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Downward Fees Spiral

I read with great interest your article in the July 1993 issue [RECORD, page 28] regarding the downward spiral in architects’ fees. Of course, those of us who are consultants in specialty fields are experiencing the same problems.

I especially liked Hal Craddock’s comment comparing the fees collected versus liability and time investment on the part of the architect, real-estate agent, and lawyers. The truly sad part is that the real-estate agent can sell the building more often than once, collecting commissions or legal fees. The truly sad part is that the architect can sell the rights to use their work.

It seems a fee structure similar to other creative professions might be in order. Actors and musicians are paid royalties for gains are only part of the story in improving profits. Concrete still takes time to set. There are only six months, while the architect can

Palladian Portals

In a recent review of Possible Palladian Villas [RECORD, March 1993, page 81], your reviewer prints a villa designed by the computer program described in the book. Unfortunately he did not fully read the instructions and ended up with a plan that omitted all doors and windows. After the user selects the basic plan and then chooses the facade type, he or she should return to the Plan Mode, where the plan will now be properly endowed with openings (below).

George L. Harsey
Co-Author and Professor
Yale University
New Haven, Connecticut

Re-portaled and re-fenestrated.

December 3-February 27


December 6-8

Restoration '93, an international exhibition of products and services on building restoration. Hyatt Convention Center, Boston. 617/398-6683.

December 8-11

Healthy Cities conference, San Francisco Hilton, $375 registration. 510/540-2412.

December 11

Symposium on Architectural Practice, Harvard GSD. 617/495-4315. 617/393-8999, fax 617/398-5744.

January 22, 1994

Symposium on "Kahn: Material and Meaning"; papers will be presented following by moderated panel discussions. Wexner Center, Ohio State. 614/292-0390; fax 614/292-3869.

February 17-May 1

Exhibition on "Daniel Libeskind and the Jewish Museum in Berlin," Art Institute of Chicago. 312/445-3600; fax 312/445-0849.

February 18-May 1995

"Louis Sullivan and the Prairie School" exhibition, Art Institute of Chicago. 312/445-3600; fax 312/445-0849.

Competitions

• Gabriel Prize competition.

Write for application forms by December 1: Western European Architectural Foundation, Boston Society of Architects, 52 Broad St., Boston (2109).

• The American Plywood Association offers $10,000 in its annual Innovations in Housing design competition honoring outstanding residential design. Deadline: January 4, 1994. 206/666-8600.

North America

Year-End Exhibits Celebrate OuTré Architecture

Los Angeles: “Expressionist Utopias: Paradise, Metropolis, Architectural Fantasy” at the Los Angeles County Museum of Art (1). Visionary German architecture and stage and film design in the years bracketing World War I trace the evolution of utopia within the Modernist movement, and the migration of “the sublime” from nature and landscape to industry and urbanism. Installed by Coop-Himmelblau. Shown: Carl Krayl’s “Vision 1920.” Through 1/2/94.

Washington, D.C: “La Casa de Todos Nosotros (A House for Us All)” at the National Building Museum (2) where 12 scenarios by artist Antonio Martorell represent the comforts and conflicts of home. Shown: “Casa Singer” with a sewing machine as symbolic hearth in a structure of yardsticks and tissue-paper garment patterns. Through 1/2/94, when the show moves to San Juan.

Minneapolis: “Paper Futures” at the Minneapolis Institute of Art (3), where artist-inventor Stanley Shetka has built a house with bricks and detailing of recycled paper. (Two newspapers equal a brick said to be no more flammable than wood.) Through 1/2/94.

New York City: “Paul Rudolph: Explorations in Modern Architecture, 1976-1993” at the National Institute for Architectural Education (4) celebrates 15 projects Rudolph completed in an era when he and Modernism were supposed to be passé. Shown: Dharmala corporation entry, Jakarta. Through 2/12/94. (The Cooper-Hewitt features his Singapore Concourse Building through 2/13/94.)


Atlanta

**Going for Olympic Gold**

The first of two design charrettes was held this fall as part of a 1996 Olympics design initiative by The Architecture Society of Atlanta and the Corporation for Olympic Development (CODA) in Atlanta. Six teams of architectural faculty, students, and community officials were led by architects Diana Agrest, Enric Miralles of Barcelona, Kemp Mooney, Mack Scogin, and Michael Sorkin, and landscape architect Martha Schwartz. Sorkin called International Boulevard, a designated Olympics corridor linking convention and tourist facilities, "a desperate tarmaced zone," and suggested turning it into a continuous green space (below) connecting three Atlanta campuses. An international design competition is also underway in the city, with winners invited to negotiate with CODA for design commissions. *Lorna Gentry*

San Francisco

**Main Library Links Styles in Bows to Civic Center, Commercial District**

The San Francisco Main Library by Pei Cobb Freed & Partners and associated architects Simon Martin-Vegue Winkelstein Moris is scheduled to open in 1995.

At first glance, James Ingo Freed's 376,000-sq-ft, $139.5-million facility comes across as Neoclassical, because a grid consisting of cornice, frieze, architrave, light granite panels, and traditional windows covers more than half its exterior. Freed's building is "quite clearly a Modern building," he says. The gridding is out of respect for the existing structures, including the surrounding Neoclassical buildings and Arthur Brown, Jr.'s City Hall, which the library faces across Civic Center Plaza. The library's height complies with current 80-ft Civic Center height restrictions. Plans to change the old library to a museum for Asian art are on hold.

Freed shifts smoothly from the Neoclassical Fulton and Larkin Street facades to Modernist facades on Grove and Hyde Streets, which lead into the area's commercial district. The Grove Street treatment (above) is particularly subtle: the entablature turns the corner from Larkin, is sliced by recessed atrium windows, and then fades out to a hint of itself in the middle expanse; the final portion is completely Modern, with large perforations balancing the building's mass.

