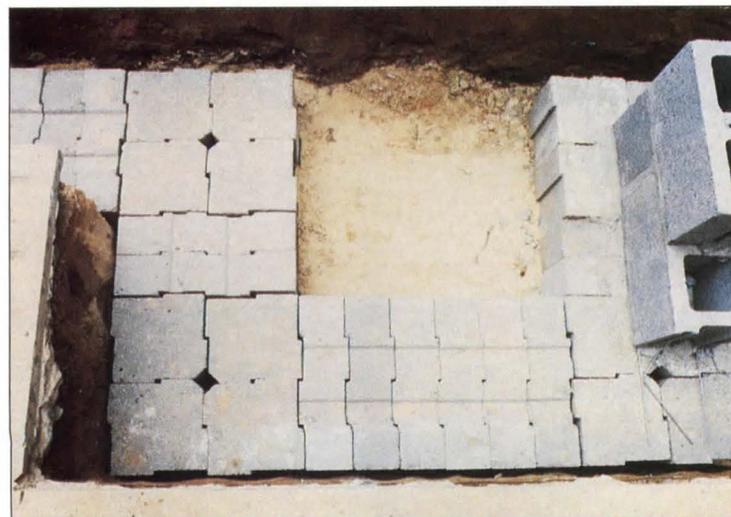
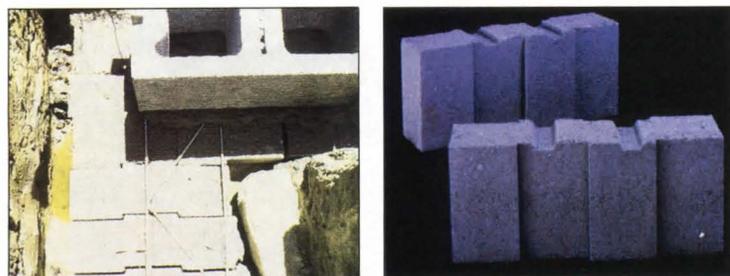
One of the most annoying problems in modern construction is the lack of sound privacy, a characteristic of hollow separation walls. Although sound-attenuation batts help to stop high frequencies, the low-frequency spectrum easily penetrates low-mass assemblies. As concluded by tests conducted by Riverbank Laboratories, Heatsoak walls acoustically gain more than 41 percent in sound-transmission-loss capability versus hollow construction.

Heatsoak is dry stacked. As a result, it can be quickly installed by nonskilled labor, adding solidity, sound privacy, and heat storage for both new constructions and existing buildings.

Footer Block

The Footer Block system was created by Innovative Design Research Division (IDR) of the NCMA to reduce foundation costs for low- and mid-rise buildings, and to make it easier for do-it-yourself homebuilders to erect their own block walls from the ground up. As there is no need to build formwork or set up access for ready-mix concrete trucks, footings can be assembled quickly. According to IDR, even an unskilled laborer can construct the mortarless footing in about half the time of a cast-in-place footing. Because no curing time is needed, the laying of foundation walls can begin immediately (photographs, below left).

The system goes together dry. All that is required is a solid soil base, which can be roughly leveled off with gravel, mortar, or lean concrete. Once the excavation is prepared, level corner points need to be established. Working from the corner units, interlocking stretchers complete the leveling process as they are laid. Final leveling is accomplished with the mortar bed receiving the first foundation wall course over the Footer Block keys (bottom photo below).



Footer Block

Similar footing systems have been used for decades in Europe, Canada, and Japan. The IDR's system is innovative for its two-way interlocks, shear keys, and integral corner units, which can be put together to form column piers and footings. The IDR Footer Block system also provides for horizontal reinforcing and dowels if required.

Roofcap Pavers

Roofcap Pavers are an interlocking roof ballast system (far right photograph below) appropriate for loose-laid single-ply membranes and inverted membrane roofing compositions. They were designed to replace gravel ballasting over insulated flat roofing. The Roofcap system possesses a number of characteristics that recommend it over conventional ballasting. It provides complete protection of the roofing membrane against solar radiation (UV and infrared) and against thermal shock. Roofcap prevents mechanical damage of the roof membrane from traffic, burning embers, and flying objects, and forms an incombustible barrier protecting the entire roof surface.

Impetus to develop the pavers came from an expressed need among architects, builders, and building owners in coastal and other high-risk hurricane areas where dependable ballast systems are critical. The interlocking feature of Roofcap has been tested successfully at wind speeds of up to 120 mph. As the designer of the block, Jorge Pardo, points out, "that means its unidirectional strength and integrity will prevent the damaging effects of flying debris and protect the underlying roof membrane in all known conditions."

Other features of Roofcap include quick installation without the need for adhesives or mechanical fastening, ease of design because of the modular concept, and enhanced drainage in storm conditions due to the system's integral grooving profile. Roofcap units are available in a variety of colors that have been successfully installed in geometric patterns, which bring visual interest to flat roofs. *D. R.*



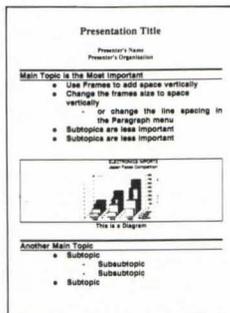
Roofcap Paver

GOOD

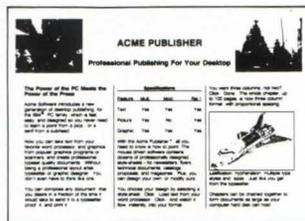
Wait no more. Because with the Acer LP-75, you get a laser printer that meets and even surpasses the standards set by the industry leaders.

Consider the LP-75's memory – 1.5 MB standard. Which means you print an A4 page of high resolution type, halftones and sophisticated graphics. All in one feed.

Fully emulating the HP LaserJet family, the Acer LP-75 takes all of the best selling software packages available. Among them, AutoCAD, Ventura and Page-Maker, along with countless other applications from over 500 software houses.



With its full page of high resolution graphics, the Acer LP-75 makes complex merging of text and graphics a cinch.



has enabled us to build better, more affordable machines.

Desktop publishing hardware soon available includes an Acer Scanner, 19" high resolution

monitor and the Acer Mouse.

Software user support includes Acer Form developed as the ideal solution for professional documents and forms. And support drivers such as AutoCAD are available for professional users.

From printers to peripherals, data communication products to stand alone PCs and advanced multiuser systems, what we do best is provide complete and integrated solutions.

It's what we've been doing now for many years. And something we intend to keep on doing.

Acer. A name synonymous with quality, reliability, price performance and advanced technology. In short, value.

So check us out. Ask your nearest dealer about the Acer LP-75. And see how it can help you make a good impression in business.

The extras – at no extra cost

Unlike other laser printers the Acer LP-75 is also standard equipped with vector graphics capability for CAD, CAM and CAE applications which lets you preview complex drawings or schematics.

Font support includes nine resident fonts of popular faces

Technical specifications

- 1.5MB RAM memory • HP LaserJet Printer Command Language compatible • Nine resident fonts standard • Vector graphics capability • 300x300 dpi full page graphics • Serial and parallel interface • 418mmx408mmx205mm(DxWxH)

HP LaserJet is a registered trademark of Hewlett Packard Corp. AutoCAD is registered trademark of Autodesk Corp. Ventura is registered trademark of Xerox Computer Services. PageMaker is registered trademark of Aldus Corp.



E-001

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Acer



A New Word For Value

Product Reports 1988

What is a new product and how does it get to be one? And how "new" does new have to be to qualify? Well, it depends. A new chair or upholstery fabric introduced this month may have become an old familiar before the next major trade show—Westweek, NEOCON or Designer's Saturday—has come and gone. And the newest of the new chairs and sofas are often introduced in prototype form, to be manufactured later, if the design is deemed successful and marketable. Remaining in the "new" category somewhat longer are architectural building products or systems currently completing development. A glazing assembly or a membrane roof, for example, may have been introduced anytime in the past two years or so. It will have undergone an extensive period of testing, been installed in carefully monitored projects, and been revised to correct flaws, earning the necessary Underwriters Laboratories or Factory Mutual ratings for fire, abrasion, wind uplift, and other factors. By the time the product or system gets to the marketplace, readily available and test-approved, it will still be "new" if only to professionals who do not yet have direct knowledge of the product and what it can do.

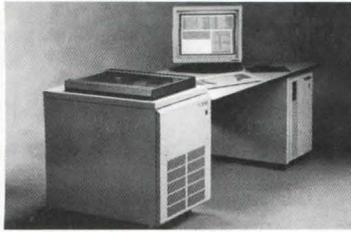
"New" can also mean "improved"; a different model of an existing light fixture line, larger color selection, a product recently approved for an upgraded UL or FM category. The new-product designation itself can also encompass unique fabrication methods or a particular custom capability.

Choosing 700 product and literature items from the more than 3,000 submitted was the task of new products editor Joan F. Blatterman, who has discerned the following trends: "A lot of historic renovation and replica items such as cast-iron lampposts and Corinthian columns, fiberglass architectural ornamentation, paints in Colonial and Victorian colors, masonry restoration compounds, linoleum (or vinyl) patterns that recall one's grandmother's kitchen, wood-framed windows made to look like 1897 originals (with energy-efficient glazing of course), aluminum siding in Dutch ship-lap patterns and more. Whatever the preservation movement needs, the manufacturers seem to be making. And more computer-compatible products: static-dissipative or conductive flooring, new types of access floors, low-glare lighting, fire-suppression systems for computer or telecommunications rooms, PC-compatible workstations with wire-management devices and ergonomic chairs to fit."

Product Reports 1988 is, like its predecessors, a compendium of new products that includes product-related articles in the fields of business, design, and engineering. Beginning on page 16, William F. Koelling of Swanke Hayden Connell Architects discusses his firm's relations with and expectations of manufacturers' representatives. RECORD editor Karen Stein reports on designer-artisans Steve and Shelby Balsler, whose ornamental plaster company produces tinted plaster replicas of Classical and Cinquecento decorative motifs. And attention is paid by RECORD engineering editor Darl Rastorfer to the National Concrete Masonry Association's new concrete-block systems designed to improve building performance as well as speed construction. The blocks have plain names—*Biaxial*, *Heatsoak*, *Footer*—and are descendants of the prosaic standard 8 by 8 by 16 in. cinderblock. Despite their familiar appearance, their technological sophistication makes them outstanding new products in this year's outstanding collection. *M. F. S.*

1 General Data

Computer software
Computer systems
Design office equipment &
materials equipment
Information systems
Instruction manuals
Maintenance/operational
Testing equipment



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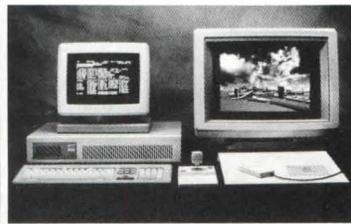
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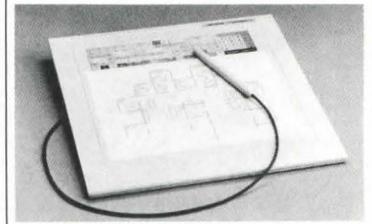
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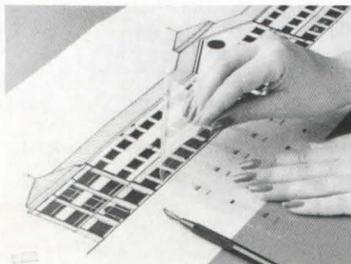
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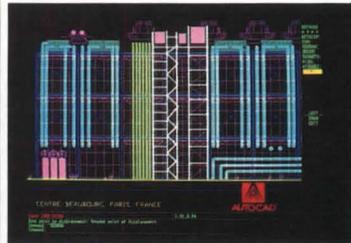
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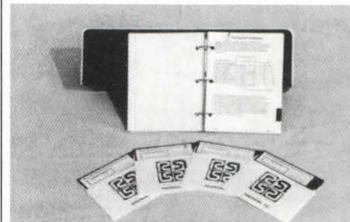
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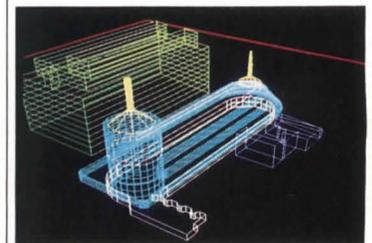
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1 Workstation upgrade

The *CADDStation 34S*, introduced both as original equipment and an upgrade package for existing 2-MIPS workstations, is a *UNIX*-based system that runs all new *CADD5 4X* software. These include *CVNC 3-axis* numerical control and *Tech Pubs II* for engineering documentation. Computervision Corp., Bedford, Mass.

2 PC-based CAD

Cadvice 2.0, described as a major update, includes a 32-bit database, greatly increasing the size and complexity of graphics creation. Drawing files are compatible with both *Prisma* and existing *System 25* systems; there is a direct link to *dBase III Plus*, with variable instance attribute capabilities for integrating graphic and nongraphic data. ISICAD, Inc., Anaheim, Calif.

3 Design transfers

I.N.T. Custom Transfers allow the draftsman to rub down dry transfers of unique construction details, title blocks, and logos as needed, reproducing consistent graphics easily. Transfers can be created from original drawings on mylar, vellum, or CAD output, and are offered in white, black, and colors. Letraset USA, Paramus, N. J.

4 Portable drafting table

The *Stoway* folding table has braces for stability; tilt adjusts from horizontal to 45 deg, and the height goes from 29 to 45 in. Tops are basswood, or white melamine as shown. An optional kit rule has a laminate base with transparent edges for see-through registration. Mayline Co., Inc., Sheboygan, Wis.

5 High-performance CAD

Marketed as a bundled workstation, *Prisma* is said to offer multi-discipline software and powerful hardware at a reduced per-seat cost. Package includes joystick, graphics screen, interactive applications processor, alphanumeric terminal with keyboard, digitizing tablet, and integrated A/E/FM software. ISICAD, Inc., Anaheim, Calif.

6 PC-based CAD

AutoCAD Release 9, running on the *IBM PC/XT-AT* and full compatibles, features an advanced user interface with programmable pull-down and icon menus, and dialogue boxes for an additional means of entering commands. Files created by *AutoCAD* are portable: drawings can be transferred directly between different makes of computers. Autodesk, Inc., Sausalito, Calif.

7 Large-format pen plotter

A servo-driven plotter for micro-based CAD, the *LP4000* draws on any size of bond, vellum, double-matte mylar, and acetate film up to 37-in.-wide roll stock. It outputs at an axial speed of 20-in.-per-second with a line resolution of .001; an automatic pen changer option holds up to 20 HP-compatible pens in 4-pen trays. Ioline Corp., Lynnwood, Wash.

8 UNIX-based CAD

A new release of *CAD Solutions AEC* software, *5.5* under the *ARRIS* logo has product enhancements aimed at architects and building-design professionals. An object-oriented user interface is said to be easy to learn, yet powerful enough for complex design. PC-priced software runs on hardware ranging from PCs to 32-bit workstations. Sigma Design, Inc., Englewood, Colo.

9 Cost-management software

A payroll module has been added to the *SEMA4* automated financial management package written for design firms. Described as cost-effective and user-friendly, *SEMA4* can generate detailed reports on time and expense billing; project cost and budget; and productivity. Semaphore, Inc., New York City.

10 Lighting analysis

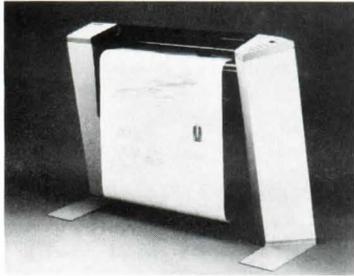
Lumen-Micro 4.1 interfaces with a variety of color graphics cards, allowing the lighting designer to generate perspective graphic images with the dimension and realism of full color. These synthetic images show the effects of alternative lighting systems without the cost of models or mock-ups. Lighting Technologies, Boulder, Colo.

11 Digitizers

Space-saving B- and C-size tablets are described as offering high performance at a low cost. *DrawingBoard* digitizers include a power supply, cursor, and plug-compatible cable, and are supported by most major CAD and graphics software packages. CalComp, Anaheim, Calif.

12 3-D database

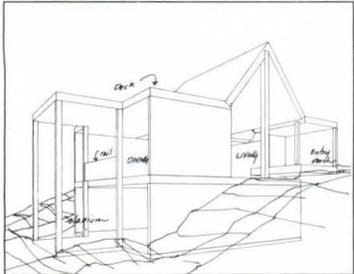
Drawbase 3D version 104 lets architects view drawings from any angle, at any elevation, and design on horizontal, vertical, or oblique planes. Shapes can be created, rotated, flown around, or walked-through interactively, without predefining a view. All drawings created in previous *Drawbase* releases can be used. SKOK Systems, Inc., Cambridge, Mass.



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13 Drafting plotter

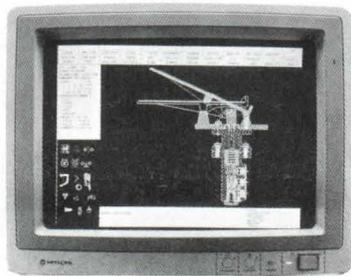
The *Zetadraf 900*, an 8-pen, 36-in. plotter, operates with most CAD systems, from mainframe to PC. Integral look-ahead vector analysis optimizes pen velocity when plotting circles and arcs, achieving speeds of 45-in.-per-second. Bruning Computer Graphics, Martinez, Calif.

14 Project management

Designed to handle the most complex project-management functions, *Promis* runs on the IBM PC/XT/AT producing full-color reports and graphics on-screen, plotted, or printed-out. Program is said to facilitate user interaction and responsiveness, using a true database architecture. Strategic Software Planning Corp., Cambridge, Mass.

15 3-D design

Version 3V2.09 adds features to the *Design Board Professional* PC-based 3-D CADD program, including automatic walk-throughs, and the ability to associate colors with each item created within the 3-D model. Up to 50 layers of data can be supported in the database. Mega CADD, Inc., Seattle, Wash.



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16 2-D/3-D software

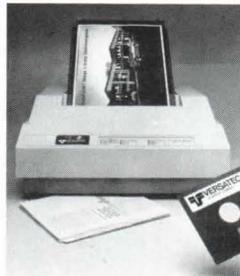
CADMAX Version 3.0 is said to provide high-speed performance to match the capabilities of the 80386 microprocessor, with an interface that allows up to 75 different English menu options to be displayed at one time. Virtual memory management holds the entire drawing for immediate, direct access. Vector Automation, Inc., Baltimore.

17 Architectural artwork

This rendering, of the Humana Building by Michael Graves, is an example of the custom illustrations produced for architects, developers, and preservation groups. Capabilities include presentation graphics, signage programs, and custom logos. Power Architectural Arts, Inc., Louisville, Ky.

18 Electric eraser

Battery-operated *Peerless* cordless eraser has a desk-top charging console/holding stand. Made of thermoplastic, tool is lightweight (8 oz) and balanced for comfortable use. Pierce Business Products, Inc., St. Paul, Minn.



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19 Plotting software

Targa software, for use with *Versatec* electrostatic and thermal-transfer color plotters, is said to provide the fastest hard-copy output available: within 60 seconds for A-size pages. *Targa* is described as a low-cost alternative to a hardware raster board. Versatec, a Xerox Co., Santa Clara, Calif.

20 Plotter/printers

JDL-850 EWS/GL+ plotter/printer, compatible with A- to E-size *Hewlett-Packard* plotters, performs internal management tasks that improve the performance of the host computer in CAD functions. An optional sheetfeeder automatically handles C-size media. Japan Digital Laboratory, Westlake Village, Calif.

21 Color rendering

AutoShade/3D is a color-rendering program that turns 3-D *AutoCAD* drawings into realistic, shaded images, permitting project evaluation before the design phase is completed. Features include perspective, specular reflection, and full-color hard-copy output. Autodesk, Inc., Sausalito, Calif.



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22 Drafting table

A single lever controls precise height and angle adjustments to the all-steel drawing board on the *2010* table, without limiting use of the tool drawer. Modular furniture includes a freestanding bookcase and a reference table with book storage. The Huey Company, Franklin Park, Ill.

23 Object-oriented design

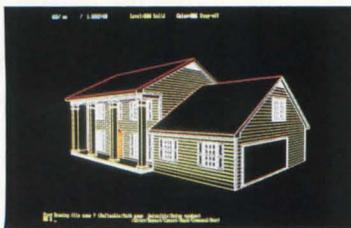
Described as affordable, *Master Architect* for *Intergraph 32C* series workstations links graphics and nongraphical data. 2-D and 3-D views can be displayed simultaneously, with objects programmed to display differently in each view. Intergraph Corp., Huntsville, Ala.

24 Presentation graphics

Said to be as easy to use as a typewriter, the *StyleWriter* provides 131 type sizes, art, and border graphics for creating in-house reports and presentations. It can also prepare overhead transparencies. GBC, Northbrook, Ill.



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25 Drafting plotters

DMP-60 series plotters operate at axial pen speeds of up to 32-in.-per-second, with a resolution of 0.0005/in., and are adjustable to take media of various sizes and formats. Add-ons include a multipen accessory and a one-meg buffer board. Houston Instrument/Ametek, Austin, Tex.

26 PC-based CAD

A simplified, faster MACRO language, with new commands such as an "oops" undo button and increased power to create and edit advanced geometry, are features of *HICAD-GM-1000*, Version 6.0, for 2-D PC-based CAD design. Hitachi America, Ltd., San Bruno, Calif.

27 Sonic tape measure

An ultrasonic distance-measuring device from *Sonin* has built-in controls that compensate for variations in the speed of sound caused by temperature or humidity. It computes area and volume from readings accurate up to 250 ft. Sonin Inc., Scarsdale, N. Y.



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28 Project review

For use with the *Graphicon 700* display controller and *MicroVAX II*-based *Dimension III* systems, the *G700* Project Review Terminal displays complex, solid-shaded 3-D images up to 100 times faster than other systems. It allows designers to "walk through" 3-D computer models in real time. Calma Co., Santa Clara, Calif.

29 Whiteprinter

A full-size whiteprinter, the *SL-42/20* accepts drawings of any length, up to 42-in.-wide. A new developer system produces crisp bluelines, blacklines, sepias, and diazo films in one pass. Printer is described as self-cleaning, with minimal required maintenance. Teledyne Rotolite, Warren, N. J.

30 Color monitor

A compact monitor with a 14-in. nonglare screen, the *CM-1420* produces sharp color display graphics at a 1024- by 768-pixel resolution. It is described as a cost-effective unit for the complex imaging requirements of CAD applications. Seiko Instruments USA, Inc., San Jose, Calif.



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31 Engineering calculator

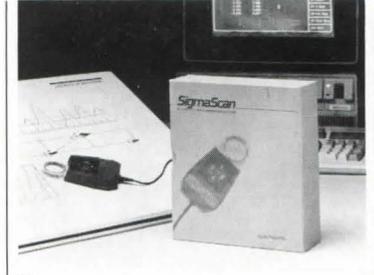
Said to have the most complete set of solutions available in a handheld calculator, the *HP-28C* can solve algebra and calculus problems conceptually using symbols or variables. It has a four-line, 32- by 137-dot matrix display. Hewlett-Packard Co., Corvallis, Ore.

32 Color guide

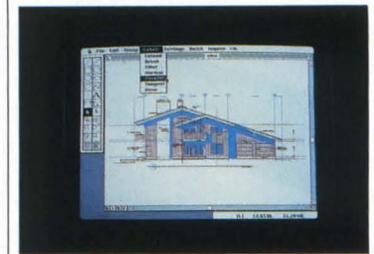
A tool for the architect and interior-design professional, *Pantone Coatings Color Paper* contain 250 current and anticipated colors representative of those offered in paints, plastics, wallcoverings, and fabrics. Each 10- by 13-in. color sheet is fully opaque, coated with a satin matte, metallic, or semigloss finish. Pantone, Inc., Moonachie, N. J.

33 Blueprinter

The six fluorescent lamps used in the *ExecuTrac* blueprinter provide performance equal to a 3000-watt mercury vapor lamp, with instant-on operation. The ammonia-control system needs no outside venting to completely remove and neutralize ammonia fumes. DiAZiT Co., Inc., Youngsville, N. C.



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34 Scanner

The *Sigma-Scan* measurement system can digitize, measure, and statistically analyze 2-D material. The digitizing tablet is available opaque, translucent, and transparent, and is compatible with *AutoCAD* software. Jandel Scientific, Sausalito, Calif.

35 Macintosh 2-D

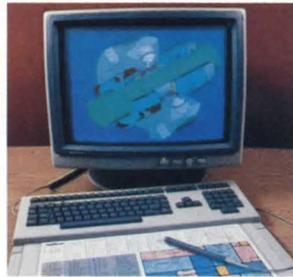
VersaCAD/Macintosh Edition is described as a new program compatible to the *Macintosh* user interface, with full support of the clipboard. Geometric construction features include extend and trim, fillets, freehand sketching, and Bezier curves. Object information can be displayed at any time. Versacad Corp., Huntington Beach, Calif.

36 Hospital design

A facility-specific expansion of the *Graph/Net* architectural CADD system, *MediCADD* contains a symbol library of over 1,000 medical equipment and furniture and configured hospital spaces. An optional expert system alerts the designer when existing life-safety codes have been violated. Graphic Horizons, Inc., Woburn, Mass.



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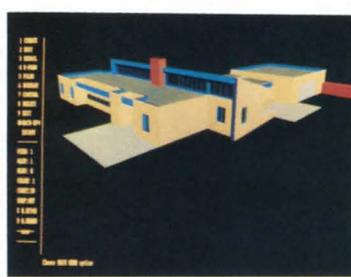
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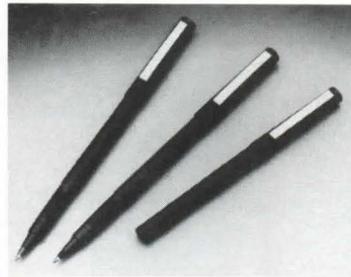
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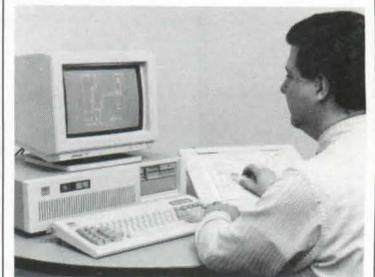
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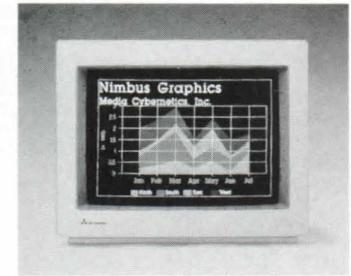
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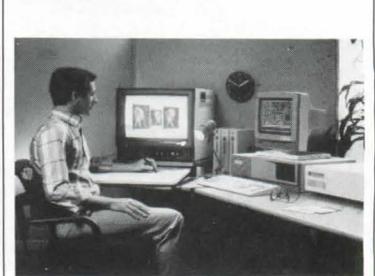
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37 Drafting table

The *Double Dial-A-Torque* table comes in three sizes, with tops either 96- or 120-in. long. This model has a vinyl drafting surface over a *Stratasteel* table. A counterbalanced torsion bar provides control over board angle from horizontal to almost vertical; there are height adjustment pedals at both ends of the pedestal. Hamilton Industries, Two Rivers, Wis.

38 Management software

An extension of the *Medallion Collection* of architecture-specific management and accounting software, *AEasy* is described as an affordable (under \$1,400) PC-based program designed to give small- to medium-sized firms better control over expenses, project tracking, billing, and report generation. Timberline Software Corp., Beaverton, Ore.

39 Whiteprinter

The *45 Scavenger Plus* whiteprinter delivers virtually ammonia-free materials at speeds of up to 20 ft./min. Components are easy to reach for service; a stand with a print stacker is optional. Blu-Ray, Inc., Essex, Conn.

40 UNIX-based workstation

Unbundled *Bravo3* application software, offered with a 32-bit UNIX operating system, is said to provide faster processing with more memory at a price just above typical PC-based systems. Workstations integrate with higher-level solids-modeling, finite analysis, and 3-D systems. Applicon/Schlumberger, Ann Arbor, Mich.

41 3-D CAD

Cadkey Version 3.0 uses x, y, and z coordinate data to construct true 3-D geometric models on 640K microcomputers; programming language is built into the software for complete management of all 3-D geometry and commands. Cadkey Div., Micro Control Systems, Inc., Vernon, Conn.

42 PC monitors

Eight models of medium- and high-resolution PC color monitors are offered for specific application requirements, including presentation graphics, computer-aided design, and image processing. Compact unit is set on a tilt-and-swivel base. Mitsubishi Electronics America, Inc., Torrance, Calif.

43 Graphic transfer film

Stikybak appliqué material is compatible with over 75 plain-paper office copiers, letting the draftsman place title blocks, standard notes, and repetitive details on the original and produce high-quality copies as needed. Saga Division of Dade, Inc., Minneapolis, Minn.

44 Fine-line pen

The *MR205 Micro Permaroller* writes with permanent blue, black, or red ink on paper, and will not fade or wash out. The fine-line pen is suggested for archival copies of important drawings, documents, and contracts. Pentel of America, Ltd., Torrance, Calif.

45 VAX-based design software

Advanced graphics software is offered for use with Digital Equipment Corp.'s *VAXstation 2000* desktop workstation, a combination said to provide VAX power with interactive graphics at an attractive price. Specific applications include the industrial plant layout shown here. Auto-trol Technology, Denver.

46 Concrete building design

A PC-based version of a widely used mainframe program, *STMFR II* analyzes building frames and shearwalls under vertical loads, lateral loads, or both. Interactive input and output is in ordinary building terms; works with buildings up to 60 stories. Portland Cement Assn., Skokie, Ill.

47 PC-based 2-D design

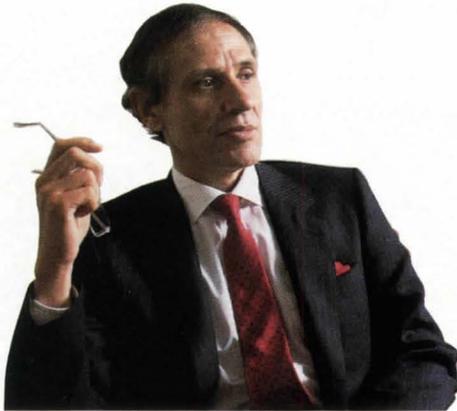
Marketed to provide substantial additional capacity within the *Prime 50 Series* minicomputer environment, IBM PC/AT-based *Medusa/pc* software is described as a powerful, cost-effective 2-D program. Features include variational geometry, super syntax customizing language, and a preliminary design sketcher. Prime Computer, Inc., Natick, Mass.

48 Computer graphics

A 24-bit frame buffer and a 80386-based processor are said to improve both performance and speed of *PictureMaker/60* 3-D modeling and imaging software. New features include reflectance mapping for a more realistic representation of objects. Cubicomp Corp., Hayward, Calif.

The cardinal rules

Douglas Cardinal explains how an AEC design system from Holguin and Hewlett-Packard turned his architectural vision into reality.



"I'm totally unreasonable," says Douglas Cardinal, architect of the Canadian Museum of Civilization near Ottawa in Hull, Quebec.

Given the scope and complexity of this \$200 million undertaking, one can understand why the celebrated Canadian architect might say so.

"Initially, we were given four large volumes, about the size of New York telephone books, listing requirements for the museum," Cardinal explains.

The project involved the coordination of countless parties, including two Prime Ministers and their cabinets, government agencies by the score, and an army of structural, electrical, civil, and mechanical engineers and landscape architects.

It was more than an architectural challenge — it was a logistical challenge as well.

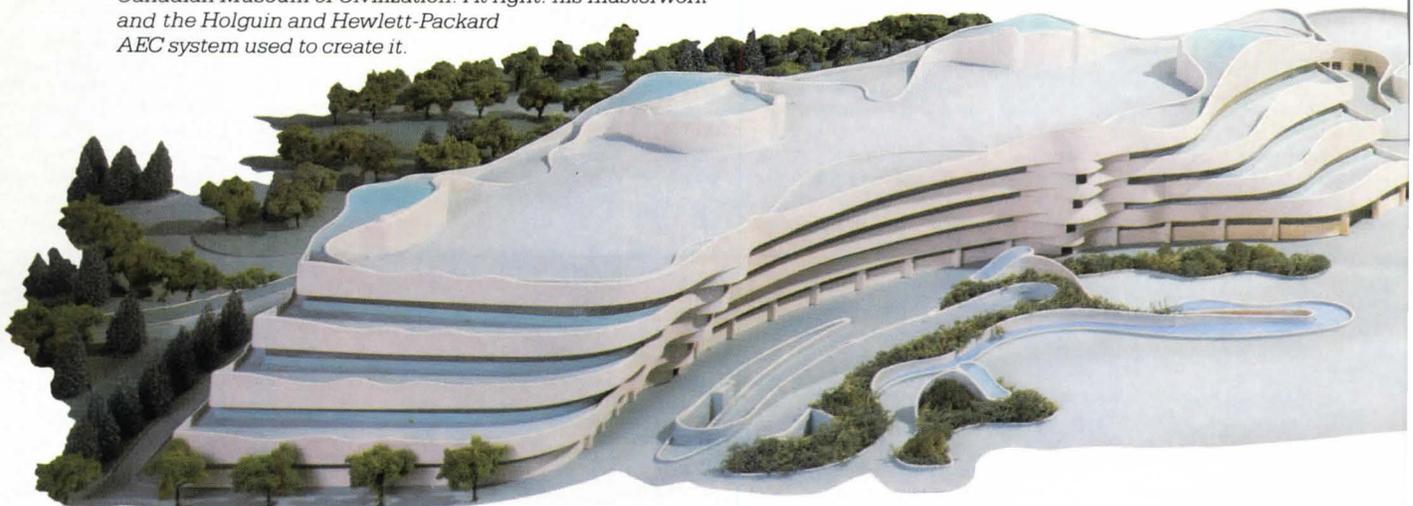
To turn his 1,000,000 square-foot dream of curvilinear stone and copper into reality, Cardinal turned to Holguin and Hewlett-Packard for an integrated AEC system and the support he needed for fast results.

"The free form of the geometry and the corresponding offset calculations and layout requirements in the field could not have been achieved with the technology of yesterday," says Cardinal. "Normal drawing boards could not do the job. All of our sweeping curves and forms would require a compass point in the next room or province."

Cardinal used the system's computerized database to control all of his design and reporting activities. The system also offered precise control of each design element and its geometric position, properties and relationships.

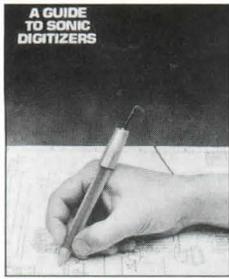
"All design and drafting work was processed by our Holguin system, from preliminary sketches and schematic to the development of design and final contract documents.

Above: Architect Douglas Cardinal, renowned designer of the Canadian Museum of Civilization. At right: his masterwork and the Holguin and Hewlett-Packard AEC system used to create it.

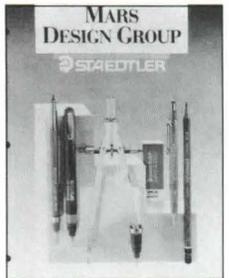


1 General Data Product literature

For more information,
write item numbers on
Reader Service Card



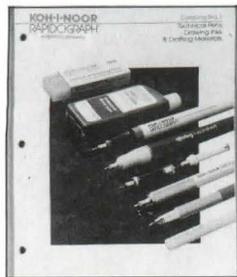
49 Sonic digitizers
A full-color brochure focuses on sonic digitizers, which are based on the characteristics of sound, and how the units measure sound waves generated by the stylus or cursor. Included are diagrams, photographs, typical applications for the 2-D and 3-D models, and specific product information. Science Accessories Corporation, Southport, Conn.



50 Professional products
The 76-page color *Mars Design Group Catalog* features over 1,100 professional products for artists, drafters, architects, and engineers. Included are templates, disposable plotter pens, and cassette fine-line pencils. The catalog divides 144 product groups into 8 color-coded sections. J. S. Staedtler, Inc., Canoga Park, Calif.



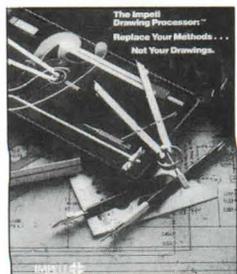
51 Digital-plotter materials
An expanded selection of film, vellum, and bond digital-plotter materials for computer-aided design are highlighted in a full-color brochure. Descriptions of the *Diplomat* and *Permascale* media, data on pen/media compatibility, and an applications guide on media characteristics are included. Dietzgen Corp., Des Plaines, Ill.



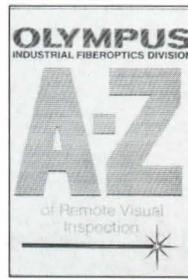
52 Pens and inks
The full-color illustrated catalog describes the *Koh-I-Noor* and *Rotring* lines. Products include technical pens, sets, replacement points, black and colored inks, 2-mm leads and holders, fine-line leads and mechanical pencils, graphite and ink erasers, and other cleaning and care accessories. Koh-I-Noor Rapidograph, Inc., Bloomsbury, N. J.



53 Financial management
WIND-2 ONE PLUS is a financial-management software kit designed for architects and engineers. Written in fourth-generation programming language, the package comprises five modules: Business Management, Cost Proposal Development, General Ledger, Accounts Payable, and Payroll. Wind-2 Research, Inc. Fort Collins, Colo.



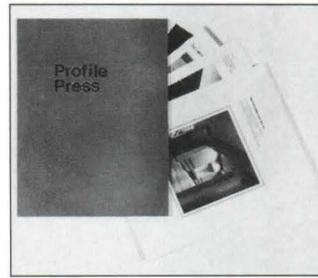
54 Modular design
A 4-page color brochure describes an editing workstation that provides a drawing-processor system compatible with other leading components. Modular in design, the system converts hard copy and aperture card drawings into digital image format. A full CAD has been added to complement the system's image editing. Impell Corporation, Berkeley, Calif.



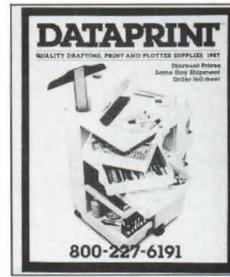
55 Remote visual inspection
A new 68-page, full-color reference booklet entitled *A-Z* is available on the subject of remote visual inspection with borescopes and fiberscopes of plants, equipment, components, machinery, and structures. Illustrated applications are listed in alphabetical order. Olympus Corporation, Lake Success, N. Y.



56 Portable drafting equipment
Over 400 items of portable drafting/drawing equipment are featured in a catalog designed for drafters, engineers, and designers. Included are a full line of portable drafting/drawing tables and instruments from inexpensive to deluxe; drafting kits; and hard-to-find products. Draftette Div. of PMC Ind., Inc., San Diego, Calif.



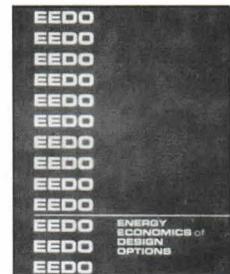
57 Project sheets
A package describing production of promotional project or product sheets for building and design professionals is offered by *Profile Press*. Color, duotone, and black and white sheets are available. Service includes typesetting, layout, mechanical art, color separation, proofs, printing, and shipping. Profile Press, Madison, Wis.



58 Drafting and plotter supplies
Dataprint offers a 64-page catalog on in-stock brand-name drafting, print, and plotter supplies. Featured are a complete line of *Kroy* lettering systems, *Xerographic* copy products for the 2510s, Tungsten carbide disposable plotter points, plotter media, pens, and inks. Ordering information is included in the literature. Dataprint Corp., San Mateo, Calif.



59 Reference books
A full line of architectural-professional reference books is listed in a 64-page catalog. Topics cover professional practice in architecture, esthetics and theory in architecture, urban planning, landscape architecture, general graphics, illustration in design, color in design, typography, and typesetting. Van Nostrand Reinhold, New York, N. Y.



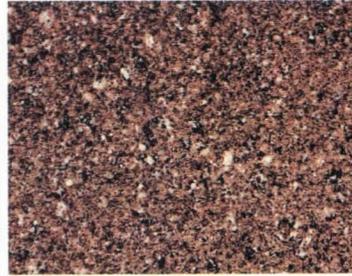
60 Energy-economics software
EEDO offers an energy-economics-of-design-options software package. Among its features are energy analysis of new-residence designs, energy audits and retrofit analysis, *active solar simulations based on the F-Chart method*, and passive solar simulations based on the Solar Load Ratio method. EEDO, Butler, Pa.

2 Site Work

Earthwork
Fences & gates
Fountains & pools
Geotextiles/geogrids
Irrigation systems
Landscaping
Paving & surfacing
Recreational facilities
Site drainage
Site furnishings
Site utilities



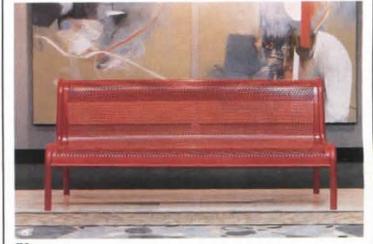
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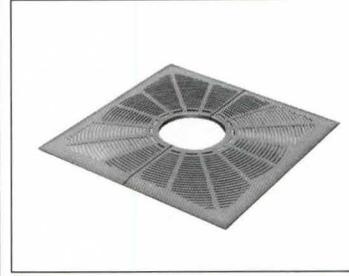
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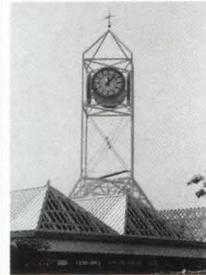
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61 Retaining walls

Closed-faced *Armco* galvanized or aluminized steel bins used in the construction of permanent, gravity-type retaining walls can be ordered with fronts already finished with concrete panels. These panels can accommodate a variety of designs and patterns, including aggregate faces. Contech Construction Products, Inc., Middletown, Ohio.

62 Landscape seating

A modified version of the *Olympia* steel- and wire-mesh design created for the Munich Olympics in 1972, heavy-duty, weather-resistant seating conforms to sharp angles and uneven topography. Tube, wire, and grid gauges and dimensions are offered for specific site requirements. Kroin Inc., Cambridge, Mass.

63 Concrete pavers

Made in five shapes and a number of colors, *Classico* concrete paving stones exceed ASTM durability standards. Pavers can be taken up and re-laid to accommodate landscaping changes or utility repairs. Uni-Group, U. S. A., Palm Beach Gardens, Fla.

64 Cast-granite pavers

Polymer-Granite is manufactured of 95 percent granite, in standard 1- and 2-in. thicknesses and three finishes. Pavers are as impermeable as glass, and extremely resistant to freeze/thaw damage, salt, chemicals, and abrasion. PBI/Lone Star Industries, Inc., Greenwich, Conn.

65 Fountain display

Based on the ancient concept of water running down bamboo shoots or chains, the custom *Rain Curtain* fountain is particularly suitable for high interior atriums where floor space for the pool is limited. Displays over 50 ft tall fall into a 2- or 3-ft-wide basin, with no splash or overspray. Roman Fountains, Albuquerque, N. M.

66 Tower clocks

Display timepieces are custom-made to architectural specifications for large public spaces. The installation pictured, at Boston's South Station, has a 16-ft-dia clock set in a 140-ft-tall tower. Electric Time Co., Inc., Medfield, Mass.

67 Patterned brick paving

A mortarless paving method in the tradition of the della Robbia masons, the *Renaissance* system uses nine different pre-cut shapes of fired-clay brick to create a virtually unlimited number of patterns. Higgins Brick Co., Redondo Beach, Calif.

68 Retrofit tree grate

A new style of one-piece grate is intended for installation in existing landscaping, where the area already has been paved. Grate comes in over 100 square, round, and octagonal shapes and sizes, and may be custom-ordered. Neenah Foundry Co., Neenah, Wis.

69 Redwood benches

Custom circular bench seating, constructed of California redwood with internal steel rods, allows a number of mounting options: surface, subslab, embedded, or wall-mounted as shown. Furniture is shipped fully assembled; custom woods and finishes are also available. Sitecraft, Inc., Long Island City, N. Y.

70 Perforated metal seating

Contemporary-style seating molded from perforated steel sheet is now included in the *Ultram* site furniture line. The galvanized metal bench comes in nine standard powder-coat colors, including the red pictured; custom colors and designs are available. GameTime, Fort Payne, Ala.

71 Pedestal tables

A group of tables and pedestals for outdoor and indoor sites, the *AE1200* series come with marble, fiberglass, perforated metal, and melamine tops in a range of colors. Coordinating bases are of marble, metal, and concrete, and may be permanently mounted. Forms + Surfaces, Inc., Santa Barbara, Calif.

72 Gate operators

Suggested for condominium, residential, and industrial sites with wide threshold entrances, two-gate installation opens and closes electrically as a matched pair. Solenoid locks that prevent squeeze-through entry are available. McKinney Electronics, Santa Ana, Calif.