The Hyde Street facade features terraces and linear windows recessed into the structure, and reveals the roof protrusions of the atrium, periodicals reading room, and the San Francisco history room. The 60-ft-diameter atrium adds not only daylight, but also, in Freed's words, "a point of reference." *Susannah Temko*

Massachusetts

**New College Studio Building to Gather Arts Under One Roof**

The Carlos Jimenez design for the Spencer Art Studio building at Williams College will gather architecture, drawing, painting, photography, printmaking, sculpture and video studios currently scattered throughout the campus into a single gateway structure with spectacular views of the Berkshire Mountains. A partially buried wing will contain the photo/video studios. Cambridge Seven Associates are associated on the project. *Paul Hester*
Italy

Stayed-Cable Fashion Factory Is Eight-Month Wonder

A stayed-cable system at the latest Benetton factory at Castrette di Villorba in Treviso creates a central goods-handling tunnel feeding off two structure-free workshop wings 280 ft wide and 575 ft long. Seven pairs of 80-ft masts and five miles of steel spiral rope anchor the trusses to the reinforced concrete interior walls that form the 128-ft-wide tunnel, and support roofing and exterior curtain panels. According to architects Afra and Tobia Scarpa (he is the son of Carlo Scarpa), up to now this type of construction has been used only for bridges and a few sports centers. The factory was erected in eight months. Computerized controls balance electric and daylight to prevent misreadings of fabric colors. Judith Davidsen

Ohio

A Many-Meaning Dream House for Art, Architecture, and Design Students

Construction begins in March 1994 on an addition, designed by Eisenman Architects in association with Lorenz and Williams, Inc., that will reorganize and double the space at the University of Cincinnati’s College of Design, Architecture, Art and Planning. The design, according to the architect, draws out and connects imaginary extensions of both the undulating knoll where the structure is located and various realignments of the chevron patterns that the existing box-like buildings create on the site. The fractured addition wraps the originals with new studios, laboratories, offices, an auditorium, a library, and a skylighted atrium (dark central triangle) for juries and exhibitions. Eisenman says the building has the capacity to express the “many different meanings” art itself absorbs from the current culture. The project was one of two designs representing the U.S. at the Fifth International Exhibition of Architecture at the 1991 Venice Biennale. New quarters notwithstanding, the first assignment for entering architecture students will continue to be designing and living in cardboard shelters.

New York City

Looney Tunes Takes Over Chic Corner

It’s hard to miss the newest Warner Brothers Studio Store. Between the first and second floors on the prestigious corner of Fifth Avenue and 57th Street, legendary Looney Tunes characters cavort in a series of Art Deco bas-relief panels cast in crushed and poured limestone. Above the bas-reliefs, 20-ft-high windows afford a three-story view of video walls and whimsical displays, including Superman pushing an escalator upward. The store is the work of Michael L. Leclere Associates, James Mansour, Ltd., and John Greenberg & Associates. Marcy Stanley
**Texas**

**Houston Zoning Shot Down Again**

For the third time, Houston voters have defeated zoning—this time by a referendum on November 2. With a low turnout of barely 20 percent of registered voters, the zoning ordinance that had been in the works for three years was rejected by a narrow 52-to-48-percent margin. The referendum was the result of a heated debate begun earlier this summer as opposition to zoning finally gathered momentum. A petition drive forced the issue onto the November ballot despite the fact that the city council had accepted the ordinance in three separate votes and built a large bureaucracy to administer it. In the past, opposition to zoning was led by developers and property owners fearing controls on land speculation and development.

This time was quite different. Supporting and opposing groups consisted of a wide mix of interests and the real-estate community was likewise split. Surprisingly, it was the low-income districts, where land-use controls might have had the most effect in protecting residential neighborhoods from offensive land uses, that most solidly voted against zoning. A last-minute fear/smear campaign by the well-financed opposition may have been the deciding factor. Outgoing councilman Jim Greenwood, a victim of term limitations who sponsored the zoning ordinance, may keep the issue alive, but it could be three years before it can be brought back to the voters. Gerald Moorhead, Houston

**Fruits of unbridled expansion**

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**Practice**

**Briefs**

**GSA projects still on hold**

“We should be hearing decisions on the first projects under consideration soon,” says GSA spokesman Hap Connors. On September 8, GSA administrator Roger W. Johnson announced a hold on 188 construction, renovation, and leasing projects worth $7.4 billion while a study is conducted to see if all the new space is needed and whether costs are reasonable. “This won’t be like the military-base closings,” promised Connors, referring to the protracted process of announcing those facilities’ fate. He promised all decisions would be made by next March.

The outcome? “We anticipate savings,” said GSA deputy administrator Julia Stasch last September, “but we don’t know where they’re coming from.”

**Filling out new 255/254 forms**

Whether the GSA stays in the building business at present strength [see GSA projects still on hold, above], many architects are applying for federal commissions—so many, according to Nancy Watson, that her recently completed nationwide round of ACEC-sponsored seminars on filling out application forms 255/254 has been swamped by eager architects and engineers.

She plans a new round starting in February. Revisions to the forms, effective November 1992, have triggered part of the interest, but they are not major: A new column to fill out on page 1 lists the number of personnel in consultants’ offices, and a requirement for clients’ contacts and telephone numbers is added on pages 8 and 9, which list applicants’ project experience. Of more interest in the seminar are tips on knowing the content federal clients are looking for in the forms: “Experience,” says Watson, “and not just any experience, but experience directly related to the project at hand.” She adds: “Get to know your local administrator, who may very well stretch such rules as limitations on the amount of information on relevant projects that can be provided in the limited form blanks. It can make all the difference.” Watson’s organization, A/E Management Services, also offers software to generate the new forms for a special price of $375 until December 31. For information, call 313/761-9400.

**Pushing partnering**

In a RECORD editorial last March, editor Stephen Kliment strongly endorsed partnering, a procedure in which all parties on a construction project meet periodically to iron out potential disputes and avoid delay claims, mediation, arbitration, and other more drastic recourses, such as litigation. Now insurer DPIC has come out with an offer to provide a “facilitator” at no cost for these meetings within the scope of its policies for specific projects. “Delays, cost overruns, and lawsuits can often be tracked back to ingrained adversarial relationships,” says DPIC president Peter Hawes, who clearly believes his company may save money in the long run. “We have always promoted partnering,” concurs vice president Ava Abramowitz of Victor O. Schinnnerer & Co. “We have been available to meet with the team under our standard project insurance policies all along.”

**Knowing state licensing laws**

Information on states that let architects compete with engineers, that exempt potato cellars from the need for professional-design services, and that can levy civil fines for unlicensed practice, is contained in a new AIA publication, Architectural Licensing Laws. The document describes how each state conducts its professional requirements. For information, call the AIA at 800/365-ARCH. C. K. H.
To recognize superior on-paper presentation of architectural building materials, ARCHITECTURAL RECORD awards its fourth annual Citations for Excellence in Building Product Literature.

Catalogn, technical brochures, and mailers, submitted in the annual RECORD Literature Citation program, were reviewed by a jury consisting of Deborah Berke AIA, Raymond M. Henning AIA, Sweet's Group, and Anna Egger-Schlesinger, RECORD's Senior Associate Design Director. The presence of multiple winners—The C/S Group and Leucos were cited in two different categories—shows how a strong, creative graphics program carries across product type. RECORD thanks all those who took the time to submit material for the jury program. J. F. B.

Winners

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United States Gypsum Co.
Chicago
Enclosure Systems / 8 pages or less

USG Fire Stop System
for Filler and Wall Penetrations

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Leucos USA, Inc.
Edison, New Jersey
Enclosure Systems / 16 pages or less

Formelle Glass Panels
Leucos USA, Inc.
Edison, New Jersey
Enclosure Systems / 16 pages or less

Rolling Doors and Grilles
Cornell Iron Works
Mountaintop, Pennsylvania
Enclosure Systems / 64 pages or less

Rolling Doors and Grilles
Cornell Iron Works
Mountaintop, Pennsylvania
Enclosure Systems / 64 pages or less

Baseline Files
Meridian Incorporated
Spring Lake, Michigan
Finishes & Furniture / 16 pages or less

Baseline Files
Meridian Incorporated
Spring Lake, Michigan
Finishes & Furniture / 16 pages or less

Prismatics
Hubbell Lighting, Inc.
Christiansburg, Virginia
Special Construction & Engineering / 8 pages or less

Prismatics
Hubbell Lighting, Inc.
Christiansburg, Virginia
Special Construction & Engineering / 8 pages or less

Lighting 1993
Leucos USA, Inc.
Edison, New Jersey
Special Construction & Engineering / 64 pages or less

Lighting 1993
Leucos USA, Inc.
Edison, New Jersey
Special Construction & Engineering / 64 pages or less

While waiting for flood waters to drain from historic sites (above), Jackson is working in damaged towns, where historic designation is seen as a tool to recovery and grants for restoration of buildings as a means to spur economic development. He says FEMA is sympathetic. "They don't want to be seen as an agency that caused a community to lose the things it values." J. S. R.
Today, many architects' most significant contribution to community recycling efforts ends with separation of bottles, cans, and newspapers at home for curbside pickup. Since landfills are nearing capacity in many parts of the country, and not-in-my-backyard sentiment is preventing the location of many new ones, construction waste is on its way to becoming a prominent focus of recycling efforts. After all, construction and demolition (C&D) waste comprises from 23 to 33 percent of municipal solid wastes.

The impetus for the design and construction industry to recycle is driven by a variety of forces. Out of a commitment to ecological principles, a growing number of architects are incorporating re-used and recycled materials, and searching for ways to reduce on-site construction waste. But as Minneapolis architect Peter Vesterholt points out, "Sustainable architecture will be embraced by the mainstream of the profession when recycling and resource efficiency are practical matters of supply and demand rather than ideological issues."

These are now coming into play. To slow the flow of waste to landfills, local governments demand more recycling and have steeply increased the tipping fees at dumps and transfer stations. The combination of higher fees and longer distances to open landfills is forcing builders to seek alternatives. (In other locations, water shortages are pushing other locations, water shortages are pushing)

Until recently, the bulk and weight of C&D debris has been its primary disposal issue. Landfills resist accepting the debris because it takes up too much space and is hard to compact. Waste-to-energy facilities don't want it because the majority of C&D waste is not readily combustible. As pressure rises on disposal authorities to reduce the hazardous content of waste, C&D debris has come under increasing scrutiny and found to be not as benign as once believed. There is the obvious case of asbestos, which requires special disposal methods. (Worse, it's sometimes incorporated in older roofing felts, vinyl composition flooring, and asbestos-cement panels, among other products.) Even "natural" lumber and plywood waste may have been treated with preservatives that pose disposal problems. Ozone-layer depleting chlorofluorocarbons (CFCs) in cooling equipment must be recycled.

A role for producers
Product manufacturers are facing many of the same disposal issues as consumers, and are responding by reducing waste, and increasing internal reprocessing and recycling. While some products have always contained significant recycled or reprocessed content, community recycling is creating new sources of low-cost raw materials that were once rare or expensive. More manufacturers are exploiting these resources: glass for "glassphalt," newspapers for cellulose insulation. Packaging represents a shockingly large percentage of landfill material, and some manufacturers are moving back to reusable packing and readily recyclable shipping materials. Once there was a stigma against products containing byproducts or recycled materials. Today manufacturers prominently advertise recycled or reprocessed content. Market research shows that as many as four out of five consumers prefer "green" products.

Other countries show the way
With full landfills, and higher population densities, Europe and Japan have developed recycling to a high art. Some hard-to-dispose-of materials, such as PVCs, have been banned in some locations (though PVC makers claim it is unfair and will be overturned). High-profile projects in Germany must now account for the energy embodied in the manufacture of components, their recycled content, and the potential for disassembly and re-use of components. The widely publicized efforts by BMW and Volkswagen to design cars that can be disassembled for the salvage of parts and the recycling of materials reflects an even more impressive effort on the manufacturing level.) In Germany and other countries, an environmental approach has become key to winning important competitions. Research is increasing in the U.S., though. Virginia architect Jorge Pardo, former director of product research for the National Concrete Masonry Association, is developing construction techniques that are easy to modify and disassemble. A masonry subsystem for residential construction features mortarless concrete blocks supported on a steel track and held together with vertical structural ties.

Dividing to conquer C&D waste
While building products can reduce the waste stream by being readily recyclable, it's even better if a product's manufacturing process can make use of cast-off material. The Environmental Resource Guide (ERG)—AIA's comprehensive subscription service of technical data intended to assist architects in evaluating the environmental consequences of design decisions [RECORD, October 1991, pages 36-39]—describes different approaches to materials recycling:

- Closed-loop recycling is the process in which a product is recovered and returned to the same manufacturing process as before (used glass beverage bottles reprocessed into new beverage bottles).
- Open-loop recycling is traditional "postconsumer" recycling that recovers used products for the manufacture of different materials and products. Examples are steel cans that are recycled into concrete reinforcing bars or plastic bottles reprocessed as carpet backing.
- Co-product allocation is a process generally applied to industrial waste. For example, the leftover aluminum when a round lid is stamped from a rectangular sheet can be reprocessed into a different product rather than disposed of. Allocation, in ERG terms, refers to the percent of environmental and energy impacts of the raw material that should be attributed to both the primary product and the secondary product made from recycling scrap. The chart (opposite) gives an overview of recycling issues for widely used building components.
Construction waste, a sizeable percentage of landfills, has become a target for recycling and reprocessing. Architects, builders, manufacturers, and solid-waste utilities are cooperating to make recycling easier.