With Ultrum it's easy to create a lasting impression.

From beautiful hand-rubbed wood finishes to the contemporary lines of our new perforated metal series, Ultrum offers today's most exciting and versatile site amenities collection.



Stylish seating, planters, trash receptacles, ash urns, Ultrum has everything to create a lasting impression.

In wood, Ultrum continues to blend distinctive styling with meticulous craftsmanship. Every piece is selected with exacting care and hand-finished for use indoors or out.

Ultrum's perforated metal series offers exciting shapes and colors.



Our all-welded construction features heavy gauge perforated steel sheet and tubular steel frame. Each piece is finished with a durable powder coating that protects against heavy wear and weather.

Write for your free copy of the all new Ultrum catalog. Without it, it will be hard to create a lasting impression.

For information, contact your GameTime representative. Or write GameTime, Inc., Box 121, Fort Payne, AL 35967. Or call 205/845-5610, telex 782-534.

•ULTRUM•

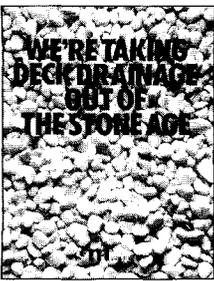
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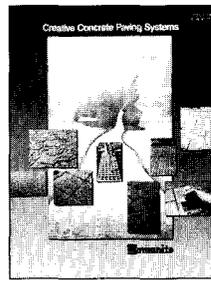
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2 Sitework Product literature

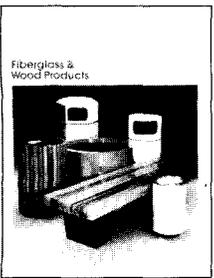
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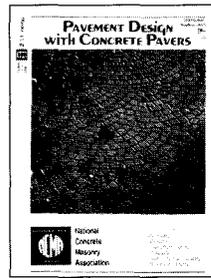
73 Deck-drainage system
The technical specifications and physical properties of a prefabricated deck-drainage system for plaza decks and planters are described in a color folder. Made of high-strength woven geotextile fabric bonded to a 3-D drainage polymeric core, *Miradrain 9000* has a compressive strength of 18,000 psf. Mirafi Inc., Charlotte, N. C.



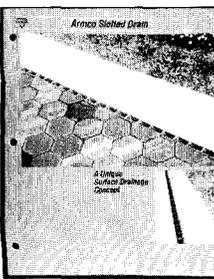
79 Concrete paving system
Photographs illustrate a brochure of *Bomanite's* new paving patterns and color combinations. The concrete paving system is a cast-in-place concrete slab that is colored and imprinted with texture and pattern. Installation is done by company-trained professional contractors. Bomanite Corp., Palo Alto, Calif.



74 Site furnishings
Wood and fiberglass site furnishings for malls, restaurants, lobbies, retail stores, and other public areas are highlighted in a 4-page color brochure. Products shown include benches, tables, trash receptacles, and planters. Also featured are specifications, ordering information, and color charts. Kadee Industries, Inc., Bedford, Ohio.



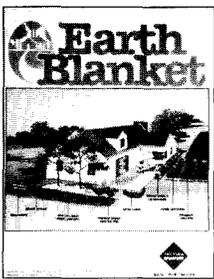
80 Concrete pavers
Industrial, residential, and commercial applications of concrete pavers are shown in a full-color brochure. Special features, assembly, and installation of the continuous paving and grid or cored-type paving are described. National Concrete Masonry Assn., Herndon, Va.



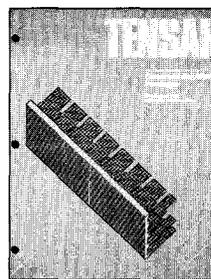
75 Drainage concept
Slotted Drain, an inlet for the removal of surface water on streets, highways, parking lots, and other areas, is the subject of a 12-page catalog. Product details and hydraulics are described. Photos and drawings also illustrate applications and installation practices. Contech Construction Products, Inc., Middletown, Ohio.



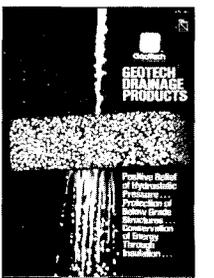
81 Pond and fountain equipment
Equipment and supplies necessary for decorative fountains, waterfalls, ponds, and lakes are illustrated in a 30-page catalog. Included are details about pumps, fountain heads and rings, filters, fountain bowls, lights, chemicals, valves, and fittings needed to build any type of water feature. Aquanetics Systems, Inc., San Diego, Calif.



76 All-purpose outdoor aid
A 4-page brochure outlines various landscaping, yard, and garden uses for *Earth Blanket*, a needle-punched nonwoven, porous polyester fabric. Among the applications are mulching, drainage, weed control, soil separation and stabilization, frost protection, and pool-liner protection. Hoechst Celanese Corp., Greenville, S. C.



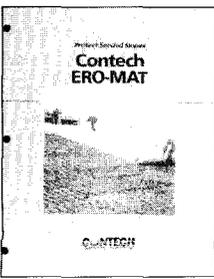
82 Wall system
A full-color technical guide offers data on the *Concrete GeoWall Package*, which is provided as a complete unit containing all wall system material components needed to construct a full-height concrete-panel retaining wall. The concrete panels used in the package come in a wide variety of architectural finishes. The Tensar Corp., Morrow, Ga.



77 Drainage board
A 4-page document presents overall information on the *Geotech* insulated drainage board. Designed to reduce water and energy leaks in below-grade space, the board will protect the waterproofing membrane during backfill operations. A design guide is also available for individual applications. Geotech Systems Corp., Sterling, Va.



83 Pressure-treated wood
Photos featuring applications of pressure-treated wood on walkways, bulkheads, fences, and planter beds are displayed in a color brochure. Also included is information on the wood's characteristics, durability, preservative types, storage, and environmental considerations. Western Wood Preservers Institute, San Diego, Calif.



78 Erosion control
An organic-fiber protective mat that is said to eliminate erosion-control and seedling problems is covered in a 4-page, full-color brochure. *ERO-MAT* is composed of a half-inch layer of chopped straw knitted to a photodegradable net. Also included are data on installation practices, product size and description. Contech Construction Products Inc., Middletown, Ohio.

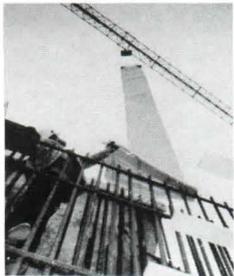


84 Custom concrete
Examples of precast-concrete uses are illustrated in a full-color brochure. The applications encompass indoor, outdoor, municipal building, commercial site, mall and street furniture. Pictures shown include planters, benches, bollards, waste containers with custom logos, and tables. Form Products, Wausau, Wis.

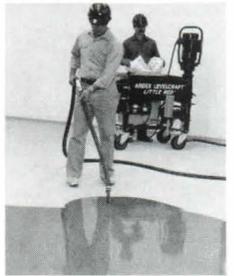
3 Concrete

4 Masonry

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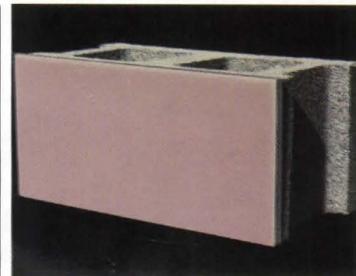
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85 Seismic joint filler

Used to create deep expansion joints from 1 to 6 in. wide in concrete, the reusable *Zipout* filler meets requirements that gaps be left open and clear of flammable material. Made of compressible foam slats hinged onto plastic tape, *Zipout* stacks horizontally during the pour, and pulls out easily when the concrete is set. Progress Unlimited Inc., New York City.

86 Self-leveling cement

Ardex cementitious, self-leveling underlayment can meet an architectural floor tolerance of 1/8 in. in 10 ft, or the super-flat surface required for hospitals and industrial processes. The product is used over a rough-screeded slab, eliminating the cost of troweling the subfloor concrete to obtain an even finish. *Ardex*, Inc., Coraopolis, Pa.

87 Deck cement

A low-shrinkage portland cement product, *Deck C'ment* is designed for exterior decks and balconies, as well as interior landings or other areas subject to water ponding. Poured into place and floated smooth, *Deck C'ment* can be sloped and shaped for rainwater drainage. *Gyp-Crete Corp.*, Hamel, Minn.

88 Leak-resistant forms

The *Hydro Seal* edge supplied on *Red-Flex* form liners will prevent leakage of cement water at form joints, eliminating sandspitting in the finished surface and site-applied caulking of the form joints. The elastomeric joint formed by the sections of liner will maintain the gasket even under the vibration required for mass walls. The *Scott System, Inc.*, Denver.

89 Curved wall forming

The *Flex Form*, described as an easy-to-assemble system of panels with flexible-steel-skin plate backed by stiffeners, can produce a true radius effect in poured concrete, constructing smooth, curved walls at any radius over 5-ft. *Symons Corp.*, Des Plaines, Ill.

90 Textured concrete

All of the over 35 form-liner patterns and textures for architectural concrete are now offered in three use ranges for different job requirements: *Uni-Cast* for one-time jobs; *Multi-Cast* for up to 10 pours; and the *Dura-Cast* high-use liner. The architect selects the pattern, allowing the contractor to choose the most economical form liner for the job. *Greenstreak, Inc.*, St. Louis, Mo.

91 Interior structural tile

The 20 hues in the *Rhapsody Color Collection* combine the esthetic and emotional appeal of cool and warm tones with the performance characteristics of structural glazed facing tile. Research on color and its effects on human behavior influenced selection of the new line. *Stark Ceramics, Inc.*, Canton, Ohio.

92 Marble panels

A full-height (8-ft 6-in.) wall panel, *ISO Marble* uses large sheets of 1/4-in.-thick *GL* natural marble as a facing on a steel-backed, vermiculite-core panel. *ISO Marble* can be hung on new or existing walls like wood panels with metal panel clips, or dry-mounted in some applications. *Marble Technics, Ltd.*, New York City.

93 Composite granite

A polymer-bound composite of crushed natural stone made into 48- by 96-in. panels, *Durastone* is said to provide the appearance of granite for exterior and interior wall and floor surfaces. The 3/8-in.-thick material comes in five colors: flannel, pink, red, embers, and ash. *Durastone Corp.*, Florence, Ala.

94 Pre-glazed masonry

Glazed colors in a range from bright to subdued are offered by *Spectra-Glaze* in smooth-face concrete masonry units. Both standard and custom *Signature* colors are available in conventional masonry shapes for interior and exterior walls, as well as scored-face and acoustical block. The *Burns & Russell Co.*, Baltimore.

95 Cast stone

Architectural details in brick, terra cotta, and such natural stone types as sandstone, granite, and slate can be color-matched exactly in cast stone. The roof coping shown here is cast stone specified to match the brickwork (building by *Costanza Spector Assoc.*, architects). *W. N. Russell and Co.*, Westmont, N. J.

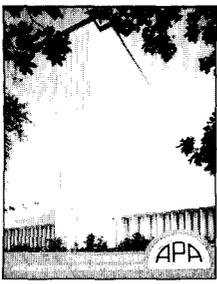
96 Curved cut stone

A new process, using a computer-controlled contour generating saw, can cut sandstone, limestone, granite, and marble to any molding section that can be described by a series of straight lines and/or circular arcs. This allows the use of curved stone for building cladding and landscape projects at a cost substantially lower than that of manually cut stone. *Briar Hill Stone Co.*, Glenmont, Ohio.

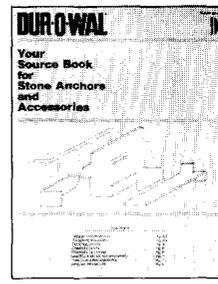
3 Concrete Product literature

4 Masonry Product literature

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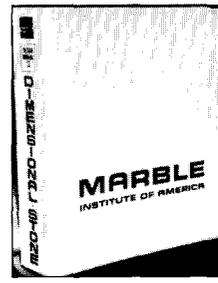
97 Craftsmanship
Published by the Architectural Precast Assn. to help building designers understand concrete's capabilities, full-color 24-page booklet suggests standards that clearly define recommended procedures for working with the product. Precast details, connections, and spec guide included. Cast-Crete Corp. of America, Kissimmee, Fla.



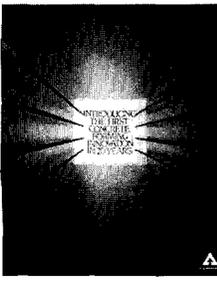
103 Stone-anchor products
Load-bearing support anchors, to carry and transfer the weight of cladding, and restraint anchors are the subjects of 8-page catalog, 5A 1185. In addition to presenting a complete line of anchoring products and accessories, literature contains pertinent stress and wind-loading tables for reference. Dur-O-Wal Inc., Arlington Heights, Ill.



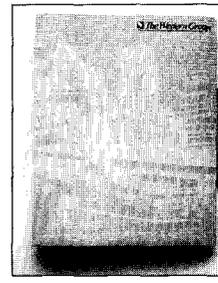
98 Multistory construction
Cost savings possible with use of precast decking in multistory projects are highlighted in a 12-page booklet, "Flexicore Facts No. 124." Booklet analyzes 6 projects (including a 260,000-sq-ft retirement community) that benefited through faster construction and energy-savings. The Flexicore Co., Dayton, Ohio.



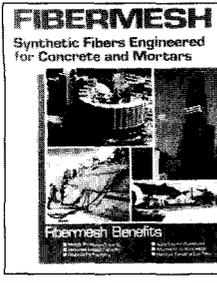
104 Dimensional stone
Loose-leaf-bound Volume III of stone-design manual has technical data, installation details, and suggested specs for interior and exterior specialty-marble applications. ASTM standards for granite, limestone, sandstone, and slate are included. Cost: \$59.50 with updates furnished on an as-issued basis. Marble Institute of America, Farmington, Mich.



99 Concrete form material
Structurform, a family of three panel materials (available in nonskid, premium, and regular varieties) that can be used to construct concrete forms, is discussed and illustrated in a full-color booklet. Detailed are the panels' physical properties, layout flexibility, and reuse capability. Weyerhaeuser Co., Engineered Strand Div., Winston-Salem, N. C.



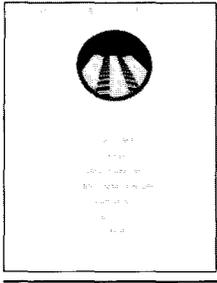
105 Building restoration
File folder elaborates on several cost-effective techniques for restoration and preservation of older buildings. Literature details some methods used to resolve complicated structural problems as successfully practiced by a leading specialty contractor. Extensive waterproofing information is included. The Western Group, St. Louis.



100 Concrete performance
Newly released full-color 8-page technical brochure explains how concrete cures, and illustrates the way *Fibermesh*, an alternative to conventional wire-mesh reinforcement, functions to help prevent concrete and mortar shrinkage-cracking, reduce water permeability, and add shatter resistance. Fibermesh Co., Chattanooga, Tenn.



106 Marble products
An 8-section booklet gives the history of Georgia Marble Co., its product line, and its products' applicability to marble veneering in a wide variety of commercial structures, but is primarily intended to familiarize architects, designers, and contractors with marble technical information. The Georgia Marble Co., Structural Div. Jim Walter Corp., Nelson, Ga.



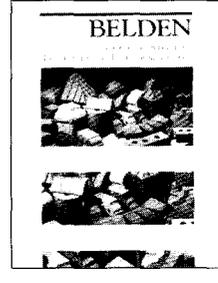
101 Cast-in-place concrete
Focusing on the savings that can be realized with cast-in-place concrete, this construction planner suggests ways to control building materials, startup/overall construction, and labor expenses with cast-in-place concrete. Each cost element is accompanied by an hourly chart or graph. Concrete Reinforcing Institute, Schaumburg, Ill.



107 Exterior, interior brick
Theme of this brochure is the new versatility of one of the world's oldest building materials, and it presents its story in the form of 10 Southwestern structures that made use of double-wall brick. General information on wall details and how brick helps reduce energy and other building operating costs is included. Acme Brick Co., Ft. Worth, Tex.



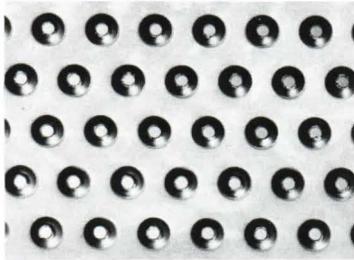
102 Shotcrete construction
The advantages of lightweight, cut-to-specification expanded polystyrene in self-supporting concrete shells is the subject of a 4-page brochure, which shows how material can be used to form integral sidewall beams, columns, roof elements, and endwalls. Then, 2-in.-thick concrete is pneumatically applied to exterior walls. Portland Cement Assn., Skokie, Ill.



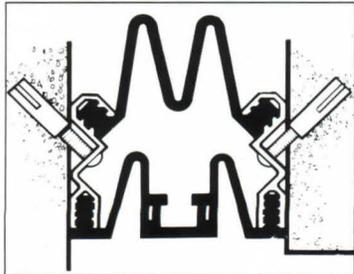
108 Special bricks
Custom-designed bricks that add personality and drama to a building are the subject of a 16-page black-and-white technical booklet. While literature concentrates on brick-manufacturing process, it begins with initial architect's drawing, through shop drawing, brickmaking, packaging, and installation. The Belden Brick Co., Canton, Ohio.

5 Metals

Architectural metalwork
Expansion control
Fasteners & supports
Gratings
Metal decking
Metal stairs
Ornamental metal columns
Perforated metal
Railings & handrails
Structural metal framing



109



110



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109 Safety grating

Cold-formed steel grating and flooring in the *Tread-Grip* pattern provides over 100 perforated gripping buttons per sq ft for slip-resistant ramps, stairs, loading docks, and platforms. The design will not blunt or wear down in normal use; grating is safe for high heels as well as work boots. Morton Manufacturing Co., Libertyville, Ill.

110 Expansion joint

Designed to accommodate structural movement caused by high winds or earthquakes, as well as normal thermal expansion and contraction, *Wabo* seismic floor expansion joints are made of heavy-duty aluminum in sizes for openings up to 12 in. wide. Frames have aluminum or stainless-steel cover plates. Watson Bowman Acme Corp., Amherst, N. Y.

111 Brass coating

Described as a durable, baked-on transparent finish for architectural metals, *ClearCoat* should significantly reduce the maintenance costs of brass used in railing systems. Brass Smith, Inc., Denver.



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112 Cast iron

Architectural cast iron is available to meet custom-design requirements, as well as the authentic pattern work needed for historic restoration projects. Shown here are cast-iron capitals and Greek Revival railing panels made for the Knox House in Montgomery, Ala. Robinson Iron, Alexander City, Ala.

113 Structural-steel framing

Said to be easier to use and less costly than wood systems, *Thermosteel* open-web framing members are fully compatible with conventional building techniques and materials, and permit installation of mechanicals through the studs. Thermosteel Corp., Strafford, Mo.

114 Long-span joists

For use with concrete or masonry wall systems and the *MR-24* standing-seam roof, the *Delta Joist* spans from 32 to 60 ft, with a uniform 2-ft depth. The joist's geometrical configuration provides diaphragm bracing for the structure without changing wall or foundation designs. Butler Manufacturing Co., Kansas City, Mo.



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115 Profiled metal curves

A precise method of curving pre-painted steel or aluminum panels up to 30 ft long into various shapes, *Crimp-Curving* produces economical architectural profiles for fascias, canopies, mansards, etc. Curved flashings and mitered corners are also available. Curveline, Inc., Ontario, Calif.

116 Nylon-on-steel railings

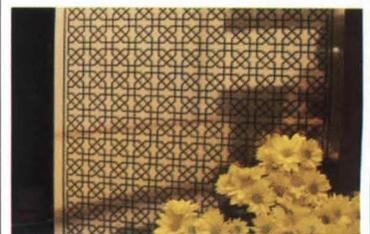
Custom-configured *HEWI* rail systems are made of solid, colored nylon over a corrosion-free steel core. Installations meet BOCA code requirements, and are sanitary and pleasant to the touch. W & W Glass Products, Ltd., West Nyack, N. Y.

117 Colored stainless steel

Prismatic stainless steel has an integral chrome oxide film in colors ranging from black through bronze, green, gold, red, and champagne. The roof shown here, on a medical building by architect Steve Helmey, is blue mirrored *Prismatic* steel. B & M Finishers, Inc., Kenilworth, N. J.



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118 Architectural grating

The close (1/8-in.) spacing of the *SSS Clean Tread* stainless-steel grating prevents high heels from getting stuck. The grate is shown here as an entrance walk-off mat; it is also suitable for hvac vents. A 1 1/8-in.-deep version can be used for sidewalk gratings or trench covers. Kadee Industries, Inc., Solon, Ohio.

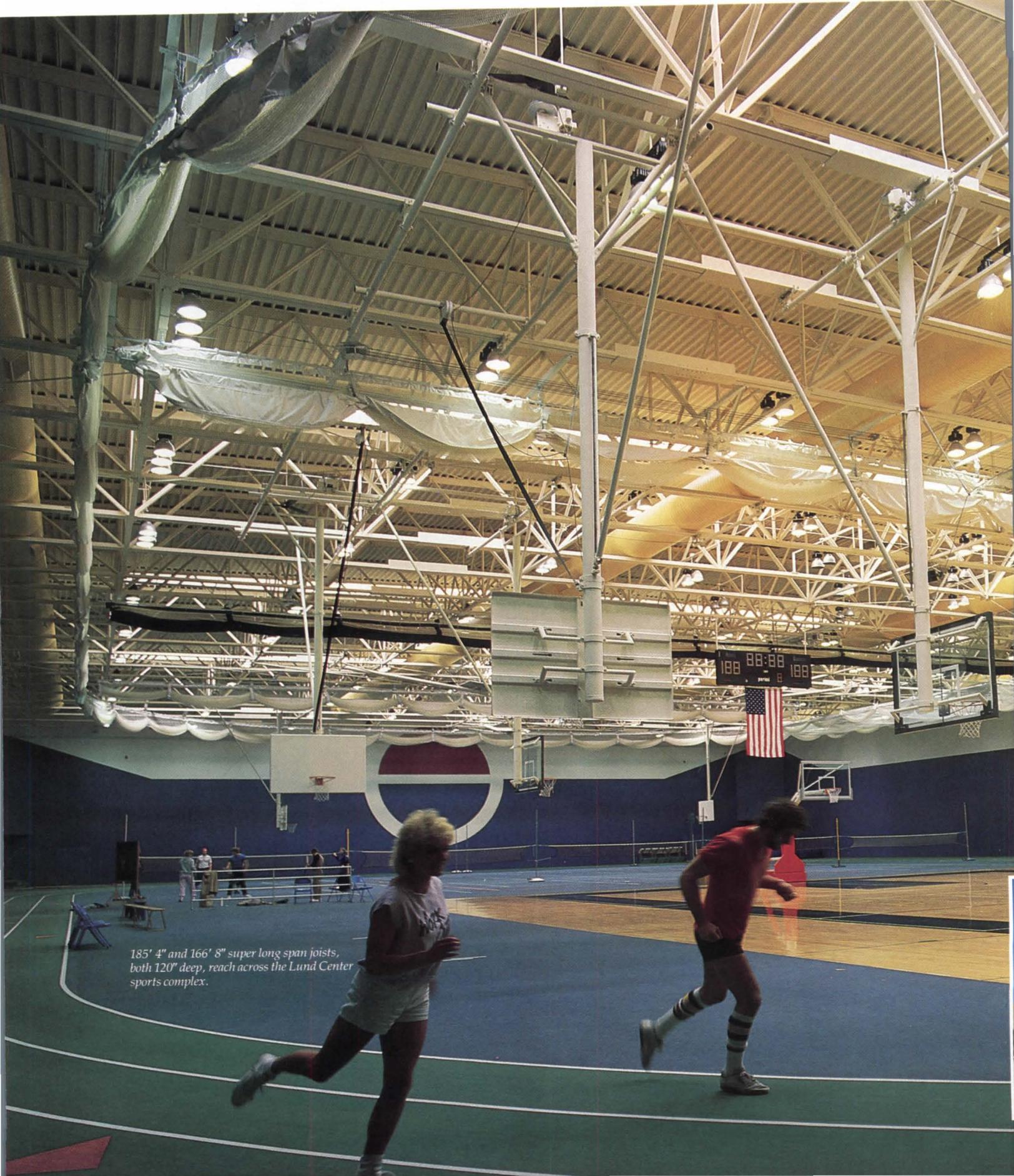
119 Etched metal

Abuse-resistant metal panels for interior walls, doors, and elevator cabs may be specified with standard or custom-etched designs. Finish treatments include oxidized, relieved, and anodic colors. Forms + Surfaces, Inc., Santa Barbara, Calif.

120 Spiral stairs

Spiral and architectural stairs constructed from steel and wood open-riser components are offered with an expanded number of solid-oak rail and tread options. The most economical models are supplied as adjustable, knock-down stairs for residential use. Mylen Industries, Peekskill, N. Y.

VULCRAFT SUPER LONG



185' 4" and 166' 8" super long span joists, both 120" deep, reach across the Lund Center sports complex.

SPANS GO THE DISTANCE.



To build a sports complex as large and expansive as the Lund Center at Gustavus Adolphus College in St. Peter, Minnesota required a structural system that could go the distance. Vulcraft super long span joists were clearly the front runner.

As a result of careful analysis, Vulcraft super long span joists were selected over the other two alternatives: conventional trusses and rigid frame construction. The open configuration of Vulcraft super long spans provided a number of advantages. While long enough to span a basketball court, indoor tennis courts, and a running track as well as spectator seating, Vulcraft super long spans provided a strong, light-weight, and easy to install system. The open configuration of the Vulcraft joists also permitted the heating and ventilation ducts and electrical systems to be run through the spans. This created an uninterrupted ceiling line for the automated divider screens which separated the different sections of this vast sports complex.

Since the college is dependent on private funding, the savings afforded by using Vulcraft joists helped make it possible for the college to initiate the project. Also, by using Vulcraft's economical 3" N 20 gage deck, joists could be spaced farther apart. So, fewer joists were needed and construction costs were further reduced.

When your job has to go the distance, let Vulcraft put you out front. For more information concerning Vulcraft steel joists, joist girders and steel deck; or, for copies of our joist and steel deck catalogs, contact the nearest Vulcraft plant listed below. Or, see Sweet's 5.2/Vu and 5.5/Vu.

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P.O. Box 169, Fort Payne, AL 35967 205/845-2460
P.O. Box 186, Grapeland, TX 75844 409/687-4665
P.O. Box 59, Norfolk, NE 68701 402/644-8500
P.O. Box 1000, St. Joe, IN 46785 219/337-5411

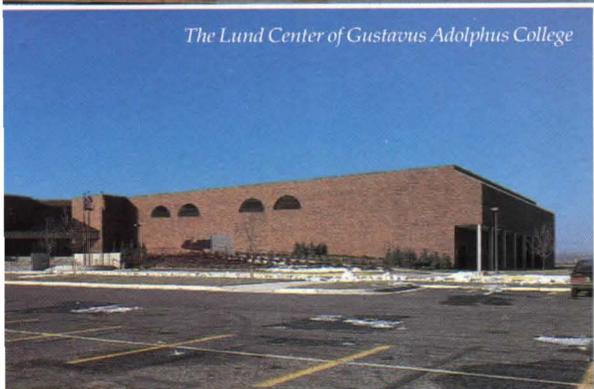
VULCRAFT

A Division of Nucor Corporation

Architects/Structural Engineers: Toltz, King, Duvall, Anderson & Associates, in association with Hastings & Chivetta Architects. Steel Fabricator: Ted Mannstedt and Son, Inc. General Contractor: Kraus-Anderson Construction Company, Minneapolis Division. Steel Erector: Vickerman Construction Company.

Circle 1012 on inquiry card

The Lund Center of Gustavus Adolphus College



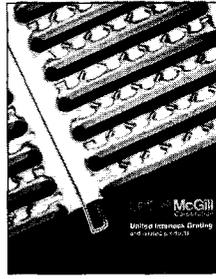
5 Metals Product literature

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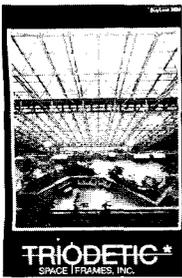
121 Expansion joints

Company's complete line of interior expansion-joint systems is described and illustrated in a 12-page brochure. 3-D drawings and typical applications for the various systems are accompanied by specifications. For complete details, a technical manual is offered. Architectural Art Mfg., Inc., Wichita, Kan.



127 Roof walkways

Company's line of *Roofwalk* walkway systems, designed for metal standing-seam, built-up, and prefabricated membrane roofs, are described in a 28-page illustrated brochure that also provides load deflection curves and allowable-load comparisons for various gratings used in systems. United McGill Corp., Columbus, Ohio.



122 Structural systems

A capabilities brochure describes aluminum or steel space frames and shell structures, and suggests some of the geometric configurations possible using the self-spanning modules. Finish options include chrome, stainless steel, and buffed and anodized aluminum, as well as powdercoat, enamel, or acrylic paints. Triodetic Space Frames, Inc. Syracuse, N. Y.



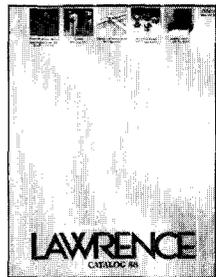
128 Powder coating

Thermosetting powder coatings for architectural products that contain no solvents and therefore release no volatile compounds or toxic fumes to the atmosphere during application are explained in an 8-page, color brochure. Smooth and textured finishes are available in more than 172 colors. Leed Architectural Products, Inc./Tiger Drylac USA, Inc., Hamden, Conn.



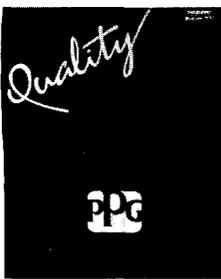
123 Decking systems

A 12-page technical brochure gives detailed specifications for steel-composite floor-deck, roof-deck, and form-deck systems. An acoustical deck is described that serves as a sound-absorbing ceiling as well as a structural roof deck. Wheeling Corrugating Co., Div. Wheeling-Pittsburgh Steel Corp., Wheeling, W. Va.



129 Traffic control

A 64-page, color catalog No. 88 illustrates and describes complete metal products line, including portable posts, ropes, and accessories for pedestrian traffic control, lobby accessories, utility and decorative rail systems, and specialty items such as glass racks, service-bar rails, and sneeze guards. Lawrence Metal Products, Inc., Bay Shore, N. Y.



124 Polymer coatings

Company's line of *Duranar* architectural coatings is described and illustrated in a 14-page, color brochure. Film characteristics and properties of the fluoropolymer coatings for metal cladding are detailed, including a fold-out color chart. Project applications are pictured. PPG Ind., Delaware, Ohio.



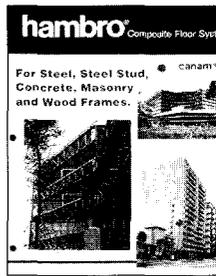
130 Railing systems

Brass, chrome, *KolorTube*, *New DesignerTube* and *Onyx* railing systems and products are illustrated and detailed in a 30-page catalog. Applications, ranging from crowd control to bar railings and coat racks, are provided, along with a listing of the company's other custom products. Ship'n Out Co. Pawling, N. Y.



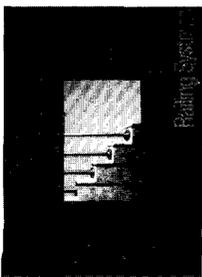
125 Steel joists, girders

The 1988 catalog, *Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders*, is a 64-page compilation that features open-web joists (K-Series), longspan joists (LH-Series), deep longspan joists (DLH-Series) and joists girders (G-Series). Steel Joist Institute, Myrtle Beach, S. C.



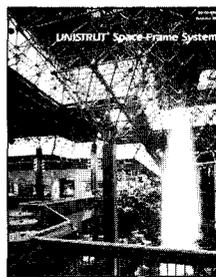
131 Composite floor systems

The *Hambro* composite concrete and steel floor construction system is explained and illustrated in an 8-page, color brochure. Cutaway drawings show how reusable rollbars and reusable plywood forms support the wire mesh and continuous concrete slab that form the composite section. Canam Steel Corp., Needham Heights, Mass.



126 Brass railing

A 16-page, color brochure describes and illustrates the *Broadway Collection* of brass railing and component parts, including ball and flush fittings, brackets, and flanges. Specifications and installation instructions for both wood and concrete floors are provided. The *Broadway Collection*, Olathe, Kan.



132 Space-frame systems

A 16-page, color brochure describes the three different *Unistrut* space-frame systems that are said to fulfill any requirement for span, geometry, and structural support. The company's *Perm-Color* topcoating is also explained, and detailed specifications and erection procedures for the three systems are provided. Unistrut Corp. Wayne, Mich.

**Crown American
builds shopping malls
better and at lower cost
with K-Series
steel joists...
whatever the weather.**

Developers:
Crown American Corporation,
Johnston, Pa. and Wilmorite, Inc.,
Rochester, N.Y.

Project Architect:
Marc Weissman, A.I.A.
Project Engineer:
Ronald Samsel,
Structural Engineers

Crown American Corp's. Senior Vice President, Nicholas Pasquerilla, credits K-Series steel joists and G-Series joist girders for saving over 6% of combined joist and girder costs.

He points out that the two products are ideally suited to the wide bays and deep roofs favored by Crown American in shopping mall construction. Also, they allow the contractor to pour the footers and erect joists and girders in spite of adverse weather.

Crown American locates H.V.A.C. and other mechanicals in the interstitial space provided by joists and girders. A suggestion by engineers and architectural staff to change the joist girders on Great Northern Mall in Syracuse, N.Y. from 30" to 60" deep, resulted in the cost savings.

Also the quick erection helped keep construction time to a minimum. The resulting wide bays were particularly pleasing to the retail tenants because of the extra roominess.

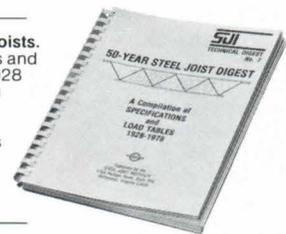
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NEW! 60th ANNIVERSARY issue.
64 pages of facts and figures with new instructions for designating and specifying the new K-Series joists.
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50 years of Steel Joists.
220 pages of specs and load tables from 1928 to 1978 to help you determine load capacities in **existing structures**; plus time saving tips.
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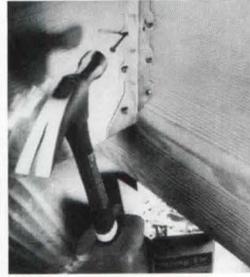
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6 Wood & Plastics

Architectural woodwork
Connectors & supports
Laminated & processed sheets
Lumber
Plastic fabrications
Plastic laminates
Prefabricated structural plastics
Prefabricated structural wood
Simulated wood
Stock millwork
Wood treatment



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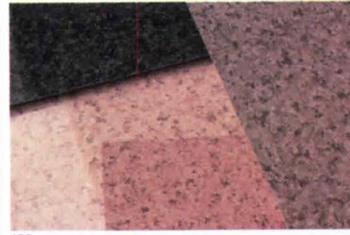
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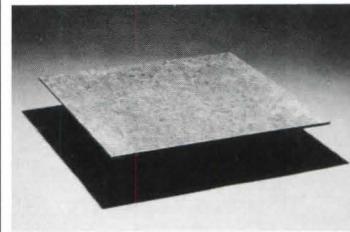
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133 Structural FRP

Described as the first fiberglass-reinforced plastic beams engineered specifically for use as roof purlins and wall girts, *Tuff-Span* structural members have long-span capability, are nonconductive, and resist the corrosive atmospheres of many industrial process applications. Composite Technology, Inc., Fort Worth, Tex.

134 Architectural moldings

Manufactured in Holland of Class A polyurethane foam with the density of pine, interior decorative details include wall niches, ceiling rosettes, panel and crown moldings, and corbels. Supplied preprimed, *Architectural Accents* can be finished with almost any paint technique, such as marbleizing, lacquer, faux, and metal finishes. Westgate, Grand Prairie, Tex.

135 Laminated wood

Manufactured from thin layers of veneer bonded into a solid wood product, *Mattewood* can be drilled, sawn, and stained like natural wood. It can be specified in a wide range of dimensions for use in flooring, casework, and furniture. Trus Joist Corp., Boise, Idaho.

136 Double-shear connector

A double-shear, angled-fastener connector combines toe nailing with joist hanger support, reducing installation time and greatly increasing the load values of the connector. Nails are directed by angled slots through both the joist and the header. Simpson Strong-Tie Co., Inc., San Leandro, Calif.

137 Polymer sheet

A matte-finish surfacing material, *Fountainhead* is made of homogeneous, thermoset polymer in three thicknesses for interior vertical and horizontal applications such as countertops, paneling, and bath enclosures. It is currently offered on a limited basis in white, gray, beige, and black shades. Nevamar Corp., Odenton, Md.

138 Hand-painted laminate

The *DEPartURES* laminate program offers hand-painted art in any of over a dozen signed designs, pressed into 4- by 8-ft sheets. Each specific design is compatible with but different from the next; custom designs are available on a minimum-order basis. Advanced Technology, Inc., Greensboro, N. C.

139 Stone-look laminate

American Granite is one of six patterns introduced to coordinate with both *Color Grid* and *Color Trends* solid color laminates. The gloss-finish stone-look pattern is available in beige, pink, Folkstone, a gray, and Nile green. Formica Corp., Wayne, N. J.

140 Solid surface

A dense, homogeneous polymer offered in both sheet and shaped product, *Corian* has added two granite-looks, *Sierra Dusk* and *Sierra Midnight*, to the current beige, gray, white, and almond color range. For vertical and surface use, Corian has a Class A rating and NSF approval; it works like hardwood and takes a variety of edge treatment and infills. Du Pont Co., Wilmington, Del.

141 Labeled strand board

Fire-retardant *Structurewood* underlayment, a phenolic-bonded board treated with fire-resistive chemicals prior to manufacture, is classified FR-S by UL as per ASTM-E-84, and may be used in rated systems. It is an Exposure 1 panel, and will resist moisture during long construction delays. Weyerhaeuser Co., Winston-Salem, N. C.

142 Stone-pattern design

Blackstar Granite and *Alaskan Marble* are part of *Wilsonart's Quarry Group* of faux stone designs in high-pressure laminate. It is suggested as an authentic-looking, warm-to-the-touch alternative to natural stone in furniture and countertops. Ralph Wilson Plastics Co., Temple, Tex.

143 Silk-screened design

A range of in-house custom services now offered by this laminate manufacturer includes silk-screening, inlays, and 3-D sandblasting and etching, as shown here. The *Pionite* laminate line contains over 160 solid colors, patterns, and woodgrains. Sterling Engineered Products, Maumee, Ohio.

144 Fiberglass ornamentation

A recreation of the 1870 original, this detailed cornice was cast from fiberglass-reinforced plastic to maintain the authentic appearance of St. Louis's first department store, now an office building. FRP architectural ornamentation may be specified in any style, and is lightweight and fade-resistant. Fibertech Corp., Pendleton, S. C.

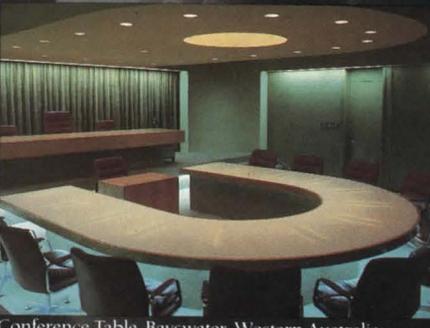
limited to the kitchen and bath, imagination.



U.S. Post Office Station E, Chicago, Illinois
Interior design by Loeb Schlossman and Hackl



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



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



Sun Piazza Aquarium, Japan
Designed by Kodo Neriko

There's one solid surface product so extraordinary that it's even used by artists and sculptors.

It's CORIAN—made only by DuPont.

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That's why you'll find CORIAN in hotels, offices, banks, hospitals, food service facilities and university housing.

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A 10-YEAR WARRANTY. ONLY FROM DUPONT.

CORIAN is the only solid surface product proven in commercial applications for over 15 years. It holds up so well that DuPont confidently backs CORIAN with an unprecedented 10-year limited warranty. Nothing compares with it in the solid surface category.

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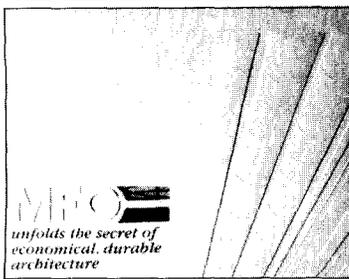
CORIAN

The solid miracle from DuPont.

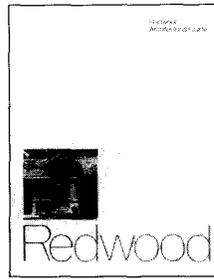


6 Wood & Plastics Product literature

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145 Molded fiberglass
Die-cut 10-page brochure illustrates the versatility of FRP, showcasing a number of picturesque dentils and millwork effects that have been obtained for fast-food-type outlets. Accompanying text gives information on durability, strength-to-weight ratio, and ease of installation. Molded Fiber Glass of Union City, Union City, Pa.



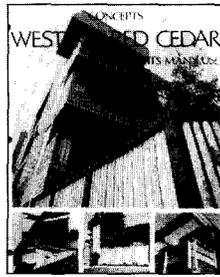
151 Redwood applications
The stability, beauty, and durability of redwood are the subjects of this booklet. Color illustrations show obtainable architectural effects. A comprehensive listing of common board-pattern dimensions is given. Special section at rear supplies finish and hardware recommendations. California Redwood Assn., Mill Valley, Calif.



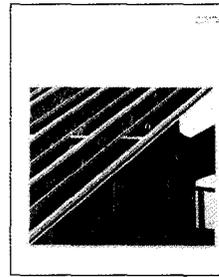
146 Wood trusses
The advantages of factory-made roof trusses over field framing are discussed in this booklet, which emphasizes the economics of reduced material waste, fewer weather delays, and reduced errors on the job. A number of relevant evaluation reports are referenced and seven truss configurations pictured. Wood Truss Council of America, Chicago.



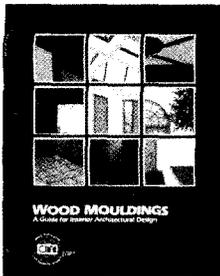
152 Pitched, curved beams
Booklet explains and illustrates process of designing 40- to 80-ft (and longer) pitched and curved members using glue-laminated constant-cross-section members as simple beams, eliminating horizontal thrust inherent in arch systems, and sidestepping the need for complex computations. American Inst. of Timber Construction, Englewood, Colo.



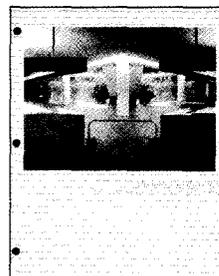
147 Red cedar
Latest addition to the "Concepts" series of architectural applications for red cedar is a 6-page gatefold brochure (Form 672) demonstrating the wood's usefulness in paneling, fascia, trim, finish, and outdoor uses. Other publications that enlarge on creative uses for red cedar are listed on last page. Western Red Cedar Lumber Assn., Portland, Ore.



153 Laminated lumber
Gang-Lam, a laminated veneer lumber with considerably more load-carrying capacity than ordinary structural wood, is the subject of a new publication showing how product is produced, and explaining how it resists warping and twisting. *Gang-Lam* is said to have product advantages as a truss chord material. Gang-Nail Systems Inc., Miami.



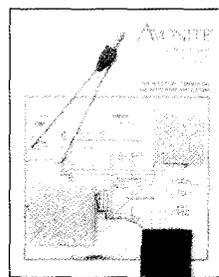
148 Wood moldings
A 32-page molding guide for interior designers can simplify the process of selecting standard and custom wood moldings. The guide features numerous full-size molding profiles, depictions of built-up moldings, and data on radius moldings. \$7 to architects, \$4 to AWI members, \$12 to nonmembers. Architectural Woodworking Institute, Arlington, Va.



154 Wall paneling
Brochure tells how custom architectural-grade wood paneling can be readily designed into building interiors. Offering depicts a range of matched-panel effects available in 80 species and in several thicknesses. Provides examples of how veneer-matching can be carried through walls, doors, even built-in office furniture. Algoma Hardwoods, Algoma, Wis.



149 Rated wood walls
Illustrated folder explains how two types of wood-framed, wood-sided exterior construction meet codes requiring one-hour fire resistance. Test procedures and results under ASTM E119 are explained, along with the increased potential for wood walls in commercial buildings. National Forest Products Assn., Washington, D. C.



155 Surfacing material
Bulletin provides data on physical properties of stone-look *Avonite*, a building and surfacing material. The material's chemical and stain resistance, fire rating, color stability, and weatherability are discussed. Accompanying data sheet can assist installers in seaming, polishing, patching, and packaging. Avonite, Sylmar, Calif.



150 Design guide
Form E30 covers construction applications of plywood structural panels and gives information on flooring, roof, and wall panels. Diagrams and tables treat a number of popular commercial and residential applications. Wind resistance, noise control, and energy conservation factors are discussed. American Plywood Assn., Tacoma, Wash.



156 Construction hardware
Fully indexed *Kant-Sag* catalog K100 contains over 50 pages of standard truss hangers, braces, and wood-to-concrete anchors, plus a variety of miscellaneous functional and ornamental brackets. Generously illustrated with line drawings that show exactly how each product is used. United States Steel Products, Montgomery, Minn.

7 Thermal & Moisture Protection

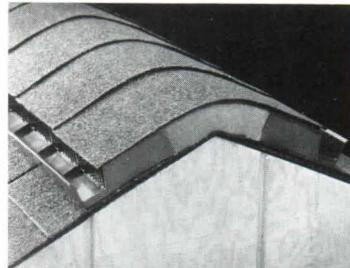
Cladding/siding
Composite building panels
Insulation
Membrane roofing
Metal roofing
Roof accessories
Sealants & caulking
Shingles & roofing tiles
Unit skylights
Waterproofing & dampproofing



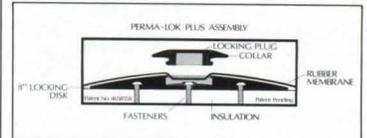
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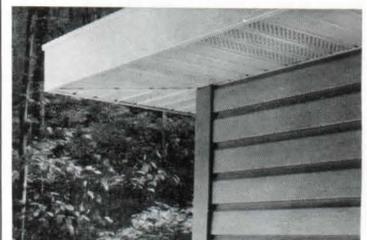
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157 Exterior insulation

The *Insul/Crete* exterior wall insulation and finish system is now offered in prefabricated panel form, in lengths of up to 40 ft. Panels, said to speed installation time, can be applied in all kinds of weather, and are particularly suitable for high-rise structures. Insul/Crete Co., Inc., McFarland, Wis.

158 Roofing batten bar

Predrilled to take most fasteners, field attachment bar of rigid plastic is completely noncorrosive, and meets FM Class I and I-90 wind uplift standards. A screw-head channel prevents fasteners from puncturing the roof membrane. Greenstreak, St. Louis.

159 Aluminum siding

Embossed in a saw-kerf design found on Colonial-era Pennsylvania homes, 105 Dutch Lap pattern is offered as part of a *Historical* aluminum siding line. Panels come in a double 5-in. width, in seven deeper-toned colors. Alside, Inc., Akron, Ohio.

160 Elastomeric roofing

The addition of stainless steel mechanical fasteners to the *Hi-Tuff* membrane system extends warranty coverage for the entire roof, including all components and workmanship, to 15 years. Extruded aluminum fascia comes in the colors shown. J. P. Stevens & Co., Inc., Northampton, Mass.

161 Ceramic panel facade

The *Vilbofa* wall consists of glazed ceramic panels mechanically attached to an aluminum substructure, creating an insulating air space between the facade and the structural wall. Ceramic tiles come in a range of standard and custom colors, and can incorporate special designs and logos. Villeroy & Boch (USA) Inc., Pinebrook, N. J.

162 Panelized cedar shingles

Offered as an option on single- and double-course plywood-backed cedar shingle panels, a *Key-way* provides up to an 1/8-in. space between each shingle for vertical definition and a hand-installed appearance. Shakertown Corp., Winlock, Wash.

163 Ridge vent

Made of molded polyethylene, the *Ridge Filter Shinglevent* has an integral baffle that deflects wind over the ridge, efficiently ventilating attic space. A weather filter prevents rain infiltration, even at 100 mph. Cap shingles are installed directly over the low-profile vent. Air Vent, Inc., A CertainTeed Co., Peoria Heights, Ill.

164 Fiberglass roofing mat

A wet-process fiberglass mat coated with weathering asphalt, *Tam-Glass Premium* roofing sheet exceeds the tensile strength requirements of ASTM D-2178-86a, Type IV, by 40 percent. The mat is perforated to control asphalt bleed-through and release air and vapor during application. Tamko Asphalt Products, Inc., Joplin, Mo.

165 Insulating wall finish

The *R-wall* EPS foam-insulated exterior system is offered in more than 100 standard colors and six textures of acrylic finish. Various shapes, forms, and details can be designed into the system. Ispo, Inc., Mansfield, Mass.

166 EPDM rubber roofing

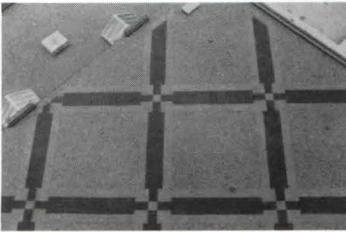
The *Perma-Lok* disc fastener does not penetrate the EPDM membrane, eliminating a major source of roofing failures. The nonballasted roof is available in white and black; commercial and industrial installations carry a 10-year warranty. North American Roofing Systems, Inc., Carmel, Ind.

167 Hard-finish system

A rigid, mechanically attached exterior treatment, *Senerthik* has a portland cement-based sand and acrylic polymer coating said to provide excellent hard-finish durability. *Senerthik* comes ready-mixed, or in prefabricated panels. Senergy Inc., Cranston, R. I.

168 Vinyl siding

To replicate the appearance of shiplapped drop siding used on Victorian homes, *DutchLap* vinyl panels are offered in woodgrain texture (pictured), and a sand-finish for the smoother look of painted siding. Gold Bond Building Products, Charlotte, N. C.



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169 Interlocking ballast system

Designed as a primary ballast for single-ply membrane systems, *Roofblok* installations consist of interlocked lightweight concrete units held in place at the roof perimeter. *Roofblok* systems have passed wind uplift tests of over 200 mph, and are FM Class A rated for exterior fire resistance. Available in colors and decorative patterns. Roofblok Ltd., Fitchburg, Mass.

170 Cement mortar panel

The edges of each *Durock* tile backer board have been reinforced with fiberglass mesh for better handling and installation, with less damage to the board edge. *Durock* cement mortar panels provide a long-lasting, stable, water-resistant base for tile, slate and other stone. USG Industries, Inc., Chicago.

171 Modified bitumen roofing

Reinforced with glass fiber mat and scrim between its top and bottom layers, *Derbigum MR-200* modified bitumen membrane can be applied using more-productive multiburner torching wagons. The scrim improves the membrane's puncture resistance, durability, and tear strength. Owens-Corning Fiberglas Corp., Toledo.



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172 Mechanically attached EPDM

The *Sure-Seal* .045-thick reinforced membrane is secured through the insulation to the deck with plates and fasteners placed inside the adhesive seam area. Attachment method achieves FM I-60 and I-90 wind uplift ratings. Carlisle SynTec Systems, Carlisle, Pa.

173 Roofing accessories

Cool Top white uncured elastomeric membrane is said to allow easy fabrication and flashing of irregular details in the field, such as the skylights on this mall roof. The expanded system includes *Omega* stainless-steel fasteners, universal corners and prefab boots, and protective walk pads. Cooley Roofing Systems, Inc., Pawtucket, R. I.

174 Prefabricated vent covers

MVENTS, made of four layers of modified bitumen membrane, are prefabricated and preflashed vent covers for most roof deck protrusions. Vents are installed with a welding tool or torch, not mechanically attached, so they expand and contract along with the modified bitumen roof assembly. MWeld, Inc., Div. U. S. Intec, Inc., Port Arthur, Tex.



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175 Penetrating sealer

A clear, nonfilm-forming product, *TBS-964* is intended to achieve maximum surface penetration of unfinished concrete surfaces, to protect structural members from damage from water and chloride salts. Sealer can be applied at temperatures between 50- and 100-deg F, by roller or low-pressure spray equipment. Tremco, Inc., Cleveland.

176 Insulated concrete wall

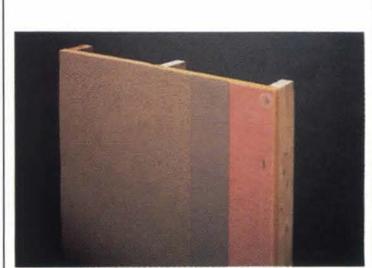
The *Thermomass* sandwich panel uses noncorrosive, nonconductive plastic rods to position an extruded polystyrene insulation board between 4-in. wythes of concrete. Said to improve the R-value of the concrete by as much as 80 percent, *Thermomass* panels have the same structural strength as a solid 8-in. reinforced concrete wall. Amoco Foam Products Co., Atlanta.

177 Smoke vents

Roof hatches can be custom-made to meet specific client, architectural, and fire-code requirements. The project pictured incorporated both fire-code standards for its application on the roof of a theater, as well as the acoustical specifications of the stage design. Milcor, Inc., Lima, Ohio.



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178 Rain-carrying system

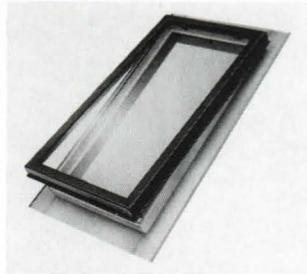
Applicable to residential and multifamily construction, the *Omni Facade* incorporates large-capacity rain gutters into the fascia. Made of pre-painted aluminum, the *Facade* attaches directly to rafter tails; a ventilated soffit is slid in to complete the eave. Omni Products, Div. of ZMC, Inc., Addison, Ill.

179 Insulated finish system

The *Exsulation* exterior wall insulation and finish system combines *Glas-Lath* mesh-surfaced insulation board with *Genesis* acrylic-polymer base coat, forming a thermally efficient substrate for colored *Dryvit* finishes. Self-supporting *Glas-Lath* boards are attached directly to open framing members. Dryvit System, Inc., West Warwick, R. I.

180 Metal roofing

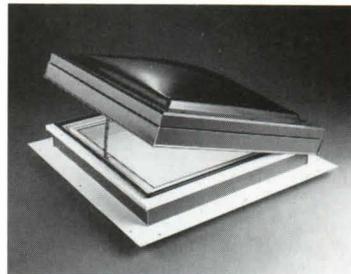
A 26-gauge galvanized steel panel, the *Stile* roof is formed to resemble clay tile. For residential and commercial construction, panels come in lengths from 3- to 16-ft, finished in five *Fluoropon* resin-based colors. Metal Sales Mfg. Corp., Louisville.



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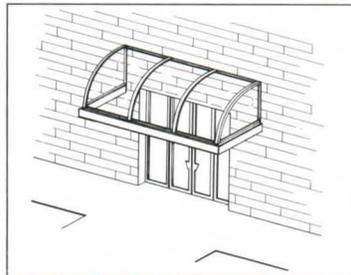
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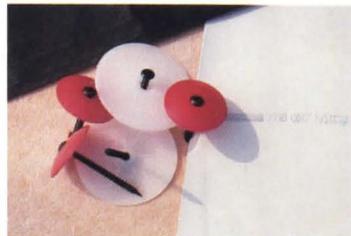
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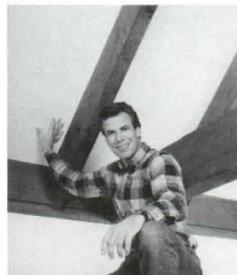
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181 Insulated skylight

The *Model VG* metal-framed skylight provides tempered or low-emissivity-coated laminated glass units. The skylight can be opened fully, or just an inch for weatherproof venting of hot air. A two-part gasket seals against air infiltration. Ventarama Skylight Corp., Hicksville, N. Y.

182 Aluminum cladding

The edge design of *Tech Wall* aluminum cladding panels is said to ensure a perfectly flat wall; joint seals keep out water while a drainage system leads condensation to the outside. A matched clear anodized panel was used on the INTELSAT building, John Andrews Intl., Architect. Other finishes include duranodic, *Kynar 500* and *C/S Tri-X* metallic. Conspec Systems, Inc., Cranford, N. J.

183 Deck insulation

For use as a thermal barrier or top surface in commercial roofing systems, *Dens-Deck* gypsum board has a unique water-resistant core, surfaced with fiber-glass mat to improve adhesion in single-ply systems. It meets FM Class I-90 for use as a thermal barrier in built-up and modified bitumen roofs. Georgia-Pacific Corp., Atlanta.

184 Fixed skylight

The *Model FSF* fixed skylight features a weatherproof vent flap operated by pull-cord or optional control rod. The economical unit prevents the build-up of hot, stale air and possible staining from condensation. Double-insulated tempered glass is standard; glazing options include low emissivity-, tinted-, or laminated-glass in the clad-wood frame. Velux-America, Inc., Greenwood, S. C.

185 Half-barrel canopy

Aluminum-framed, acrylic-glazed canopy is hung from the building wall, and projects 3, 4, or 5 ft without supports. Described as economical and easy to install on storefronts and entries, *Solar Deck* shelters can be used singly or in series. Various frame finishes and acrylic colors are offered. Mapes Industries, Inc., Lincoln, Neb.

186 Roof window

The *Highlight* fixed roof window comes in four sizes up to 46 in. long, for less-accessible interior spaces. Unit is framed in Douglas fir; clear or tinted double-pane low-emissivity tempered glazing is standard. Sunscreens are available as an option. Roto Frank of America, Inc., Chester, Conn.

187 Residential skylight

Specifically for residential installations, the *Natural* PVC-framed venting skylight shown here has acrylic double-domed glazing; clear or tinted insulating glass is also available. The low-profile frame has a woodhue finish said to blend with any new or existing roof. Naturalite, Inc., Garland, Tex.

188 Reinforced membrane roofing

A mechanically fastened system with hot-air-welded seams, the *Bond Cote* thermoplastic roof membrane has improved performance characteristics to meet 1988 specifications. *Bond Cote* is said to resist punctures, ultraviolet radiation, fire, and chemical attack. WestPoint Pepperell, Bond Cote Roofing Systems, West Point, Ga.

189 Roof deck sheathing

Easy-Ply decking provides a structural nail base for roofing and thermal insulation; and a finished, decorative vapor-retardant ceiling for exposed beam construction. It is offered with a prefinished white flitter vinyl surface, or with a natural surface to take texturing, paint, or stain. Homasote Co., West Trenton, N. J.

190 Stationary roof window

Available in eight sizes, with a *Terratone* cladding to match other Andersen products, roof window offers two types of high-performance glazing. The clear product blocks radiated heat, saving fuel costs; *High Performance Sun* has a tinted outer pane to reduce heat gain. Andersen Corp., Bayport, Minn.

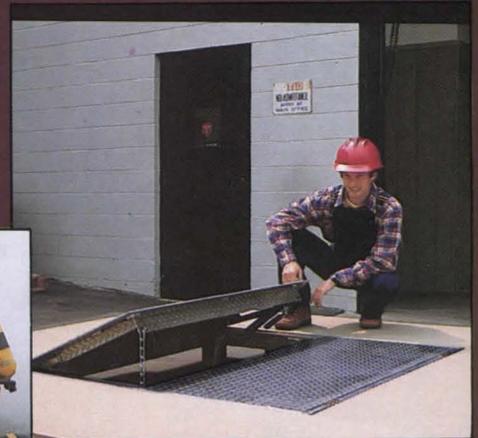
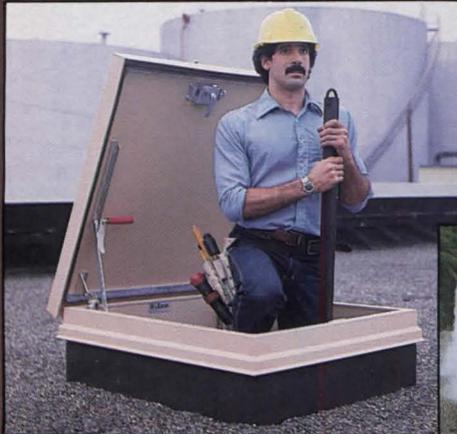
191 Fire-resistant cap sheet

An elastomeric, asphaltic-blend cap sheet made with fire-resistant additives, *DynaKap FR* achieves a UL Class A rating without special coatings or gravel. Supplied in roll form for hot-mop application, *DynaKap FR* is compatible with all *Manville* insulations used in modified bitumen roofing systems. Manville, Denver.

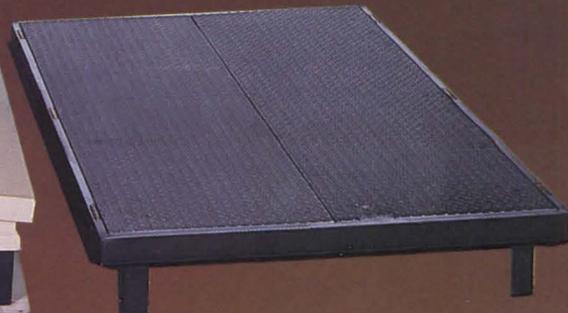
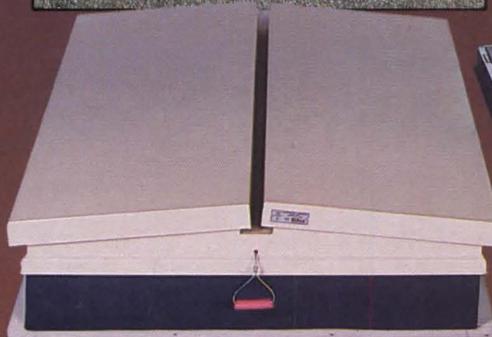
192 Waterproofing system

Polyken 630 building wrap, a poly-backed, synthetic rubber-based adhesive membrane, is part of a total moisture-barrier system. *Polyken 600* components include seam sealing tapes for gypsum and insulation board; standard and foil-faced flashings; ice-dam protective membranes; and vapor barrier and waterproofing membranes. The Kendall Company, Boston.

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PROJECT REPORT

No. 101887

MBCI Ultra-Dek® Roof System Offers Maintenance Relief to San Marcos School
No Maintenance Expected

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

The solution came in Ultra-Dek® standing seam roof system from MBCI.

According to John Franke, Administrative Assistant for Special Services for the school district, San Marcos has installed roof conditions which cause buildings to leak and die. The factor, coupled with extreme temperature changes which cause expansion and contraction of roofs, creates cracking in built-up flat roofs.

This unique roof system is attached to a building's structure which is attached to the structure. The clips allow the roof to expand and contract during extreme temperature fluctuations. This means the entire roof maintenance stays intact with no cracking or separating where water seeps in and causes problems.

"Over the years, we've had a lot of maintenance in time and expense," Franke said. "That is why we wanted a general, stamped metal roof for this new school building. We did not want to spend any more and compromise on it."

William John Johnson, of the architectural firm Phyllis Abbott, says, "We had needed a design for a general roof to provide a clean job. The school district received the only a beautiful building, but also a long-life structure."

"The school, Lorenzo de Zavala Elementary has 67,500 square feet of covered area and 6,500 square feet of canopy and has one of the 10 buildings in the school district of 1,700 students. According to Franke, the school district has a 100,000 square foot roof system (transmission on other side).

Project Facts

Project Name: Lorenzo de Zavala Elementary School, San Marcos Independent School District
 Location: San Marcos, Texas
 Building Features: Unadorned Systems, San Antonio, Texas
 General Contractor: R.F. Construction Co., Vaughn, Texas
 Designer: Phyllis Abbott, Austin, Texas
 AIA/CES Registered Architect: L. H. Dreyer, Phyllis Abbott, Austin, Texas

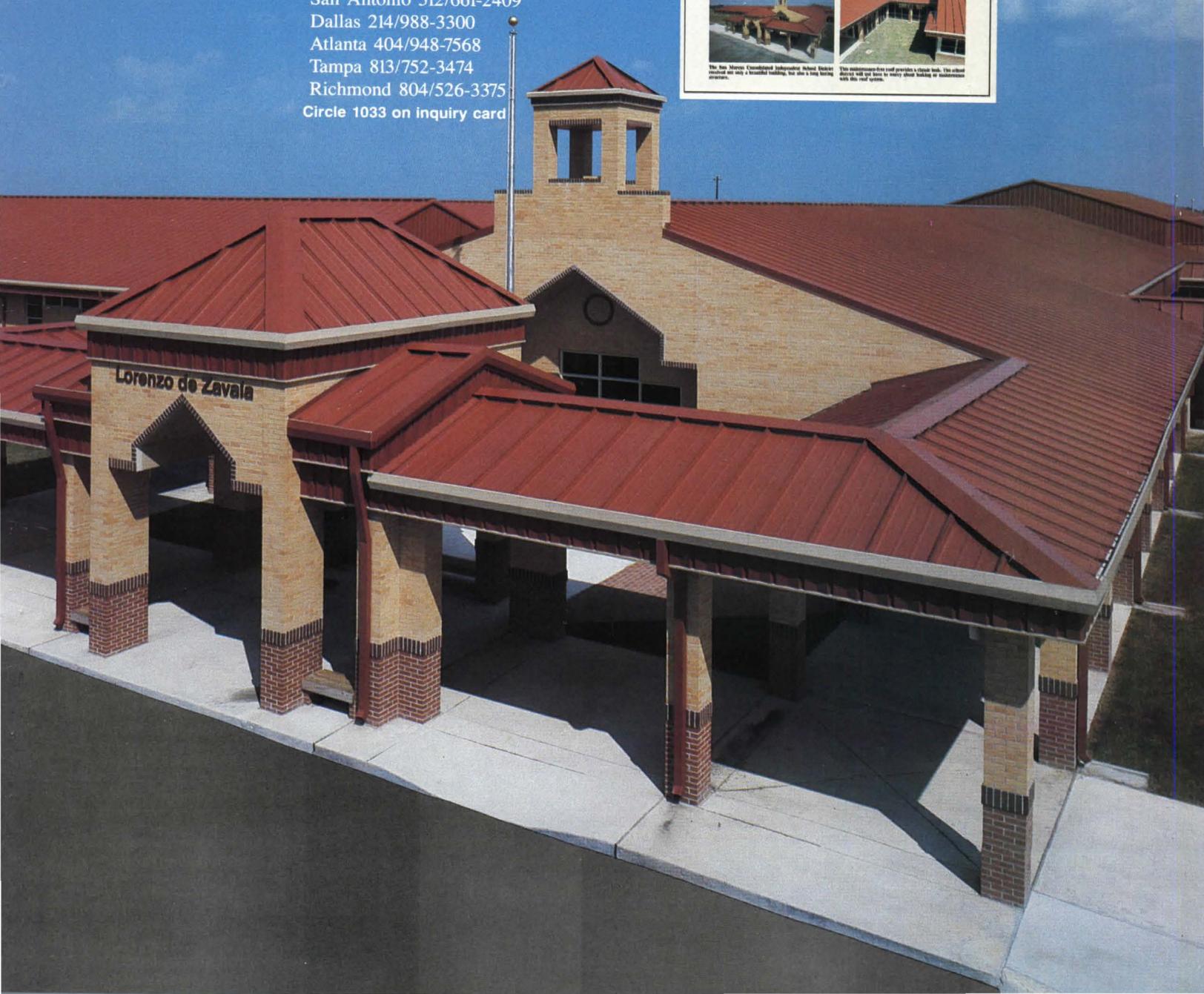
Project Description

The school, Lorenzo de Zavala Elementary has 67,500 square feet of covered area and 6,500 square feet of canopy and has one of the 10 buildings in the school district of 1,700 students. According to Franke, the school district has a 100,000 square foot roof system (transmission on other side).



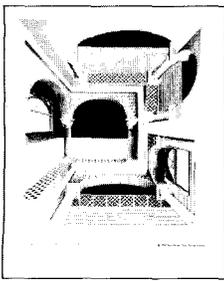

The San Marcos Consolidated Independent School District received not only a beautiful building, but also a long-life structure.

The maintenance-free roof creates a clean look. The clips attached to the structure allow the roof to expand and contract during extreme temperature fluctuations.



7 Thermal & Moisture Protection Product literature

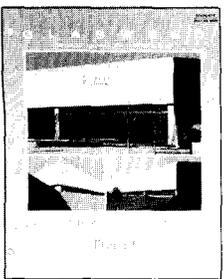
For more information, write item numbers on Reader Service Card



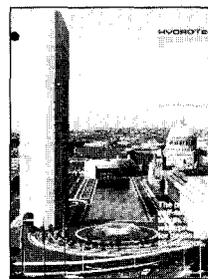
193 Restoration vinyl siding
A full-color brochure features applications of the manufacturer's *Restoration* collection for residential construction. The vinyl siding comes in in 3- and 4 1/2-in. exposures. Available as an option is *Flotrac*, an application system which has a rigid, factory-mounted nailing hem. Wolverine Technologies, Inc., Dearborn, Mich.



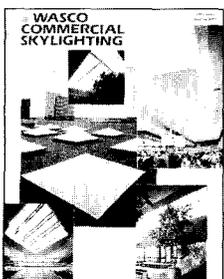
199 Fire protection
Fire & Explosion Protection Easy as APC, an 8-page catalog, offers data on automatic fire vents, explosion-relief vents, and industrial skylights. The products are available for all industrial and commercial buildings, as well as Underwriters Lab-listed and FM-approved fire vents. APC Corp., Hawthorne, N. J.



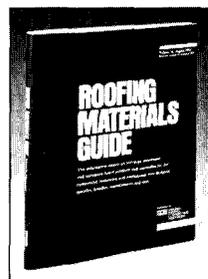
194 Building panels
An 8-page technical catalog contains close-up and project photos of *Glasweld* architectural building panels used for spandrel and curtain-wall infill panels, facade cladding, fascias, and soffits. A fiber-reinforced cement panel, *Glasweld* comes in a range of natural and earth-tone colors. Eternit Inc., Reading, Pa.



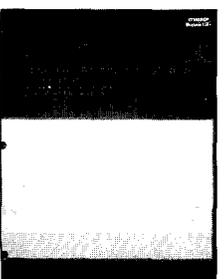
200 Waterproofing system
A color brochure highlights *Liquid Membrane 6125*, a self-healing, waterproofing membrane used for decks and foundations. A hot-applied rubberized asphalt, the product is spread at an average thickness of 180 mils. It can be applied in one application in temperatures down to zero degrees F. American Hydrotech, Inc., Chicago.



195 Commercial skylighting
Product information on *Wasco's* commercial skylighting is provided in a 20-page full-color catalog illustrated with photos and line drawings. Also detailed are guidelines for calculating skylight requirements for desired daylighting levels, and the use of smoke and heat vents in fire-safety design. Wasco Products, Inc., Chicago.



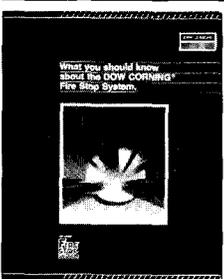
201 Roofing materials guide
Subscriptions are invited for the current *Roofing Materials Guide*, the roofing industry's informational aid on commercial, industrial, institutional, low-slope membranes, insulation board products, and manufacturers' warranties. National Roofing Contractors Assn., Rosemont, Ill.



196 Phenolic insulation board
The manufacturer's brochure describes *R.p. Phenolic Insulation*, a phenolic foam-board insulation that carries a 20-year guarantee. Developed for application in conjunction with built-up and single-ply roof membranes, the system has an aged "R" value of 8.3 per in., said to provide long-term thermal insulating value. Koppers Co., Inc., Pittsburgh.



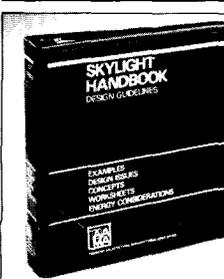
202 Roofing fastener
A brochure introduces *Omega*, a fused bi-metallic stainless roofing fastener. The product provides self-drilling features and is "rust-free" corrosion-resistant. *Omega* is approved for wood- and steel-deck applications. Construction Fasteners, Inc., Dekfast Product Group, Wyomissing, Pa.



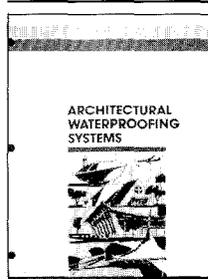
197 Fire-safety system
What You Should Know About the Dow Corning Fire Stop System offers information on fire-stop sealants and foams for a variety of applications. The sealant is used for simple fire-rated wall and floor penetrations; the foam is used for complex fire-rated floor penetrations. Dow Corning Corp., Midland, Mich.



203 Roofing systems
A loose-leaf, full-color foldout describes *Synergy's* single-ply roofing systems for industrial and commercial buildings. The literature covers the plate-bonded roofing system, the loose-laid ballasted EPDM roof, and the fully adhered roof. Also included are data on technical service and warranties. Synergy Methods, Inc., Danielson, Conn.



198 Skylights
A 120-page manual details new design guidelines on the use of skylights and daylighting in commercial building. It explains how to integrate skylights with other building elements and shows how to estimate possible energy and cost savings. American Architectural Manufacturers Assn., Des Plaines, Ill.



204 Waterproofing system
A folder outlining waterproofing systems is provided from *Gates*. Technical descriptions are offered of membranes, liquid coatings, and liquid membranes for decks and bridge decks. Performance data are also included. Additional literature for individual systems is available. Gates Engineering Co., Inc. Wilmington, Del.



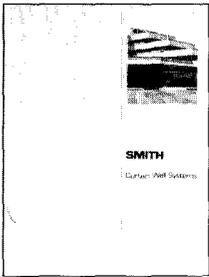
205 Cedar paneling

An 8-page brochure explains advantages of *Cedarply*, exterior paneling that is said to combine the many qualities of cedar with the structural and labor-saving advantages of plywood. Panels are available in combinations of grades, lengths, thicknesses, surfaces, edges, and groove patterns. Peninsula Plywood Div., ITT Rayonier Inc., Port Angeles, Wash.



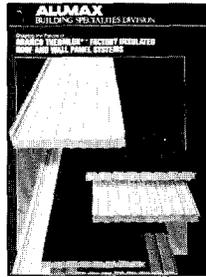
211 Firestop systems

Described in a 4-page brochure, this line of five firestop systems includes reusable modules that allow frequent cable changes, an adhesive, one-component silicone sealant, a permanently pliable, intumescent putty, a low-cost but high-performance material for large openings, and a firestop pillow, primarily intended for temporary seals. Nelson Electric, Tulsa.



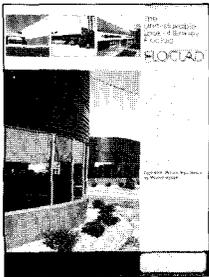
206 Curtain-wall systems

Aluminum systems featuring *Foamwall*, a 2-in.-thick panel using urethane foam insulation as the spandrel material, are described in a 16-page, color booklet. A lap-joint system eliminates air and water infiltration. Other systems, including metal, glass, and stone spandrel panels, are also described. E. G. Smith Construction Products, Inc., Pittsburgh.



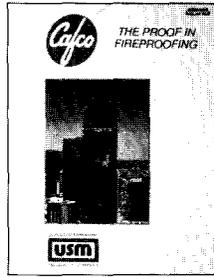
212 Roof, wall systems

A brochure describes the *Granco Thermlok* line of insulated roof and wall panel systems, with information necessary for specification of *Thermlok Coreroof* and *Thermwall* panel systems. A continuous line-foaming manufacturing process is used to assure uniform quality. Alumax Building Specialties Div. of Alumax Inc., Mesquite, Tex.



207 Wall/fascia system

The design versatility of *Floclad*, a wall/fascia system with contoured panels that permits design elements such as vertical and horizontal ribs, rounded, molded, or mitered corners, or positive or negative curves, is described in a 2-page bulletin. The panels are preformed and precut for fast, easy erection, the maker says. Binkley Co. St. Louis, Mo.



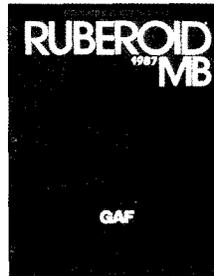
213 Structural fireproofing

An 8-page catalog contains general and technical information describing spray-applied *CAFCO* Blaze-Shield and Deck-Shield structural fireproofing systems. Products contain no vermiculite, are asbestos-free, and application methods are said to eliminate most scaffolding requirements. United States Mineral Products Co., Stanhope, N. J.



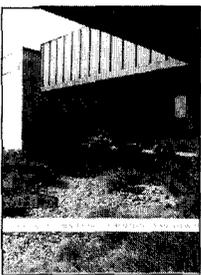
208 Fire protection

Firestops, smoke seals, and *Tneme-Shield Brand* fireproofing products for structural steel are explained and illustrated in a 6-page, color brochure. Cut-away drawings show product features, applications, and benefits when used in various types of construction. Services provided to designers in selection and installation of systems are detailed. Bio Fireshield, Inc. Concord, Mass.



214 Roofing system

Modified bitumen roofing material, *Ruberoid MB*, is described. The new torch-applied version has a resilient spunbonded polyester mat at its core and is coated with white mineral granules for protection against ultraviolet rays. Asphalt modified with thermoplastic polymers improves weather resistance. GAF Building Materials Corp., Wayne, N. J.



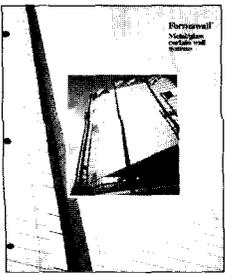
209 Roof panels

Company's Standard Reference Manual for Architects and Engineers contains details for a variety of roof panels under different building conditions, a glossary of terms, and charts on product applications, finishes, fasteners, and other design information. Metal Building Components, Inc. (MBCI), Houston.



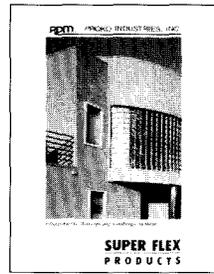
215 Cedar roofing

Details on roof application of cedar shakes and shingles are contained in 20-page design and application manual, which specifically covers mansard, low-slope, hip and ridge roofs, roof juncture, flashing, ventilation, vapor barrier, and quality-control treatment. Red Cedar Shingle & Handsplit Shake Bureau, Bellevue, Wash.



210 Curtain walls

A 20-page brochure describes and illustrates *Formawall* metal/glass curtain-wall systems. Designers can choose either insulated foam-core panels or paper or aluminum honeycomb-core panels. Available in custom or standard colors and several corrosion-resistant coatings, the 2-in.-thick panels are easily shaped, curved, or cut. H. H. Robertson Co., Pittsburgh.



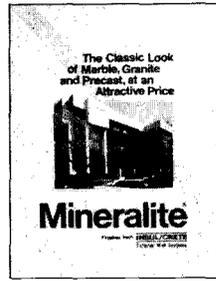
216 Waterproof coatings

The *Super Flex* line of elastomeric exterior waterproofing systems are described. The materials can be used for new construction, renovation or maintenance, and can be applied over properly cured and prepared concrete, masonry, stucco, brick, and even properly prepared exterior-grade plywood or metal. Proko Ind., Inc., Mesquite, Tex.

For more information,
write item numbers on
Reader Service Card



217 Exposed aggregate panels
Mini brochure contains data on cement panel *Stonecast-on-plywood*, *Stonecast fire-rated*, and *Granex*, plus information on *Minerit-NC*. Besides providing comprehensive product data, several examples of buildings utilizing aggregate-type, asbestos-free panels, are shown. Sanspray Corp., Santa Clara, Calif.



223 Exterior wall systems
Mineralite, a site-applied simulated-marble exterior finish, is discussed in a 4-page, 4-color catalog insert. The product, available in a wide range of colors, surfaces and textures, is expressly designed for use with *Insul/Crete* exterior insulation system, which is fully described in the catalog. Insul/Crete, McFarland, Wis.



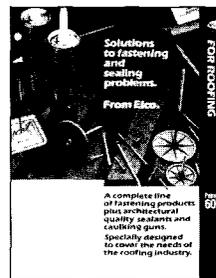
218 Bonded facing material
Fabricated from two thin sheets of aluminum with a thermoplastic core, *Alucobond's* high strength, low weight, and resistance to buckling, rippling, and oil-canning is discussed in a new brochure that illustrates typical signage and interior installations and maintenance procedures. Alucobond Technologies, St. Louis.



224 Waterproofing system
Hydro-Shur elastomeric waterproofing systems for commercial, industrial, and institutional structures are featured in new catalog. The ability of *Hydrofilm*, *Hydrolastic*, and *Hydroflex* to prevent water intrusion in above-grade masonry, poured and precast concrete structures is discussed. Devoe & Raynolds, Louisville.



219 Skylights
Skylight and wall/window systems that utilize an aluminum-alloy grid for attaching horizontal and vertical members is the subject of new literature that describes how machine-lancing process allows perpendicular members to precisely interlock, producing structural systems in their own right. Extech/Exterior Technologies Inc., Pittsburgh.



225 Roofing fasteners, sealants
Publication No. 6074 is a 4-page brochure discussing construction fasteners, a newly introduced line of silicone- and butyl-based sealants, and caulking guns designed to meet roofers' needs. *Tapdek* and *Tapdek SP* fasteners are highlighted, as is the company's *Tapcon* line of masonry fasteners. Elco Industries Inc., Rockford, Ill.



220 Rooftop sealing system
Polymer membrane-type roof-coating system that allows vapor to permeate while preventing wind-driven water intrusion, is held in place with mechanical fasteners. New booklet tells how contractors can use the membrane material to reduce on-site labor requirements. Seal-Dry Inc., Pontiac, Mich.



226 Roofing system
A full-color 16-page brochure discusses physical characteristics, applications, and benefits of EPDM roofing with an easy-to-follow system-selector guide for fast referencing and product comparison among the five *Rubbergard* systems. Each system described on an individual data sheet. Firestone Building Products Co., Indianapolis.



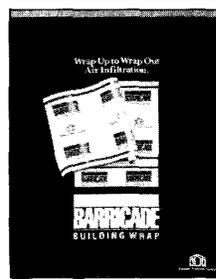
221 Fascia panels
Asbestos-free fascia panels, soffits, spandrels, interior, and dry-built walls are described in a 24-page full-color brochure outlining design considerations for panel attachment, plus installation details. Special attention is given to use of each type of panel in new construction and renovation of existing structures. Manville Mineral Panels Div., Denver.



227 Roofing tile
"Above all, real clay tile" emphasizes the low moisture-absorbing and fast water-runoff qualities of genuine fired-clay roofing tile over copy-cat products made of inferior materials. Three styles of vitrified clay tile are described and illustrated: 2-piece mission, S-style, and flat shingle. United States Tile Co., Corona, Calif.



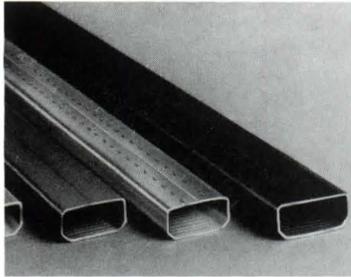
222 Ballast pavers
The *Terra Pavers* line of lightweight ballast pavers, which feature interlocking joints on all four sides to prevent wind uplift, is featured in a new 4-page foldout. Literature also describes *Terra System One*, which can be utilized in a number of different roofing and walkway applications. Wausau Tile, Wausau, Wis.



228 Building wrap
Barricade building wrap is featured in a 4-page installation brochure that discusses—in a 5-step procedure—how the product should be fitted, and fastened in place to produce leak-free seals and overlaps and preserve R value of wall insulation. Simplex Products Div., Adrian, Mich.

8 Doors & Windows

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



229



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229 Air spacer

Black anodized aluminum has been added to the metallic range offered in welded air spacers for insulating glass units, permitting color matching of spacer, gasket, sealant, and weatherstrip. Allmetal, Inc., Itasca, Ill.

230 Energy-efficient glazing

Three types of light-transmitting, heat-reflecting coated insulating glass are shown installed in the Boeing Museum of Flight (Ibsen Nelsen and Assoc., Architect). Clear versions of *Heat Mirror 55* and *66*, and newer blue-tinted *Heat Mirror 55* enabled the 50,500-sq-ft glass hall to meet Washington state's stringent energy-code requirements. Southwall Technologies, Inc., Palo Alto, Calif.

231 Triple-glazed slider

The *2030 Series* horizontal sliding window, available in both residential and commercial models, is glazed with 1/2-in. insulating units in the prime sash, and a single-pane interior storm sash. The thermally broken window provides a U-value of 0.31. Acorn Building Components, Inc., Detroit.



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232 RF-shielded door

Constructed of cadmium-plated steel, *Barshield* radio-frequency-shielded personnel-access doors have an electrically operated automatic latch that draws the door into its final RF seal position. Insulated with fiberglass, the doors may be surfaced with laminate, metal paneling, or sound-soak material. Access, equipment, and industrial doors are available in standard and custom sizes. Barlows, Inc., Falls Church, Va.

233 Passage hardware

Lever handles are UL-listed for commercial applications, and come in two styles and 13 colors. The steel and brass passage latch has a nylon cover plate that matches the handles. HEWI, Inc., Allendale, N. J.

234 Glass entrance system

Interior and exterior architectural glass entrances may be specified with patch fittings, giving the appearance of an all-glass opening while keeping the door itself to an efficient passage size. *Arm-R-Clad* entrances are offered with either tempered or heat-strengthened clear, tinted, reflective, or patterned glass. Hordis Brothers, Inc., Pennsauken, N. J.



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235 Operable windows

Designed for horizontal ribbon installations requiring equal sightlines, *Series 890 Equa-Vu* units provide in-swinging casements indistinguishable from adjacent fixed lites. The thermally broken frame accepts 1-in. insulated or 1/4-in. monolithic glass. Efco Corp., Monett, Mo.

236 Rolling door

Made of flat or crown-profile galvanized steel slats, the *900 Series* commercial rolling door comes in both insulated and uninsulated versions, for openings up to 27 ft wide by 20 ft high. Chain-hoist operated, the doors are rated to withstand winds of over 85 mph. Wayne-Dalton Corp., North American Rolling Door, Mount Hope, Ohio.

237 Rated architectural door

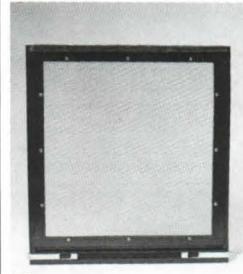
A five-ply door with a variety of core constructions to suit specific architectural applications, the *Styled Door* combines the esthetics of real wood panels with fire-rated performance and a lifetime guarantee. A number of different veneer colors, molding, and panel configurations are offered. Weyerhaeuser Co, Tacoma, Wash.



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238 Fire-rated window

For installation in rated wall construction in high-traffic hallways, a 76 in. wide by 52 in. high single-light wired-glass system carries a 20-min fire label. A 45-min rating is offered by a mullioned, multiple-light view window that measures 110 1/2 in. wide by 59 1/2 in. high. The Ceco Corp., Oak Brook, Ill.

239 Architectural glass

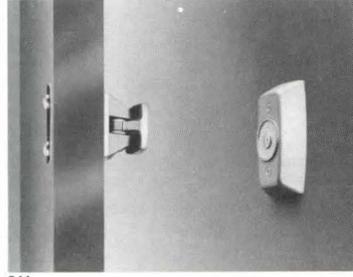
Handcrafted glass sheets, jewels, and prisms are set in wood or metal frames to create unique doors, windows, skylights, and decorative architectural elements. Functional works of art may be commissioned for residential, office, and institutional projects; the entrance to a law firm is pictured. Jurs Architectural Glass, Oakland, Calif.

240 Vandal-resistant screen

Heavy, stainless-steel wire mesh set into extruded rails provides vandal-resistance for this maker's line of commercial aluminum replacement windows. The weather-stripped frame is available in painted, anodized, or duranodic finishes. Season-all Industries, Inc., Indiana, Pa.



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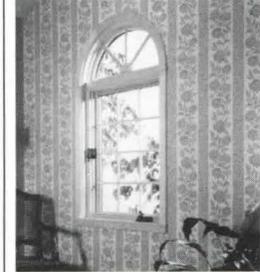
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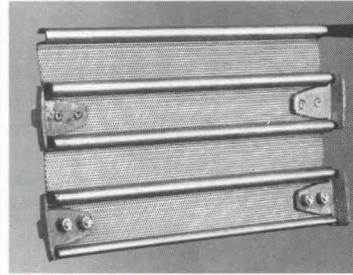
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241 Veneer-finish doors
The *PermaClad* commercial interior door is now offered with a wood veneer surface. Wood species include book-matched red oak and rotary-cut birch, as well as custom-order mahogany, cherry, walnut, and maple. Doors are furnished with matching hardwood edges, ready for on-site finishing. VT Industries, Inc., Holstein, Iowa.

242 Safety-tempered glass
All *Traco* metal-framed windows are now available with proprietary *View-Safe* glass. Tempered at 1200 F, the glass withstands bending, impact, and rapid temperature changes. When exposed to the significant impact required to break it, *View-Safe* crumbles into blunt-edged pellets, not sharp shards. *Traco*, A Three Rivers Aluminum Co., Warrendale, Pa.