### Recycling in Common Building Components

<table>
<thead>
<tr>
<th>DIVISION/PRODUCT</th>
<th>RECYCLED CONTENT</th>
<th>DISASSEMBLY</th>
<th>RE-USE</th>
<th>DISPOSAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2 Sitework</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Furnishings</td>
<td>Exterior rubber tiles (tires); geotextiles and site furnishings (plastics)</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Asphalt Paving</td>
<td>Old paving recycled; glass from bottles used as aggregate</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td><strong>3 Concrete</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete Materials</td>
<td>May use fly ash, byproduct of power plants</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Reinforcing</td>
<td>Most steel is made from at least some scrap</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td><strong>4 Masonry</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brick and CMU</td>
<td>Brick and some stone are salvaged. Remortaring used brick is not recommended</td>
<td>Disassemble</td>
<td>Not readily separable</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Stone</td>
<td>Stone panels readily disassembled, unit masonry not</td>
<td>Disassemble</td>
<td>Not readily separable</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Simulated Stone</td>
<td>Reprocessed stone aggregate</td>
<td>Disassemble</td>
<td>Not readily separable</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td><strong>5 Metals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel Framing</td>
<td>Most steel is made from at least some scrap</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Brass, Copper, Lead</td>
<td>Copper usually includes recycled content</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Metal Decking</td>
<td>Higher content for steel than aluminum</td>
<td>Disassemble</td>
<td>Not readily separable</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td><strong>6 Wood &amp; Plastics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lumber</td>
<td>Heavy timbers increasingly salvaged</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Panel Products</td>
<td>Fibreboard undertakings (newspapers)</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Engineered Wood</td>
<td>Substantial scrap content in laminated fabrications, hardboard siding, and OBI web of joists</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Treated Wood</td>
<td>Hardboard siding may have recycled content</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Plastic Fabrications</td>
<td>Some types have recycled content</td>
<td>Disassemble</td>
<td>Readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td><strong>7 Thermal &amp; Moisture Protection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation</td>
<td>Some mineral wool made from blast furnace slag</td>
<td>Disassemble</td>
<td>Polyethylene can be re-melted; others can be, but are rarely recycled</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Asphalt Roofing</td>
<td>Torn off shingles and SIBs are being reprocessed as asphalt product additives</td>
<td>Disassemble</td>
<td>PVC has been banned in some European jurisdictions</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Single-Ply Roofing</td>
<td>PVC types; testing underway for other types</td>
<td>Disassemble</td>
<td>PVC has been banned in some European jurisdictions</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>TiteFloors</td>
<td>Plastic tiles recycle computer housings</td>
<td>Disassemble</td>
<td>Ceramic types can become clean fill</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Metal Roofing</td>
<td>Significant in steel, aluminum and copper</td>
<td>Disassemble</td>
<td>Most types readily salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td><strong>8 Windows &amp; Doors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Window &amp; Door Frames</td>
<td>Wood frames now largely made from small, finger-jointed pieces</td>
<td>Disassemble</td>
<td>Potentially all types</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Glass</td>
<td>Glass cullet has a variety of uses</td>
<td>Disassemble</td>
<td>Potentially all types</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td><strong>9 Finishes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspended Ceilings</td>
<td>Some panels recycle paper and mineral wool</td>
<td>Disassemble</td>
<td>Readily disassembled</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Gypsum Board</td>
<td>Recycle gypsum, paper</td>
<td>Disassemble</td>
<td>Readily disassembled</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Tile</td>
<td>Some from reprocessed glass</td>
<td>Disassemble</td>
<td>Readily disassembled</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Wood Flooring</td>
<td>Venner types contain some scrap</td>
<td>Disassemble</td>
<td>Some high-value items are salvaged</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Resilient Flooring</td>
<td>Most types reprocess scrap</td>
<td>Disassemble</td>
<td>Readily disassembled</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Carpeting</td>
<td>Some cushions now made with reprocessed fibers, foam, and other materials</td>
<td>Disassemble</td>
<td>Readily removed</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Paint</td>
<td>Some use of reprocessed materials; solvents are increasingly captured in manufacture or factory application to reduce air emissions</td>
<td>Disassemble</td>
<td>Lead paint abatement must be done by experts</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td><strong>15 Mechanical &amp; Electrical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping</td>
<td>Copper and steel fittings may have recycled content</td>
<td>Disassemble</td>
<td>Piping ready dismantled</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Cooling Equipment</td>
<td>CFC coolants must be recycled</td>
<td>Disassemble</td>
<td>Reclaimed CFC coolants from equipment required</td>
<td>Sold as scrap</td>
</tr>
<tr>
<td>Lighting</td>
<td>Lamp glass scrap a source for tiles</td>
<td>Disassemble</td>
<td>Some fixtures salvaged</td>
<td>Sold as scrap</td>
</tr>
</tbody>
</table>

Sources: ERG, industry groups
Will clients buy recycling?
Clients rightly remain concerned about the cost of recycling versus landfilling, and about the performance of products that use recycled materials. Recycling decisions made by the Natural Resources Defense Council (NRDC) and the National Audubon Society in new headquarters projects were subjected to rigid cost accounting, according to Kirsten Childs, partner in the Croxton Collaborative, which designed both projects. (The biggest payback of all may have come from “recycling” distinguished older buildings.) Because they link environmental benefits with a demonstrable economic payback in construction costs and energy savings, the projects represent a commonsense approach that appeals to other once less-enlightened clients.

Reducing waste at the jobsite
Some components contribute more to disposal problems than others. The C&D material stream can be divided into three main categories: Concrete, asphalt, and rubble make up approximately 50 percent of C&D waste by weight; wood products, including manufactured and treated wood and stumps from land clearing, account for about 25 percent; other materials, including such metals as steel and aluminum, plus glass, roofing, gypsum wallboard, plastic, and so on, constitute the remaining quarter of C&D waste.

Such a division suggests that much can be done to divert jobsite demolition materials and scrap from landfills. To do it you need a plan: “Separation of materials, along with conscious efforts to reduce material quantities, are the two most critical elements of an effective [on-site] waste-management plan,” explains Washington Harry Gordon, who heads the Waste Management Task Force of AIA’s Committee on the Environment. Debbi Palermini, of Palermini & Associates, an environmental consulting firm specializing in resource-efficient building practices, maintains that the owner must be on board, asking the architect or other consultant to develop written requirements for waste management that “set goals for waste reduction and require the prime contractor and subcontractors to develop their own plans to meet these objectives.” Minneapolis architect Peter Vesterholt developed sample bid instructions for the AIA/Minnesota Committee on the Environment. The guidelines inform prospective contractors that the project requires a recycling plan, and provides a format for estimating costs.

Dump owner practices what it preaches
A surprisingly wide range of clients sees both economic and marketing benefits to recycling and other “green” strategies.

Metro, the public agency that directs solid-waste management for the three-county metropolitan area encompassing Portland, Oregon, recently moved into new headquarters where the agency could “practice what it preaches,” as Jim Goddard, Metro’s recycling program manager, explains.

Metro wanted the building design and construction process to be a model for what recycling could do. It targeted six goals for the project, designed by Thompson Vaivoda & Associates: emphasize salvage and reuse; maximize recycling and recovery; use recycled building materials; incorporate an efficient recycling system within offices; conserve energy; and reduce water use. (They’ve developed materials on planning for recycling. See page 23.) The agency’s earliest and arguably most important decision was to recycle an abandoned Sears Department store. The program also called for the general contractor, Hoffman Construction, as well as all subcontractors to complete waste-management plans.

Before demolition work began, local nonprofit foundations and salvage companies rescued 159 tons of materials, including 18,000 square feet of hardwood flooring (it was installed in the retail showroom of Rejuvenation, Inc., a local salvage company). The contractor diverted more than 77 percent of material from the landfill, recycling more than 725 tons of metal, wood, gypsum board, and corrugated cardboard. More than 7,000 tons of brick, concrete, sand, and dirt were processed into on-site and off-site fill. Some was used as a clean capping layer for a closed landfill. Only 265 tons of material were dumped, saving an estimated $35,000 in disposal costs. In the renovation, Thompson Vaivoda & Associates used products made from recycled materials whenever possible. Metro’s new headquarters includes ceiling panels made partly from newspaper, paint from old latex paint collected at the agency’s own household hazardous-waste facility, and wallboard incorporating recycled gypsum and paper. Restroom partitions and locker-room benches were fabricated of HDPE plastic (much of it from beverage containers), floor tiles from waste glass, foam insulation from remolded polystyrene, and resilient flooring from tires. To aid recycling by occupants in the completed building, the architects designed a three-chute paper-collection system within an abandoned mechanical shaft. They also placed collection areas on each floor for cans, glass, and cardboard.

Others in Portland are following suit. The recycling and waste-management plan for the Oregon Arena Project, a 20,340-seat arena designed by Ellerbe Becket, is one of the most comprehensive to be applied to a large project, according to Jerry Powell, chair of the National Recycling Coalition. (It began construction last summer.) Palermini Associates, the firm that wrote Metro’s plan, was retained to develop a construction-site recycling and waste-management program for the arena. In addition to identifying materials to be recycled, the plan included specification language bound into bid packages for subcontractors. General contractor Drake/Turner will also educate subcontractors on the project. William Crockett, an architect with Ellerbe Becket, credits the clients for encouraging sustainable design and predicts that “it’s only a matter of time before many of these environmental innovations will be standard procedures.”

Recycling on a budget
For a new American headquarters for London-based The Body Shop, a successful retail chain of all-natural cosmetics, owners Anita and Gordon Roddick felt that recycling an existing building was much more appealing than building new. The Body Shop settled on a 114,000-square-foot structure on a rural 43-acre site, 15 miles north of Raleigh, North Carolina. “Our selection was based as much on the beautifully wooded grounds as the appropriateness of the existing building—a nasty, abandoned light-industrial ware-
The Body Shop Headquarters

Recycling at The Body Shop began with the building itself, a former warehouse. Much of it is still used for shipping and storage, but the architects opened the roof over office areas and added skylights. The existing joist system filters the light as do “mango leaf” armatures that encourage plant growth (drawing). Architect-designed light fixtures, display casework, and reception desks make use of recycled materials. Clearscapes is the architect.

Harmony

This project takes eco-tourism to the luxury-resort market. It also represents the National Park Service’s commitment to sustainable development (the resort is within the boundaries of the Virgin Islands National Park). Individual units not only contain significant recycled content (diagram), wastewater is recycled and organic waste composted. The architect sited each structure to minimize impact on native vegetation, and has further developed natural ventilation and active solar-energy strategies. The Park Service sees it as a prototype; researchers from the Sandia National Laboratory will study the performance of the resort’s systems for possible further development elsewhere in the national park system. Guests participate by helping to monitor their own unit.
Metro Headquarters
Architects Thompson Vaivoda & Associates stripped an abandoned Sears store to its concrete frame for Portland, Oregon's solid-waste utility, adding considerable glass area in a stone, brick, and glass recladding (below). They created onsite parking, offices (new atrium bottom left) and a daycare center. A raised plaza (below right) signals the entrance. A conference room shares tower space with a tank fragment (bottom right).
house," says Paul Alvey, The Body Shop's vice president of operations. Architect Gail Ann Lindsey, founding principal of the Raleigh firm Design Harmony, served as environmental consultant. ClearScapes, a Raleigh-based architecture firm, converted this ugly duckling into an administrative and manufacturing complex (page 21). Prior to renovation, the local chapter of Habitat for Humanity, a nonprofit housing organization, salvaged doors, cabinets, demountable fans, plumbing fixtures, and light fixtures. Working with a modest budget, the architects raised the existing roof, installed light monitors throughout the office space, and modified the existing floors to be more energy-efficient. Carpeting is made from recycled plastic bottles, and floor tiles recycled from light bulbs.

A collaborative practice of architects and sculptors, ClearScapes designed and fabricated custom fixtures. The design team specified a plastic lumber that contains recycled plastic bottles, and floor tiles recycled from light bulbs.

The food isn't recycled—right? Other companies have found that recycling sells. Following a widely publicized conversion to food packaging with recycled content, McDonald's Corporation began using recycled materials in the construction of its restaurants. An outlet in Kent, Washington, features a copper roof made of recycled raditor fins, a wire mesh, recycled, and gupsm board, and copper wiring was placed on each floor. The new walls were built using steel studs made from recycled steel and recycled-content gypsum board.

Resources
- Construction Site Recycling and Recycled Building Materials, Metro Portland, 600 Northeast Grand Avenue, Portland, Ore. 97222. 503/797-1700.
- The Sourcebook for Sustainable Design, Andrew St. John, editor, Boston Society of Architects, 52 Broad Street, Boston, Mass. 02109. 617/351-1433.
- Environmental Building News, Route 1 Box 161, Brattleboro, Vt. 05301. 802/257-7300.

Manuals
- Ease-of-use: The biggest barrier is the need to understand animations; a film course would help more than one on CAD drafting.
- Error-trapping: Good; you can generally abort a time-consuming process if you know you've made a mistake.

Architectural Record December 1993 23
Why the makers of AutoCAD strongly recommend another brand of software.

Introducing Generic CADD 6.1.

The makers of AutoCAD® software recognize that not everyone needs AutoCAD’s full-throttled power. That’s why we recommend new Generic CADD® 6.1.

This latest version of Generic CADD software can now write AutoCAD.DWG files—the standard file format throughout the CAD world.

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Of course, this latest version of Generic CADD delivers the extraordinary functionality and ease-of-use that have made it a three-time winner of the coveted PC Magazine Editors’ Choice Award. And it’s still only $495.