243 Three-dimensional coating
For application to flat aluminum spandrel panels, the *GraphiClad* process uses *Kymar 500* coatings to produce exterior graphics with a 3-D appearance. *GraphiClad* is said to be an economical method of applying custom design to large-scale architectural panels. *Cupples Products Div.*, H. H. Robertson Co., St. Louis.

244 Electromagnetic holders
Sentronic UL-listed controls hold fire- and smoke-barrier doors open until the alarm system triggers a power cut. The fail-safe electromagnetic operation releases the doors and the standard door closer takes over, shutting the doors. The holder can be surface-mounted on wall or floor, or recessed in the wall. *LCN Closers*, Princeton, Ill.

245 Glass entrance
Tempered-glass entrances for commercial interiors can be installed in existing openings with minimal modification to the door frame. Entrance offers 11 types of glass and 23 colors, patch fittings, and a range of hardware and locksets. Pictured is the *Nova V* in gray glass, which opens with a light press of a button. *Colonial Mirror & Glass Corp.*, Brooklyn, N. Y.

246 Perforated service door
Designed for the food and beverage industry, a rolling service door made with perforated slat steel or aluminum provides a screened area of almost 50 percent, for insect- and pest-resistant ventilation as well as security for perishable supplies. *Kinnear Div.*, *Harsco Corp.*, Columbus, Ohio.

247 Secure fire door
The *Tough Hide* 12-gauge steel detention door, with a 20-minute fire label, offers a vision light with clear instead of wired security glass. Availability of the clear product in a rated door is said to offer improved visibility through the glass and a less-severe appearance to the inmate. *Grand Metal Products Corp.*, Portland, Ore.

248 Curved slope glazing
Described as the first true commercial grade of curved slope glazing systems, the *1500 C.S.* is a thermally broken, projected-bay structure designed for the low-rise building market. The system uses structural silicone glazing at the horizontals and purlins, and 1-in. insulating glass. Framing is built to take cloth sun-control shades. *Kawneer Co., Inc.*, Norcross, Ga.

249 Historic replacement windows
Single-hung, wood-framed *HR 175* windows are said to provide superior performance in projects requiring the duplication of existing windows to preserve historical integrity. The interior glazing bead and exterior casing can be custom-milled to match the architecture. *Weather Shield Manufacturing, Inc.*, Medford, Wis.

250 Woodgrain-finish doors
Steel entrance and interior doors are offered finished with a woodgrained-pattern vinyl bonded to the 24-gauge metal. The laminated surface is said to improve the acoustic and appearance characteristics of the door. When hung in the *Adjusta-Fit* steel frame, laminated doors have a 90-min fire rating. *Benchmark Doors Div.*, *General Products Co., Inc.*, Fredericksburg, Va.

251 Round-top wood window
Offered in 8 standard as well as custom sizes, round-top windows with sunburst grilles are designed to mull to the top of *Caradco* clad-wood casement, double-hung, and patio door units. Extension jambs are available to accommodate walls up to 7 1/2 in. thick. *Caradco*, A *Kusan, Inc., Co.*, Champaign, Ill.

252 Leaded-glass octagon
Pine-framed octagonal windows come in a variety of patterns in clear, multicolored, frosted, stained, beveled, jeweled, and antique glass. Both fixed and operating windows are available; options include insulating glass and insect screens. *Monarch Mirror Door Co., Inc.*, Chatsworth, Calif.



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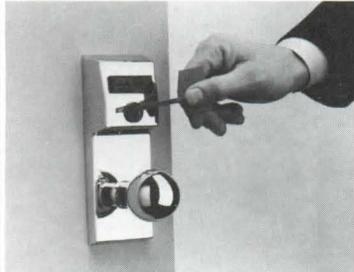
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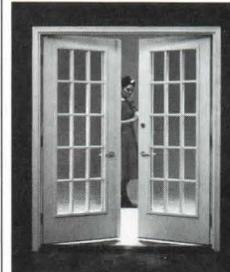
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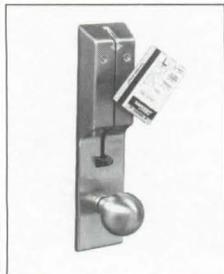
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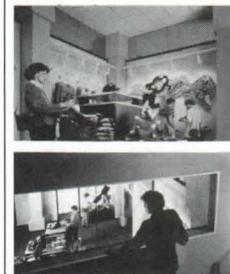
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253 Window systems

Zero Line architectural window systems provide units with no observable distinction between sightlines of operating and fixed sash. Standard and custom units are offered for most building-fenestration requirements. Profile Systems, Inc., St. Louis.

254 Electronic keying system

For multiunit facilities, the *Gibraltar 2000* keying system uses an electronic lock package that retrofits around most U. S. mortise locks, and operates with reusable plastic or metal keys. A stand-alone device, the lock trim contains a 9-volt battery and microprocessor; locks can be programmed for up to 79 levels of access. Falcon Lock, Huntington Beach, Calif.

255 Card-lock system

The addition of a front-desk computer to *System45* hotel lock equipment provides 16 card levels of wireless security and full entry analysis, including exact date, time, and card number. Features include mechanized feed encoding, automatic expiration of cards by data and time, and room-type memory. Sargent, New Haven, Conn.

256 Low-reflectivity glass

Solarban 565-20 coated glass offers energy-efficient curtain-wall glazing without objectionable reflectivity. Pictured here are four shades of vision glass (large lights) and spandrel glass: *Sunstone* with gray substrate, *Citrine Quartz* with clear substrate, *Honey Opal* with bronze substrate; and *Verdelite* with *Solex* green substrate. PPG Industries, Pittsburgh.

257 Segmented skylight

The *Solarview 2500* system provides a unique hinged joining purlin, which adjusts to any angle of segmented joint intersection. This insures glazing platforms that are parallel to the glass, regardless of angle, and simplifies design of barrel-vault skylight structures. Regal Manufacturing Co., Div. Arcorp, Inc., Portland, Ore.

258 Fire/life safety closer

The *DC 140*, described as technically advanced, is a surface-applied closer that incorporates an integral photoelectronic smoke detector. It can stand alone or interface with fire/alarm-control systems; closer works on up to five single or double doors. Dorma Door Controls, Inc., Reamstown, Pa.

259 Glass tile

A hand-made Murano glass tile that both transmits and refracts light, *Formelle* comes in a number of shapes, sizes, colors, and patterns for interior and exterior glazing of doors, windows, and skylights. Designed by Roberto Pamio for Leucos, *Formelle* is available in insulated, shatter- and bullet-resistant tile. IPI Architectural Products, Long Island City, N. Y.

260 French door

The *Chadeau* entry or patio door has removable wood grilles on both sides of the insulating glass light for an authentic appearance. An astragal locking system provides bolts at top and bottom of the steel-framed door; frame and door are insulated. Peachtree Doors, Inc., Norcross, Ga.

261 Hand-beveled glass

The residential bow unit shown here is glazed with *American Renaissance* decorative beveled glass, offered on many of this manufacturer's bow, angle bay, and casement windows. The beveled product is installed as a 3/4-in. sealed insulating unit, and comes in *Gothic Cathedral* and *Victorian Diamond* patterns. Norco Windows, Inc., Hawkins, Wis.

262 Extruded window

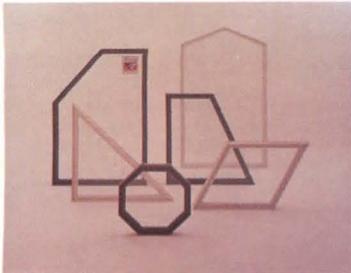
The *400 Series* tilt/turn window is an extension of the *Trocal* line of rigid PVC commercial and residential windows. The profile's chambered design creates air pockets that provide additional insulation within the frame itself. Solid vinyl windows never need painting, and will not rot, rust, pit, or chip. Dynamit Nobel of America, Inc., Rockleigh, N. J.

263 Wood-framed slider

The *Singl-Glide* residential window has one fixed and one sliding sash, providing a substantial barrier to air infiltration. The *Singl-Glide* is available in single and double units, and as a triple-light picture window. Marvin Windows, Warroad, Minn.

264 Transparent mirror

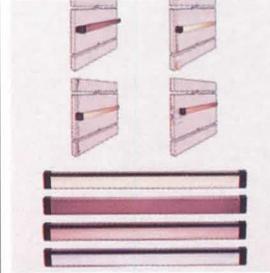
An improved version of this manufacturer's observation-mirror, *Mirrorpane E.P.* has a durable reflective coating applied to a gray glass substrate, producing an installation with a definite mirror-like appearance on the subject side, while allowing clear viewing from the observer side. It may be cut, tempered, and laminated like ordinary glass. Libbey-Owens-Ford Co., Toledo.



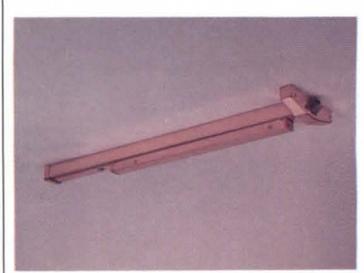
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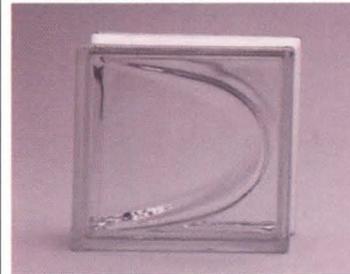
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265 Geometric windows
Stationary windows can be custom-assembled from vinyl-clad, wood *Flexiframe* components to create pentagons, octagons, right-angle triangles, trapezoids, and other shapes in sizes up to 72 by 96 in. Clear, tinted, and reflective glazing is available with metallic, high-performance coatings. Andersen Corp., Bayport, Minn.

266 Horizontal slider
A low-profile operable window, wood-framed sash rolls on nylon wheels mounted in steel housings for stability. Sealed double-paned insulating glazing is standard. Pozzi Wood Windows, Div. Bend Millwork Systems, Bend, Ore.

267 Sliding walls
Hawa movable walls from Switzerland are based on sliding-track hardware capable of carrying wood, metal, or glass (shown) ceiling-hung panels of up to 1,760 lb each, with no vertical frame members. Runners set into the floor guide the panels, which can stack at 90-degree or parallel with the closing plane for an unrestricted flow of space and traffic. Hafele America Co., High Point, N. C.

268 Custom glass structures
The installation pictured is a custom barrel vault measuring 12 by 40 ft, an example of custom structural skylight construction using glass, acrylic, or *Lexan Thermoclear* polycarbonate glazing. Several color options are offered for both glazing components and aluminum framing. Bristol Fiberlite Ind., Santa Ana, Calif.

269 Exit device
New trims for use with *99 Series* exit devices include a 2 1/2-deg up or down adjustment feature, an easier-to-operate gear/yoke assembly for knob units (pictured), and solid brass escutcheon plates for a rivet-free, smooth appearance. Von Duprin, Inc., Indianapolis, Ind.

270 Acoustical windows
Cutaway view highlights the sound-control components of *Milco* acoustical windows, designed to reduce transmissions in the frequency range where most objectionable environmental noise occurs: between 125 and 4,000 hertz. With laminated glass, the aluminum-framed windows achieve an STC of 50. Milco, Wausau, Wis.

271 Exit devices
Series 3000 exit hardware is said to provide a clean, architectural appearance as well as a UL-A label. Full-width bars work with four mounting options: surface rod, mortise, concealed rod, and rim mounting. Metal-cladding choices include bright- and satin-finish brass, bronze, and stainless steel. Adams Rite Mfg. Co., City of Industry, Calif.

272 Rated glass wall
Glassprotex fire wall and door assemblies provide vision and light in occupancies requiring 60- and 90-min B-label protection, while having the appearance of a standard glass and metal storefront. Glass units are filled with *Contraflam* clear, heat-absorbing gel. O'Keeffe's Inc., San Francisco.

273 Imported glass block
Woge is from the *Studio* series of hollow architectural glass block, one of several product lines made by *Saint-Gobain*. Nonload-bearing block allows light transmission of up to 85 percent; many different patterns are offered in both European and American dimensions. Euroglass Glasrep Corp., White Plains, N. Y.

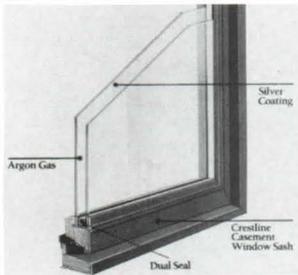
274 Exit device
A new design, *17 Series* ANSI-rated exit and panic devices will fit a wide range of applications, with particular emphasis on narrow-stile doors. A-labeled products come in a number of finish options, from bright brass to brushed aluminum. Monarch Hardware, Shepherdsville, Ky.

275 Three-panel door
A new size scaled for smaller residential spaces, this *Atrium Door* has three panels, instead of two, within a 6-ft-wide frame. The end panel is the operating door. Constructed of solid wood with insulating glass and brass hardware, door is furnished ready to install. The Atrium Door & Window Corp., Dallas.

276 Aluminum windows
Projected, casement, and matching fixed windows have a rigid polyurethane thermal barrier and double weatherseals. *2700 Series* windows are inside-glazed for 1/4-in. or 1-in. glass/panel thicknesses, with a 2 1/4-in. frame depth. Finish options include custom paint or anodized. Tubelite Div., Indal Inc., Reed City, Mich.



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277 Pyramid skylights

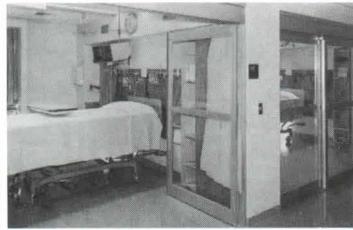
Pyramid-style skylights are available in 5 standard sizes: 8, 12, 16, 20, and 24 ft, all with a 30-deg pitch. Offered in a choice of glazing options, the standard pyramids are said to provide cost savings over custom designs. Super Sky Products, Inc., Mequon, Wis.

278 Insulated windows

Superior insulating performance is claimed for the *iPLUS4* window line, which uses argon gas instead of air between the two panes of glass. The inboard surface of the exterior pane has a clear silver coating, to reflect interior heat in cold weather and reduce heat build-up in summer. Crestline, Wausau, Wis.

279 Rated door frames

Made with wood veneers bonded to steel, *Steeltree* frames are said to combine the visual appeal of solid wood with the fire rating of a metal frame. Veneered frames have received a 90-min, B label fire rating from UL. Integral Engineering Corp., Pompano Beach, Fla.



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280 Intensive-care doors

The aluminum-framed *Stanley Magic-Door* for hospital intensive-care units has a narrower profile for improved visibility. Manually operated sliding doors come in 2-, 3-, or 4-panel configurations; frame may be specified in dark bronze or custom paint finishes. The Stanley Works, Farmington, Conn.

281 Thin-line glazing system

VuLine framing for sloped structures offers the minimal appearance of thin-line eaves for either 1/4- or 1-in. glass, as well as the even-thinner, butt-glazed eave. *VuLine* components are available in stock lengths, for custom fabrication to fit specific project requirements. Vistawall Architectural Products, Terrell, Tex.

282 Wood entrance

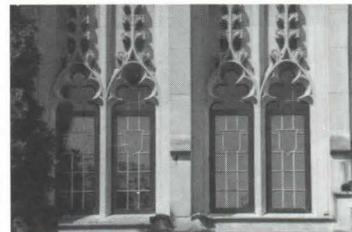
All-wood residential doors, a new *Pella* product line, are offered in both contemporary and traditional styles, such as the *Cumberland*, a six-panel entrance shown here with custom side-lights. The door's *Warpguard* construction is said to ensure excellent long-term performance and appearance characteristics. Rolscreen Co., Pella, Iowa.



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283 Revolving entrance system

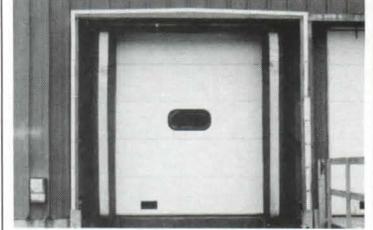
Equipped with motion sensors, the *Cirkel-Line* entrance is designed to handle complex traffic demands, meet government standards for handicap access, be energy-efficient, and solve stack-draft and wind problems. Installations can stand alone, without support from conventional doors. Haven-Busch Co., Grandville, Mich.

284 Double-cylinder deadlock

The *586 Safe-T-Lok* deadlock facilitates egress in an emergency: when locked from the inside, the key remains in the cylinder and cannot be removed until the deadbolt is fully retracted in an unlocked position. Kwikset, Div. Emhart Indus., Inc., Anaheim, Calif.

285 Replacement windows

Said to duplicate the look of hand-crafted installations, simulated leaded glass can be specified in energy-efficient custom replacement windows that maintain the architectural character of historic buildings. Project pictured is St. Thomas Monastery at Villanova University. Wausau Metals Corp., Wausau, Wis.



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286 Insulated industrial door

The *595 Thermacore* sectional door provides the insulation values and security characteristics of heavier doors in a more economical, 20-gauge configuration. Door features include an optional thermally-glazed panel, rain channels for drip-free opening, and polyester finish. Overhead Door Corp., Dallas.

287 Glass protection film

Developed in Holland and used extensively in Europe, *Profilon Plus* is a clear, multilayered polyester film professionally applied to the inboard side of glass panes of any size. It makes already-installed glass extremely resistant to penetration by high-caliber bullets, explosives, and hurricane-force winds. American Armatura Co., Inc., Danbury, Conn.

288 Functional handles

Adaptations of the *Desipro K156R* lever designed by Attilio Marcolli, handles meet the specific functional requirements of various handicaps, such as a dystonic or spastic hand, but work as well for normally mobile hands. Made of nikrall alloy and rubber, handles meet all codes and come in a wide range of bright colors. Valli & Colombo, Duarte, Calif.



BENT GLASS: REFLECTIONS OF THE FUTURE



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

California Glass Bending...Enhancing the World's Appearance

For more than 60 years California Glass Bending has been meeting the architectural challenges of the world.

The California Glass Bending process results in smoothly formed glazed exterior surfaces of vision glass for architectural elements such as corners and transition areas - including eaves, ports or towers.

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This dedication to detail assures the finest and most durable final product available . . . only through the craftsmen at California Glass Bending.

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

A high note for each suite.

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

Grand results brought Norco back for an encore.

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

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

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

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

Norco can make your imaginative window designs a reality. Call or write today.



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



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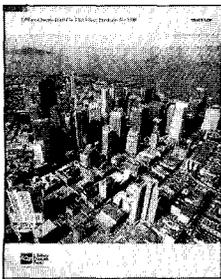


Circle 1055 on inquiry card

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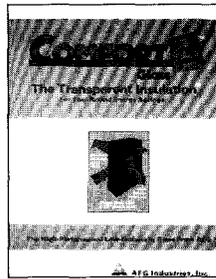
8 Doors & Windows Product literature

For more information, write item numbers on Reader Service Card



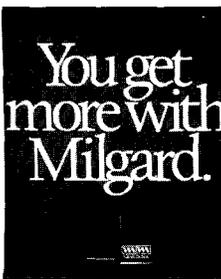
289 Coated glass

A manual published by a manufacturer of pyrolytically-coated glass products, *Flat Glass Products for 1988*, deals with product characteristics, performance data, thermal stress, cleaning, and maintenance data for reflective and transparent mirror glass. Other chapters cover details on clear and tinted float glass. Libbey-Owens-Ford Co., Toledo.



295 Double-pane windows

Details about *Comfort-E* glass are available in an information kit. According to the manufacturer, the double-pane glass retains inside heat in the winter, reflects outside heat in the summer, and allows energy-saving sunlight to pass through while prohibiting the entry of ultraviolet rays into the home. AFG Indus., Kingsport, Tenn.



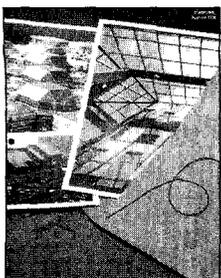
290 Windows

An information packet from the manufacturer contains a shoppers' guide listing the availability of window sizes, styles, and configurations. The choice of styles includes horizontal sliders, single-hung, sliding-glass doors, picture, casement, radius and round, bay and bow, skywall and dual windows. Milgard Manufacturing, Inc., Tacoma, Wash.



296 Sliding door hardware

A 4-page, color brochure presents hardware and latches for interior and exterior sliding doors. Latches have reversible, turn-button privacy and passage functions; hardware may be ordered in two brass finishes as well as chrome. Schlage Lock Co., San Francisco.



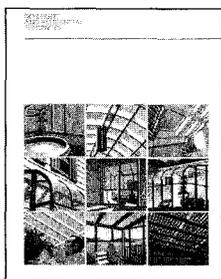
291 Sloped glazing system

The manufacturer offers an illustrated brochure that describes its sloped glazing system. Apart from controlling water, all joints and interfaces are air- and vapor-sealed, making the system an integral part of the building's air and vapor system. Also available is a complete *Design Guide Portfolio*. Lord & Burnham Co., Ltd., St. Catharines, Ontario, Canada.



297 Windows, shutters, doors

An 8-page, color brochure presents *Eurotech's* line of custom-designed solid wood and PVC windows, wood and aluminum doors, and *Euroshutters* security system. Windows are steel-reinforced and maintenance-free. Doors come in a variety of colors. The security system comes in PVC or aluminum. Eurotech, Plainview, N. Y.



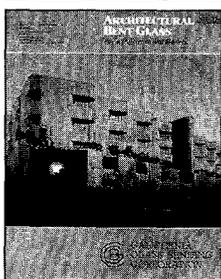
292 Skylights

A 4-page color brochure on skylights and residential sunspaces contains data on heat and light characteristics of laminated glass. Also included are wind-load data, and information on the products' use in commercial and residential skylights. Laminators Safety Glass Assn., Topeka, Kan.



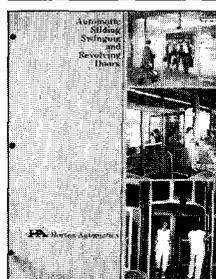
298 Glass units

Full-Seal insulating-glass units are comprised of two or more lights of glass separated by a hollow metal air spacer. Other features of the units are the subject of a 4-page illustrated brochure. The glass units are available for commercial, residential, industrial, and institutional uses. Downey Glass Co., Los Angeles.



293 Glass bending

Color photos of projects using bent glass are displayed in a 4-page folder. Glass bending can be applied to exterior and interior surfaces, laminated safety and insulated glass, and spandrel panels. Technical support and specification data are also included. California Glass Bending Corp., Wilmington, Calif.



299 Automatic doors

A 26-page, full-color brochure, *Automatic Sliding, Swinging and Revolving Doors*, describes a full line of automatic sliding, swinging, and revolving doors. The document features sizes, details, and specifications. Horton Automatics, Corpus Christi, Tex.



294 Door hardware and controls

Floor closers, door pivots, overhead concealers, surface-mounted closers, door holders, and stops are illustrated in a product brochure from *Rixson-Firemark*. The products are shown in applied use, as well as in close-up detail. Combination life-safety controls and electro-magnetic door releases are also covered. Rixson-Firemark, Franklin Park, Ill.



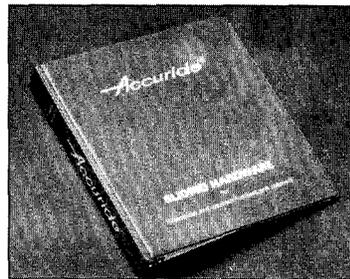
300 Skylights

A number of applications of skylights are illustrated in a 34-page full-color brochure. Structural-steel detail drawings are included for each project. Also included is general information, and data on operation, maintenance, and installation. Naturalite Inc., Garland, Tex.



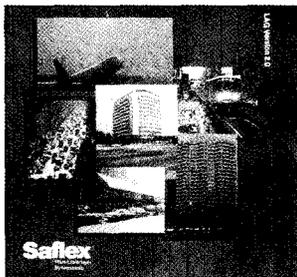
301 Wood doors

A 16-page brochure describes and illustrates in color the company's complete line, ranging from elegant wood-panel entry doors with a full range of designer glazing, including leaded glass, to interior/exterior French doors, thermal and fire doors, and bi-fold closet doors. Vital statistics are provided for all models, including glazing details. E. A. Nord Co., Everett, Wash.



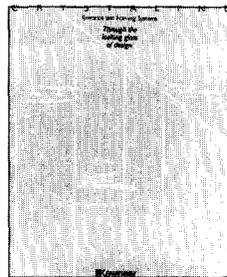
307 Sliding hardware

Sliding hardware for residential and contract furniture and cabinetry is described and illustrated in a 5-section binder, which includes technical drawings and specifications for flipper doors and pull-out slides for such applications as entertainment centers, overhead filing systems, and kitchen cabinets. Accuride, Sante Fe Springs, Calif.



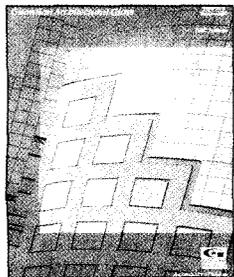
302 Acoustical glazing

An acoustical-glazing design guide presents easy-to-follow methods for estimating the minimum required sound-transmission loss for exterior glazing exposed to the most common sources of environmental noise, such as aircraft, highway traffic, and rail transportation. Also available on diskette as an interactive computer program. Monsanto Chemical Co., St. Louis.



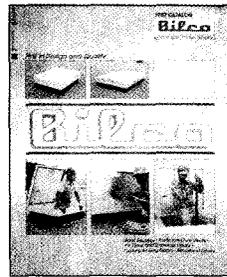
308 Storefront systems

Billed as the first standard, four-sided structural silicone-glazed entrance and storefront framing system, the *Crystaline* is described in an 8-page, color brochure. The system includes a door, door frame, and framing system that offers a glass-smooth exterior with sculpted interior framing members that look as if they have no vertical stiles. Kawneer Co., Inc., Norcross, Ga.



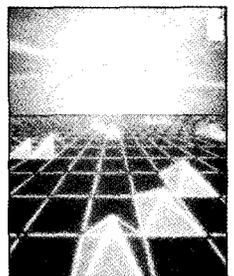
303 Glazing products

A 24-page brochure describes and illustrates a complete line of glass products, including float glass, heat-treated glass, insulating glass and specialty products such as *Acousta-Glaze*, a noise-prevention glazing system for applications such as airport sites. Special designs are available for extreme high-noise applications. Guardian Industries Corp., Carleton, Mich.



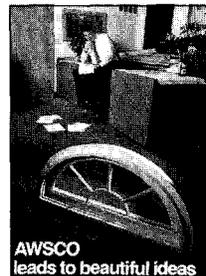
309 Access doors

A 24-page catalog is a reference guide for designers involved with facilities using horizontal access doors such as roof scuttles, automatic fire vents, ceiling doors, and pit, floor, and sidewalk doors, to mention a few types. Color illustrations show the products, and technical data describe the designs and features of the complete line. The Bilco Co., New Haven, Conn.



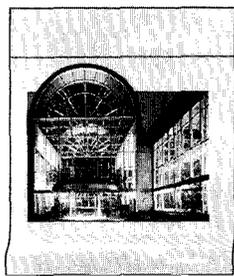
304 Spaceframe systems

A 12-page brochure illustrates in color the various spaceframe systems used on major projects throughout the world, and provides technical details and specifications for the company's six basic systems, including engineering drawings. Its computer-aided design program is briefly explained. Mero Structures, Inc., Germantown, Wis.



310 Half-round windows

The *Vin-L-Arc* line of half-round vinyl-clad wood windows is described in a 16-page catalog. The insulated-glass units are also available in redwood instead of vinyl clad, and a line of octagonal redwood units with art-glass inserts is described. Full-round redwood windows and louvers are also offered. American Woodwork Specialty Co., Inc., Dayton, Ohio.



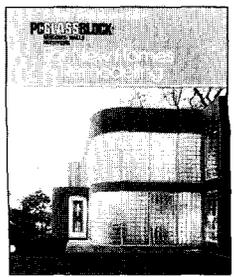
305 Impact-resistant glazing

A 20-page brochure describes the use of *Lexan* polycarbonate sheet and laminate for architectural glazing. Performance comparisons, code compliance, technical and product data, installation guidelines, and specifications and warranties for vertical, overhead, thermal, and bullet-resistant materials are provided. GE Plastics, Pittsfield, Mass.



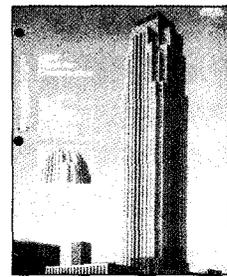
311 Door hardware

An 8-page, color catalog illustrates and provides specifications for a line of door pulls and push/pull bar combinations, including spherical units. Fastening details for many products are shown with drawings. Push and pull plates, government hardware, and kick, mop, and armor plates are also covered. Hiawatha, Inc., Bloomington, Minn.



306 Glass block structures

A 6-page, color brochure illustrates and explains a variety of applications of glass block windows, walls, and partitions. The security, privacy, and energy-saving aspects of the installations are discussed, as is the ease-of-maintenance derived, since they do not rot, rust, or corrode, and need not be painted. Pittsburgh Corning Corp., Pittsburgh.



312 Glass, glazing

A 16-page catalog presents basic selection data on *Vari-Trane* solar-control glass, *Thermopane* insulation glass, *Tuf-flex* heat-treated glass, and *Vitrolux* ceramic-coated spandrel glass. Also presented: *Janusite* low-emissivity coated glass and *MirroVue*, a transparent mirror glass. Spectrum Glass Products, Clinton, N. C.

9 Finishes

Acoustical treatment
 Carpeting
 Ceiling-suspension systems
 Painting materials
 Prefinished panels
 Resilient flooring
 Special flooring
 Terrazzo
 Tile
 Wallcoverings
 Wood flooring



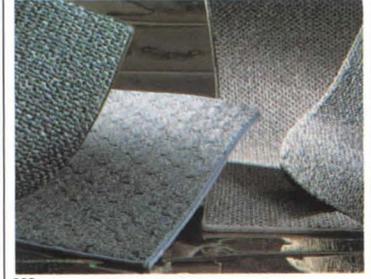
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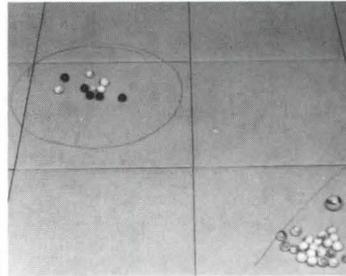
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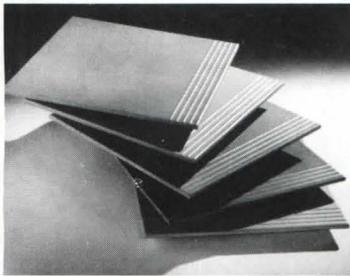
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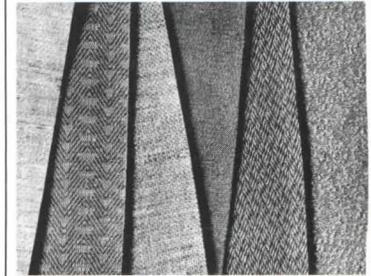
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313 Suspended ceiling

A system of 2- by 4-ft metal-backed fabric panels, the *Sculptures* ceiling fits into a colored-to-match T-bar suspension system. Standard bas-relief patterns are Ribbed and Pleated, Starburst, and Stripes and Squares; the manufacturing process is said to facilitate custom design. Ceiling is Class A rated. Integrated Ceilings, USG Interiors, Inc., Riverside, Calif.

314 Thin stone tiles

Cut in 3/8- and 1/2-in. thicknesses for commercial and residential interiors, natural granite and marble tiles are available in 13 additional stone types. All stones are offered from stock, in sizes ranging from 12 by 12 in. to 24 by 24 in. International Granite & Marble Co., Inc., North Bergen, N. J.

315 Tile stair treads

From Argentina, ceramic tile stair treads have a raised, slip-resistant edge. Treads come in six colors to match the *Super Star* line of 12-in.-square Class 4 commercial and residential floor tiles. Ceramica San Lorenzo, Houston.

316 Non-woven carpet tiles

Pin-dot patterns, coordinating with solid color tiles in claret, sienna, slate, charcoal, ocean green, and oak, are part of an expanded *Loboflor* carpet tile collection. Said to wear like vinyl while providing the appearance and feel of carpet, stain-resistant *Loboflor* is made of electrostatically flocked nylon fibers on a reinforced PVC base. Bonar & Flotex, Dallas.

317 Rubber flooring

A resilient rubber compound in a low-profile stud pattern, *Low Vibration Square* commercial flooring is said to absorb the clatter generated by shopping carts, gurneys, and other wheeled traffic for improved acoustical performance in heavy-use interiors. Flooring comes in 11 solid and 5 *Beachstone* colors. Endura, Biltrite Corp., Waltham, Mass.

318 Deep-relief panels

FS:3 large-scale panels for interior walls and doors have a high-tech, ribbed pattern. Made of a combination of inert materials, lightweight *FS:3* panels are noncombustible, and come in an extensive range of bright colors. Forms + Surfaces, Inc., Santa Barbara, Calif.

319 Drywall shapes

Contours is described as a line of molded shapes that provide a simple method of creating subtle turns, contoured transitions, or precise reveals in drywall interiors. A coordinating product are custom column covers made of polished or colored stainless steel and aluminum. Conspec Systems, Inc., The C/S Group, Cranford, N. J.

320 Heavy-traffic ceramic tile

A new technology, the *Firestream* ceramic process applies glaze to the tile body after firing, creating a dense, extremely wear-resistant finish. Called *Marazzi Enduro*, the floor tile comes in four colors (*Perla* is shown), for use in airports, mass-transit facilities, and malls. American Marazzi Tile, Inc., Sunnyvale, Tex.

321 Acoustical treatments

Avanti noise-reducing wall and ceiling systems are made to architectural specifications of resin-edged, rigid fiberglass-core shapes covered with fabric. Installations provide precise acoustic performance for interiors ranging from swimming pools to concert halls. Sound Solutions Systems, Inc., Buffalo, N. Y.

322 Commercial carpeting

Various backing constructions may be specified to meet special traffic and occupancy requirements: *Certilok* backing resists the snagging and delamination common to industrially cleaned health-care installations; *Enhancer Plus* provides cushioning for very heavy traffic areas. Both backings may be specified on these new patterns from the *City Line II* carpet of *Antron III* fiber. Armstrong World Industries, Inc., Lancaster, Pa.

323 Abrasion-resistant tile

Match ceramic tile has an extra-thick, glass-like fused glaze that can survive the most severe abrasion testing. Suitable for the very heavy traffic of airports and subway stations, the 12 *Match* colors have either a grip or gloss surface. Tile squares range up to 20 by 20 in.; bullnose edges and cove base are also available. CMC Monoceram, Miami, Fla.

324 Natural linen wallcoverings

Woven of linen in both natural and subtly colored tones, *OJVM* wallcoverings come 59 in. wide, and are offered in "continuous yardage" bolts. OJVM Wallcoverings, Marlboro, N. J.



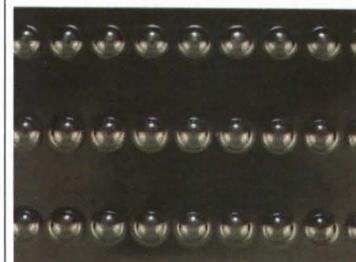
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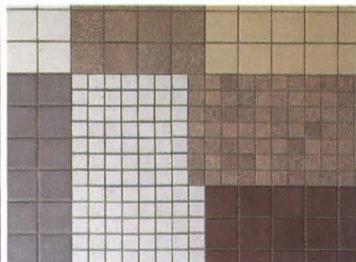
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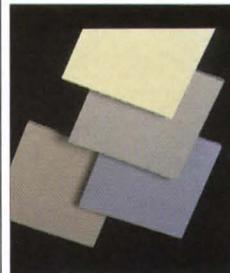
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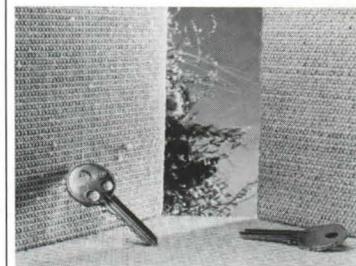
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325 Integrated interiors

Stripes & Textures 4 contains 35 patterns, from textiles and faux finishes to warp lays, with complementary 54-in.-wide textures for design continuity in contract, health-care, and commercial interiors. Wallcovering coordinates with *Genon Color System* products, including *Laminart* surfaces and *Pratt & Lambert* paints. Diversitech General, a GenCorp Co., Hackensack, N.J.

326 Mosaic tile

Un glazed natural clay and porcelain tile for interior and exterior walls and floors is offered in 15 colors that can be used to create geometric, floral, and border patterns. Square tiles come in 1- and 2-in. sizes, back-mounted on a 13-in.-sq sheet. Huntington/Pacific International, Fort Worth, Tex.

327 FRP suspension grid

The *Kemlite Sanigrad* suspension system is recommended for high-moisture and harsh environments, as its rigid fiberglass grid resists atmospheric corrosion, dents, and rust. It has a Class I fire rating, is USDA accepted, and carries ceiling panels from 1/16 to 2 in. thick. Dyrotech Industries, Inc., Joliet, Ill.

328 Stone-like tile

A large, 12-in.-sq ceramic tile, *ColourPointe* is said to have the appearance and colorations of natural granite; patterns include *Jadestone*, *Ruby Dust*, *Sandune*, and *Blacksand*. For residential and light commercial floors, walls, and trim, flat-backed *ColourPointe* is frost- and acid-resistant. International American Ceramics, Tulsa, Okla.

329 Resilient sheet flooring

A natural linoleum product in a classic marbled pattern, *Krommenie Marmoleum* is now available in 36 homogeneous colors. The sheet flooring has a jute backing; its fire- and chemical-resistant properties make it suitable for health-care, educational, and industrial installations. Forbo North America, Richmond, Va.

330 Hand-made tile

Produced by the traditional Chinese methods of hand-glazing and kiln-firing, imported *Great Wall* tile for walls and medium-traffic floors have slight variations from tile to tile. Colors include bright contemporary hues as well as earth-tones. Shep Brown Assoc., Boston.

331 High-performance carpeting

Constructed of *Antron Precedent* nylon to withstand a million-plus foot traffics, *Fortitude* is a textured, woven-loop carpet with the appearance of sisal rope. It is offered in eight natural colorways, and is recommended for heavy-use interiors such as airports. Karastan Bigelow Commercial Carpet, Greenville, S. C.

332 Quarry tile

Extruded clay *Quarry Tiles* are available in an expanded color range, including gray, blue, bone, and green, as well as natural earthtones. For high-traffic floors indoors and out, tile comes in 6-in.-sq and 4- by 8-in. rectangular sizes. Finish may be smooth or abrasive. Summitville Tiles, Inc., Summitville, Ohio.

333 Wood strip ceilings

Derako ceilings are said to be easy to install with a unique clip-and-rail suspension method. Made of natural woods, the system was used to create the freeform, contoured, curved ceiling shown here, designed by John Portman & Assoc. Ceilings, which can carry a Class A fire rating, are claimed to provide superior acoustic performance. Rulon Co., Souderton, Pa.

334 Hazard-alert flooring

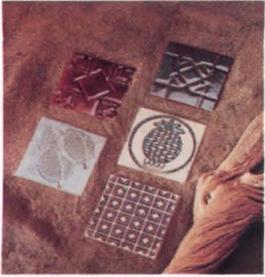
The *Edge-Finder* rubber floor tile was designed specifically to alert the sight-impaired and legally blind person to potentially dangerous situations such as the edge of subway platforms. The rounded dome pattern projects 3/16 in. above the rubber floor surface, and is easy to detect by foot or cane. Tile colors match flooring systems. Pirelli Flooring, Jason Industrial, Inc., Fairfield, N. J.

335 Textiles and vinyls

Wool, silk, and synthetic fabrics are offered along with textured and sculptured vinyls in a series of *Priority Packages* for contract wallcovering applications. More than 300 different selections are provided in the design program. Gilford Inc., Jeffersonville, Ind.

336 Woven wallcoverings

Described as combining the look and feel of natural woven linen with exceptional durability, *Lynnescape* comes in four designs for high-traffic commercial spaces. *Fabric*, made of spun polyolefin fibers, is Class A fire rated, and may be specified for hospitals. *Lynnescape* comes 54 in. wide, in 64 colors. J.M. Lynne Co., Smithtown, N. Y.



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337 Accent tiles

Molded and glazed by hand, *Signet* 4- by 4-in. accent tiles complement the unglazed *Metro* and *Ironrock* ceramic line. Five different embossed patterns are offered: grid, leaf, pineapple, an 18th-century quilting design, and a Navaho motif. An inlaid glaze provides a slip-resistant surface; a full-glaze style is brighter, for accent applications. Metropolitan Ceramics, Canton, Ohio.

338 Oak parquet flooring

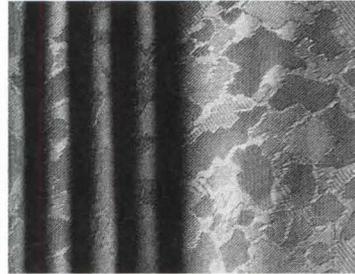
An extension of the *Specialty 900* floor line, *Tiffany Square* is a large-scale (8 1/2-in.) parquet, preassembled of tongue-and-grooved solid oak. Available in three thicknesses for various traffic requirements, flooring comes either *5-Step* finished in four shades or unfinished for custom staining on-site. Robbins/Sykes, Cincinnati.

339 Beveled-edge vinyl

Cabaret 9-in.-sq solid vinyl tile is beveled on all four edges, and has a scratch-concealing embossed surface. Available in five neutral and five accent colors, each in three hue values, *Cabaret* is especially suitable for retail installations. Armstrong World Industries, Inc., Lancaster, Pa.



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340 Vinyl-faced drywall

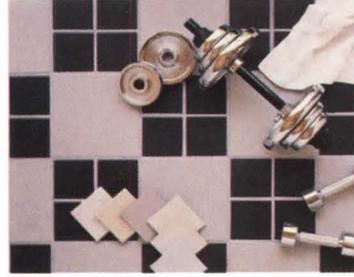
Each of the four color and three accent lines of *Textone* vinyl-faced drywall panels is now offered in a precoordinated system, with patterns designed to mix compatibly with any decor, color, or texture. The predecorated partition panels come in standard heights of up to 10 ft; custom lengths may be 14 ft. *Textone* is also available in a fire-rated panel. United States Gypsum Co., Chicago.

341 Fabric wallcovering

A jacquard weave from this maker's new *Textiles for Walls* commercial wallcovering line, *Rock On* is a stone pattern with a satin-like surface, offered in seven colorways. A Class A fabric of rayon and cotton, *Rock On* comes in 54-in.-wide, 50-yd rolls. BF Goodrich, Akron, Ohio.

342 Embossed ceramic tile

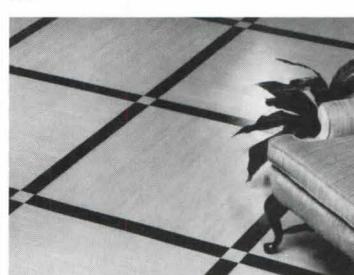
Shadows Silhouettes offer six different linear designs, embossed into 6- by 6-in. ceramic tiles. Patterns range from Grecian chains to Art Deco, and may be installed in a variety of geometric layouts. All tiles come in seven colorways, each matching existing *Shadows* field tile colors. Monarch Tile Mfg., Inc., San Angelo, Tex.



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343 High-traffic ceramic

The subtle textures and tones of *Crystalite* ceramic tile vary from tile to tile, with no two exactly alike. Fired at high temperatures, the tiles have a Group 4 PEI rating, for heavy traffic indoors or out. Also shown is *Black Onyxite* moderate-traffic tile. Steenbok America, Lateo Products, Los Angeles.

344 Area separation wall

A gypsum-based, non-load-bearing assembly, the *H-Stud Area Separation Wall* has a 2-hour fire rating for use in multifamily structures. Walls consist of two layers of 1-in. *Fire-Shield Shaftliner* installed vertically between the legs of 2-in., H-stud metal framing. Its light weight, all-weather installation, and thin profile are said to provide cost savings. Gold Bond Building Products, Charlotte, N. C.

345 Wood-look vinyl

Bleached oak and black walnut colors have been added to the *Stripwood* line of commercial vinyl flooring. Supplied in 3-in.-wide, 36-in.-long planks with beveled edges, *Stripwood* may be installed on-, above-, or below-grade on concrete, wood, or plywood subfloors. Azrock Floor Products, San Antonio, Tex.



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346 Custom carpet program

Shown in a carpet swatch folder, the *Commercialon Classics* contract line offers 120 colors, which may be specified to produce an exact custom color match in quantities as low as 60 sq yd. Custom patterns are also available for a minimum order. J&J Industries, Inc., Dalton, Ga.