Generic CADD 6.1 is part of the Autodesk® family of design automation products. You’ll find it at leading retail software centers. Or call us at 1-800-228-3601 and request Infopack #A102.
Recycling waste into building products will become one of this decade’s critical industries. For what’s in store, see page 18 of this month’s feature “Ready or Not, Construction Recycling Is on the Way.” More and more, architects are dealing creatively with the problem. Near the Raleigh, North Carolina-based American headquarters of The Body Shop, the British natural-cosmetics giant, Clearscapes, the architects, did a lot right: they reused an old tilt-up warehouse, but raised part of the roof to admit clerestory daylight to the interior; they specified a handsome floor tile made out of old light bulbs; a good carpet was produced from recycled soft-drink bottles; display stands came from reconstituted wood; interior conference rooms were faced with glazed garage doors. The result was attractive, and cost under $100 per square foot.

There’s work to be done. Clients and architects still tend to use recycled materials for ideological reasons rather than, as Minneapolis architect Peter Vesterholt says, as routine responses to “practical matters of supply and demand.”

Meanwhile, back at the plant, U. S. and overseas building-product manufacturers steadily continue to put on the market products that are increasingly energy-efficient, flexible, ADA-compliant, and free of toxic substances. Computer products are becoming networkable, portable, and cheaper. The following 50-plus pages in this year’s RECORD Product Reports give you an overview of this rich array of choices, arranged as usual in the 16 CSI/Sweet’s categories. More and more product information is available in electronic form: such items are marked with an asterisk.

RECORD is always on the lookout for new materials, products and their applications. We encourage you, the reader, to tell us about them. Associate editor Joan Blatterman, who assembled and edited the material, is eager to hear from you. S. A. K.
1. **Discipline Integration**

Known as CadPLUS-3D, package integrates manufacturer's architectural, structural, mechanical, electrical, and civil modules. Also featured are the assembly and management of details through a special detail library. Details may be customized, and new ones added. Research Engineers, Orange, Calif.*

2. **Vector plotters**

Three new XP-500 Series vector plotters feature speeds up to 50 inches per second. New automatic pencil-lead feeder can hold a wide array of leads to produce visually attractive CAD output with minimal user intervention. Unit is able to mix ink and lead within the same drawing. Mutoh America, Inc., Mt. Prospect, Ill.

3. **Product data on CD**

SweetSource, an interactive CD-ROM-based product with fast access to building product information, has published its third edition. It now contains over 12,000 items produced by over 500 manufacturers. Form and content are monitored by a 600-person Advisory Council of user professionals. Sweet's Electronic Publishing, Grand Rapids, Mich.*

4. **Economical inkjet plotter**

HP DesignJet 200 plotter comes in D- and E-sized models, and is said to plot up to five times faster than pen plotters. The unit is aimed at architectural and other professional designers who need a relatively low plot volume of up to eight sheets per day. D-size: $2,695. Hewlett Packard, Palo Alto, Calif.

5. **Two personal CAD plotters**

ProTracer II and ProTracer II-GL produce both large drawings and standard text documents. Each yields letter-quality C-size drawings at 360 dpi resolution. ProTracer II is designed specifically for use with AutoCAD. Pacific Data Products, San Diego.

6. **Measuring distance**

Distance, area, and volume-measuring tools using a sonic device help design and construction professionals obtain rapid, accurate field measurements. Little training is required. Units also serve architects working on interiors by replacing tape rules for establishing distances between walls and between furniture items. Sonin, Inc., Scarsdale, N. Y.

7. **Copier for mid-range volume**

Xerox 3050 plain-paper is designed for architects, engineers, and others with copy volume in the range of 2,500 copies a month. Unit makes multiple, size-for-size copies up to 36 in. wide. Xerox Engineering Systems, Rochester, N. Y.

8. **CAD software for Windows NT**

Manufacturer has released six of its AEC applications for porting to Microsoft's Windows NT operating system. They include DesignWorks for architectural and drawing production, SiteWorks for digital terrain modeling, and FrameWorks for structural design. Intergraph Corp., Huntsville, Ala.*

9. **Software offers walkthroughs**

MiniCad + 4 is a 2-D/3-D program with a built-in database and spreadsheet. It offers walkthrough/flyover ability and a mode/message bar. A built-in DXF translator connects the user to AutoCAD'S PC files. A new ClarisCAD translator simplifies file translation into MiniCad+. Diehl Graphsoft, Inc., Columbia, Md.*

10. **Precision pointing device**

Peripheral product called Space Control Mouse is a six-degrees-of-freedom pointing device with high precision movements and an ergonomic shape. Item is compatible with Sun, HP, PC, and Silicon Graphics workstations, according to manufacturer. Logitech, Inc., Fremont, Calif.

11. **AutoCAD linked to Windows**

Software known as DL Windows(Drawing Librarian) provides Microsoft Windows users with access to AutoCAD drawings by allowing viewing and printing of AutoCAD and DXF files. Also integrates DWG files with Access, FoxPRO and other Windows applications. SoftSource, Inc., Bellingham, Wash.,*

12. **Generic CADD AutoCAD Link**

Generic CADD Release 6.1 allows you to write files in AutoCAD'S DWG format. Other features include upgraded compatibility with AutoCAD, a new AutoCAD-style menu option and on-line command cross-reference, thereby simplifying the process of exchanging 2-D files electronically. Autodesk, Inc., Bothell, Wash.

* Product Data on CAD disk
13. Plain-paper digital copier
9500 series copiers and plotters are said to manage the reprographic/ digital technology. The plain-paper E-size copier pictured features automatic data recognition and plot nesting. Oce-USA, Inc., Chicago.

14. Rendering in AutoCAD
Developed with RenderStar Technology, the Advanced Rendering Extension works inside of AutoCAD R12, and integrates with most applications software. It can visualize any 3-D AutoCAD model and generate sun-shadow studies. All commands can be accessed from one standard AutoCAD pulldown menu. KETIV Software, Portland, Ore.

15. Thermal labeler
A hand-held, 1-in. label printer stores text and files for later retrieval; additional intelligence comes with optional application cards. The thermal-transfer unit works with laminated, non-laminated, and die-cut paper. A two-line, 16-character display permits proofing before printing. Kroy, Inc., Scottsdale, Ariz.

16. Building-design CAD
New architectural-application modules are said to take full advantage of AutoCAD Release 12 functionality, including cascading menus and dialog boxes. Enhancements to Auto-Architect permit complex roof- and wall-design tasks, improved ceiling-grid commands, and a new stair calculator. Softdesk, Inc., Henniker, N. H.*

17. Photorealistic rendering
AutoVision 1.0 provides photorealistic still rendering for users of AutoCAD Release 12 for DOS, turning a 3-D wireframe into a photorealistic image without leaving AutoCAD. Suggested retail at its 10/93 release: $795. AutoCAD owners can upgrade to R12, with AutoVision: $1,000, 800/879-4233. Autodesk, Inc., Sausalito, Calif.