347 Interlocked rubber floor

A rubber mat-type floor of center tiles and beveled borders and corners, *Pro-Lok III* has hidden connectors to provide a one-piece appearance from an installation of 24-in.-sq modules. Offered in seven colors, *Pro-Lok III* is recommended for factory and recreational flooring, and is said to make an ideal aerobic dance floor. Pawling Corp., Pawling, N. Y.

348 Wood floor finish

Glitsa wood finishes from Sweden come in four versions for residential and commercial floors. Alcohol- and water-base urethane and polyurethane coatings are professionally applied to protect wood from heavy traffic, and are stain- and slip-resistant. *Gold Seal* stains come in light, dark, and custom-matched colors. Glitsa American, Inc., Seattle, Wash.



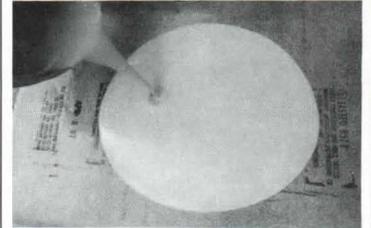
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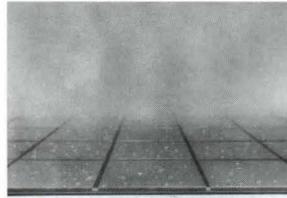
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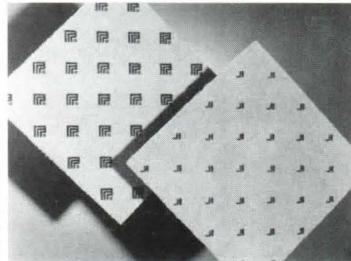
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349 Etched metals

Individual metal panels are hand-etched, then sprayed with protective urethane to provide a scratch- and burn-resistant finish. Supplied un laminated, etched metal is suggested for elevator cab doors, as shown, counter surfaces, and wall paneling and trim. Lunstead Metals, Kent, Wash.

350 Marble aggregate material

A new color, *Vert Classic*, has been added to the *Armstone* line of polymer-bound marble surfacing material for floor tiles and wall panels. The entire *Armstone* range was developed by color specialist Barbara Schirmeister. ArmStar, Lenoir City, Tenn.

351 Semi-matte glaze tile

Distinctions ceramic floor tile has green, blue, rose, and other colors offered in a family of lighter shades for design flexibility. Tiles have a low-relief back that assures a good bond, even on plywood underlayment. The semi-matte glaze, a mix of high- and low-gloss effects, provides a smooth-looking surface with excellent traction. American Olean Tile Co., Lansdale, Pa.

352 Tambour walls

For flat or curved vertical interior surfaces, *Flexline* offers solid wood, veneers, and metallics backed with flexible material. Supplied in 1- by 8-ft or 4- by 8-ft sizes, *Flexline* may be glued directly to clean walls. The solid wood patterns include red oak V-groove, oak slats and half-rounds, and Philadelphia fencing (shown). Armstrong World Industries, Inc., Lancaster, Pa.

353 Solid vinyl tile

A three-dimensional mosaic effect for commercial floors, *Byzantine* vinyl tile comes in graystone, moonstone, opal, brownstone, and earthtone colorways. The tile's *Micro-squared* edges are said to ensure a tight-fitting installation. Vinyl Plastics, Inc., Sheboygan, Wis.

354 Plank wallcovering

Manufactured in 16-in.-wide by 96-in.-long tongue-and-groove planks, *Diamond Classic* walls come in 12 solid colors, many with a machined V-groove. A baked-on melamine finish provides abuse-resistance for restaurant, retail, and other commercial installations. The Marlite Organization, USG Interiors, Inc., Dover, Ohio.

355 Architectural ornament

A gypsum-based product, *Laserstone* can be cast to create entablatures, coffered ceilings, facades, domes, and architectural columns such as these pictured, from a California office complex designed by Skidmore, Owings & Merrill. Smooth or textured, white *Laserstone* may be integrally colored or on-site finished. Dura Art Stone, Fontana, Calif.

356 Grout sealer

An invisible, penetrating solution, *Laticrete 190* sealer cures to form a water-repellent coating on grout joints, marble, brick, stone, or porous tile. It will reduce staining and water absorption, and protects against efflorescence in both interior and exterior applications. Laticrete International, Inc., Bethany, Conn.

357 Commercial carpeting

These small- and smaller-chevron designs are part of an extensive modular carpet program built on *VersaTech* patterning equipment. Squares, either 18 by 18 in. or 24 by 24 in., come in a choice of three backing systems, in both cut- and loop-pile constructions. Lees Commercial Carpet Co., King of Prussia, Pa.

358 Floor topping

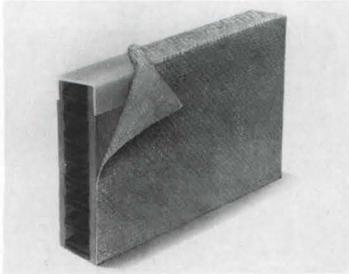
A cement-based product, *Bonsal* is a self-leveling underlayment and topping system, that provides a level finish for ceramic tile, carpet, vinyl tile, and wood floors. It may be applied indoors or out. W. R. Bonsal Co., Charlotte, N. C.

359 Embossed frieze

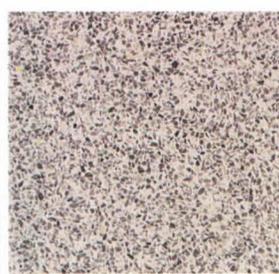
A linoleum-type decoration manufactured in England using the original copper rollers dating from the 19th century, *Lincrusta* can be used as a frieze as shown here, or to cover entire walls and ceilings. It meets ASTM E-84-80 when hung with appropriate glues and painted. *Lincrusta* comes in a wide range of traditional and contemporary designs. Mile Hi Crown, Inc., Denver.

360 Wood flooring

Custom border treatments for residential and commercial wood floors are offered in five different patterns (*Buckingham* is pictured). Borders are made of quartered oak, walnut and mahogany, supplied in 12- by 22-in. sections for glue-down installation and on-site finishing. Kentucky Wood Floors, Inc., Louisville, Ky.



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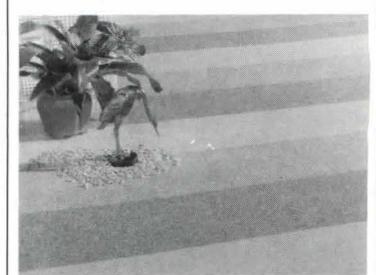
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361 Acoustical wall panel
A fibreglass-finished panel with a honeycomb composite core, the *Design Series 90* traps sound well enough to achieve an NRC rating of 0.70. Edges are protected by a PVC frame; the panel is wrapped in an upholstery-grade heather fabric. The lightweight panel can be mounted by mechanical clips, *Velcro* strips, and magnetic fasteners. Peabody Noise Control, Dublin, Ohio.

362 Textured wall coating.
Offered ready-mixed in 15 colors for use as an interior wall finish, *Sto Decocoat* is said to provide the appearance of stone, tile, or brick at substantially lower cost. A synthetic resin dispersion, *Decocoat* is scrub- and impact-resistant, and flexible enough to bridge normal shrinkage cracks. Sto Industries, Inc., Rutland, Vt.

363 Hospitality carpeting
Pictured in the *Tracerie* flame-stitch design, *Gemstone* cut-pile *Antron* carpeting offers a custom border program, which includes all of the colors in the ground pattern. The specifier can create a unique carved design using up to 13 colors. Collins & Aikman, Inc. Dalton, Ga.

364 Marble-composite floor
A 3/16-in.-thick tile with marble chips set in a white (shown) or colored thermoset matrix, the *Renaissance 800* floor is resilient, and said to provide over five times the abrasive wear resistance of vinyl. The square-edged, 12-in. tiles install without grout lines, resist most solvents, and conform to fire codes. Fritz Chemical Co., Dallas.

365 Abuse-resistant walls
Armor Wall is a standard or *Fire Shield* gypsum-core panel supplied prefinished with a durable, 22-mil-thick vinyl covering. *Armor Wall* can be part of a demountable partition system, or be applied directly to fixed-wall studs. Gold Bond Building Products, Charlotte, N. C.

366 Seamless wallcovering
An abrasion-resistant wall fabric made of woven acrylic fibers, *Bekaert Textiles* are supplied as a room-height single roll, up to 130 running ft long. The material is hung horizontally from left to right, as shown, producing a seamless, matched interior. *Bekaert* is Class A-rated and treated with an antistatic finish. Brewster Wallcovering Co., Boston.

367 Solid vinyl flooring
The flooring installation pictured is a custom pattern combining *Contract Marble* solid vinyl pattern with strips from the *Real Wood Collection*, of natural wood veneer sealed between clear vinyl. Natural Vinyl Floor Co., Inc., Florence, Ala.

368 Fabric-wrapped ceiling
Part of a line of fabric-finished walls, ceilings, and specialty panels designed to absorb noise within an interior, *Silent Expressions* embossed ceiling panels come in four standard as well as custom designs covered in plain, nonwoven fabrics. All *Silent Expressions* finishes meet ASTM E84 and California class 1 flammability standards. USG Interiors, Inc., Chicago.

369 Sheet vinyl flooring
Now offered in 8 shades described as Postmodern pastels, *Optima* commercial sheet vinyl flooring has a mottled pattern incorporating spots of every color in the line, facilitating the layout of coordinating floor designs. Sheet vinyl works with solid-color *Expressions* vinyl tile, accent strips, and cove base. Tarkett, Inc., Parsippany, N. J.

370 Porcelain tile
A highly polished tile with a mirrorlike finish, *Opaline Keramik* is offered in 16 new colors, including black, pure white, blues, pinks, greys, and an unusual green. Imported from Italy, *Opaline Keramik* comes in a 12-in.-sq size for interior walls and floors. Trans Ceramica Ltd., Elk Grove Village, Ill.

371 Commercial carpeting
Described as a composite design impression reminiscent of Navajo Indian motifs, *Desert Art* comes in 17 multihued colorways. A dense-textured, cut-pile carpet made of *Anso X* nylon yarns, *Desert Art* is suitable for high-traffic commercial installations. J. P. Stevens & Co., Inc., Aberdeen, N. C.

372 Terrazzo-pattern vinyl
Supplied in solid-vinyl squares 1/8-in. thick, *Terrazzo* is said to combine the classic, smooth-surface look of terrazzo with the resilient comfort and installation economies of vinyl tile. The pattern comes in 8 colorways for commercial and institutional applications. Kentile Floors, Inc., Brooklyn, N. Y.

Karastan has ever woven.



Karastan has woven over 119,000 tufts of yarn into each square yard of this extraordinarily dense new High Spec Series. The yarns used, DuPont ANTRON® and ANTRON® XL nylon, add static-control and soil-resistance to these outstandingly durable styles.

The rich, understated, coordinated colorings and tailored small scale designs work alone or with each other.

To put it more succinctly, never before has so much style been packed into so little space.

Karastan Rug Mills, a Division of Fieldcrest Cannon, Inc.

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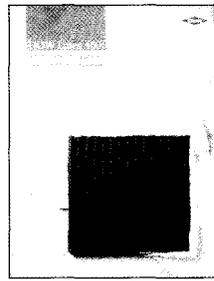
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Finishes Product literature

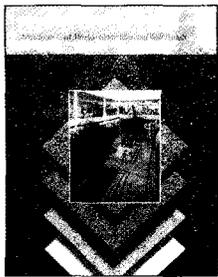
For more information,
write item numbers on
Reader Service Card



373 Vinyl flooring
A color binder contains mounted samples of the company's line of *Flor-Ever* commercial sheet vinyl flooring. Besides the six samples, the Architect's Portfolio gives information on seamless installation, technical data, and brief architectural specifications, plus a listing of appropriate areas for resilient flooring. Congoleum Corp., Kearney, N. J.



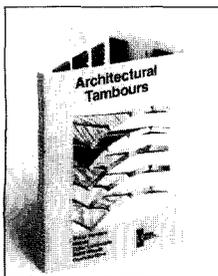
379 Grout additive
A styrene butadiene rubber additive for portland cement grouts and mortars, *DOW Latex 460 SBR*, is featured in a 16-page color brochure, which also provides a "quick course" in various types of ceramic-tile grouts and mortar modifiers, comparing their strengths and weaknesses. Dow Chemical Co., Midland, Mich.



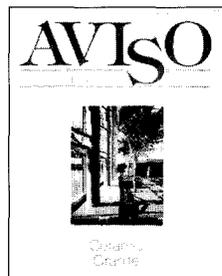
374 Floor, wall panels
Cast-marble floor tile and wall paneling, *Armstone* consists of over 90 percent marble aggregate with a proprietary polymer binder, and can be installed over most sound, level surfaces on either floors or walls. A 4-page brochure provides technical data, costs, and installation procedures. ArmStar, Lenoir City, Tenn.



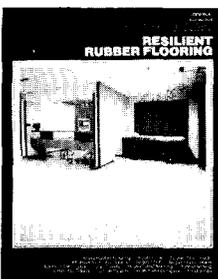
380 Gym flooring
A maple hardwood flooring system is constructed with foam expansion joints designed to resist buckling problems caused by humidity fluctuations. Described in a 4-page color brochure, *Sport-Flex* comes factory sanded, with only light sanding required on-site. Horner Flooring Co., Dollar Bay, Mich.



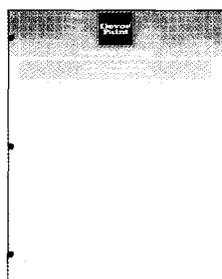
375 Wall coverings
The *Architectural Tambours* collection of wall coverings is featured, including veneer and solid woods, metals, laminates, and combinations. Many profiles and species are available, and all materials may be produced with a Class A rating. A preshrunk, heavy-cloth backing adds stability and is said to ease installation. National Products, Inc., Louisville, Ky.



381 Ceramic flooring
A 12-page, color brochure features *Fiandre Ceramic Granite*, a vitrified porcelain stoneware product said to be 30 percent harder than natural granite and nearly twice as abrasion-resistant. Available in a range of colors, sizes, and surfaces, the tile is frost-proof. Castellarano-Fiandre Ceramiche/Trans Ceramica Ltd., Elk Grove Village, Ill.



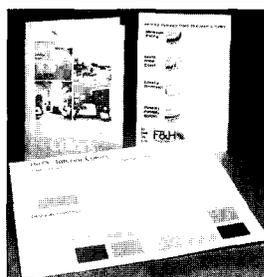
376 Rubber flooring
Lo-Pro studded tiles and stair treads are part of a complete line of resilient rubber-flooring products featured in a 12-page color catalog. Designed with slightly raised rubber discs, the tiles and treads are ideal for areas exposed to light-wheel traffic, and are available in 10 marbled colors and 7 solid colors. R. C. A. Rubber Co., Akron, Ohio.



382 Texture coating
An all-purpose latex texture coating, *DE-VO-TEX* is a ready-mix coating for use on interior or exterior masonry, stucco, concrete block, cured plaster, drywall, and primed wood and metal. The product can be brushed, rolled or sprayed, and is tintable to a broad range of colors. Devco & Raynolds Co., Div. of Grow Group, Inc., Louisville, Ky.



377 Wool carpeting
The *Historical Collection* of wilton carpets, woven in Wilton, England, are 100 percent wool reproductions of documented patterns originally produced centuries ago. Illustrated in a 6-page color brochure, the six patterns are also available in a blend of 80 percent wool, reinforced with 20 percent nylon. Stark Carpet Corp., New York City.



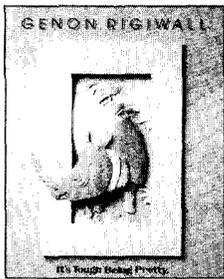
383 Color card
The paint and coating manufacturer's interior color card includes 30 color chips that are categorized as Custom Classics, top selling colors that remain popular over the years; Standard Colors, an assortment of versatile off-whites and beiges; and Designer Favorites, reflecting the latest trends. Finnaren & Haley, Inc., Ardmore, Pa.



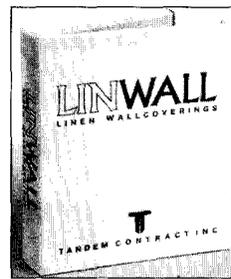
378 Ceiling systems
A 20-page color brochure provides photos and technical data, including drawings, of the *Luxalon* line of standard and unique custom ceiling systems, as well as other products such as wall systems and sun louvers. The company's CADD support systems for custom applications are also featured. Hunter Douglas Architectural Products, Inc., Smyrna, Ga.



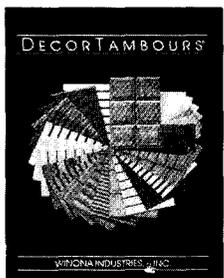
384 Flexible wall covering
A 20-page brochure describes and illustrates features, benefits, and technical data for *Plaster In a Roll*, a gypsum-impregnated, flexible wall covering designed specifically to conceal cracks and other wall problems. Background on basic uses, physical properties, installation, and maintenance procedures are included. Flexi-Wall Systems, Liberty, S. C.



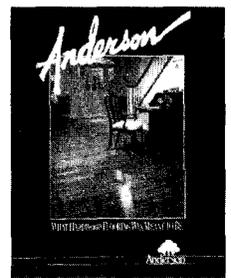
385 Wallcovering
Genon RigiWall, a solid PVC sheeting used in health-care centers, is described in a 6-page, full-color brochure. The product is available in a variety of textures and colors, which are shown in the brochure. Also displayed are applications of the system. Specification information is included. DiversiTech General, Hackensack, N. J.



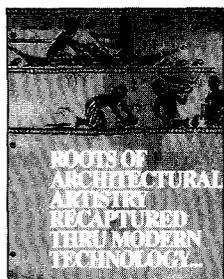
391 Linen wall coverings
A full-color brochure features examples of *Linwall* linen wall coverings. The document provides data on 56 patterns in various colors. Among those included are natural linen textures, boucles, and piece-dyed and yarn-dyed patterns. All of the wall coverings are available in a 59-in. width and are class A fire-rated. Tandem Contract, Inc. Marlboro, N. J.



386 Decorative tambours
A 28-page, full-color catalog lists linears, architectural grids, and specific applications, such as doors, panels, ceilings, and walls. Practical applications of the finished product and samples of stock are shown. Also included are a product-availability list, technical data sheets, and specifications. Winona Industries, Inc., Winona, Minn.



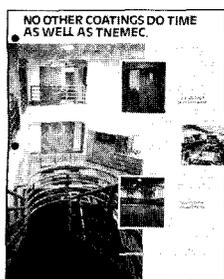
392 Hardwood flooring
What Hardwood Flooring Was Meant To Be, a color brochure, describes the manufacturer's collections of plank and parquet flooring. Made of five-ply American red oak, the line includes pre-finished laminated wood-floor products. Also covered are tips on floor care and installation. Anderson Hardwood Floors, Clinton, S. C.



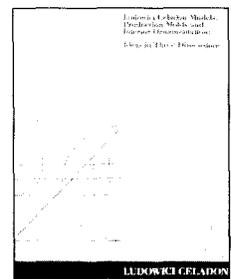
387 Epoxy terrazzo
A 4-page catalog outlines the history of terrazzo flooring and illustrates the design versatility of epoxy terrazzo as a durable, lighter-weight high-traffic surface. The epoxy product is described as crack- and stain-resistant; it can be completely installed in four days. H.B. Fuller Co., Palatine, Ill.



393 Acrylic/wood flooring
Illustrated with color installation photos, a specification and design catalog explains the *Gammapar* natural wood floor, impregnated with acrylic resins and hardened by gamma irradiation. ASTM tests for hardness, flame- and abrasion-resistance are described, and results are given. Applied Radiant Energy Corp., Lynchburg, Va.



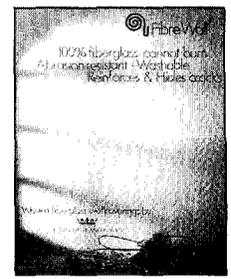
388 Architectural coatings
A flyer covering protective coating applications at correctional institutions describes over 50 coatings for interiors and exteriors, which are said to give long-term protection against corrosion and are easy to maintain. A wide choice of colors is available. Tnemec Co., Inc., Kansas City, Mo.



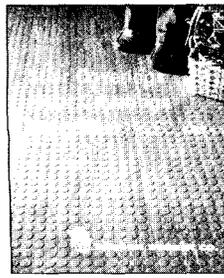
394 Interior ornamentation
A brochure explains consultation services for the repair and restoration of architectural terra cotta, cast stone, and interior plaster ornamentation. Services include field inspection of buildings or architectural features, followed by an extensive report with recommendations. Ludowici Celadon Co., New Lexington, Ohio.



389 Painting systems
Coating systems for interior, exterior, and heavy-duty maintenance applications are illustrated in the manufacturer's *1987 Painting Systems Catalog*. Detailed tables listing substrates with finishes and suggested coatings for each are included. Sherwin Williams Stores Group, Cleveland.



395 Fiber glass wall coverings
FibreWall, a wall system designed for commercial, industrial, and residential interiors, is described in a color brochure. The product is a 100 percent fiberglass yarn woven into a textured fabric. Included is a sample swatch. Also illustrated are various models, which are available painted or unpainted. Regal of Scandinavia Inc., Los Angeles.



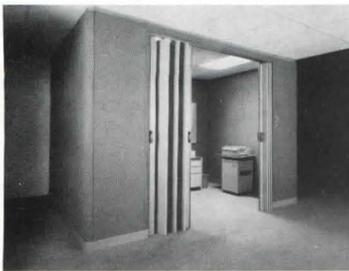
390 Stair and floor coverings
Detailed descriptions and specifications on marbledized or plain rubber-stair-tread and landing-tile systems, fluff cord and traffic tile, cove bases and risers—all with recommended adhesives—are reviewed in a 16-page, color brochure. Printed color swatches and cross-sections are included. Musson Rubber Co., Akron, Ohio.



396 Wall panels
A color brochure sums up the acoustical qualities and displays practical applications of the manufacturer's wall panels. Photos showing the product being installed are also included. The wall panels come in a natural finish or factory-painted white, but can be field-painted without losing their acoustical properties. Tectum, Inc., Newark, Ohio.

10 Specialties

Access flooring
Exterior sun control
Fireplaces & stoves
Firefighting equipment
Identifying devices
Lockers
Partitions
Pedestrian-control devices
Service wall units
Storage shelving
Toilet & bath accessories



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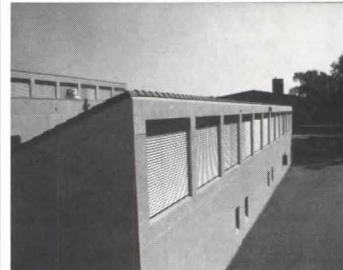
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397 Office-enclosure system
MultiPlan uses easy-to-install portable panels and accordion doors to create enclosures for particular office requirements, such as the copier room shown here. System is offered in a variety of fabrics and textures, on matched panels that present a unified wall appearance. Surfaces are tackable and self-healing; vertical raceways are supplied between panels. Modernfold, Inc., New Castle, Ind.

398 Radius-profile partition
3000 Series movable, fixed, and demountable full-height partitions use thicker (.093-in.) extruded aluminum trim formed in a smooth, radius-edge profile. Trim sections, including door frames, are supplied in stock sizes for on-site fabrication, in either an anodized or durable powder-coat finish. Wilson Partitions, Inc., Los Angeles.

399 Suspended ceiling signage
Made of lightweight FRP, the *Suspended Ceiling Module* has a molded-in lip that fits over the exposed ceiling tee flange. The sign can be illuminated by diverting the light from existing lay-in fixtures. Units are offered in many colors and graphics options. APCO Graphics, Inc., Atlanta.

400 Washroom partitions
A high-density phenolic partition has been added to this manufacturer's line of compartments for showers, toilets, and locker areas. Laminate-finished over a solid, 3/4-in.-thick phenolic core, panels are accented by dark brown edges, and are fitted with stainless-steel hardware. Weis/Robart Partitions, Inc., Detroit.

401 Directional carpet squares
Safe.Lite has small shatterproof low-voltage lights, attached to *Super Flat* ribbon cable, that fit into die-cut carpet modules. Installed in patterns, programmable lights and graphic-patterned carpet form a floor signage system for safety or directional messages. *Safe.Lite* can be connected to fire- and smoke-alarm systems. Collins & Aikman, Inc., Dalton, Ga.

402 Washroom accessories
Part of a complete line of modular building-service equipment, washroom accessories are offered in brass, bronze, aluminum, and polished stainless steel. The unit shown here is a polished brass towel dispenser and disposal. American Specialties, Inc., Yonkers, N. Y.

403 Electronic glass panel
An integrated method of controlling visibility, creating privacy, or regulating sunlight into office spaces, electrical *Frostlucent* panels go from transparent through several degrees of opacity. A clear, liquid-crystal/electrode film laminated directly to the glass panel is controlled with a rheostat to vary light transmission. Harter Corp., Sturgis, Mich.

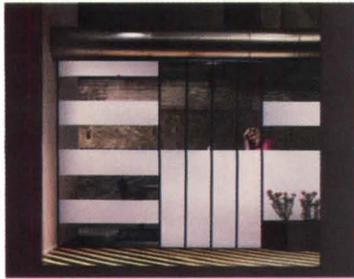
404 Concrete/steel access floor
Improved *Tec-Crete* access panel combines the tensile strength of steel with the compressive strength of concrete, providing a solid-feeling office floor with superior acoustical properties. *Tec-Crete* panels may be specified in a number of finishes. C-Tec, Inc., Grand Rapids, Mich.

405 Exterior sun shading
Enamel-coated *Noval Xsotrol* aluminum blinds, mounted on the outside of the window frame, minimize heat gain and act as miniature light shelves to bounce glare-free daylight deep into interior spaces. Terylene fiber tapes and cords are attached to the slats, and will not shift in the wind. Installation pictured was designed by Architecture Plus. Baumann, Inc., Wauconda, Ill.

406 Interior signage
Finished in polished aluminum or brass, as well as 35 paint colors, *Duo Frame* brackets hold frameless plastic inserts at two edges. Frames come in sizes up to 36 in. long and 24 in. high for a complete interior graphics system. Adelpia Graphic Systems, Exton, Pa.

407 Telephone booth
Vogueline Boothette comes with a seat, writing shelf, built-in lighting, and tempered-glass dividers. Accessible to the handicapped, the booths require a minimum of floor space, and can be freestanding or wall-mounted in a number of layouts. Redy Ref Pressed & Welded, Inc., Long Island City, N. Y.

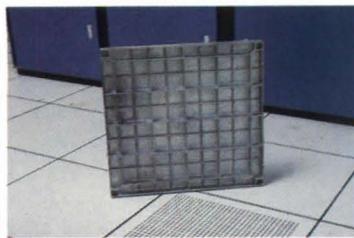
408 Crowd-control barrier
This offset stanchion is from an extensive line of guidance barriers constructed with a decorative polished tubing placed over a sturdy cast-iron base and steel pipe. Guidance ropes are covered in velour, *Naugahyde*, or COM; optional *Clear Coat* keeps bright brass finish from tarnishing. Brass Smith, Inc., Denver.



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409 Selectively transparent

Offered as an option for full-height permanent or movable partitions, as well as in open-plan office systems, the *Translight* panel provides a range of visibility—from total to none—in the same pane of glass. A conductive film on the panel responds to electric current to opaquely the glass for privacy or light control when desired. Krueger, Inc., Green Bay, Wis.

410 Exterior signage

Theft-resistant aluminum exterior post system mounts sign panels flush with the edge of the frame. Available in *Kal-Color* bronze or clear anodized finishes, the *3800* sign is said to need no maintenance for at least 20 years under normal conditions. Best Mfg. Co., Montrose, Colo.

411 Static dissipative floor system

Offered in both conductive and dissipative versions, *CleanStat* vinyl tile is said to control problems caused by electrostatic discharge. The resilient, solid vinyl tile comes in 12- by 12-in. and 36- by 36-in. squares, as well as all access floor panel sizes. Floors are heat-welded with matching or contrasting bonding strips. Floating Floors, Inc., Toledo.



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412 Lockers

Metal storage lockers are available in an expanded range of 14 standard colors and two new finishes: high-gloss and *Mica Glamour*. The high-solids acrylic coating is said to provide superior durability and scratch-resistance. Lyon Metal Products, Inc., Aurora, Ill.

413 Merchandise display

The *Axent* three-dimensional display module, composed of an end-threaded tube and a tapped spherical node, is now offered in solid wood, finished with mahogany, oak, maple, and walnut stains. Sleeves and nodes are brass. *Axent* accessories include lighting fixtures, graphic and fabric panels, and adjustable shelves. Unistrut Corp., Wayne, Mich.

414 Bath accessories

Made of solid, glossy *Duroplast* in 10 bright colors, Italian-made *Linea* bath fittings include towel bars and rings, toilet seats, an illuminated mirror, shelves, stools, and hanging- and ceiling-mounted lamps. Watercolors, Inc., Garrison-on-Hudson, N. Y.



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415 Directory boards

Delta Series 2000 directory boards are secured to a wall-mounted inner frame with recessed screws to deter vandalism. There can be as many as 20 tenant-listing inserts; signs accommodate building service information and customized graphics or logos. Dura Architectural Signage, Long Island City, N. Y.

416 Wall protection system

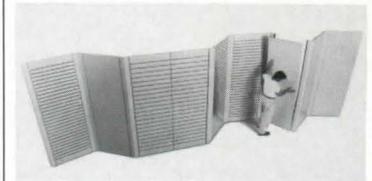
All *Acrovyn* corner, wall-, and door-protection items now have a Class 1 fire rating from UL; handrail designs meet all code requirements. Products come in 20 additional colors, coordinated with *Formica* laminates. Construction Specialties, Inc., Muncy, Pa.

417 High-density files

The *S/line* mobile storage system includes 15 units, from 5-ft-long manually operated files with a 5,000 lb capacity, up to heavy-duty *S/5* electric systems of over 200 ft, with load capacities of 2,000 lb per carriage foot. All systems save floor space by eliminating unproductive aisles. Units can be covered with laminate, wood, fabrics or custom graphic end panels. Spacesaver Corp., Fort Atkinson, Wis.



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418 Access flooring

Six new patterns, compatible with the colors of most current computer hardware, are offered on *Donn* access floor panels. Panels feature an integral trim edge, machined from the high-pressure laminate surface itself, not added-on. USG Interiors, Inc., Chicago.

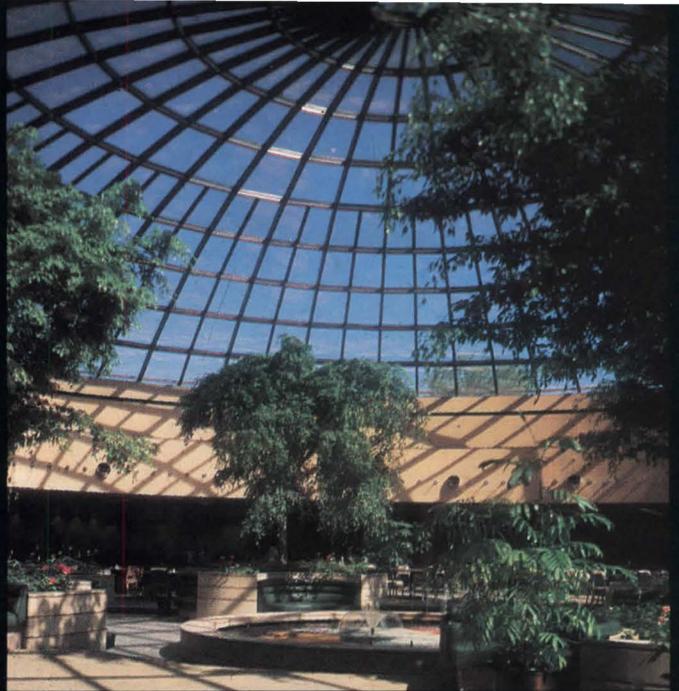
419 Freestanding display walls

Described as totally nonprogressive, the *Perimeters* merchandising wall system needs no attachment to permanent walls, and can be reconfigured and moved easily by store personnel. Panels are connected by Allen-wrench-type fittings; slotted support standards are recessed, and covered by PVC extrusions to match or contrast with the panel face. Both panel sides can be decoratively finished. The Marlite Organization, Dover, Ohio.

420 Contoured rail

The *BR-300* wall protector/rail is said to incorporate ergonomic design principles, with a 1 5/8-in. sculptured grasping area curving in to form a groove for the thumb. The 7-in. plastic face of the rail protects the wall surface from cart and equipment damage. Pawling Corp., Pawling, N. Y.

Spacesaver systems are performing in thousands of distinctive structures such as The Associates Center (Chicago) and the Mutual of Omaha Plaza (Omaha).



THE ART OF ACCOMMODATING SPACE.



We share your dream of uniting form with function.

More than a decade ago, we founded a company on the universal principle that the fundamental challenge of architecture is the accommodation of space.

How to occupy it usefully.

Efficiently.

And with beauty.

With Spacesaver high-density mobile storage systems, you won't have to sacrifice your desire to create a structure that is as aesthetically pleasing as it is useful

for your building's storage requirements.

No matter what type of facility you design—from libraries and law offices to hospitals and banks.

Spacesaver systems are engineered with your design goals in mind. They complement the environment you envision. They utilize available space more efficiently. They save up to half the room of stationary shelving. Or, they can double the storage capacity of the same area.

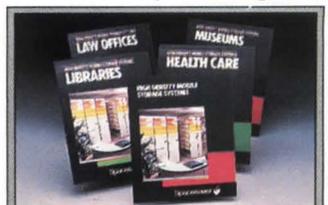
Either way, you gain the space and the freedom to design-in the architectural elements that unite form and function.

More room for atriums.

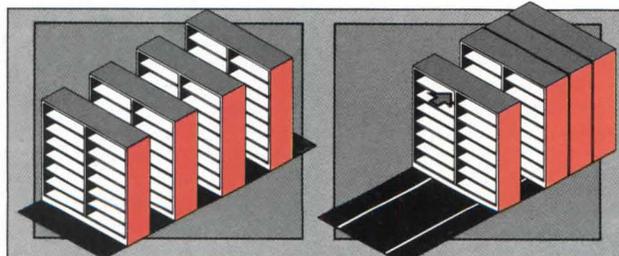
More room for terraces.

Even more room

for people.



Contact us today to receive your free Spacesaver Design Library
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Wasted aisle space VS. productive space.
By eliminating wasteful aisles, Spacesaver systems condense storage areas freeing space for other purposes.

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Circle 1074 on inquiry card

Storage Systems Which Reflect Your Concern For Space

FULLSPACE not only reflects your concern for space and its use, FULLSPACE offers you a means of **improving** space utilization.

FULLSPACE is storage equipment on wheels. Movable shelving units roll on steel tracks to allow access to stored materials by means of "floating aisles." Shelving not being used remains compacted in a storage cube. In essence, FULLSPACE eliminates permanent aisles. That's how space is gained.

Condensed space means condensed costs. A building designed using FULLSPACE is a more compact building. Original construction costs are reduced. And your client's on-going costs—HVAC, lighting and general maintenance—are reduced...for the life of the building. Or look at it another way: Reduce the space...and the cost...of the storage

areas by using FULLSPACE, and the money saved can be used for comfort, for aesthetics. Give the space and ambience to its rightful owners—the **people** who will use that space, not the files and books and tapes and supplies. Either way, FULLSPACE will help you do the job. And LUNDIA will help you do the job.

Whether it's a small storage system for supplies storage or a large FULLSPACE for a library or fileroom...whether it's the affordable luxury of solid wood shelving or the pure function of painted steel shelving...whatever your storage specification



needs, LUNDIA offers you and your clients complete turnkey installation of FULLSPACE.

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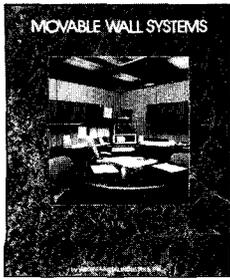


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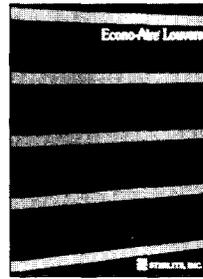
10 Specialties Product literature

For more information,
write item numbers on
Reader Service Card



421 Movable wall systems

An 8-page, color brochure illustrates the *Silhouette* line of steel wall systems that require no fastening holes, thereby leaving no evidence of its previous location when moved. Electrical raceways in both the tops and bottoms of panels allow for extensive invisible wiring. A modular wall system is also described. Virginia Metal Industries, Inc., Orange, Va.



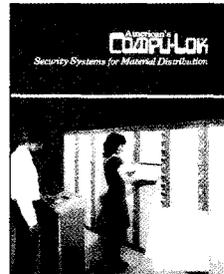
427 Louvers, ventilators

A new brochure describes fixed and adjustable *Econo-Aire* louvers and gravity ventilators for architectural and industrial applications. Specifications are provided for fixed adjustable louvers, continuous-ridge ventilators, and continuous-clamshell ventilators. Steelite, Inc., Pittsburgh.



422 Washroom accessories

A complete line of washroom accessories, covered in a 44-page catalog, includes combination units, towel, toilet tissue, soap dispensers, waste receptacles, napkin/tampon vendors, mirrors, and grab bars. Units range from luxurious brass and bronze accessories to hotel and specialty items. Bradley Corp., Menomonee, Wis.



428 Secure storage

A 4-page, color brochure describes a high-security storage system with a computerized keypad console that can control access to as many as 250 storage compartments. Uses include storage of data-processing tapes and disks, payroll records, expensive parts and tools, hospital supplies, cash, and securities. American Locker Security Systems, Inc., Jamestown, N. Y.



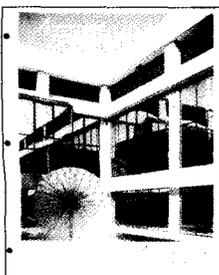
423 Washroom accessories

The 1988 40-page catalog from this manufacturer of washroom accessories covers a line of stainless-steel accessories, including standard equipment as well as toilet-seat-cover dispensers, shower seats, and assorted towel hooks and bars. A&J Washroom Accessories, Div. of A&J United Machine and Metal Products Corp., New Windsor, N. Y.



429 Extinguisher cabinets

A 12-page brochure provides specifications and other technical details of a line of fire-extinguisher cabinets, including exploded views of various installations to aid in design application. Fire-protection signs and other accessories are also described. J. L. Indus., Bloomington, Minn.



424 Ventilation louvers

A 72-page, illustrated catalog gives complete specifications for extruded aluminum and fabricated steel, stationary and operable, horizontal and vertical louvers; special-purpose louvers; and mechanical dampers. Engineering data include sizing and structural information. Airstream Products Div., Penn Ventilator Co., Inc., Philadelphia.



430 Wire partitions

A 6-page, color brochure illustrates and provides technical details, including drawings, on modular woven-wire partitions. Made of rectangular mesh welded into angle frames, the 4-ft and 5-ft-high panels can be stacked to form any height partition. A variety of hinged and sliding gates are available. Wire Crafters Inc., Louisville, Ky.



425 Fire-alarm system

The compact *Cabinet Alarm* is a self-contained unit that mounts inside cabinets housing fire extinguishers, hose, sprinkler shut-offs or similar gear. Product data sheet explains how an alarm horn sounds when the cabinet is opened to discourage unauthorized use of such equipment. Safety Technology International, Inc., Waterford, Mich.



431 Wire shelving

Epoxy-coated, steel-rod ventilated shelving for use in closets, utility rooms, hotels, and hospitals is presented in an 8-page brochure complete with color photos, closet layouts and hardware specifications. *TRI-LOC* installation is said to save installation time, while providing an attractive, economical shelving system. Schulte Corp., Cincinnati.



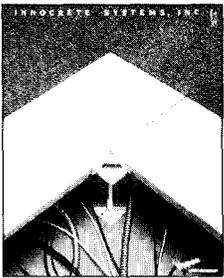
426 Steel lockers

A 12-page, color brochure provides specifications, including color chart, for a line of steel lockers ranging from school and gym units to custom designs for commercial, recreational, and home use. Top-of-the-line models feature sound-deadening door designs aimed at preventing noise pollution. Medart, Inc., Greenwood, Miss.



432 Architectural signage

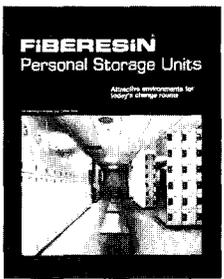
A 44-page catalog presents a complete interior and exterior architectural-signage lineup, ranging from cast and fabricated letters to complete corporate-sign systems and building directories. The company's technical support program is explained, and specific details of product offerings are provided. Anco Indus. Corp., Greensboro, N. C.



433 Access floor systems
An 8-page brochure explains the company's *Innocrete S-Floor* access flooring system for commercial buildings and other raised flooring applications. Complete specifications are provided for the system, which uses reinforced modular slabs supported by adjustable steel pedestals. Innocrete Systems, Inc., Div. of C/S Group, Cranford, N. J.



439 Tubular display systems
A lightweight modular tubular structural system for displays, exhibits, store fixtures, and furniture is described and illustrated in a 4-page brochure. The same basic components—connector, tube and clip/fastener—can be used to construct a 15-in. cube or an exhibition structure 30 ft tall. Abstracta Structures, Inc. New York City.



434 Personal lockers
A line of freestanding personal storage units for changing rooms is described and illustrated in a 4-page brochure, which includes specifications and installation details. Available with either flat or sloping tops, the nonmetallic units' exposed surfaces are thermally-fused melamine laminates. Fiberesin Industries, Inc. Oconomowoc, Wis.



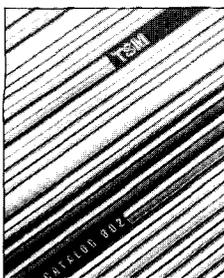
440 Fireplaces
A new catalog describes the *Super Energy Mizer* fireplace with horizontal-louver design above and below the firebox and heat directors for improved circulation. The unit has a single outside-air intake governed by a barometric damper, a front-controlled chimney damper, and brass-framed glass doors. Preway Inc. (Fireplace Div.), Wisconsin Rapids, Wis.



435 Washroom equipment
A 52-page, color catalog covers the company's complete line of washroom accessories, including its latest *Aircraft* warm-air dryers. Details shown are line drawings, rough-in dimensions, and recommended mounting heights. Specialized hospital equipment and accessories are also covered. Bobrick Washroom Equipment, Inc., North Hollywood, Calif.



441 Hearth stove
The Heirloom, a compact, cast-iron hearth stove, is said to provide a maximum heating capacity of 60,000 Btu/hr. *Model 300 HC* is described as a controlled-combustion wood stove that meets the 1988 clean-burning standards set by Oregon, Colorado, and the U. S. EPA. A catalytic combustor and bypass system is optional. Dovre, Inc., Aurora, Ill.



436 Washroom hardware
Catalog 802 is a 340-page volume that includes design information, technical specifications, and color photos of typical installations. A technical data section is cross-referenced to the illustrated catalog section, and a reference section covers architectural-design specifics such as Federal handicapped standards. Tubular Specialties Mfg., Inc., Los Angeles.



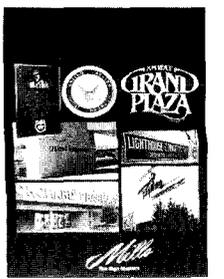
442 Movable partitions
The *Raco* movable *Superwall* is a partition system that uses any brand of locally available gypsum board, vinyl-covered or plain, in combination with the company's door frames and partition headers. Quickly installed by any drywall carpenter crew, the system is said to reduce construction time by half. Ragland Manufacturing Co., Inc., Houston.



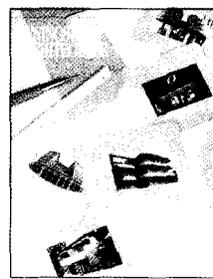
437 Sun control
An 8-page, color brochure explains and illustrates two types of exterior shading for windows and glass doors. *SunScreen* solar screening and *ShadeScreen* louvered aluminum keep the sun's heat out of air-conditioned rooms and, therefore, are said to improve air-conditioner efficiency and reduce energy costs. Phifer Wire Products, Inc., Tuscaloosa, Ala.



443 Factory-built fireplaces
A 16-page, color brochure describes a complete line of factory-built, wood-burning, and gas-fired fireplaces. The wood-burning, heat-circulating *HCE Series* with optional glass doors and brass-trim kits is explained in detail, as are heat-circulating and radiant gas-fired models. Superior Fireplace Co., Fullerton, Calif.



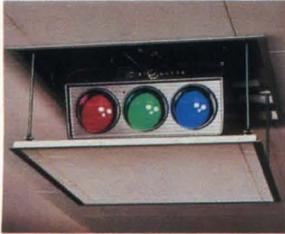
438 Signage
A complete line of cast, fabricated, and cut-out letters, custom plaques and logos, available in aluminum, bronze, and brass, are detailed and illustrated in a 24-page, color catalog. Post and panel, plastic, handicapped and interior signage, as well as cross and caduceus symbols, are also covered. Mills Manufacturing Co., Muskegon, Mich.



444 Fabric awnings
A new brochure discusses advances in fabric technology, hardware, and framework systems used in today's awnings for both commercial and residential applications. Fabric characteristics and various frames and styles are covered, as are available graphics including back-lit awnings and canopies. Awning Div., Industrial Fabrics Assn. International, St. Paul, Minn.

11 Equipment

Bank & vault equipment
 Conference room
 Food-service equipment
 Laboratory equipment
 Laundry equipment
 Library equipment
 Loading dock equipment
 Medical equipment
 Merchandise display
 Parking equipment
 Residential equipment



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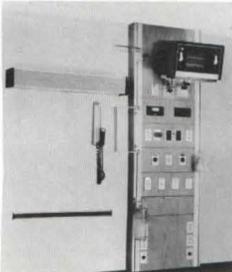
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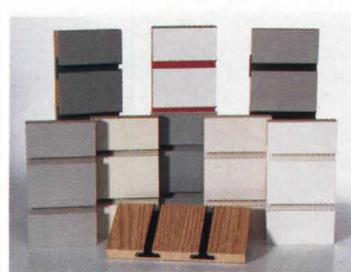
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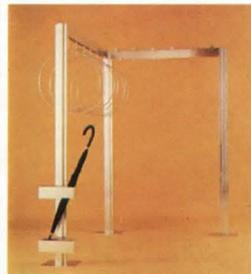
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445 Recessed projector

The *Electramount* comes in four sizes to accommodate almost any ceiling-mounted video projector, keeping it concealed overhead until needed. It may be operated in tandem with a motorized video screen, or independently, from anywhere in the room. Draper Shade & Screen Co., Inc., Spiceland, Ind.

446 Medical headwalls

A new standard feature on electrical headwalls for patient care and monitoring equipment, an adjustable track hanger holds accessories such as IV brackets and bottle holders at any desired height. Square D Co., Oshkosh, Wis.

447 Health-care casework

Specialty cabinets for medical and dental offices and other health-care facilities have a built-in appearance achieved with standard, modular components. These European-styled fronts have been added to the *Lamco* line, and are offered in 150 laminate colors and textures. Howe Furniture Corp., Trumbull, Conn.

448 Range hood

Kitchen range hoods imported from Denmark are now available in fusion-welded solid copper, in the mirror finish shown. Stainless, gloss white, and matte black enameled steel hoods may be ordered; all are equipped with double- or single-unit exhaust fans, lighting, and controls. Abbaka, San Francisco.

449 Kitchen cabinets

Described as a true European frameless style, *Concept 180* cabinets are laminate-surfaced inside and out. Doors are edge-banded on four sides, and open a full 180 deg; drawers are fully extendible. Offered in 20 colors, *Concept 180* provides extensive customizing options. Homemark Cabinets, Woodinville, Wash.

450 Checkroom equipment

The *Modric* garment-storage system with rounded hangers comes in five metal finishes and 350 *Spectra* colors. The equipment may be wall-, floor-, or ceiling-mounted. Modric Inc., Chicago.

451 Acoustical shell

Constructed of molded fiberglass-reinforced gypsum, the *Designer Shell* provides various panel shapes to reflect the architectural style of the theater. Said to have excellent acoustical qualities, the shell is inherently fire-resistant, and includes built-in lighting, leveling casters, and access doors. Wenger Corp., Owatonna, Minn.

452 Merchandising display

A *Monofinish* treatment option, with matched painted grooves and panel face in almond, gray, white, stone, and opal, is offered with the *Displawall* display system. A selection of trim strips and inserts includes new colors of teal, pumpernickel, and red, and matte black aluminum. *Displawall* coordinates with major laminate colors. The Marlite Organization, USG Interiors, Inc., Dover, Ohio.

453 Built-in appliances

For custom kitchen installations, the *Monogram* appliance line provides an integrated appearance throughout, with all-white ovens, cooktops, double-door refrigerator, and dishwasher. Trim kits and toe-kick options permit flush, unbroken cabinet lines. General Electric Co., Louisville.

454 Retail fixtures

Made of industrial-gauge wire and steel in bright colors, *Design Line* offers over 6,000 merchandising components, many mobile on caster bases. Sizes, shapes, and colors can be mixed or matched to create unique product displays. Equipto, Aurora, Ill.

455 Lacquer-finish cabinets

Applied in multiple coats to get a mirrorlike finish, high-gloss lacquer is offered as an option in the *Milano* rounded-edge cabinet line from Germany. *Milano High Gloss* is available in anthracite (shown), pewter gray, and white. Allmilmil Corp., Fairfield, N. J.

456 Custom cabinets

Opus One, a frameless, contemporary style, comes in a variety of door configurations to suit custom kitchen requirements. Cabinets may be ordered in any of over 150 laminate colors and patterns, as well as white oak in different finishes. Crystal Cabinet Works, Princeton, Minn.

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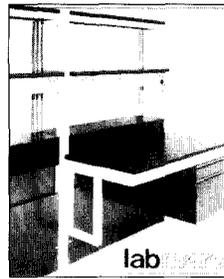
Equipment Product literature

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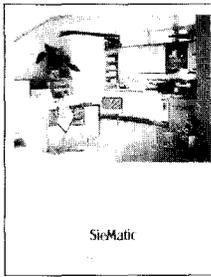
457 Spaceframe

Polystand, a structural system designed for showrooms, museums, avant-garde interiors, and exhibition architecture, is featured in a color brochure. The product's components integrate into vertical and horizontal modular structures linked with four-way connectors. Les Concepts Polystand Inc., Montreal, Que.



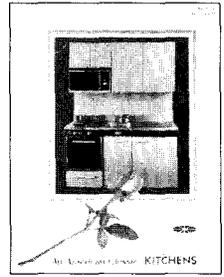
463 Lab furnishings

A 4-page, illustrated folder describes an integral laboratory system. *Labmarc* is a utility module, composed of self-supporting components that are independent of walls and ceilings. The module can be modified to individual needs. Photos of a variety of laboratory applications are included. Labmarc Inc., Cambridge, Mass.



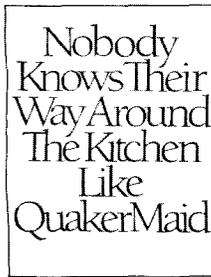
458 Laminated kitchens

A 38-page catalog highlights complete laminated kitchen models offered by the manufacturer. Drawings show details of handles, coving, light, plinths, and pelmets. A summary of models listing sizes of all kitchen units is illustrated. Color availability and ordering information is also included. SieMatic Corp., Trevoise, Pa.



464 Compact metal kitchens

The line of Davis metal kitchen units is featured in an 8-page, color brochure. Descriptions are offered of ranges and ovens, countertops and sinks, refrigerators, wall cabinets, and convenience options. Specifications and a sample of color choices are also included. Davis Products Co., Dowagiac, Mich.



459 Custom kitchens

A 40-page, color brochure shows installation and room-setting photography of custom kitchens and baths, convenience and storage features, and hardware selections. Also included are data on cabinetry construction and materials. Quaker Maid, Div. WCI, Inc., Leesport, Pa.



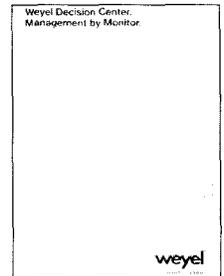
465 Kitchen and bath cabinets

A 16-page, color brochure provides specifications, describes and illustrates the manufacturer's cabinetry, kitchen and bath accessories, shelving and desk-top components. The cabinet models include 13 door styles and finishes ranging from light, medium, or dark brown oak to almond- or wood-grain melamine laminate. Merillat Industries, Inc., Adrian, Mich.



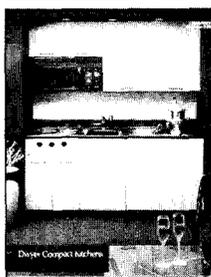
460 Compact kitchens and baths

Cabinet and vanity styles are highlighted in a 32-page color brochure. Planning principles are discussed, and all cabinet units, dimension, and trim are illustrated. Descriptions of construction elements, finish, features, and specifications are included. Kitchen Kompact Inc., Jeffersonville, Ind.



466 Conference-room equipment

The Weyel Decision Center is the centerpiece of an 8-page brochure. Designed as a conference table system, monitors are ergonomically integrated into the base of the table, freeing the tabletop space. Reading camera, control monitor, and control panel can be moved whenever required. Weyel International, Delray Beach, Fla.



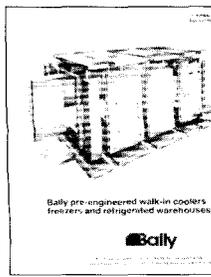
461 Modular kitchen

A 15-page, color brochure displays kitchen models offered by the manufacturer, with complete descriptions. Elevations of all of the units are included. Modifications, standard features, and options are listed. The literature also includes color availability, specifications and warranty data. Dwyer Products Corp., Michigan City, Ind.



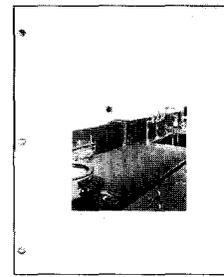
467 Security equipment

Components of Diebold's physical and electronic security-equipment systems are outlined in a full-color, 8-page brochure. The manufacturer offers product/system compatibility, simplified purchasing, and service. Specifications, detailed line drawings, and additional literature are available. Diebold Incorporated, Canton, Ohio.



462 Walk-in coolers

The energy- and space-saving characteristics of urethane-core panels used in refrigerated buildings and coolers are reviewed in a 20-page catalog. Included are construction features, dimensional data, door applications, optional accessories and equipment, floor-construction drawings, and size and capacity listings. Bally Engineered Structures, Bally, Pa.



468 Lab work surfaces

A line of laboratory work surfaces is shown in a 12-page catalog. Details on performance, composition, applications, properties, and colors are provided. The literature includes selection criteria such as safety, function, appearance, and economics for fume hoods and work tops. Manville, Mineral Panels Dept., Denver.

Now GE simplifies
the whole difficult business of ordering
built-in appliances.



Until now, specifying built-in appliances has not always been easy.

Unfortunately, the refrigerator most people seemed to want was only made by one company.

(And if they couldn't give you *what* you wanted, *when* you wanted it, you were out of luck.)

A different manufacturer made the most popular cooktop.

And the oven and dishwasher came from two others.

Which often meant you had to deal with at least four different people to order them, check up on delivery, and get service.

Now GE has simplified the whole time-consuming process.

We're introducing a new line of built-in appliances called Monogram.

A line of appliances with some significant advantages over the others.

It includes a 25.7 cu. ft. refrigerator with features that have never previously been available on a built-in.

A double oven with European style and American capacity.

A solid disk and a *downdraft* induction cooktop.

A conventional and a convection microwave oven.

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12 Furnishings

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



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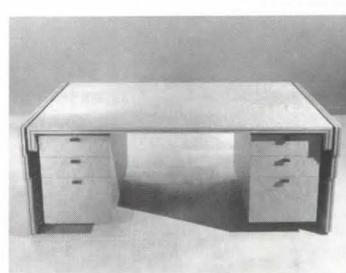
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469 Office furniture

The manufacturer's *New Elective Elements* line of office furniture includes rigid panel frames, which can accommodate electrical and communication cables, storage components, and a variety of worksurfaces. Wood veneer or laminate finishes can be specified. Stow & Davis, Grand Rapids, Mich.

470 Table and chair

The *Allen* table, originally designed by Frank Lloyd Wright for a private commission in 1908, and the *Robie* chair of 1917 are part of the manufacturer's collection of Wright re-editions. Atelier International, Ltd., Long Island City, N. Y.

471 Hassock

A new line of hassocks is intended for office and residential use. The footstools are 16 in. high, and come in round, square, and hexagonal shapes. A variety of upholstery fabrics and leathers can be specified. Donghia Furniture, New York City.

472 Seating

Designed by Burkhard Vogtherr, the *Span* line of sofas comes in two-, three-, and four-seater versions. The cushions can be upholstered in fabric or leather, and the exposed metal frame can be specified in black, red, white, and gray. Brayton International Collection, High Point, N. C.

473 Chair

The *Hannes* chair, designed by Eliel Saarinen in 1908 for his brother, is made of mahogany with rosewood insets. The padded seat is upholstered in black leather, and is accented by copper nailheads. International Contract Furnishings, Inc., New York City.

474 Fabric

The manufacturer's *Black and White* collection of upholstery fabrics includes the *Basie*, *Calloway*, and *Ellington* patterns. Constructed from a 100 percent cotton pocket weave, the fabrics are reversible. Roger Arlington, Inc., New York City.

475 Panel fabric

The *Woven Surfaces* collection of 54- and 66-in.-wide fabrics is designed for use on panel systems. Acrylic-backed and treated with a soil-resistant finish, the fabrics are made from silk, wool, linen, viscose, and polyester blends. 11 patterns and 12 colorways are available. Maharam, Hauppauge, N. Y.

476 Desk

A bird's-eye maple veneer desk designed by Pierre Paulin has a walnut inlay top and cast-brass hardware coated with a bronze finish. The desk is part of the manufacturer's line of executive office furniture, which also includes seating and storage units. Baker Furniture, Executive Office Division, Chicago.

477 Leaded-glass panels

This studio manufactures custom-designed leaded-glass panels, which can be ordered as part of specially made hardwood doors, screens, and furniture. The wood can be specified with lacquered or laminate finishes. Arthur Stern Studios, Oakland, Calif.

478 Chair

Designed by Milanese architect Ettore Sottsass, the *Mandarin* chair has sculptural arms that wrap around the flat seat and curved back. The arms are constructed from rattan, with a wood-veneer finish, and tubular steel, with a glossy paint finish. Knoll International, New York City.

479 Office furniture

The *Newhouse Group* of office furniture, which includes pedestal desks, VDT tables, lateral files, credenzas, and adjustable worksurfaces, is compatible with the manufacturer's existing line of systems furniture. Wire- and cable-management devices are contained within the individual components. Herman Miller, Inc., Zeeland, Mich.

480 Seating

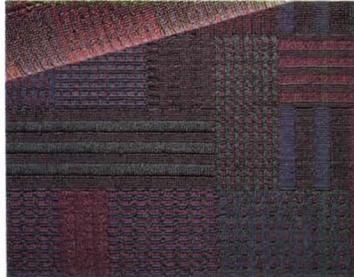
Designer Bill Stephens's *1800 Series* of seating includes the new side chair (above). The tubular steel frame supports a plywood back and seat, which can be upholstered in a variety of fabrics. Sled-base or rocker versions are available. Domore Corp., Elkhart, Ind.



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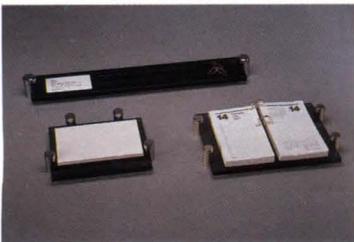
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481 Customized files

The *Select Plus* program provides metal lateral files, pedestals, and cupboards without drawer fronts to let the designer choose facing materials appropriate to each office installation. Units pictured have fronts of natural wood and *Avonite* synthetic stone. Storwal International, Inc., Toronto.

482 Cushioned chair

Designed by Edward Alexander and Peter Robinson, the *Wallaby* management chair has segmented cushions and rounded edges for a more casual yet functional appearance. Harter Corp., Sturgis, Mich.

483 Desk accessories

Murano executive desk accessories are made of smoke or bronze beveled glass set on chrome or brass pedestals. Peter Pepper Products, Inc., Compton, Calif.

484 Window shutters

Arch-shaped interior shutters with movable louvers are available in a number of traditional and contemporary styles to conform to window dimensions. Pinecrest, Inc., Minneapolis.

485 Contract tables

Set on a cylindrical base finished in polished chrome, the *Rondo* table line offers a selection of tops, shapes, and sizes appropriate for offices, hotels, restaurants, libraries, and other public spaces. Tables come with marble and clear glass tops, as well as the wood-edged laminate shown. Howe Furniture Corp., Trumbull, Conn.

486 Table desk

This cherry-wood desk from the *Enlow/Summers* collection is described as having a feeling of the Biedermeier era, with diamond-shaped black accent hardware. Dunbar Furniture, Inc., Berne, Ind.

487 Contract fabric

A high- and low-relief looped fabric woven in France of cotton, wool, and polyester, *Metro* has contrasting vertical and horizontal bars reminiscent of Bauhaus design. Designed by Larsen with Lisa Scull. Jack Lenor Larsen, New York City.

488 Side chair

This slat-back version of the *March Chair* has a classic Shaker simplicity. Designed by Massimo and Lella Vignelli with David Law, the chair comes with or without arms; finish options include matte black, gray, natural cherry and red mahogany. Hickory Business Furniture, Hickory, N. C.

489 Gallery chair

Created by Ron Carter of Miles/Carter specifically for the use of the guards in the new wing of London's Tate Gallery, the original *Tate* chair had an under-seat shelf to hold a lunchbox. It is available in a number of different woods and finishes. Interna Designs, Ltd., Chicago.

490 Rectilinear group

Exel3 operational and lounge seating has a slim profile, with a single-piece wood frame *Steamfolded* to create a 50-degree wristbend arm detail. *Exel* tables have the same angled-edge treatment, with tops in natural or leather-wrapped wood, or stone-like *Corian*. The Gunlocke Company, Wayland, N. Y.

491 Upholstered seating

Brian Kane's *Belvedere* armchair has concealed zippers at each corner that unzip to reveal a skirt in the same contrasting fabric as the welt detail. The fully zipped-up chair resembles a cube. Metropolitan Furniture Corp., South San Francisco, Calif.

492 Conference table

Series 7000 tables have individually selected starburst and reverse-diamond veneer patterns in walnut, mahogany, and oak. A custom table can be specified from an extensive range of base and top shapes. Dar-Ran Furniture Industries, High Point, N. C.



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493 Table

The *Hashi High* table, designed by Robert Sonneman, consists of a 3/4-in.-thick glass slab atop arch-shaped stainless-steel tub legs connected to steel support beams. The base can be specified in a polished or satin finish and a selection of opaque colors. The table top is available in clear and colored glass. Brueton Industries, Inc., Springfield Gardens, N. Y.

494 Seating

The manufacturer's *Concept '87* collection includes attachable chairs and side tables. The chairs, which are 66 in. wide, 23 3/4 in. deep, and 31 in. high, come upholstered in a variety of fabrics. Carolina Seating Co., Div. of U. S. Furniture Ind., High Point, N. C.

495 Office furniture

Designed by Charles Gibilterra, the *Continuum 1050* series of ganged seating is part of the manufacturer's line of coordinating office furniture. The chairs have molded-seat shells and bentwood armrests/legs. Condi, Div. of Pacific Furniture Manufacturing Co., Compton, Calif.



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496 Tapestries

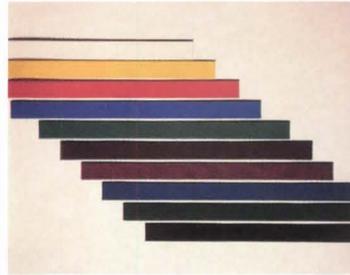
Tapestries designed by Irene R. de Gair are hand-woven from wool in limited editions of 10. Flat- and rolled-weave techniques are used to produce geometric and floral patterns. Irene R. de Gair Tapestries, Vienna, Va.

497 Stacking chair

The stackable *6-Chair*, intended for conference rooms and waiting areas, is constructed from laminated hardwoods. The curved seat and back are covered in a padded upholstery. Rudd International Corp., Washington, D. C.

498 Fabric

Cranbrook, designed in 1929 by Eliel Saarinen for his own house at the Cranbrook Academy of Art in Bloomfield Hills, Mich., is a new addition to the *Archives Collection* of re-edition fabrics. Made from 100 percent viscose, the fabric is available in five colorways. Unika Vaev USA, Div. of International Contract Furnishings, Inc., New York City.



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499 Awning fabric

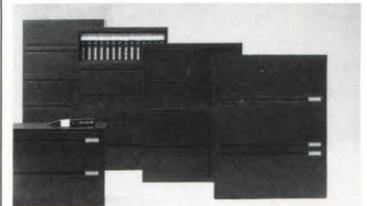
A new fabric intended for commercial awnings is made of *SEF Plus*—a pigmented modacrylic fiber said to have high fade-resistance and fire-retardant properties. The fabric is available in 7 solid colors and a variety of striped and patterned designs. Glen Raven Mills, Inc., Glen Raven, N. C.

500 Office system

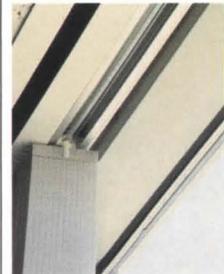
Stackable storage components, door units, and *ClearStory* partitions have been added to the manufacturer's *IOP Open Office System* line. The prehung door units come in 30- and 36-in. widths, and are designed to replace existing system panels. JG Furniture Systems, Inc., Quakertown, Pa.

501 Chair

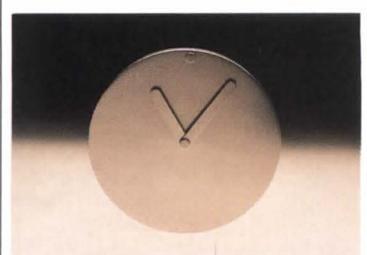
The slim, hollow profile of the *Paper Clip* chair was designed to simulate the spring and flexibility of a paper clip. *Dymetrol* fabric, made by Du Pont, was heat-shrunk around the chair's frame, seat, and back to hide welding marks. Contours Consulting Design Group, Inc., Bartlett, Ill.



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502 Storage cabinets

The manufacturer's line of storage cabinets is designed to accommodate a range of material from filing to computer-related equipment. The cabinets are available in 41 different heights, ranging from 17 5/8 in. to 79 3/8 in. Office Specialty, Chicago.

503 Recessed window pocket

A new snap-mounted pocket system is designed to accommodate pleated shade headrails and vertical or horizontal blinds. No screws or tools are required to attach the shades or blinds to the recessed aluminum extrusion. Graber Industries, Inc., Middleton, Wis.

504 Wall clock

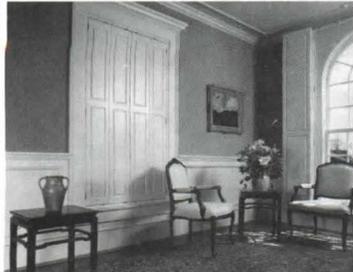
A battery-powered wall clock is part of the manufacturer's 750-piece collection of hardware and furnishing accessories. The clock is available in 5 metal finishes and 350 *Spectra* colors. Modric, Inc., Chicago.



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505 Chair

A two-position oak armchair, intended for dormitory and library applications, is 23 5/8 in. wide, 26 3/4 in. deep, and 32 1/2 in. high. A narrow version is also available. Buckstaff Co., Oshkosh, Wis.

506 Office furniture

The *System R* line of office furniture includes overhead storage components, file bins, and a variety of worksurfaces and equipment-support units. Different height and width panels, which accommodate snap-on accessories, are also available. American Seating Co., Grand Rapids, Mich.

507 Shutter

The *Boston Shutter* is said to reduce 90 percent of conductive heat loss through a typical window. Available in flush and recessed or raised panel versions, the shutters can be specified in white pine, white ash, rock maple, red oak, black cherry, Honduran mahogany, and American black walnut. Boston Shutter & Door, Inc., Keene, N. H.



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508 Benches

The *Kenwood* series is available in one- or two-seater units. Made of oak with a natural or dark finish, the benches can be ordered with upholstered seats. Etched-glass, lattice, and spandrel panel inserts can be specified on high-back models. Plymold Booths, Div. of Foldcraft Co., Kenyon, Minn.

509 Seating

Designed by Peter Buhk, the *Buhk 100* office-seating collection features a variety of size and model chairs with a knee-tilt mechanism and a pneumatic seat-height adjuster. Constructed of aluminum, the seating is available in 6 metallic finishes. Allsteel, Inc., Aurora, Ill.

510 Display cases

The *Murano* collection of glass display cases features aluminum frames, which can be specified in bronze, chrome, or a selection of lacquer colors. Available in 3 standard sizes and a corner version, the vitrines come with halogen lighting fixtures, and adjustable shelves. Cumberland Furniture, Div. of I. M. Rosen & Co., Inc., Long Island City, N. Y.



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511 Fabric

Woven in Australia, *Wilderness Park* is a new addition to the manufacturer's line of upholstery and drapery fabrics. The pattern has a wool background, which can be specified in red, green, blue, burgundy, and gray, accented by brightly colored rayon stubs. Gretchen Bellinger, Inc., New York City.

512 Reception desk

The *Capri* reception desk contains double-pedestal drawers and a pull-out computer keyboard shelf. The unit is available in 8 versions and can be specified in oak, walnut, or mahogany. Custom Executive Office, Inc., Palos Park, Ill.

513 Storage cabinets

The *Varia Vertical Casegoods* line includes bookcases, wardrobes, storage units, and a variety of matching worksurfaces and pedestal drawers. The collection is available in 24 standard wood and lacquer finishes. Mueller Furniture Corp., Grand Rapids, Mich.



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514 Children's furniture

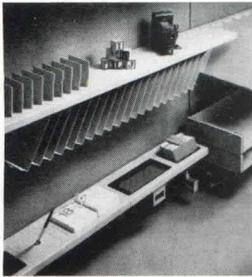
Scamps, a line of children's furniture, includes a chair with a tubular steel frame (above). The seat and back consist of plastic laminate discs over a substrate core, and the molded polyurethane feet pads are intended to protect against injury. The chair is available in 24 colors. Kinetics Furniture, Rexdale, Ontario.

515 Conference tables

A line of solid cherry conference tables includes 7 shapes and units that can be arranged in U and L configurations. The table tops can be specified with square, radius, or molded edges and the base comes with either raised-panel detailing or four Queen Anne-style legs. Harden Furniture, McConnellsville, N. Y.

516 Shade

The *Window Manager* insulating shade is intended to control light, and heat gain or loss. The two-layer shade comes mounted on a 2 1/4-in.-deep track-and-valance unit, which can be specified in tan, white, or bronze. A built-in venting system is said to protect windows from heat build-up. Appropriate Technology Corp., Brattleboro, Vt.



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517 Paper-management system
McSort is a wall-hung paper-management system designed for open-plan offices. The heart of the system is a load bar that accommodates a variety of mounted components, including message and diskette sorters, binder bins, correspondence pockets, hanging-folder files, and utility shelves. Smith Metal Arts, Buffalo, N. Y.

518 Ceramic planters
The *Gainey Collection* is a line of interior and exterior ceramic cylinders and jars ranging in diameter from 6 to 24 in. The planters come in either matte or gloss finish and are available in 19 standard colors. Custom colors and styles are available by special order. Syracuse Pottery, Syracuse, N. Y.

519 Window shading system
Trackstar window shading systems, designed for greenhouses and solariums, are now available with pre-bent tracks, tubes cut to length at the factory, and pre-installed motors—refinements the manufacturer claims significantly reduce installation time. Castec, North Hollywood, Calif.



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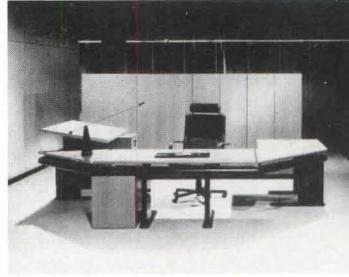


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520 Computer-integrated desk
A prototypical "desk of the future" features a modular desk top and an integrated computer system built into a box beneath the desk's work surface. An 11-in.-wide, 1-in.-thick electroluminescent flat-panel display provides visuals. The system includes a matching credenza (right). Haworth, Inc., Holland, Mich.

521 Lounge chair
Hans Wegner's most recent seating design, dubbed the *Ring* chair, is constructed around a 40-in.-dia ring of natural ash. The unit features a seat cushion and headrest upholstered in 100 percent linen. Design Selections International, Inc., New York City.

522 Chair
Designed by Borek Sipek, the *Jansky* chair is, according to the manufacturer, "the archetype of the common chair . . . tainted by the emergence of fantastic secretions of unusual colors." The chair's seat, back, and front legs are made of natural maple; the back legs are of tubular steel, varnished violet. SEE, Ltd., New York City.



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523 Office-systems furniture
West Germany's largest office-furniture manufacturer is introducing its *RMT* panel system to the American market. The steel-based, radius-edged system includes 4-in.-thick acoustical panels, offered in a variety of wood, laminate, fabric, and painted finishes. Integrated desks, storage modules, and electrical raceways are available. Voko U. S., Houston.

524 Armchair
Designed by Franz Romero, the *Bugatti* leather-upholstered armchair features voluptuous curves meant to evoke furniture of the 1920s and '30s. The chair has a hardwood frame, a black matte-finish base, and a satin-finish aluminum stretcher. Stendig International, New York City.

525 Folding table
Encore folding tables feature dual-column legs—available in standard polished chrome or custom epoxy colors—that are locked into position by a heavy steel mechanism. Options include a self-leveling locking connector and a suspended corner round extension insert designed to accommodate any room configuration. Fixtures Furniture, Kansas City, Mo.



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526 Chair
With its curved arms and back supported by hand-rubbed slats, the manufacturer's new *Vienna* chair is meant as an updated version of the classic captain's chair. The chair is constructed of maple and is available in mahogany, oak, walnut, and cherry finishes. Helikon, Taftville, Conn.

527 Upholstery fiber
Cordura is an air-textured nylon upholstery fiber designed for such heavy-duty public-seating applications as offices, airports, theaters, and restaurants. The fiber's abrasion resistance and burst strength are said to surpass those of spun nylon, polypropylene, cotton, or vinyl. Du Pont Co., Wilmington, Del.

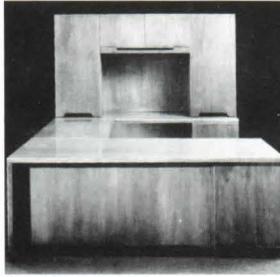
528 Furniture
The *Jugendstil* collection comprises a variety of tables, chairs, sofas, credenzas, and bookcases inspired by the straight lines and cubic forms of early 20th-century Viennese design. The furniture is available in black, red, or natural mahogany; chairs and sofas may be upholstered in three fabric patterns designed by Josef Hoffmann and Franz Safonith between 1904 and 1907. Geiger International, Atlanta.



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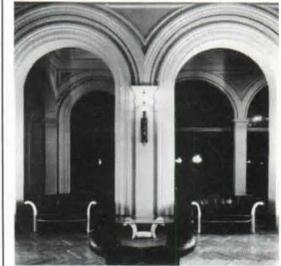
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529 Fabric

Atlanta is a 44-percent polyester, 34-percent rayon, 22-percent cotton fabric whose nondirectional design is meant to resemble abstract brushwork on canvas. Designated for contract applications, the 51-in.-wide fabric is available in 4 colorways. Stroheim & Romann, New York City.

530 Tables

Venue tables incorporate tubular steel pedestals, a cast-aluminum bugle base, and a range of round, square, rectangular, boat-shaped, and oval tabletops available in dimensions of 24 in. to 288 in. The tables are offered with 16 edge-treatment options. Krueger, Green Bay, Wis.

531 Office-systems furniture

The *Adapt Group* is a series of office-systems furniture, casegoods, and seating that combines wood and steel components. The system comprises over 250 sizes of hang-on worksurfaces, in addition to overhead-storage units, lateral files, pedestals, and surface-mounted storage modules. Cole Office Environments, York, Pa.

532 Sideboard

Part of an eclectic collection that the manufacturer recently introduced at the Milan Furniture Fair, *Bertrand* is a wood and metal sideboard designed by Massimo Iosa-Ghini. The futuristic-looking unit measures 87 in. long, 20 3/4 in. deep, and 35 1/2 in. high. Memphis Milano, Div. of Artemide, Inc., Long Island City, N. Y.

533 Tables

The *Kivara* table collection, designed by Paul Haigh, was inspired by the gridded proportional system used in traditional Japanese residential architecture. The tables are made of ebonized oak with a cross detail of maple marquetry in the top, or of maple veneer with an ebonized oak detail. High and low tables in three squares and rectangles are available. Conde House, San Francisco.

534 Folding chair

Designed by Michael Kirkpatrick, a new folding chair features a hinge with a cam that connects the movement of the seat to the back. When the seat is lowered, the back automatically locks into place. The unit is made of white ash, finished with clear lacquer. C I Designs, Medford, Mass.

535 Desks and storage units

The *Sirra* group of modular desks and storage units has been designed to coordinate with the manufacturer's *Arris* open-plan office system. The components are offered in light oak, medium oak, natural walnut, and mahogany on walnut finishes. Alma Desk Co., High Point, N. C.

536 Lacquer furniture

A line of lacquer furniture for contract and residential applications is said to incorporate techniques practiced in China and Japan. The manufacturer utilizes solid birch and natural lacquer extracted from cashew-nut oil, which is claimed to produce a durable, heat- and liquid-resistant finish. Tansuya Corp., New York City.

537 Lounge seating and tables

Designed by Robert Kleinschmidt, a new series of upper- and middle-management tables and chairs has been developed for applications in employee lounges, clubs, libraries, and reception areas. Components include low-, wing-, and high-back lounges, settees, and sofas; a wood- or glass-topped table with tripod base; an ottoman; and optional bolsters. SunarHauserman, Inc., Cleveland.

538 Vertical window treatment

Rideau is a new window treatment meant, according to the manufacturer, "to combine the softness of draperies with the sleekness of verticals." Initially available in four fabrics, the blind moves along an upper track without the need for chains, weights, or bottom track. Operation is either by hand or by drapery traverse cord. Verosol USA, Inc., Pittsburgh.

539 Armchair and sofa

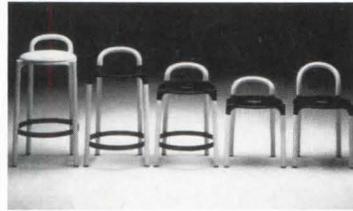
Designed by Paolo Portoghesi and manufactured in Italy, the *Liuto* armchair and two-seat sofa have steel frames, polyurethane and dacron upholstery, and bases of cherry or beech. Three- and four-seat sofa models are also available. Poltronova International, Inc., Long Island City, N. Y.

540 Wool fabrics

Freesia and *Schirocco* are two new 100-percent worsted-wool fabrics designed for contract applications. The 54-in.-wide fabrics meet most local, state, and national fire codes. Arc-Com Fabrics, Inc., Orangeburg, N. Y.



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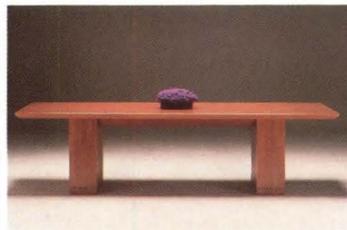
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541 Casegoods

Designed by Dewey Hodgdon, *Laureate* is a new line of transitional mahogany casegoods. The series consists of a rectangular or bow-shaped desk—each with a rounded, convex-molding edge treatment—and a choice of kneespace or storage credenzas. Kimball Office Furniture Co., Jasper, Ind.

542 Table

An epoxy-finished tubular steel frame and a briar top characterize *Puck*, a new rectangular table designed by Anna Anselmi. The table measures 74 1/2 in. wide, 34 1/2 in. deep, and 29 1/2 in. high. Gullans International, Long Island City, N. Y.

543 Interior shutters

Mark V is a new wood shutter featuring an electronic operating mechanism built into the vertical frame that eliminates the need for a center tilt bar. The shutters can be specified for both contract and residential applications, and are available in a choice of wood finishes. Benchmark Shutters, Tampa, Fla.

544 Stool

Named for designer Anna Castelli Ferrieri, the *Anna* stool comes in seat heights of 17 3/4 in., 21 1/2 in., 25 5/8 in., and 29 1/2 in. It is also offered in a high-backed, low model. Four color combinations are available; cushions and cushion covers are optional. Kartell USA, Easley, S. C.

545 Conference table

Part of the manufacturer's new *Cove* line of casegoods, this conference table has legs formed by angled wood panels. The table was designed by Brian Kimura and is available in cherry, maple, mahogany, oak, and walnut veneers. Modern Mode, Inc., San Leandro, Calif.

546 Table

Designed by Thomas Lamb, the manufacturer's new *Embassy* tables may be joined end to end for boardroom use or placed separately for executive dining. The tables are available in a variety of wood species, and their 54-in.-sq tops are removable for storage. Nienkämper, Scarborough, Ont.

547 Wall fabrics

Fourteen solid colors have been added to the manufacturer's *Regatta* collection of vertical-surface fabrics. The 100 percent polyester fabric is also available in 11 heathered tones. The fabric may be specified for the company's *Series 9000* and *Movable Walls* office-systems components. Steelcase Inc., Grand Rapids, Mich.

548 Conference tables

Prism executive conference tables are available in two design motifs: one with a bevel top and apron/stretcher (shown), the other with a square cut. Offered in lengths up to 20 ft, the tables may be ordered in Honduras mahogany, walnut, or white oak, with a variety of finish options. Tuohy Furniture Corp., Chatfield, Minn.

549 Seating

The *Metro* series of office seating features a contoured, molded back, rubber webbing in the seat, and a gas-lift control on all swivel models. The seating is available in executive and secretarial models, side chairs, and the two- or three-seater versions pictured above, with wood or metal frames. Patrician Furniture Company, High Point, N. C.

550 Desks

A new series of desks and lateral files with beveled tops is designed to complement the manufacturer's *Roommate* and *Health Care* collections of institutional furniture. The desks and files are clad in red-oak veneers, and their solid-oak drawer fronts are matched on the vertical grain. Coordinating secretarial and side chairs are also available. Adden Furniture, Inc., Lowell, Mass.

551 Seating

Designed by Burkhard Vogtherr, *Connex* office seating features unusual triangle and stripe detailing which may be specified in any color from the manufacturer's color palette. The chairs are available in two shell finishes—ice gray and dark brown—and a variety of upholstery options. Artec, Div. of Kimball International, Jasper, Ind.

552 Desks

The *Trieste Series 300* consists of desks, credenzas, and storage units clad in swirl mahogany veneers and detailed with fluted edges. The casegoods are available in dark and light mahogany finishes. Jasper Desk Co., Jasper, Ind.



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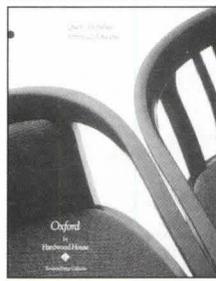
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12 Furnishings Product literature

For more information,
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553 Photo murals, images
A 44-page, color catalog displays the range of photographs and other images available to architects, interior designers, and space planners who want to use large photographs in eye-catching ways. The company also offers display transparencies and a variety of specialized services. Photographic Specialties, Inc., Minneapolis, Minn.



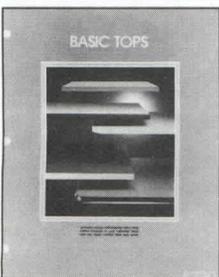
559 Executive seating
Literature details the *Oxford* chair, crafted from solid classic hardwood with European styling, in a design highlighted by graceful curving lines. Available in more than a dozen varieties of hardwoods including oaks, walnuts, cherries, and mahoganies, the chairs are available with an upholstered back or a slat back. Hardwood House, Inc., Rochester, N. Y.



554 Designer chairs
The *Bellini* line of office chairs is illustrated in a 4-page, color brochure that includes the *Persona* ergonomically designed working chair, the *Figura* fabric-covered arm chair, and the leather-upholstered *Imago* executive arm chair. Features are described in English, German and French. Vitra Seating, Inc., New York City.



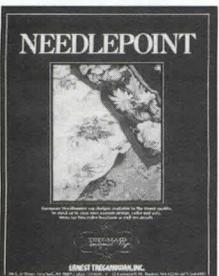
560 Office seating
An 8-page, illustrated brochure describes a selection of ergonomic chairs, designed and manufactured in Germany, and said to be suitable for any working environment, whether for artists, architects, CRT operators, secretaries, managers, or executives. A fabric swatch and color chart is included. Sam Flax, Inc., New York City.



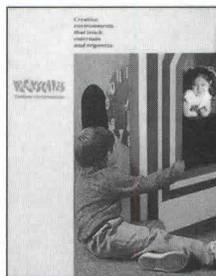
555 Table tops
A 12-page, color catalog illustrates and explains the company's line of basic table tops for designers, restaurant and hotel owners. Basic finishes, surfaces, edges, and bases are described, as is a line of *Flex-a-shape* table tops that convert from square tables to octagonal and round units. Johnson Industries, Inc., Elgin, Ill.



561 Office-planning guide
The maker of contemporary-office and electronic-support furniture provides assistance and ideas for designing office floor plans in its *Electronic Environment* guide, which offers 10 basic rules for planning work space with computer equipment. Scale drawings of typical configurations are provided to create floor plans. The Marvel Group, Chicago.



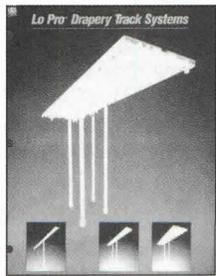
556 Needlepoint rugs
The *Tregmaid* collection of hand-woven wool-needlepoint rugs offers designers a varied selection of both antique French and English designs. Floral needlepoints and classic Regency all-over patterns highlight the collection, along with a broad assortment of documentary reproductions and eclectic adaptations. Ernest Treganowan, Inc., New York City.



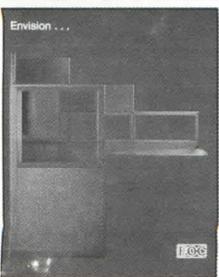
562 Children's environments
An 8-page, color catalog explains and illustrates company's complete line of *Playscapes*, children's indoor play environments for medical facilities, dental offices, day-care centers, and retail space. Space planning aids, material specifications, and descriptions of customized services are provided for architects. Playscapes, Madison, Wis.



557 Office seating
A 4-page brochure describes a line of ergonomic chairs the maker claims will improve performance, reduce fatigue, absenteeism, and stress while improving posture. Close-ups of various fabric coverings are provided. Top-of-the-line models are equipped with pneumatic-lift/dual nylon casters. Hag USA, Inc., Greensboro, N. C.



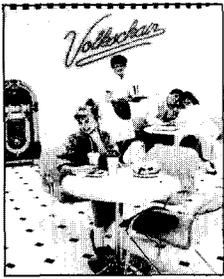
563 Drapery track systems
The *Lo Pro* line of drapery track systems is described in a 16-page catalog. *Lo Pro* systems, designed specifically for the commercial market, include extended durability, innovative and efficient design, and a sleek architectural appearance, the company claims. Installation photographs, specifications, and pricing data are included. Coral of Chicago, Chicago.



558 Office systems
A 6-page, color brochure highlights the company's broad product line, including casegoods, tables, seating, and systems furniture. Illustrations include some of the latest products and finishes unveiled at NEOCON 19. Information is provided on sales offices, showrooms, and delivery routes. Executive Office Concepts, Compton, Calif.



564 Self-watering planters
A line of planters and architectural planter boxes includes *Natural Spring*, self-contained, self-watering units that eliminate the need for drip irrigation, drainage, or waterproofing. A 4-page, color brochure illustrates various systems and provides technical details and specifications. Planter Technology, Mountain View, Calif.



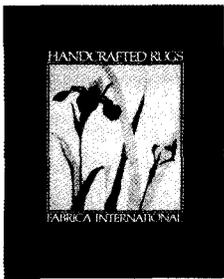
565 Stackable chairs

A 20-page, color brochure describes moderate-to-high volume *Volkschairs*, said to be affordable, stackable, and lightweight, with a tubular frame in chrome, black chrome, or fused nylon in various colors. Seats come either fully upholstered, or with an exposed wood back in maple, oak, cherry, or mahogany. Rudd International Corp., Washington, D. C.



571 Executive furniture

An 8-page brochure describes and illustrates a complete line of traditional wood office furniture, featuring four executive desk designs, secretarial desks, credenzas, file drawers, printer stands, computer keyboard stands, and bookcases with glass doors, all finished in hand-rubbed walnut veneer. The HON Co., Muscatine, Iowa.



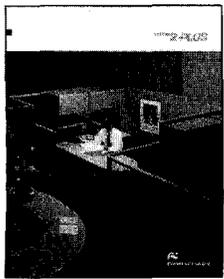
566 Area rugs

A selection of handcrafted area rugs made by Celia, Inc., which also designed many of the patterns, is offered in an 8-page brochure. The rugs are created by inlaying pieces to complete an overall design, then, carved to highlight that design. Designs include florals, geometrics, heritage classics, and European and Oriental patterns. Fabrica International, Santa Ana, Calif.



572 Wood shutters

A 4-page, color brochure explains and illustrates a line of custom-made wood shutters, available in 33 standard colors, and three different finishes: smooth stain, smooth paint and sandblasted. Half-circle arched shutters, which easily snap out of the frame, are also offered, made of kiln-dried basswood. Nanik Div., Wausau Metals Corp., Wausau, Wis.