18. Magnetic-field evaluator
Described as low cost, the EP-102 probe measures alternating current magnetic fields from power lines, transformers, computers, and appliances, and evaluates attenuation effects of shielding installations. It can be used to gauge interference-field intensity prior to specifying architectural EMI shielding. Magnetic Shield Corp., Bensenville, Ill.

19. CAD for Windows
The ArchiCAD 3.1 modeling and CAD package is now available in a Microsoft Windows version. It can read and write. DWG-format files, generate elevations, 3-D sections, renderings, animations, and includes a parametric object library. Graphisoft U. S., South San Francisco, Calif.*

20. Double-pedestal workstation
A front surface as large as 24-by-48-in. needs only a 25-by-35-in. footprint; independently supported front and back sections each offer tilt and height adjustment. The Varitask CAD desk comes freestanding rectangular, as shown, and larger, corner-configuration units. Mayline Co., Inc., Sheboygan, Wis.

21. E-size multicolor pen plotter
The Classic plotter is said to supply sharp inking and precisely defined drawings; new MaxPlot pens permit overnight plotting without running out of ink. Unit can use liquid ink, liquid-ball, and fiber-tip pens on bond, poly film, translucent, or velum sheet and roll media. CalComp, Anaheim, Calif.

22. AutoCAD for Windows
Stand-alone version of AutoCAD R12 for Microsoft Windows 3.1 includes a built-in display-list driver that speeds up pans and zooms, and almost eliminates the overhead that is typically associated with Windows-based CAD applications. A bird's-eye-view option (shown) allows quick selection of the desired drawing area before zoom. Autodesk, Sausalito, Calif.

23. Digital plan measure
The Scale Master Plus offers 49 built-in scales, including 12 architectural and 12 metric, and converts instantly between metric and others at the touch of a button. It can determine scales from faxed, enlarged, or reduced drawings; rolls on distances positively in either direction. List: $99.95, 800/854-8075. Calculated Industries, Inc., Yorba Linda, Calif.

24. Ergonomic input devices
Apple's adjustable keyboard is divided into two hinged sections that can be angled to help users keep their wrists in a comfortable, neutral position, and customize components to meet individual work habits. A new mouse has an elongated shape that supports the palm; any finger can click. Apple Computer, Inc., Cupertino, Calif.*

* Product Data on CAD disk
Introducing the

next best thing

to AutoCAD.
Usability. What does computer-aided drafting have to do with the way you think? Everything. MicroStation software works for you. It understands the drafting process so well that it infers what you’ll do next.

Graphical User Interface. MicroStation’s easy-to-use interface includes pull-down menus, dialog boxes, tear-off tool palettes, and tool settings window. Choose your interface — Windows or Motif — on any platform. Transparent Modeless Operation. The software supports the way you naturally work, maintaining command execution while you fine tune: change element attributes or command parameters, manipulate views, change the dimensioning system, and more.

Powerful View Manipulation. MicroStation supports up to eight active views that can be moved, sized, and overlapped to fit your design. Zoom and area at any scale. Move around your design fast with built-in dynamic panning. Workspace Editor. Tailor pull-down menus, dialog boxes, and tool palettes — even disable commands — with a graphically oriented toolset for customizing your chosen interface. Text Capabilities. A convenient text editor lets you easily edit single-line or paragraph text. Choose from TrueType, PostScript, AutoCAD SHX, and MicroStation fonts. ASCII text files can be imported and exported. Multiple Undo/Redo Commands. Undo mistakes and perform “what-if” designs in a flash with unlimited undo and redo. Plotting. Plot raster and vector information by view or defined areas, at any scale. Visually preview the plot before plotting, saving time and materials. Online HELP. MicroStation’s HELP remains active, tracking the command you’re currently using, so there’s no searching through manuals for assistance.

Associative Patterning and Hatching. Associate patterning with graphics. Change graphics and the patterning updates. Flood-fill hatching/patterning intelligently fills an area, detecting boundaries and holes with a single pick. Associative Dimensioning. Dimensions are associated with the geometry, not with a point in space, so that when you change the geometry, the dimensions automatically update. Custom Line Styles. Create space-saving custom line styles and place railroad tracks, trees, isobars — anything — just as you would place a line. ti-lines. Define line string elements comprising up to 16 parallel lines of varying symbology and store them in a style library for architects can use multi-lines for fast and easy placement and intersection cleanup of walls and partitions. 2D Boolean S. Quickly modify, measure, and hatch multiple 2D shapes with integrated Boolean operations. Mass Properties. Calculate area and your model: surface area, volume, mass, centroid, moments and products of inertia, principal moments and directions, and radii of gyration. Define relationships among graphic entities with intuitive drawing modes such as tangent, parallel, perpendicular, midpoint, intersection, and endpoint-driven Symbols. Based on established relationships, you can assign variables to dimensioned graphics and save the graphics as cells.
25. London stars in video
Latest in a series of city videos explores London’s 2,000 years of cultural landmarks. The 48-minute narrated tape looks at cities (the series also includes Venice and Florence) as living museums, with each building, statue, and painting serving as a piece in the overall “collection.” $19.98. 800/843-9843 V.I.E.W., Inc., New York City.

26. Drafting tools catalog
Drafting, plotter, CAD, and graphic supplies are listed in this 84-page catalog. Latest edition features an expanded section of plotter supplies, and includes furniture and calculators. Manufacturer’s discounts of up to 70 percent are offered. Dataprint Corp., San Mateo, Calif.

27. Two guides to AutoCAD
Two new guides show AutoCAD (Release 12) users how to become more productive. Outside AutoCAD is a non-programmer’s guide to managing the software’s database and covers new features found in Release 12. The AutoCAD 3-D Companion is an illustrated guide to the software’s 3-D interface. Ventana Press, Chapel Hill, N. C.

28. Tool for office planning
Planix for Windows software allows you to obtain a drawing of your space simply by typing in key dimensions. Image libraries provide symbols for people, partitions, and freestanding furniture. Runs on 386 chip or faster, Microsoft Windows 3.1 or later; and needs 2MB of RAM. Foresight Resources Corp., Kansas City, Mo.*

29. Design, construction software
Architecture & Engineering Series is integrated software linking design and construction phases of a project, as well as post-occupancy maintenance and management. Allows for transfer of files from systems using DXF, IGES, TIF, and Postscript. Image Processor for scanning drawings and photographs optional. IBM Corp., Milford, Conn.*

30. Realistic animation program
VisLab software is a 3-D animation program that offers users realistic motion at top rendering speeds, according to the manufacturer. Applications include architectural, mechanical engineering, and graphics design. Other modules, available separately, provide animation of rain, fire, and smoke. Engineering Animation, Inc., Santa Cruz, Calif.*

31. True-color slide viewers
Manufacturer’s Kaiser “Prolite 5000” series of slide viewers is said to provide true color rendition. Viewers come in four sizes, and each size has specially designed fluorescent tubes that radiate all colors of the spectrum in the same proportions as average daylight. Kaiser Fototechnik, Pine Brook, N. J.