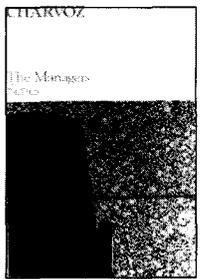
567 Office systems

A 28-page, color brochure entitled SYSTEM 2PLUS presents planning and product data devoted to popular office configurations ranging from executive office to clerical workstations. Products highlighted include the IMPAC-8 4-circuit/8-wire power distribution system. Computer-support products are also illustrated. Panel Concepts, L. P., Santa Ana, Calif.



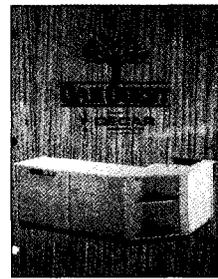
573 Architectural casework

An 18-page, general detail and specification guide provides standard dimensions for conventional casework, as well as casework for the handicapped. Comparative tables for cabinet hinges and metal drawer slide selection are provided, along with an illustrated glossary of detail nomenclature. Architectural Woodwork Inst., Arlington, Va.



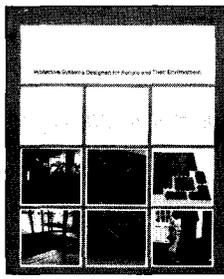
568 Ergonomic seating

The Charvoz Contract catalog introduces the company's complete line of ergonomic seating. Separate catalogs are available that give details of the *Task* series, the *Advance Seating* series, the *Side Chair* and *Executive* series. All of the selections are available in an array of designer fabrics and finish options. Charvoz-Carsen Corp., Fairfield, N. J.



574 Library furniture

The *OakQuest* line of library furniture is presented in a 4-page, color brochure. The furniture, including circulation desks, tables and chairs, a book truck, and an atlas case, incorporates oak components with either solid-color or woodgrain laminates to produce high-strength, durable units. Decar Corp., A Doloris Corp. Co., Middleton, Wis.



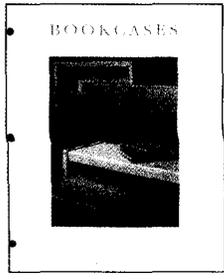
569 Floor, stair coverings

An 80-page, color catalog features entrance mats, tiles, and carpets. Also, a complete line of stair treads and floor-covering accessories is offered, including chair mats and anti-static floor coverings. Interlocking tiles and drain tiles for lockers, weight rooms or other wet situations are also covered. Pawling Corp., Pawling, N. Y.



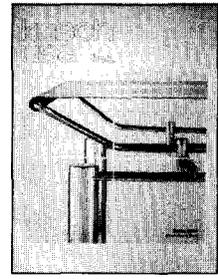
575 Wool upholstery

The 16-page Wool Library explains why wool is such a desirable fabric for upholstery; design opportunities provided by different fabrics, the natural qualities of pure wool, even a discussion of the source—the sheep—are included, along with testing procedures used on upholstery fabrics. The Wool Bureau, Inc., New York City.



570 Bookcases

A line of natural wood finish bookcases is described and pictured in a 6-page, color brochure. Three basic designs include recessed base, traditional base, and finished-back units. The 36-in.-wide units are available in heights from 30- to 84-in., with as many as six adjustable shelves. The Boling Co., Siler City, N. C.



576 Seating

The *Bitsch* line of indoor-outdoor furniture is described and illustrated in a 16-page brochure. The all-metal design, involving woven steel mats for the flexible seat and back, meets all fire codes, yet is said to be comfortable and attractive. They are also available in leather and other fabrics. Kusch USA, Inc., New York City.

13 Special Construction

Air & tension support structures
 Glazed structures
 Integrated assemblies
 Integrated ceilings
 Prefabricated buildings
 Radio-frequency shielding
 Sound & vibration control
 Special purpose rooms & buildings
 Swimming pools, spas
 Total energy systems



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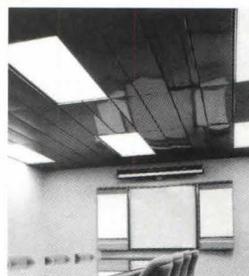
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577 Patio enclosure

A 3-in. wall panel is said to offer additional design flexibility and thermal efficiency to the *Solera* glazed room enclosure, improving its performance in climates with wide temperature fluctuations. The structure has an insulated metal roof, with an R value of 24. Alumax Building Specialties, Mesquite, Tex.

578 Custom atrium

The office-building-entrance enclosure pictured, designed to architectural specifications, has been constructed with *Flores ITB* extrusions capable of spanning up to 28 ft. The thermally broken glazed enclosure system is capable of several stories, depending on configuration. English Greenhouse Products Corp., Camden, N. J.

579 Parking structure

Bolted together from steel panels and decking, the *Redi-Park* prefabricated automobile parking structure meets national building codes. Using no concrete, *Redi-Park* needs minimum foundations; ductility in the structure and epoxy coatings prevent settling damage and rust. Redi Park Systems, Inc., Coquitlam, B. C.

580 On-site office

The *Designer* relocatable office has 576 sq ft of space, including an office, half-bath, and bar/sink. Recessed fluorescent lighting, electric heat, and air conditioning are standard features. Mobile units are available nationally for rent or purchase as construction offices. Gelco Space, Bala Cynwyd, Pa.

581 Modular ceiling

An open-design ceiling designed to camouflage the suspension grid, *Pagolux* 2-ft-sq panels have a 30-deg visual cut-off angle that conceals plenum equipment while transmitting light and air to the space below. Made of cellulose resins, the ceiling can be used with either standard or narrow grids. USG Interiors, Inc., Cedar Rapids, Iowa.

582 Pool enclosure

Tube purlins and aluminum rafters support both operable and fixed polycarbonate roof panels in *Atria's* redesigned swimming-pool structure. Offered in standard widths of from 16 to 50 ft, the enclosure can be built any length, in 8-ft increments. Atria, Inc., Div. Super Sky Products, Mequon, Wis.

583 Conservatories

Offered by the American subsidiary of a British manufacturer, conservatories are constructed of aluminum, glass, acrylic, and steel. The system accommodates thermal and mechanical movement with a low-maintenance structure for commercial, residential, and hospitality use. Machin Designs (USA) Inc., Wilton, Conn.

584 Integrated ceiling

The *Panorama* ceiling has a totally concealed carrier; square or rectangular panels have a smooth, flat surface. The system is offered with integrated light and hvac features; it can also be hung under, and use existing light fixtures and air diffusers in retrofit applications. Alcan Building Products, Charlotte, N. C.

585 Beam ceiling

An optional component package provides the *Parallel Beam Ceiling* with integrated fluorescent fixtures in single or double widths, with prismatic, paracube, or beam-shaped lenses. Regressed slots between beams are used for air distribution; acoustical blankets improve sound attenuation. Chicago Metallic Corp., Chicago.

586 Metal ceiling

The *ColorTrak* integrated ceiling comes in 124 standard panel colors, ranging from soft pastels to deep blues and reds, as well as metallics and wood finishes. Panels can be snapped onto the carrier by fingertip pressure; lighting and air distribution components work with a number of different ceiling profiles. Levolor Lorentzen, Inc., Parsippany, N. J.

587 Tensioned membrane

Soft Shell Structures are offered for standard or custom architectural projects, such as this exhibit shelter. Wind-tunnel tests are performed to determine the best aerodynamic design for large structures. Helios Industries, Inc., Hayward, Calif.

588 Insulated panels

For use on pre-engineered refrigerated buildings, foam-insulated steel panels are provided with a factory-applied stone aggregate exterior. The construction panel comes in lengths for single-tier walls of over 27 ft. Bally Engineered Structures, Bally, Pa.

S T A T E O F T H E

ART



Santa Clara Convention Center · Architect: Ellerbe Associates, Inc. · General Contractor: Hensel Phelps

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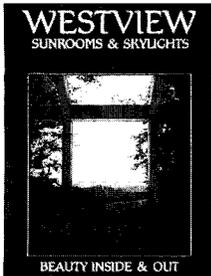


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13 Special Construction Product literature

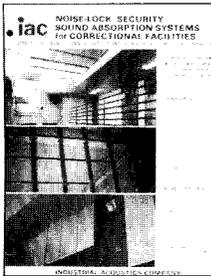
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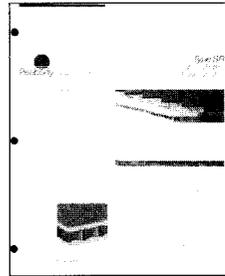
589 Solariums
Hand-selected, clear, laminated Douglas fir beams are used to provide the structural strength in the manufacturer's solariums. A full-color, 8-page brochure describes the custom-design components. Diagrams and photos of practical applications in restaurants and residences are shown. Westview Products, Inc., Dallas, Ore.



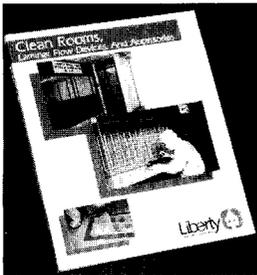
595 Fiberglass insulation
The Sound Solution is a color brochure describing fiberglass wall-cavity insulations to reduce noise transmission. Compatible with lightweight wood- and steel-frame construction, the system is said to offer optimum acoustical efficiency with little mass. Practical applications are shown in dimensional drawings. Knauf Fiber Glass, Shelbyville, Ind.



590 Security systems
An 8-page, color brochure explains a sound-absorption system manufactured to reduce noise, to ease stress, and to improve communications in correctional facilities. Examples of the system's use are shown, along with a description of the manufacturer's follow-up service. Industrial Acoustics Co., Bronx, N. Y.



596 Underlayment
A low-profile, impact-sound-rated underlayment for hard-surface flooring is featured in an informational brochure. Suitable for both residential and commercial installations, fire- and moisture-resistant *Kinetics* type SR floorboard is designed for a variety of flooring, including tile, vinyl, and hardwood. Peabody Noise Control, Inc., Dublin, Ohio.



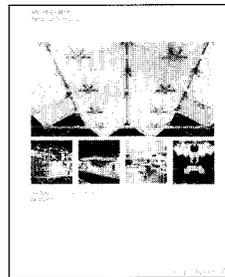
591 Clean rooms
A 216-page catalog, *Clean Room, Laminar Flow Devices and Accessories*, features 50 new products. The guide includes over 1,800 items such as modular, premanufactured clean rooms, laminar air-flow devices, and air showers, as well as a large number of accessories. Liberty Indus., East Berlin, Conn.



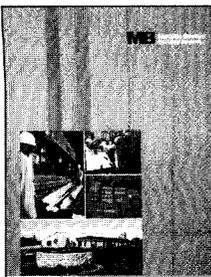
597 Floating structures
United McGill offers a full-service approach to providing specialized and floating structures for waterfront areas described in a full-color brochure. Illustrated are some applications, including floating amphitheaters, fishing piers, floating service centers, excursion boat docks, and floating swimming pools. United McGill Corp., Groveport, Ohio.



592 Seamless steel RF shielding
The *Barshield System* of permanently-installed RF-shielded enclosures consists of a field-installed wood-frame isolation structure, covered with 16-gauge steel sheets, covered with zinc metalizing spray. A color brochure illustrates its uses in meeting physical and sound-security requirements. Barlows Incorporated, Falls Church, Va.



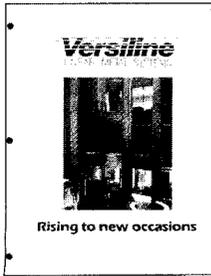
598 Space-frame ceilings
An 8-page brochure explains *Meroform* modular systems for space-frame ceilings and displays. The two-component system of nodes and tubes allows designers and contractors to create domes and displays for interior applications. A full line of decorative accessories and a new tubelight tube are also available. Mero Corp., Hawthorne, N. Y.



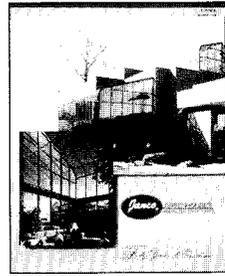
593 Building systems
A 32-page, color brochure highlights the manufacturer's background photos of building applications, data on structural systems, wall and roof panels, accessories, and complete product specifications. The company has been certified by the American Inst. of Steel Construction to produce fabricated structural steel. Metallic-Braden Building Co., Houston.



599 Grandstands
Featured in a color catalog are the manufacturer's permanent steel grandstands, permanent and transportable angle-frame bleachers, seating and stage units, picnic tables, and park and team benches. Illustrated case studies, specifications, and design test information are also included. Stadiums Unlimited, Inc., Grinnell, Iowa.



594 Linear metal systems
Practical applications of *Versiline* linear metal systems are described and illustrated in a color brochure. Used for interior ceilings, walls, columns, and soffits, the systems can accommodate a variety of configurations. Detail drawings of the panels and accessory profiles are shown. A color palette is included. Nichols-Homeshield, St. Charles, Ill.



600 Solar rooms and greenhouses
A 12-page, color brochure spotlights *Janco's Solarrooms*, greenhouses, and accessories for commercial and residential use. Practical applications are shown. A solar-room selection guide gives detail drawings of the system's roof, and illustrations of gable, side, and greenhouse sections. Janco, Laurel, Md.

FANTASTIC

The flame-like shapes pictured here form the roof structure for a multi-story electric power pavilion at the Tsukuba Expo. After dark, floodlights with rotating color create a vibrant effect of flickering flames. By day, the roof structure remains a striking eye-catching design, though quite different from its nighttime appearance. The white translucent fabric reduces daylight lighting requirements and conserves energy.

... curvilinear shapes of the simplest, purely functional membrane structure are dramatic and exciting. The design magic you can achieve with tensioned membrane structures is limitless. But this is only one of the reasons architects are utilizing them. Economy, minimum disturbance to the site, and speed of construction are some of the others.

Could a tensioned membrane make sense on a project of yours? As the world leader in architectural fabric structures, Helios has the technology and experience to translate your preliminary design into workable structures. We offer a complete design, engineering, and fabrication service.



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14 Conveying Systems

Conveyors & chutes
Elevators
Hoists & cranes
Lifts
Materials-handling systems
Moving stairs & walks
People-mover systems
Pneumatic tube systems



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601 Hydraulic lift

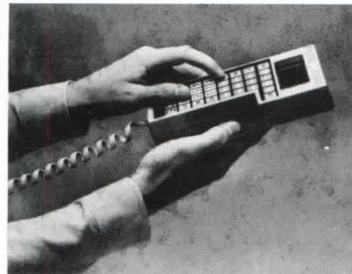
Designed to be easy to install, the *Swift Lift* is a fully OSHA-approved hydraulically actuated 22-ft-high lift that can transport 300-lb loads at 70 ft/min. The factory-assembled unit is especially useful in transporting material to the mezzanine level in factories. Pflow Industries, Inc., Milwaukee.

602 Elevator modernization

The *TMS 900EC* microprocessor dispatch and speed-control system is designed for use with many existing geared or gearless elevators. The modernization equipment is said to significantly improve travel time, ride quality, leveling, and reliability. The *TMS 900EC* can be reprogrammed to reflect changes in traffic patterns. Armor Elevator Co., Inc., Louisville.

603 Elevator cab

A new elevator car design, *Triad* meets all nationwide code requirements with substantial reductions in overall cab weight. Among the standard appearance options available is the aluminum *Stratus* ceiling panel shown here, which incorporates parabolic light diffusers in over 120 colors and metallic finishes. Montgomery Elevator Co., Moline, Ill.



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604 Hydraulic elevator controls

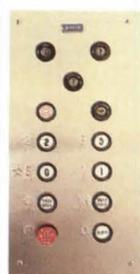
Replacing electro-mechanical controls on this maker's *Oilraulic* low-rise elevators, the *DMC-1* computer links call allocation, door controls, speed sensing, and position indicators into a single network capable of exchanging information instantly. The handheld *FAST* device shown reads performance data from the on-board computers, facilitating maintenance. Dover Elevator Systems, Inc., Memphis.

605 Freight elevator

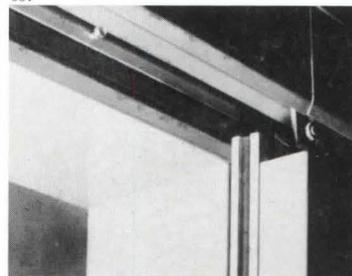
A rack-and-pinion lift that meets all current ANSI codes, this *Alimak* elevator has the drive mounted on the car frame, and does not require a machine room or overhead structural reinforcement. The freight lift is offered as a complete system, or as a basic component-only package for all load classes. Alimak, Inc., Bridgeport, Conn.

606 Wheelchair lift

The *Aligna-Rite* feature on the *PL-S144 Porch Lift* provides accurate alignment of the 160-in.-long ball screw, and prevents any whipping action caused by stress. The lift has a smooth, solid motion throughout its 12-ft travel. American Stair-Glide Corp., Grandview, Mo.



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607 Elevator panel upgrade

For use with new equipment, and as an up-to-standard retrofit for existing elevator controls, overlay panels are made of 20-gauge stainless steel or 18-gauge bronze. Markings are vandal-proof; Braille stampings comply with access codes. Diversified Enterprises, Intl., Inc., Grand Ledge, Mich.

608 Shaft smoke seal

Therm-L-Brush II can contain hot smoke and gases for up to one hour at 410 deg, retarding smoke migration through the elevator shaft of high-rise buildings. The special polyamide filaments of the gasket system do not produce noticeable drag on the elevator doors, allowing them to float freely for proper operation. Sealeze Corp., Richmond, Va.

609 Selective vertical conveyor

A continuously operating selective vertical conveyor has a series of carriages attached to a drive chain automatically circulating fiberglass totes to any level in multistory facilities. All payloads maintain an upright orientation. TransLogic Corp., Denver.



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610 High-rise elevator controller

Using a 16-bit microprocessor, the *Miconic V* controller concentrates all elevator group supervisory functions in the car controller, increasing response time significantly. The controller can anticipate future traffic patterns, dispatching and positioning cars for the fastest possible response. Schindler Elevator Corp., Toledo.

611 Glass-walled cab

Cab 126P, a *Signature Series* hydraulic elevator, comes with a rear wall of 1/2-in. clear laminated safety glass. A number of architectural appearance options are available, including door openings, ceilings, entrances, fixtures, and finishes. Westinghouse Electric Corp., Morristown, N.J.

612 People mover

The project shown is a 1 1/4-mile-long light rail system connecting offices, hotels, and shops in the Las Colinas Urban Center near Dallas. The double-ended *C-45* rubber-tired people-mover vehicle holds up to 45 passengers, guided along the running surface by an electronic beam. Westinghouse Electric Corp., Transportation Systems and Support Div., Pittsburgh.



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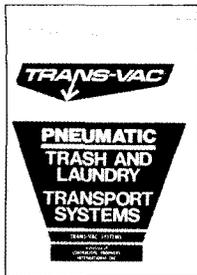
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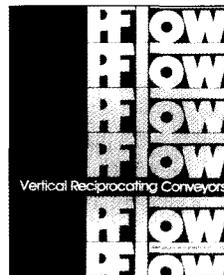
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14 Conveying Systems Product literature

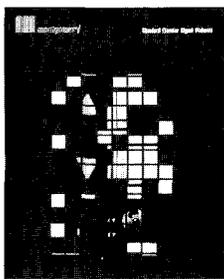
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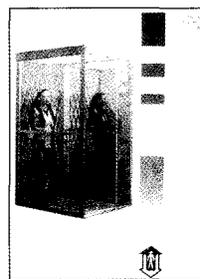
613 Pneumatic transport system
Custom-engineered, vacuum-operated conveying systems that collect trash and soiled linen in health-care and hotel facilities are described in a 4-page design catalog. A schematic drawing outlines major vertical and lateral components of a typical system. Trans-Vac Systems, Contractors, Engineers International, Inc., Georgetown, Tex.



619 Materials handling
Vertical conveyors that transport unit loads to any number of levels for storage and retrieval are explained in a new 20-page brochure. Installations guaranteed to meet all code requirements are illustrated, including a completely automated system. Pflow Industries, Inc., Milwaukee.



614 Elevator-signal fixtures
Vector elevator-control panels, call signals, and hall push-buttons, designed with human engineering principles, are part of the graphically integrated *Magatech* system. A 6-page folder illustrates stainless-steel fixtures, including an illuminated car station with a dot-matrix position indicator. Montgomery Elevator Co., Moline, Ill.



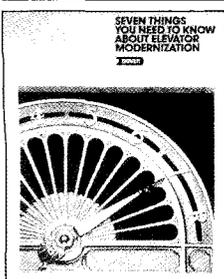
620 Residential elevators
An 8-page, architectural catalog describes elevators and stairway lifts primarily for residential use, including *Elevette* cantilevered and in-shaft elevators, and *StairLift* and *Inclin-ator* lifts; all equipment meets ANSI/ASME A 17.1 Part V. Color options and installation details are illustrated. Inclinator Co. of America, Harrisburg, Pa.



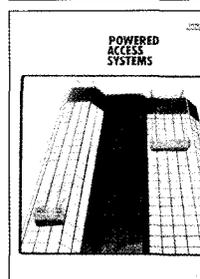
615 Wheelchair lifts
A 4-page catalog illustrates how the *Liberty* variable inclined stairway lift can overcome architectural barriers in homes and public buildings. The *Eagle* lift, a new railing-mounted lift for curved or straight staircases, is included. The Cheney Co., New Berlin, Wis.



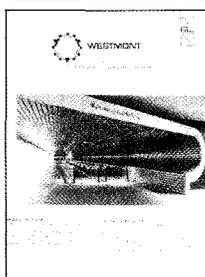
621 Elevator design
A 26-page, architectural catalog covers all *Otis* products: hydraulic, geared, and gearless elevators; escalators; flat and inclined moving walks; cabs; elevator entrances; fixtures; and design and maintenance services. Color photos illustrate recent installations; detail drawings display dimensional and structural material. Otis Elevator Co., Hartford, Conn.



616 Elevator conversion kits
A color brochure, *Seven things you need to know about elevator modernization*, describes problems common to older elevators—sticky doors, slow-moving cars, uneven leveling at stops—and suggests cost-efficient equipment kits to solve them. Dover Elevator Systems, Memphis, Tenn.



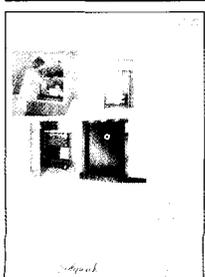
622 Powered-access systems
Custom-designed systems for exterior maintenance and construction are shown in a 4-page catalog. Davit and socket, roof carriage, and rail-mounted equipment, such as the *Sky Stage* modular workstation and *Alpha* hoist, is included. Sky Climber, Inc., Stone Mountain, Ga.



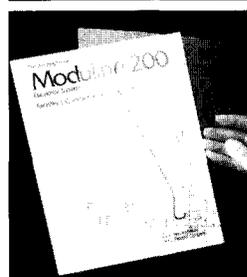
617 Passenger conveying systems
Speedwalk and *Speedramp* belt-driven systems for crowd control and pedestrian movement are explained in a 4-page, color brochure illustrated with on-site photos and detail drawings. Horizontal and inclined installations can accommodate a variety of wheeled traffic, such as shopping carts. Westmont Indus., Santa Fe Springs, Calif.



623 Powered scaffolds
Literature on high-rise powered platforms for exterior maintenance stresses the 30-year safety record of German-made *Mannesmann* equipment. Trackless, free-laid, and anchored rail configurations are detailed; American architects, clients, and contractors are named on a reference list. Verta Corp., Eden Prairie, Minn.



618 Dumbwaiters
An 8-page catalog describes parcel lifts and dumbwaiters designed for a number of light- and heavy-duty materials-handling needs in hospitals, hotels, residences, offices, and manufacturing plants. Microprocessor controls, said to facilitate installation and improve lift performance, are explained. Sedgwick Lifts, Inc., Poughkeepsie, N. Y.



624 Escalator design
An architect/contractor planning guide for the *Moduline 200* escalator includes an acetate overlay with side and end elevations, and plan views for balustrades, said to save time and eliminate repetitive work in the preparation of preliminary building plans. Westinghouse Elevator Co., Morristown, N. J.

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15 Mechanical

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Hvac equipment
Mechanical devices
Plumbing fixtures & trim
Registers & diffusers
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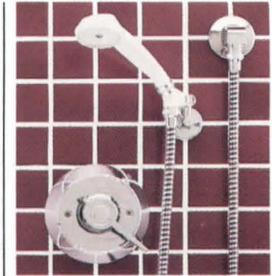
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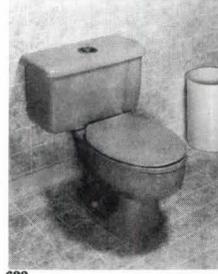
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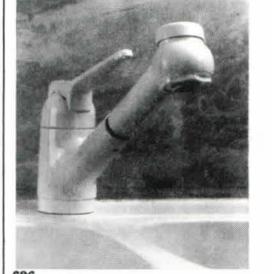
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625 Double-bowl sink

The unusual bowl configuration of the *Sunline* kitchen sink was designed by Luigi Colani to provide maximum working area in a small space. The sink takes single- or double-handled faucets; optional accessories include a deck-mounted knob for drain release, colander tray, and wooden cutting board. Franke, Inc., Hatfield, Pa.

626 Bath spout

The *Souris* tub filler sends a sheet of water 6 in. wide into the bath. Because the spout is mounted on the wall 40 in. above the bottom of the tub, a bather can sit back of the flow, for a behind-the-waterfall effect. *Souris* is available in various chrome, nickel, brass, and gold finishes. Kohler Co., Kohler, Wis.

627 Kitchen faucet

The head of the *Ladylux* kitchen deck faucet clicks off of the stem to become a flexible spray. Accessories include a water-purifying filter, a brush spray for china, and a scraper spray for pots and pans. The *Ladylux* faucet comes in black, white, bone, and two-color combinations including white/red. Grohe America, Inc., Wood Dale, Ill.

628 Modular air cleaner

The *Tectronic* self-contained electrostatic air cleaner replaces a 2- by 2- or 2- by 4-ft ceiling panel, fitting flush with the surrounding tiles. It cleans and recirculates conditioned air over 360 deg, trapping pollutants on a washable collecting cell. There is an optional remote on/off control. Tectronic Products Co., Inc., East Syracuse, N. Y.

629 Tub spout

All *Chateau* faucets, such as the deck-mounted Roman tub filler set pictured, come with a lifetime warranty against leaks and drips. Finish options include polished brass, with wood inserts on the handles. Moen Group, Stanadyne, Inc., Elyria, Ohio.

630 Water fountains

Pedestal fountains in the *Fashion Plates Collection* come in bright colors like "Scarlet O'Hara" red and "Fountainblue" as well as polished brass. Wall-mounted water coolers are also available in the 7-color range. Haws Drinking Faucet Co., Berkeley, Calif.

631 Radiant floor heating

The *Infloor* radiant heating system uses *Gyp-Crete 2000* gypsum-based pourable cement as a thin (1 1/4-in.) thermal mass that will not crack or shrink away from contact with the polybutylene hot-water tubes. The zone control (pictured) is placed within a 6-in. wall cavity; nothing interferes with furniture placement. Infloor Inc., Gyp-Crete Corp., Hamel, Minn.

632 Stainless-steel sink

Larger-size *Gourmet* kitchen sink measures 21 by 18 5/8 by 8 in., with an off-center, space-saving drain. It comes with a smaller food-preparation sink, and is shown with an instant hot-water dispenser. Steel has a scratch-resistant, reflective satin finish. Elkay Mfg. Co., Oak Brook, Ill.

633 Water closet

The one-piece china *Economiser* toilet is a flushometer/tank unit, using air pressure within the tank to activate a turbo-charge flushing action requiring only 6 quarts of water. Water costs and sewage-rate charges are substantially reduced, making *Economiser* toilets especially useful in hotel and apartment projects. Crane Plumbing, Evanston, Ill.

634 Pressure-balancing valve

The *Aquatrol* is designed for shallow-wall construction, with all parts easily accessible for on-site maintenance. The single-lever handle accommodates the natural turning motion of the bather's hand; limit stops prevent excessive handle rotation. Leonard Valve Co., Cranston, R. I.

635 Viennese replica

A replica of the 1893 Viennese original, the *Nautilus II* toilet reflects some of the artistic enthusiasm that accompanied widespread installation of indoor plumbing towards the end of the 19th century. Manufactured in Austria, the toilet meets all American code and installation requirements. Reproduction lavatories, shelves, and mirrors are also offered. Laufen Sanitaryware, Stamford, Conn.

636 Single-control faucet

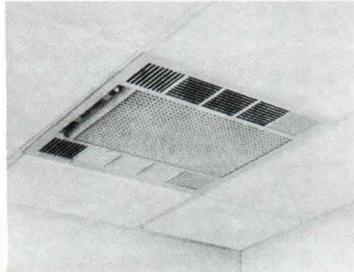
Swiss-made by KWC, *Neodomo* faucet has adjustments that let the user limit temperature and water flow; the spray head pulls out on a 4-ft retractable wand to fill pails or spray-rinse. Western States Mfg. Corp., Santa Ana, Calif.



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637 Water-saving shower

Shower head has a special flow regulator that adjusts to differing line pressures, supplying a consistent, full spray at less than 3 gal./min. The competitively priced line includes a dual-function shower, with an adjustable spray and massage action. Brass Craft Mfg. Co., Southfield, Mich.

638 Tub set

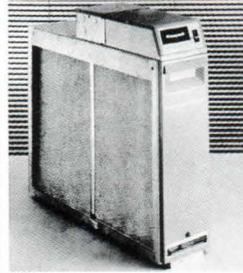
Italian in design and manufacture, *Magia* faucets and fittings offer a variety of knob detail and finish combinations. Pictured is a Roman three-hole deck-mounted set in black with gold ring handles; fixtures are also available in white, red, gold, and chrome, with marble, quartz, and chrome rings. Watercolors, Garrison-on-Hudson, N. Y.

639 Air cleaner

The *Smokemaster X-400* is a 2-ft-sq unit that mounts flush with suspended ceiling panels, removing 96 percent of air contaminants from private offices, conference rooms, or for spot air cleaning above individual work stations. The unit has three operating speeds. Air Quality Engineering, Inc., Minneapolis.



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640 Decorative faucet

Deco Series 92 fittings come in three handle side and top profiles, with a choice of 13 decorative finishes. Faucets and spouts are solid brass, and feature quarter-turn washerless valves. Sepco Industries, Inc., Brooklyn, N. Y.

641 Residential air cleaner

A solid-state power-supply and a 20-in. size, matched to hvac return-air openings, are product improvements offered by *F50* electronic whole-house air cleaners. Research is said to show that air cleaners effectively remove radon decay products from indoor air, and extend the useful life of heat-pump coils. Honeywell Inc., Golden Valley, Minn.

642 Designed fixtures

Part of an expanded collection of *Artist Edition* bath fixtures, some with coordinating wallpapers, *Northern Lights* by ceramist William Mead has luminescent pastel frosting on a lavatory and toilet in *Thunder Grey*. Ceramic glaze design is hand-applied to the fixture before firing. Kohler Co., Kohler, Wis.



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643 Onyx lavatory

Set on an H-shaped stainless-steel base, the *244* bevel-front pedestal lavatory is made of brown onyx. A hexagonal bowl of gold-coated porcelain is matched with a basin set of chrome with gold-plated inserts. Sherle Wagner International, Inc., New York City.

644 Whirlpool bath

A two-person contoured tub, the *Aura* has two *Water Rainbow* sheet-type spouts: one fills the tub, and the other is plumbed into the whirlpool system. Smoked acrylic covers with interior mirrors conceal the controls and a soap compartment. Jacuzzi Whirlpool Bath, Walnut Creek, Calif.

645 Recessed sprinklers

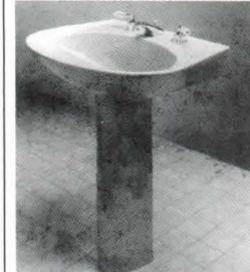
The *Starmist* is described as less expensive and easier to install than conventional recessed sprinklers, allowing for up to an inch of adjustment after the ceiling is in place. Sprinklers are UL listed and FM approved for hazard groups 1 and 2. Star Sprinkler Corp., Milwaukee.



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646 Fire sprinklers

Offered in models for both commercial and residential applications, the *Horizon* sprinkler head comes in chrome, stainless steel, brass, white, off-white, and black chrome finishes, with a matching, adjustable escutcheon ring. All models qualify for use as institutional sprinklers. The Viking Corp., Hastings, Mich.

647 Drinking fountain

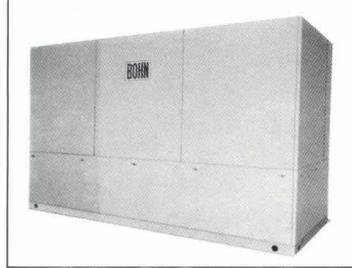
Extending 20 in. from the wall for easier wheelchair access, the rounded *43-WCRC-P* fountain has a contoured push bar that operates the water flow at a light touch. Fountain, back plate, and grille are made of 18-gauge stainless steel. Western Drinking Fountains, Sub. Sunroc Corp., San Leandro, Calif.

648 Pedestal lavatory

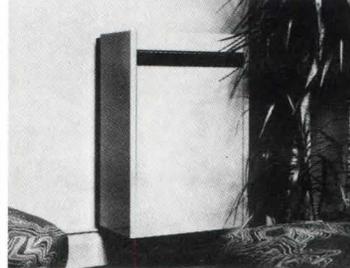
The *Alida* vitreous china lavatory sits on a space-saving pedestal base. Fixture comes drilled for either a 4-in. centerset or 8-in. combination fitting, and is offered in a range of colors, as well as white. Briggs Plumbingware, Inc., Tampa, Fla.



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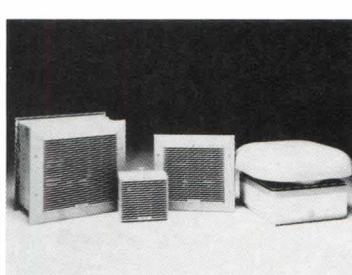
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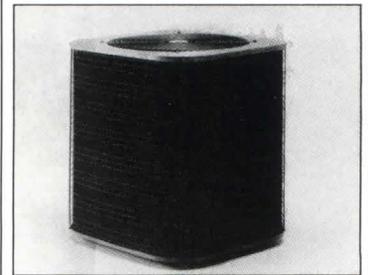
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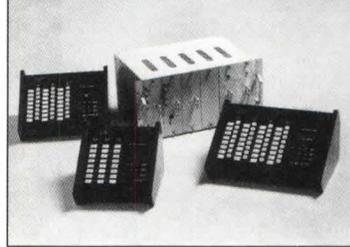
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649 Multibowl lavatory

Made of cultured marble, vanity tops may be custom-ordered in multiple-bowl configurations, in lengths up to 144 in. Tops have a no-drip front edge and integral backsplash; bowl style, deck treatment, soap dishes, trim, and color and finish options are included in the custom program. Romarco Corp., Morganton, N. C.

650 Gas furnace

The *Plus 90i* condensing gas furnace has a microprocessor control that interacts with a two-stage gas valve and two electronically commutated motors to achieve a 94-percent fuel-efficiency rating. The sealed combustion chamber uses outside air, reducing noise and extending the life of the furnace. Carrier North American Operations, Indianapolis.

651 Sensor-operated faucet

Streamlined *No-Touch* metering faucet has an infrared sensor that detects hands within its preset range, and automatically starts a flow of temperature-controlled water, which stops as soon as the user's hands are withdrawn. Bradley Corp., Menomonee Falls, Wis.

652 VAV package

Available in 8 capacities, compact *PVW* air-conditioning units are suggested for floor-by-floor installation in commercial buildings, hospitals, and institutions. Packaged configuration is said to offer significant savings from reduced labor costs and flexible, multiple-tenant applications. Units may heat as well as condition air. Bohn Heat Transfer, Wickes Mfg. Co., Danville, Ill.

653 Ventilation fans

T-Series window, wall, panel, and roof fans come in 4 capacity ranges to provide ventilation for commercial, industrial, and residential structures. Fans feature reversible, three-speed operation, and are said to be easy to install and maintain. Vent-Axia, Inc., Woburn, Mass.

654 Drinking fountain

Designed to be accessible and easy to use, stainless-steel *OVL* water coolers and drinking fountains have an oval receptor and 180-deg push-bar actuator. Halsey Taylor Div., Household International, Freeport, Ill.

655 Wall-mounted gas boiler

Model AHE cast-iron combustion boiler vents directly outside, with no chimney required; its compact size and quiet operation permit installation in any room. It is intended for individual metering in apartments and condominiums, as well as for use in room additions. Weil-McLain, Michigan City, Ind.

656 Pedestal sink

China *Antica* sink measures 36 by 22 in., with a 6-in. rim around the oblong basin. Shown here in tones of blue, the *Antica* is also offered in white, gray and other pastel colors, and several two-tone shades. Porcher, Inc., Chicago.

657 Hotel energy management

Running off existing AC lines, *System 55/110* economically controls hotel-room temperatures as a function of occupancy, automatically turning hvac equipment off when a guest checks out. It also constantly monitors guest-room smoke alarms, annunciating alarms or malfunctions by room number, in a central location. Robertshaw Controls Co., Las Vegas, Nev.

658 High-rise sprinklers

FireMaster decorative bulb-type sprinklers have O-ring seals that actually fit tighter as the static pressure of a system increases on the higher floors of buildings. Color-coded for different temperature ratings, sprinklers have special ejection springs to assure positive release of water flow. Firematic Sprinkler Devices, Inc., Shrewsbury, Mass.

659 Split-system air conditioner

Described as an easy-to-install, high-performance unit, the *Tempstar 712AC* offers efficient scroll-type compressors on several air conditioners of from 2- to 5-ton capacities. Other product improvements include cathodic E-coat paint on cabinets and coils. Heil Quaker Corp., LaVergne, Tenn.

660 Water-source heat pumps

Designed for multiroom commercial buildings, which often require both heating and cooling at the same time, self-contained *EnerCon* water-source heat pumps have a reversing valve that regulates the flow of hot and cold refrigerant gas. Heat energy is never wasted as long as it is needed in the building. American Air Filter Co., Louisville.



THE BOLD LOOK
OF **KOHLER**®

Foundation of the well-dressed bath—a Kohler console table—draped in stone, brass and vitrified clay. The console shown here in black marble with IV Georges Brass™ faucet, matching legs and basin in Tender™ Grey. The wall mirror, one in a line of coordinating bath accessories. To look into any part of the Kohler collection, see your nearest Kohler distributor or write Kohler Co., Department RAD, Kohler, Wisconsin 53044.

17051 Copyright 1987 Kohler Co.

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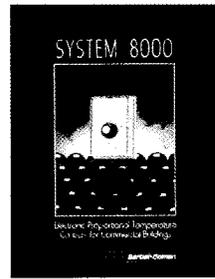
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Mechanical Product literature

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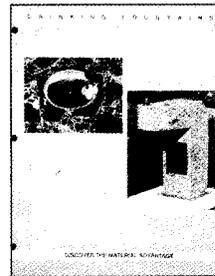
661 Institutional sinks
A 15-page, illustrated catalog reviews stainless steel products for hospitals and other institutions. The line includes wall-mounted scrub-up sinks, surgeon's lavatory with instrument trays, lavatories, floor and wall service sinks, multiple-station urinals, faucets, and fittings. Performance specs are included. Elkay Manufacturing Co., Oak Brook, Ill.



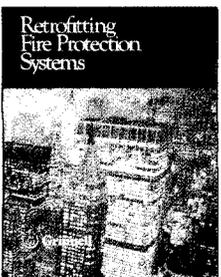
667 Temperature controls
Electronic proportional temperature controls are explained in a capabilities brochure. The units provide digital temperature read-out indication of hot water, chilled water, space and duct temperature, discharge air, mixed air, and return air. The controller has a number of commercial applications. Barber Colman Co., Loves Park, Ill.



662 Cooling system
Tri-Ad cooling, a three-phase cooling method using exhaust fans, louvers, an evaporation roof-cooling system, and internal circulating fans, is described in a 4-page brochure. Case histories are spotlighted. Dimensional diagrams and information on installation, warranty, laboratory testing, and specifications are also included. Solar Shield, Inc., Columbia, S. C.



668 Drinking fountains
A complete line of pedestal, wall-mounted, deck, bracket, and outdoor fountains are displayed in a 4-page catalog. Remote electric chillers that can convert the manufacturer's wall or deck fountain into a water cooler are illustrated. A palette of colors is included. Stern-Williams Co., Inc., Shawnee-Mission, Kansas.



663 Fire protection
A fire-protection product manufacturer offers inspection and testing services for all types of alarm and detection, sprinkler, and special-hazards systems. A 12-page, color booklet describes the company's retrofit operation, which provides complete design, installation, and finishing, including painting, papering, and soffit work. Grinnell Corp., Exeter, N. H.



669 Cooling towers
The *Series 3000* cooling towers for industrial cooling, air conditioning, and refrigeration are reviewed in a 15-page manual. Information includes construction details, selection charts, engineering, specification and installation data, support services, and optional accessories. Photos and diagrams are also featured. Baltimore Aircoil Co., Baltimore.



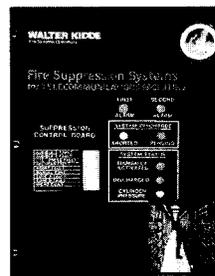
664 Shower and bath valves
An illustrated brochure contains descriptions of the manufacturer's anti-scald balanced pressure shower and bath valves. The ceramic product has an adjustable temperature-limit stop that controls the handle to avoid hot and cold extremes. Photos and a diagram of operational characteristics are included. Speakman Co., Wilmington, Del.



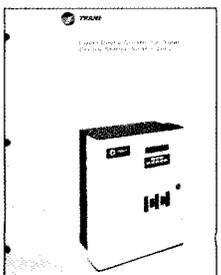
670 Engineering handbook
Lennox has issued a loose-leaf, engineering handbook that also includes new and revised bulletins. Topics covered are heating units, cooling units, combination units, heat pumps, accessories, and miscellaneous engineering data. Dimensional drawings, cross-sections and product drawings accompany the text. Lennox Industries Inc., Dallas.



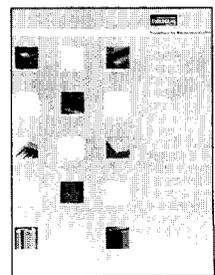
665 Computer-room protection
An 8-page, color brochure features a voice alarm for *Halon 1301* fire-suppression systems. Intended for use in computer-room areas where mechanical sounds would make a conventional alarm confusing, the voice alarm is activated when the fire detector goes into alarm. A working diagram and photos are included. Ansil Fire Protection, Marinette, Wis.



671 Fire-suppression systems
A capabilities folder explains how *Halon 1301* fire-extinguishing systems are custom-designed for the specific hazards of telecommunications facilities. Colorless, odorless, and non-conductive, halon is described as the agent of choice for protecting digital switches and fiber-optic equipment. Walter Kidde, Division of Kidde, Inc., Wake Forest, N. C.



666 Direct digital control
A 2-color, 32-page, illustrated catalog highlights the manufacturer's factory-installed direct digital control system on central-station air handlers. Details are provided on control strategy, control system sequences, applications, module menu, hardware options, installation, and mechanical specifications. The Trane Co., La Crosse, Wis.



672 Insulation
A 24-page, color guide describes *Fiberglas* glass fiber and asbestos-free calcium-silicate insulations for mechanical systems, including pipes, flanges, and heated equipment. The brochure features the company's product line and data on performance, availability, and applications. Owens-Corning Fiberglas Corp., Toledo, Ohio

16 Electrical

Alarms & detection systems
 Communications
 Electrical heating-cooling
 Lighting
 Power generation
 Protective systems
 Raceways
 Wiring devices



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673 Low-tension connection

A low-profile, large-capacity flush fitting has special inserts that permit instant disconnection of data and communications cabling, just as easily as unplugging a power cord. The low-tension disconnect mode lets abandoned fittings remain energized for future use. Raceway Components, Inc., Nutley, N. J.

674 Picture light

A die-cast, compact fixture, this picture light takes MR-16 lamps from 20 to 75 watts in all beam spreads. A self-locking cylindrical swivel adjusts the light at any angle to illuminate vertical surfaces from a shelf or desk top. Light comes in black, white, and silver aluminum paint finishes. Accessories include lenses and filters. Lighting Services, Inc., New York City.

675 Compact floodlight

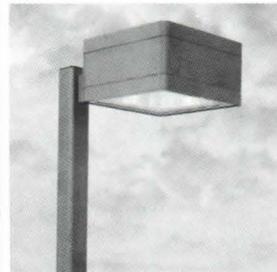
The *PF-400 Powerflood* takes HID lamps from 200 to 400 watts, and provides a number of light-distribution patterns. The *Powerflood* can be mounted vertically or horizontally; a quick-aiming sight molded into the dark bronze aluminum housing simplifies direction of the light beam. General Electric, Lighting Systems, Hendersonville, N. C.



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676 Illuminated ceiling

A barrel-vault luminous skylight can be assembled on-site of coded, prefabricated aluminum framing members and precut acrylic diffusers, to accommodate openings widths of 6, 8, 10, and 12 ft. Custom sizes, arcs, and framing colors are available. Forms + Surfaces, Inc., Santa Barbara, Calif.

677 Lighting pilaster

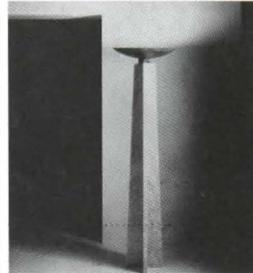
Designed by Louis Bromante, illuminated *Paris* pilaster serves as both an architectural element and a source of light. Installation shown measures 120-in.-high, 20-in.-wide, and 11-in.-deep, and has a sandstone finish; custom sizes and finishes are available. Sirmos, Inc., New York City.

678 Outdoor fixture

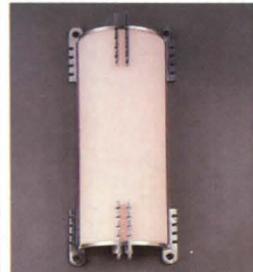
Offered in matching components for roadway and area illumination, bollards, *Rail-Lite* path lighting and poles, *Softform* fixtures have custom-looking radiused vertical edges. Latch-fastened semispherical reflector is hinged for bulb access. Sterner Lighting Systems, Winsted, Minn.



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679 Communications system

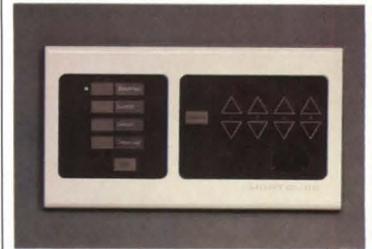
Microprocessor-based telephone is described as six communications systems in a single package. Intended for schools and institutions, the *Telecenter IV* provides telephone service; paging and emergency call; intercom system with 16 talk links; a time signal system; and a music- or program-distribution system. Rauland-Borg Corp., Chicago.

680 Italian design

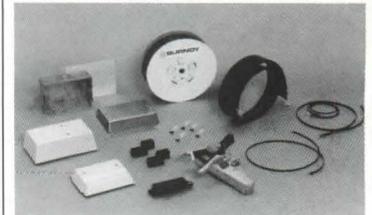
A floor lamp standing 71-in.-high, *Wagneriane* was designed by Lella and Massimo Vignelli for *Casigliani* with a white marble pedestal and a reflector of green sandblasted glass; fixtures take either incandescent or fluorescent lamps. The *Alexandra* line includes up- and down-lights and wall brackets. American Glass Light Co., New York City.

681 Wall sconce

Designed by Sandy Littman, the *Alexandra* sconce is shown here in satin-finished aluminum with pink sandblasted glass; fixtures take either incandescent or fluorescent lamps. The *Alexandra* line includes up- and down-lights and wall brackets. American Glass Light Co., New York City.



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682 Lighting control

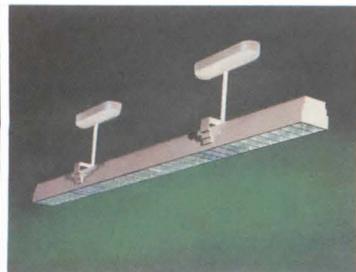
A preset control to provide architectural lighting effects in residences or small offices, the *Scenist* dims four groups of lights into four independent lighting compositions. Available in 1600 and 2400 wattages, the unit fits into a standard four-gang wallbox. Digital control is easy to operate and program. Lightolier, Secaucus, N. J.

683 Undercarpet wiring

Described as the broadest range of telecommunications products offered, new *Flexway* devices are fully compatible with existing power and data systems. System includes updated versions of existing products and such introductions as field termination devices for telecommunications and 2-pair cable. Burndy Corp., Norwalk, Conn.

684 Ornamental light posts

Made of cast iron in historically accurate or custom designs, lighting posts accommodate incandescent, mercury vapor, metal halide, and hps light sources. Installation pictured is a standard created for Galtier Plaza in St. Paul, Minn., standing over 7-ft-high. Spring City Electrical Mfg. Co., Spring City, Pa.



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685 Fluorescent fixture

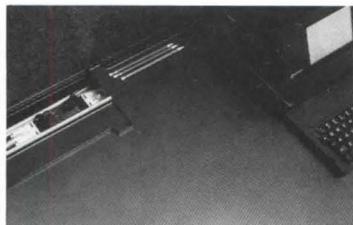
Stepped-profile *Series 12* pendant luminaire provides high levels of evenly distributed light from T8 or bi-x lamps; fixture comes in sizes from 3- to 10-ft long. The low-glare parabolic louver is finished in specular aluminum or gold. Neo-Ray Lighting Products, Inc., Brooklyn, N. Y.

686 Granite-tone pendant

Designed by Robert Sonneman for the *Yubi Kaabu* lighting series, the *Tenjo* pendant is a granite-tone fixture, with a frosted white-glass diffuser suspended by cables from a red-trimmed stem. Light source is two Q150CL/MC halogen bulbs. George Kovacs Lighting, Inc., New York City.

687 Spaceframe lighting

The *Meroform* modular ceiling and display system is now available with low-voltage tubelight components. These lighting fixtures form part of the tube-and-node assembly itself, outlining the geometric forms of the ceiling with bright spots of light. Mero Corp., Hawthorne, N. Y.



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688 Worksurface power source

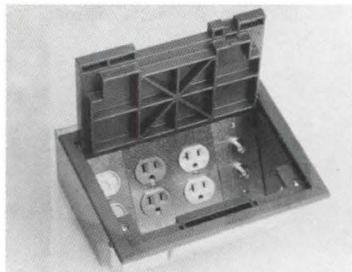
Designed to manage and conceal cabling on the worksurface, the *Powr-Pac* is a 5-in. deep metal channel that can be panel-hung, or mounted at the rear of the desk. It provides data, telephone, coaxial, and electrical power connections in units up to 6-ft long; *Powr-Pac* can be connected in series between workstations. Westinghouse Furniture Systems, Grand Rapids, Mich.

689 Video entry system

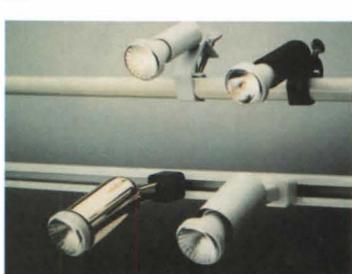
The *Aiphone MC Video* entry security system works with an intercom to provide remote screening of visitors. A small CCD camera, set behind a plastic window in the outside station, turns on when the doorbell is pressed. The interior monitor has a 4-in. screen, and a handset for the intercom. Aiphone Corp., Bellevue, Wash.

690 Low-voltage lighting

Low-voltage bulbs set in plastic tubes only 1/2-in. wide, *Startubes* outline or highlight architectural forms or create designs with light. Snapped into a parabolic-shaped channel, *Startube* can be used for safety lighting of steps and handrails. Starfire Lighting, Inc., Jersey City, N. J.



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691 Service access

The *AF Series Service Module* is said to lower activation costs of power, data, and communications cables in raised flooring. Triple-access box separates power supply from voice and data cable, and accepts other power devices such as duplex receptacles, ground-fault interrupters, and quick-connect low tension service. Walker Div., Butler Mfg. Co., Parkersburg, W. V.

692 Halogen accent light

The *Designer 16* 55- and 75-watt halogen bulb is an economical replacement for the 12-volt MR16 bulb widely used in accent and merchandising applications, as it does not need a transformer to run directly off line current. Bulb has a molded ceramic casing, and comes in narrow spot or flood beam spreads. GTE Products Corp., Danvers, Mass.

693 Prismatic glass luminaire

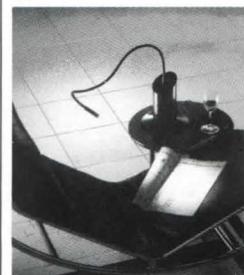
Trimmed in solid brass, the *Liberty* luminaire provides lighting sparkle through its prismatic glass shade. Model is available as a sconce, as well as the pendant shown. *Liberty Series* lights are suggested for restaurants, stores, and other commercial applications. Holophane Div., Manville, Newark, Ohio.



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694 Access security

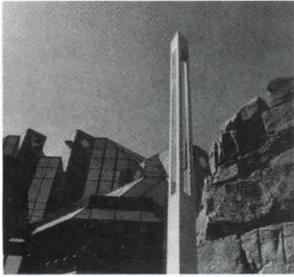
Described as a start-up system with expansion potential, the *LEF 416* is a modular stand-alone access security system that can manage up to four card readers, both magnetic stripe or keypad-controlled. There is a narrow reader for installation in any standard aluminum mullion. LeFebure, Cedar Rapids, Iowa.

695 Sconce

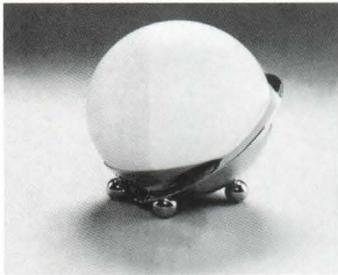
The *Beam 2* light is made of steel, with the diffuser disc and back mount painted in combinations of white/black, gray/blue, black/blue, and all-white. UL-listed *Beam 2* takes a 300-watt halogen bulb. Gullans International, Long Island City, N. Y.

696 Fiber optic lamp

Zed supplies two types of light from a single 20-watt halogen bulb: a precise, narrow beam from its flexible fiber-optic tube, and diffused, ambient light from the flip-top, base-mounted source. Light comes in metallic aluminum and anthracite gray finishes. Lumina, New York City.



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697 Triangular luminaire

Part of the *DZLight* outdoor line, the *Apollo* luminaire has a futuristic appearance in keeping with the landscape-lighting requirements of large-scale architectural projects. The 14-ft-high triangular housing is sand-cast aluminum; 100-watt mercury vapor or 70-watt hps lamps mounted at the top of the fixture direct light through three clear wired-glass lenses. Staff Lighting Corp., Highland, N. Y.

698 Table lamp

A compact (7-in.-high) globe of white frosted glass set in a brass orbit with small round feet, the *Espace* lamp was designed by Patrick Monoury. The table lamp takes a 60T bulb. Koch + Lowy Inc., Long Island City, N. Y.

699 Landscape lighting

The *GM-2000* grade-mounted upright effectively uses some of the newer miniature light sources, such as 20- to 75-watt low-voltage halogen MR16s, and incandescent PAR-36 lamps. The square-lensed light measures 9 by 5 3/4 by 4 in.; housing and face plate are made of an impact-resistant fiberglass-reinforced composite. Imperial Bronzelite, San Marcos, Tex.



700



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700 Fluorescent fixture

Suggested for the corporate office and conference room, *Series TM-400* has a contoured-edge profile, wrapping around to a low-brightness parabolic louver covering four 40-watt lamps. Pendant fixture, finished in a range of standard and custom colors, comes in lengths of 55 and 111 in. Contract Lighting Systems, New Canaan, Conn.

701 Telephone

The *Enorme* by *Sottsass* phone is described as combining Italian flair for industrial design with American state-of-the-art audio and transmission capabilities. Receiver is self-standing for hands-free use; phone comes in the tri-color combination shown, as well as all-gray. Becker, Inc., Westport, Conn.

702 Lighting calculator

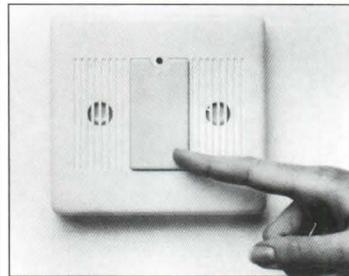
Multifunctional hand-held calculator helps the lighting designer determine the number of luminaires required, footcandles of illumination, fixture spacing, and the area lit by each fixture. The *HLC-1* can compare alternate layouts, and compute maintained fc levels over the life of the installation. Halo Lighting, Elk Grove Village, Ill.



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703 Multilink communications

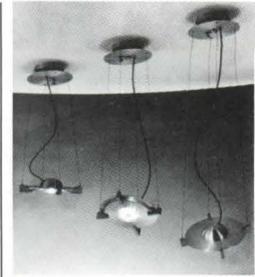
For schools, prisons, and other institutions, the *Modular Administrative Communications System* needs no telephone key to handle multiple simultaneous conversation paths. Suitable for retrofit projects, the system interfaces with existing call point/remote-communications stations and clock systems. Dukane Corp., St. Charles, Ill.

704 Grid lighting

Beamers light squares lay into standard 2- by 2-ft grids, expanding the ceiling with a complex-curved white lighting pan defined by colorful, profiled aluminum moldings housing compact 13-watt twin-tube fluorescents. Corner cubes can incorporate incandescent down-lighting as shown. Winona Lighting, Winona, Minn.

705 Automatic light switch

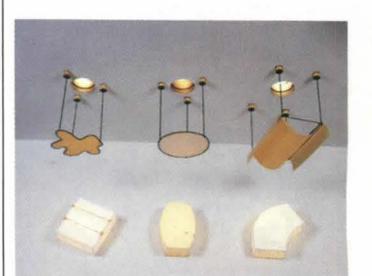
An extension of the *Light-O-Matic* occupancy-sensing product line, this wall-mounted switch for one-person offices is designed to save over 45 percent of lighting electricity, energy wasted when lights are left on in unused areas. The device replaces an ordinary wall switch with no reduction in lighting levels. Novitas, Inc., Santa Monica, Calif.



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706 Kinetic suspension

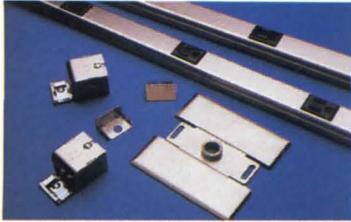
A counterbalanced disc, the *Tilt* fixture is suspended by four steel cables, and may be adjusted to any point off the horizontal to aim the light beam as desired. Light source is one 12-volt PAR 36/50 bulb; the solid-state transformer is in the canopy. *Tilt* was designed by Doyle Crosby. Boyd Lighting Co., San Francisco.

707 Cable connector

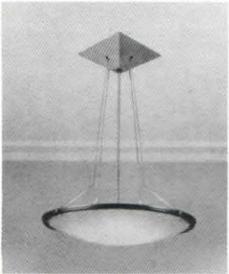
Type SCXF and *SCXR* heat-shrink closures facilitate positive on-site connection of voice- and data-carrying coaxial cables. They are part of an extensive product line, *AMP NETCON*, which includes undercarpet wiring systems, networking accessories, and connectors for power, phone, data, and fiber-optic cable. AMP Products Corp., Berwyn, Pa.

708 Recessed lighting shades

Designer/architect Kenneth Garcia has named his suspended constructions, of wire, leather lacing, rice paper, and other materials, "can shades," and placed them below recessed ceiling fixtures to ornamentally screen the light. Wall lights of similar materials are included in the *Zook* line. ZOOK, Tampa, Fla.



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709 Multi-outlet strips

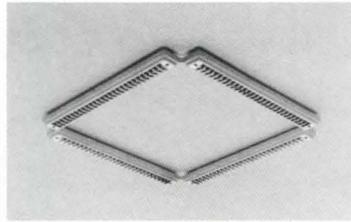
Surface raceway is available in noncorrosive stainless steel, prewired with receptacles at 6- or 12-in. intervals. The *Plugmold* multi-outlet system comes in 3-, 5-, and 6-ft lengths, with a range of fittings for joining sections and connecting it to power sources. Blank covers are used on the raceway where no outlets are required. The Wiremold Co., West Hartford, Conn.

710 Suspended light

The *Celeste*, a Ron Rezek design, incorporates a number of materials in a simple, diffused light. Molded wire glass with a sandblasted finish is set into a stainless-steel ring; the ceiling canopy is anodized aluminum and the suspension rods are nickel-steel and polished brass. *Celeste* comes in 19- and 23-in. sizes, for mounting as much as 40 in. from the ceiling. Artemide, Inc., Farmingdale, N.Y.

711 Linear fluorescent

An interconnected, pendant system made of one-lamp fluorescent tubes, these directional luminaires come in three decorative styles, and standard and custom lengths. Architectural Lighting Systems, Inc., Taunton, Mass.



712



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712 Specular louver

For office-lighting applications, the *BS 900* has a slim housing and glare-reducing specular louvers; luminaires may be surface-mounted, as shown, or suspended. Integral electronic controls reduce energy use over 25 percent, and insure superior illumination without flickering and buzzing. Siemens Lighting Systems, Iselin, N. J.

713 Low-ceiling indirect

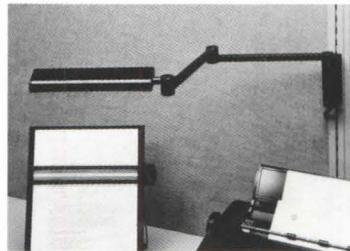
A very shallow fixture, only 2 7/8 in. deep, the *LCI* can be installed effectively on ceilings with 8 ft 6 in. heights, with fixture rows spaced 12 ft apart. The reflector design and over-and-under T8 fluorescents are said to provide efficient, uniform low-brightness illumination with a wide lateral spread. Litecontrol, Hanson, Mass.

714 Versatile floodlight

4300 Series Architectural Mini-Floods are cylindrical aluminum lights with no exposed fasteners, finished in dark bronze enamel. Set on a swivel base, *Mini-Floods* are suitable for illuminating walls, facades, signs, landscapes, and pathways. Low-wattage fixtures take incandescent, compact fluorescent, and hps sources. Kim Lighting, City of Industry, Calif.



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715 Concealed accent lighting

Based on low-voltage modules using MR-16 bulbs, *Recessed Track* incorporates the fixture placement and aiming flexibility of track lighting into a completely hidden system. All of the light passes through the 2-in. linear aperture. Various lamps, beamspreads, and lenses allow different lighting effects from pinspots to wall-wash. Alkco, Franklin Park, Ill.

716 Workstation light

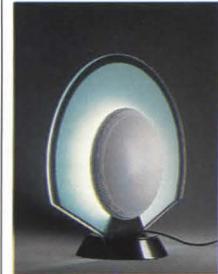
The *Personal Articulating Lightsource-PAL* is offered with the *System2Plus* open office. Designed by John Caldwell, the rotating-head, swing-arm light may be panel-mounted as shown, or set on the work surface. Fixture takes a twin-tube 13-watt fluorescent, and comes in six panel-matching colors. Panel Concepts, Santa Ana, Calif.

717 Architectural design

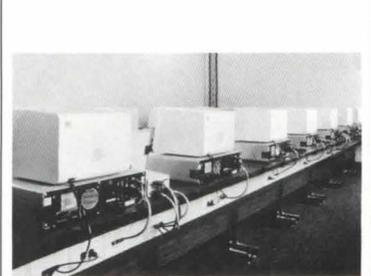
A collaboration between architects Sheila Kennedy and Frano Violich and an established lighting manufacturer has produced the first of a projected *Architectural Series*, using etched glass, marble, perforated metal, and laser-cut steel plates. *Mask* is shown in floor and table versions. Ainsley Lamps, Brooklyn, N. Y.



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718 Cylindrical sconce

Designed by Alex Forsyth to appear as a projection from the wall on which it is mounted, the *Zeta* sconce is attached to the wall by hidden brackets. Stainless-steel fixture is 10 in. high, and projects 9 3/4 in.; light source is a 150-watt halogen lamp. Brueton Industries, Inc., Springfield Gardens, N. Y.

719 Table lamp

The *Tikal* lamp revolves on its base to display either a clear white or gray diffuser, providing high- and low-intensity light, respectively. Designer Pier Ramella describes the light as representing the night and day concepts of the ancient Maya. Central halo-shaped element is blue glass. Atelier International Lighting, New York City.

720 Surface-mount cable

A 2 1/2-in.-deep wire-management system is offered in three cross-section sizes; the *Mult-A-Serv* raceway distributes power, telephone, and data networks along interior walls, partitions, above work benches, or beneath computer tables as shown. Interior brackets hold power cable in the upper section of the housing. American Electric, Construction Materials Group, Pittsburgh.

Today's open office has something to hide.



Mult-A-Cell II[®] The single source solution for access floors.

When you use Mult-A-Cell II Access Floor Delivery Modules, you make the most of your access floors. Because the module works as an interface between your work station and the cables below. So you can connect and disconnect three types of services: telephone, computer and power.

All the connections are made inside a steel box that's easy to install, easy to connect and easy to relocate. And the cables are protected from office wear and tear by a retractable exit. Once the Mult-A-Cell II is in place, its unique hinge top gives you complete access to all services. While preserving the decor of your office with four earthtone carpet flanges, designed to complement today's color schemes.

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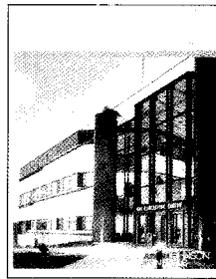
16 Electrical Product literature

For more information,
write item numbers on
Reader Service Card



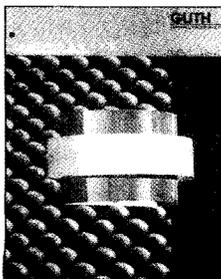
721 Track lighting

An 82-page *Lytespan* catalog describes how to select the correct track-lighting system. In addition to showing various lines and supplying technical tips, the text helps define room-lighting tasks, decide on type and color of light wanted, select a lamp producing right intensity and beam, and choose the proper track light for application. Lightolier Inc., Secaucus, N.J.



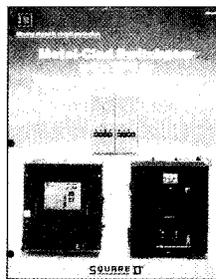
727 Building-service management

A digitized energy- and lighting-control system that simultaneously monitors and controls a number of essential hvac and lighting services is described in depth in a 4-page color brochure. *Digital Workstation's* reprogramming, monitoring, critical-equipment alarms, and data-summation features are also discussed. Johnson Controls Inc., Milwaukee.



722 Wall brackets

The *Silhouette* line of U.L.-listed fluorescent-type sconces is described and illustrated in Form 1263. The four steel-bodied lamps depicted in actual installation photographs are the black pearl, brass, and two types of black units. Each fixture discussed accommodates a 13-watt mini-fluorescent single-ended tube. Guth, St. Louis.



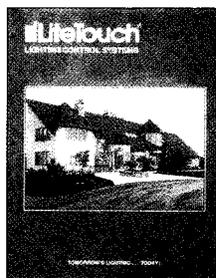
728 Electrical switchgear

Color bulletin SY-8 concentrates on the features of metal-clad switchgear that can handle 2,300-17,000-volt AC distribution systems. Details of switchgear's safety features, which include type FG-2, SF-6 and/or VDA-2 (vacuum-type) circuit breakers, are explained. Annotated cutaway drawings illustrate principal components. Square D Co., Palatine, Ill.



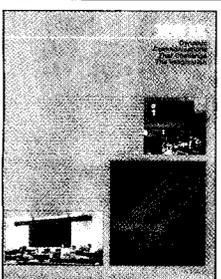
723 Lighting fixtures

Freestanding area-lighting fixtures are shown in a new catalog. Lamp housings, as depicted in the literature, are produced in two basic shapes: round and square. Some models can be ordered with either incandescent, mercury vapor, metal halide, hps, or lps lighting elements. Horizontal initial footcandle data are provided for each model. TrimbleHouse, Norcross, Ga.



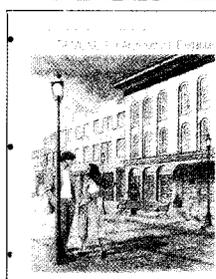
729 Lighting switches

LiteTouch, a low-voltage lighting-control system engineered for custom residential applications, is well described and illustrated in a 4-page brochure containing technical detail on dimming and programmability, as well as decorator and switchplate options. LiteTouch, Salt Lake City, Utah.



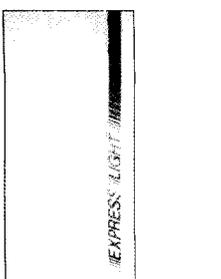
724 Wall displays

Programmable, attention-getting data walls, graphic walls, data sticks, and related animated message-relaying devices, used to visually communicate information, are illustrated in a color booklet. Advantages of the movable marquee-style signs, colors, fascia, options, and accessories are described. Trans-Lux Corp., Norwalk, Conn.



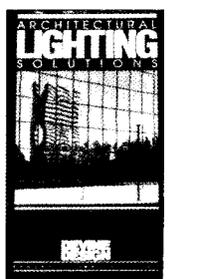
730 Lighting standards

Tapered octagonal steel *Trimline* lighting standards, constructed with a circumferentially welded tapered base and available in a variety of designs and sizes, are the subject of a 2-page catalog sheet. Sample mechanical drawings included provide representative base-plate information and anchoring details. Millerbend Manufacturing Co., Winsted, Minn.



725 Indoor lighting

A total of 53 Italian-designed, recessed wall, ceiling, and suspended lighting fixtures, plus 46 table and floor lamps available in various colors and finishes, are shown in new 38-page, color catalog. Details on warranty coverage offered, and shipment procedures on the complete line of lighting products, are given. IPI Inc., Long Island City, N.Y.



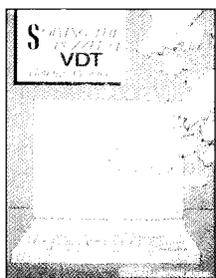
731 Lighting systems

Over 350 cast and extruded aluminum lighting systems for a variety of outdoor applications are described in a hardcover "Architectural Lighting Solutions" catalog. Each luminaire is shown with accompanying photometrics, dimensions, and a source chart. Options and specifications are listed at the end of each section. Devine Design, Kansas City, Mo.



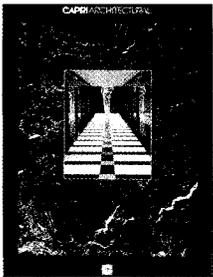
726 Fluorescent lenses

Prismatic lenses that fit over fluorescent fixtures to create "yellow" light, high-contrast light, and other forms of specialty illumination are treated in a new brochure, which identifies individual work areas that either benefit from certain types of lighting, or which require some form of ultraviolet-light suppression. KSH, St. Louis.



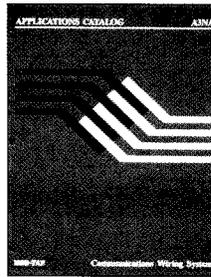
732 Video-display terminals

A newly released handbook deals with the issue of video-display terminal glare and suggests ways it may be reduced, along with related instances of operator eyestrain and fatigue. *Solving the puzzle of VDT viewing problems* offers a number of practical-to-adopt suggestions, from initial vision testing to subtle lighting changes. The National Lighting Bureau, Washington, D.C.



733 Architectural lighting

A 66-page specification catalog features *Capri* lighting products, including a selection from over 250 incandescent and HID recessed downlights, low-voltage recessed lighting, and compact fluorescent downlight fixtures and accessories. A special section covers lighting techniques, illumination data, and guidelines for lighting design. Capri Lighting, Los Angeles.



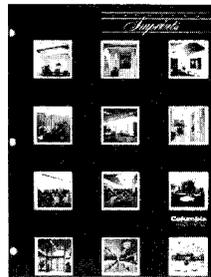
739 Voice/data wiring

The *Mod-Tap* voice and communications system is explained in a 28-page catalog. Descriptive data, detailed drawings, and ordering information are supplied on cross connect, system connects, demountable drops, wall plates, line cords, *MOD* adapters, cable, and test equipment. MOD-TAP System, Harvard, Mass.



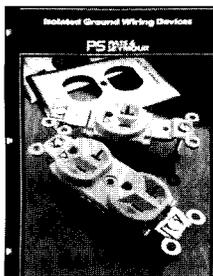
734 Cast lighting posts

A broad range of cast lighting posts and coordinating luminaires is shown in the manufacturer's color fold-out brochure. Post materials used include cast iron, cast iron and steel, fiberglass-reinforced polyester, cast aluminum, and polysteels. Model illustrations and order information are available. Antique Street Lamps, Inc., Austin, Tex.



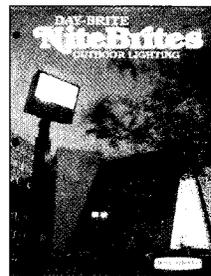
740 Designer lighting fixtures

Columbia Lighting has issued a 44-page, color catalog on interior fluorescent luminaires. Divided into four categories covering linear forms, ceilings and modules, sculptures, and compact fluorescent and architectural specialties, the illustrated brochure contains new designs and installation schemes. Columbia Lighting, Spokane, Wash.



735 Isolated ground devices

A complete line of isolated ground devices, designed to reduce electromagnetic interference, is described in a color brochure. The manufacturer offers a straight-blade isolated ground single and duplex receptacle series, *Turnlok* isolated ground receptacles, and straight-blade IG plugs. Pass & Seymour, Inc., Syracuse, N. Y.



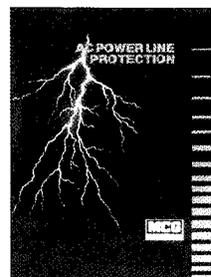
741 Outdoor lighting

Nite Brites, an exterior lighting system used in sports arenas, general-purpose areas, parking lots, and building perimeters, is featured in a 25-page catalog. Details, typical layouts, and photographs of the product line are shown. Ordering information is included. Day-Brite Lighting Division, Emerson Electric Co., Tupelo, Miss.



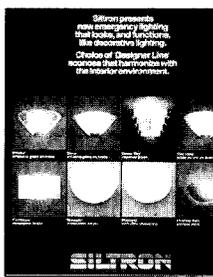
736 Heating panels

Illustrations of heating panels and applications for *Aztec* low-temperature, electric radiant ceiling panels are contained in a 4-page, loose-leaf color brochure. Photographs and drawings show the perimeter heating panels used in schools, restaurants, and low- and high-rise commercial buildings. Aztech International, Ltd., Albuquerque, N. M.



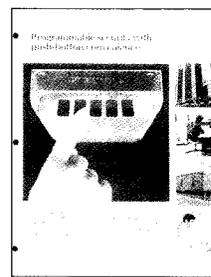
742 Power-line protection

AC-power-line protectors, designed to safeguard sensitive equipment from damaging voltage surges, transients and lightning, are shown in a 7-page catalog. Six protectors, ranging from the manufacturer's plug-in protectors to heavy-duty plant power-line protectors and on-line uninterruptible power systems, are highlighted. MCG Electronics, Inc., Deer Park, N. Y.



737 Emergency lighting sconces

A line of decorative wall luminaires for commercial and industrial use are presented in *Siltron's* 4-page color brochure. Also doubling as emergency fixtures, the sconces offer an alternative to the traditional "2-headed boxes." Fixture styles include art deco glass on a brass base, and a tiered brass sconce. Siltron Illumination, Inc., Cucamonga, Calif.



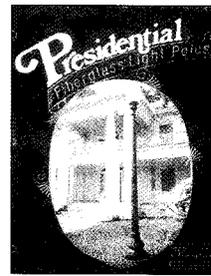
743 Combination locks

An 8-page booklet reviews *Cypher Lock's* electronic combination lock/access control-system products. The line includes options such as indoor decorative panels, outdoor weather-resistant panels, and an all-in-one control package. Photographs, specifications, and an ordering guide are included. Continental Instruments Corp., Westbury, N. Y.



738 Electric ballasts

A color brochure details *Triad-Utrad's* line of 30 ballasts. User benefits of the switching system and emergency-lighting systems in schools, hospitals, offices, factories, warehouses, and other buildings are outlined. Parallel- and series-type wiring charts are included. Triad-Utrad, Div. of MagneTek, Inc., Huntington, Ind.



744 Fiberglass light poles

Decorative fiberglass lightpoles are spotlighted in a 4-page brochure. Used extensively in residential areas, and shopping malls, these poles are replicas of turn-of-the-century cast-iron poles. Charts showing heights, diameters, and fixture specs are featured. Shakespeare Co., Newberry, S. C.

FINALLY!

A FLUSH POKE-THRU



The Headless Poke-Thru is here.

If you're an architect or interior designer we just "made your day". We finally got rid of the electrical outlet "doghouse".

If you're a specifying engineer, you'll be happy to hear that Raceway has developed the first **Flush Poke-Thru** with full capacity... two services

in a single 3" hole; 15 or 20 amp, 125V duplex receptacle power. Plus two individual openings for low tension wiring for telephone, signal or data communications. **U.L. Classified and Listed.**

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existing wires.) Just drill the hole... step on it... you're finished.

There are so many more exciting features. Color-coordinated choice of retainers... a sliding polycarbonate receptacle cover... but that's why we printed a brochure. It's all in there.

Send for it. Join the rush to get flush. Write or call Raceway Components, Inc., 263 Hillside Avenue, Nutley, N.J. 07110. 201-661-1116.



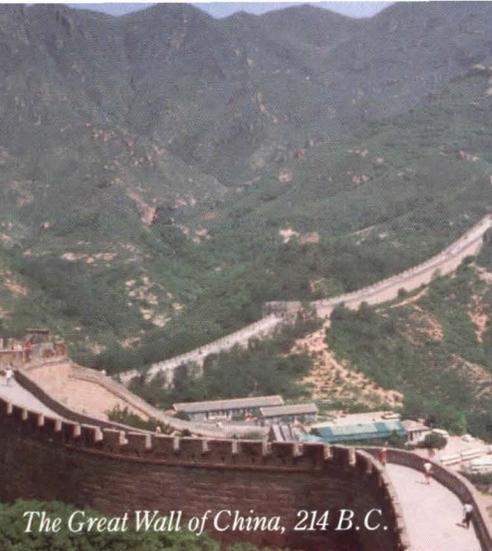
RACEWAY COMPONENTS, INC.

Mfg. I.B.E.W.

U.L. Classified and Listed

Pat. Pending

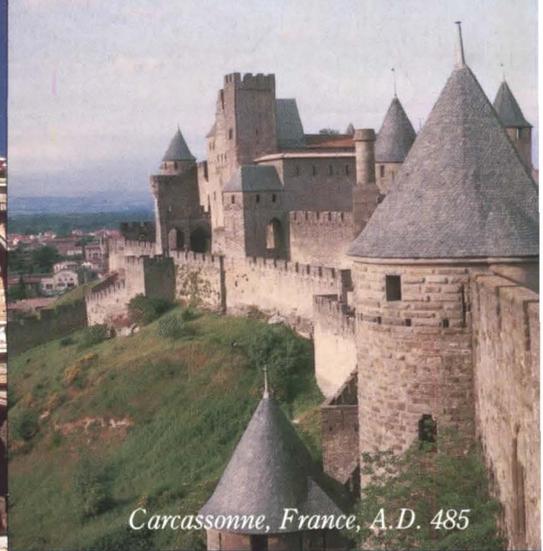
Circle 1097 on inquiry card



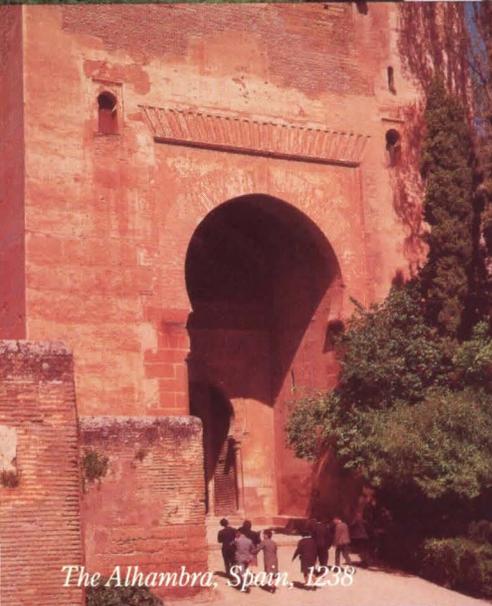
The Great Wall of China, 214 B.C.



The Colosseum, Rome, A.D. 82

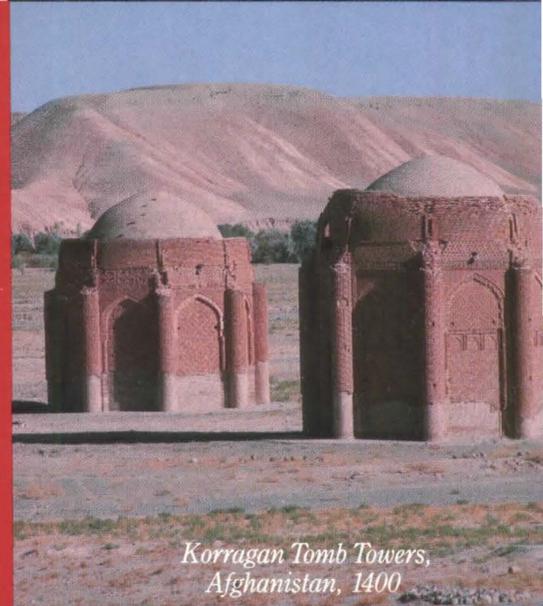


Carcassonne, France, A.D. 485

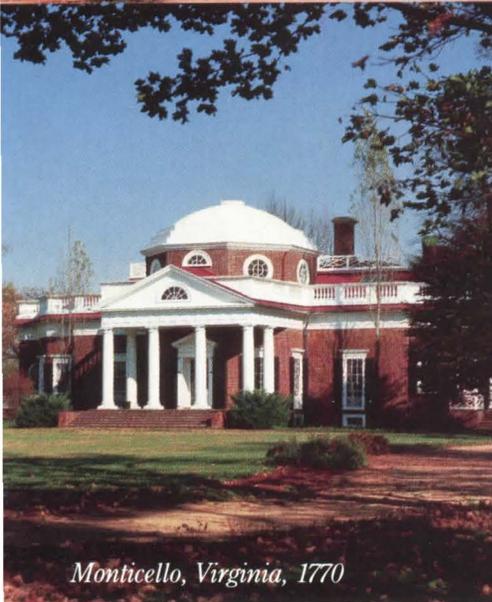


The Alhambra, Spain, 1238

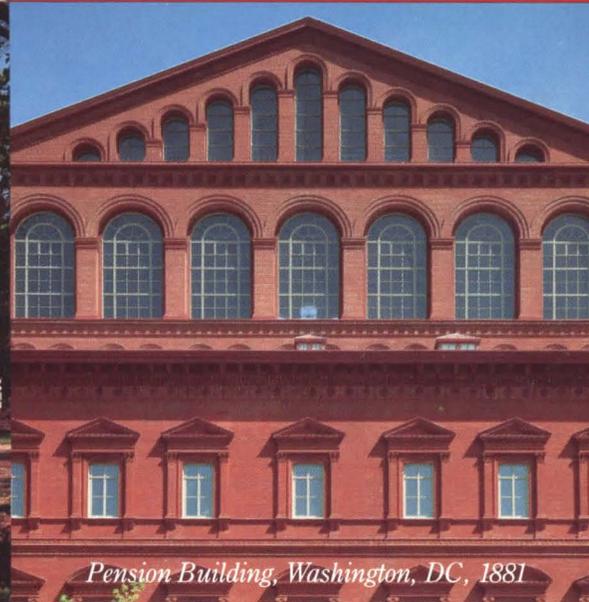
**Give an architect
a brick and
just look what
can happen.**



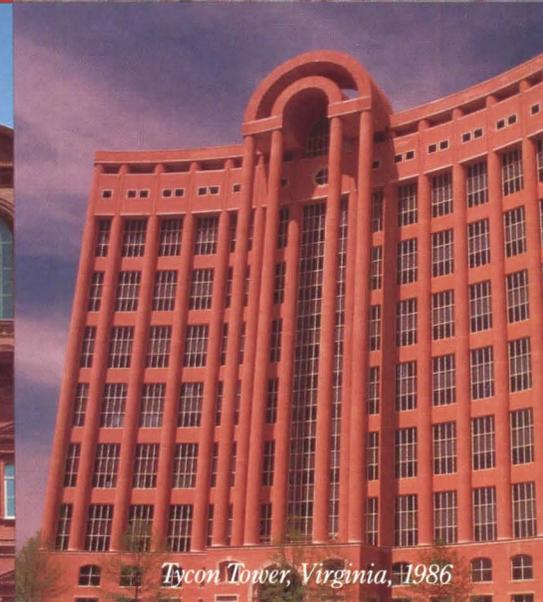
*Korragan Tomb Towers,
Afghanistan, 1400*



Monticello, Virginia, 1770



Pension Building, Washington, DC, 1881



Tycon Tower, Virginia, 1986

For 2,000 years, architects have worked wonders with brick. And no matter how innovative the design, brick has always provided the flexibility they need. So next time you have a great idea—use brick. And work a few wonders of your own.



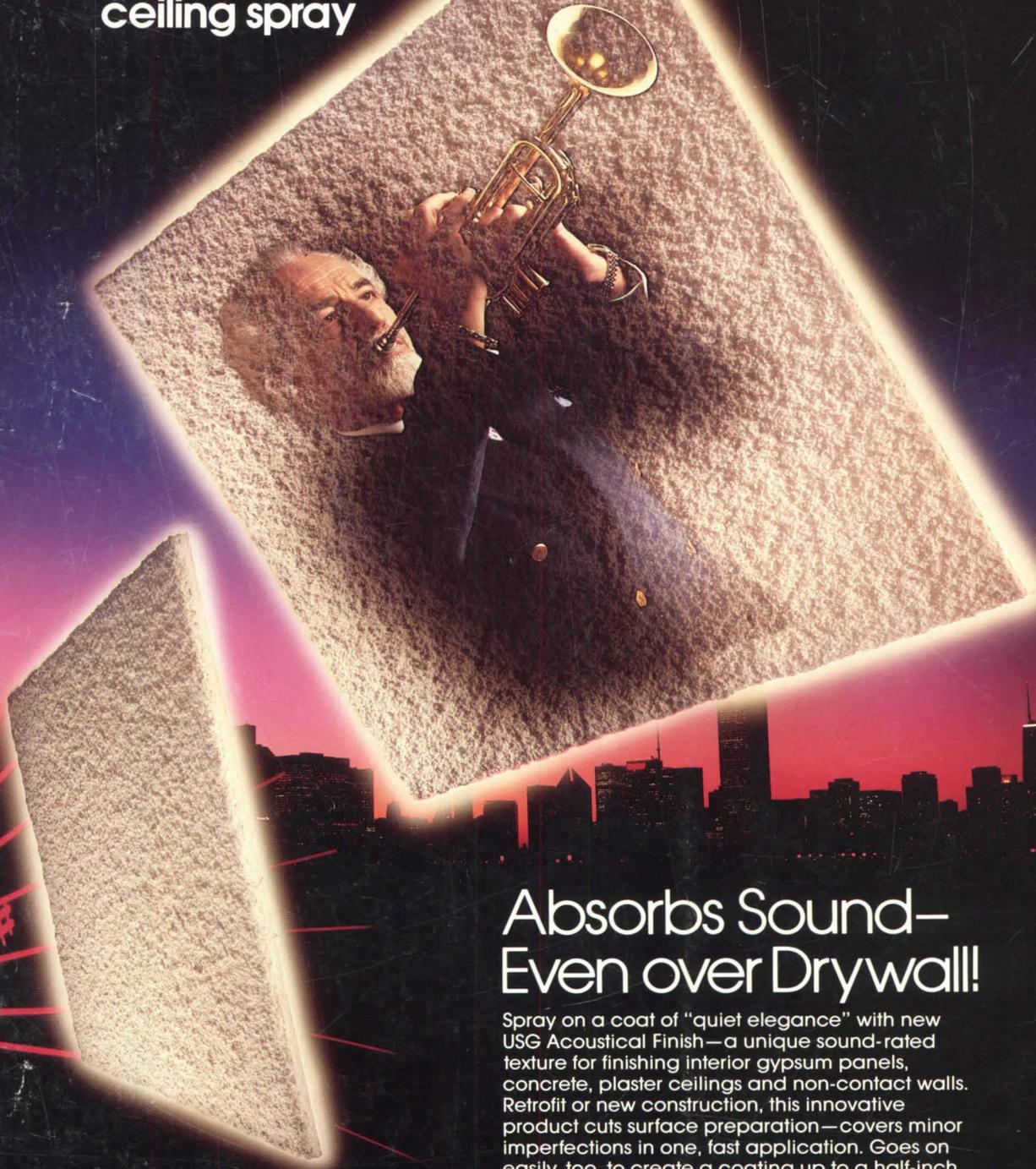
If you can see it in your mind, you can build it with brick.

For more information write to: Brick Institute of America, 11490 Commerce Park Drive, Reston, VA 22091.

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