32. Software does ADA surveys
Known as ADA Survey, software allows designer to perform graphic survey of a building project for compliance with architectural barrier requirements. Software records location of existing barriers on floor plans and elevations and produces a document locating problem spots. ADA Survey, Springfield, Mass.*

33. Graphic supplies catalog
Divided into nine sections (cutting devices, drawing instruments, drawing media, erasers, technical pens, furniture, pencils and leads, plotters, and miscellaneous supplies such as cleaners and dusting brushes, the 48-page catalog provides photographs, descriptions, and prices for products from scores of suppliers. GS Direct, Inc., Bloomington, Minn.

34. CAD-produced architecture
Four-color catalog from producer of UNIX-based Microstation offers architect and client profiles and case studies of commercial and institutional buildings. Examples explain how system was applied in various ways such as 3-D modeling, scanning photographs, and exploring form and color. Intergraph Corp., Huntsville, Ala.

35. MacDraft 3.0 adds features
New features of version 3.0 of manufacturer’s low-cost MacDraft software, designed to operate on the Apple Macintosh platform, include ability to draw lines at right angles to an edge, lines tangent from an arc to a point, and regular polygons and marker symbols. Innovative Data Design, Inc., Concord, Calif.*

36. Energy-design award winners
37. Metal furnishings
Designed by John Caldwell, the Town & Country Collection of furnishings from Garden Source Furnishings includes tables, chairs, and settees. Made from cast aluminum and wrought iron, these items are appropriate for use in restaurants and hotels, both indoors and outdoors. British-by-Nature, Beverly Hills, Calif.

38. Tree grate
The ADA tree grate was designed to comply with the federal Americans with Disabilities Act without costing more than standard grates. The ADA grate has narrower slots which are perpendicular to the direction of travel and is also available for heavy-duty vehicular traffic. Ironsmith, Palm Desert, Calif.

39. Retaining-wall unit
The Brute segmental retaining-wall unit is a modular concrete system that features large units and simple mechanical installation. The system allows 1- or 3-in. vertical setbacks in course walls. No mortar or concrete foundations are required and there are no cores to fill. Versa-Lok Retaining Wall Systems, division of Kiltie Corp., North St. Paul, Minn.*

40. Cast-stone planters
Dura Art Stone’s expanded line of commercial and residential planters now includes 23 basic designs and a reformulated Glascrete material that contains more natural aggregates. Glascrete combines polyester resin, fine aggregates, and glass fibers to create a material that weighs just 20 percent of regular cast stone. Dura Art Stone, Fontana, Calif.

41. Colored asphalt-seal coating
This seal coating brings color to asphalt. Added to conventional asphalt-seal coating or slurry-seal products, Asphacolor coating comes in three earthtone colors of red, green, and brown. The product is said to have the same durability as black sealants and can be used in both residential and commercial applications. Asphacolor Corp., Sparks, Nev.

42. Stenciled concrete
Textured to create paved surfaces that simulate natural materials such as brick, slate, and granite, Bomanite Stenciled Concrete is appropriate for both residential and commercial applications. One-piece slab construction and integral-grout joints enhance durability. Available in 25 colors and nine patterns. Bomanite Corp., Madera, Calif.

43. Playground surfacing
EZ Fall 7 is a new playground surface that is compression-molded into 4-ft by 4-ft tiles from 100 percent top-grade rubber. The material meets Consumer Product Safety Commission guidelines at seven-foot drop heights and complies with ADA requirements for handicapped accessibility. Mitchell Rubber Products, City of Industry, Calif.

44. Wooden bench
The Serpentine Seat is an undulating bench with wooden slats made from either oak or elm and bases made from natural stone, reconstituted stone, or steel. Minimum surface area discourages graffiti, while the undulating shape discourages people from sleeping on it. The bench is 92 in. long and 18 in. high. Factory Furniture, Swindon, England.

45. Wrought-iron bench
This wrought-iron, three-seat Gothic bench is handcrafted of heavy-gauge A-36-grade steel to endure maximum usage. The bench is 69-in. long, 17-in. deep, and 37-in. high. It weighs 105 lbs and is powder-coated for rust protection. Available in white, black, and dark green. McKinnon and Harris, Inc., Richmond, Va.

46. Custom settee
This custom-designed and manufactured settee was specified by Hardy Holzman Pfeiffer Associates for the Los Angeles Public Library. Made from mahogany with full mortise-and-tenon joinery for maximum strength, the settee is 48-in. long, 21-in. deep, and 54-in. high. Weatherend Estate Furniture, Rockland, Maine.

47. Game table
The TimberForm Profile game table is made of gridded, welded wire and is supported by four-in. schedule-40 steel pipe. The table with seat pods can be surface-mounted or embedded and comes in over 170 colors. Matching benches, litter containers, planters, and ash receptacles are also available. Columbia Cascade Co., Portland, Ore.

48. Artificial rock formations
Rock formations made from precast GFRC (glass-fiber reinforced concrete) simulate the look of several rock types, including basalt, limestone, desert rock, and granite. Professional services include design of rockwork and water features, as well as technical consulting on specific applications. Custom Rock International, St. Paul, Minn.

* Product Data on CAD disk
49. **Granite pavers**
Cold Spring supplies a broad range of granite products, from split pavers to flagstone, in a variety of colors and sizes. Products also include “unitized” pavers that are pre-assembled in rectangular or fan patterns, and “tumblestones” that replicate the look of cobblestone streets. Cold Spring Granite Co., Cold Spring, Minn.

50. **Retaining-wall system**
A four-page brochure introduces Pordcupine Retaining Wall Systems, which use precast-concrete blocks that interlock with each other so no mortar is needed. The systems allow slopes to be changed as a wall goes up, and are flexible enough to allow wall to curve either in or out. Two colors are available. The Burns & Russell Co., Baltimore.

51. **Outdoor furniture**
Kroin garden and park furniture—including wire-mesh chairs, tubular-frame tables, anatomically contoured park benches, and heavy-gauge garden umbrellas—are shown in a 16-page brochure. Park benches were designed for the 1972 Munich Olympics and can form a variety of curved and linear configurations. Kroin, Inc., Cambridge, Mass.

52. **Garden furniture**
The Van Klassens catalog presents the company’s line of wood garden furniture. Solid mahogany, epoxy joints, and low-maintenance Awlgrip paint are standard features of the company’s swings, chairs, love seats, and settees. Furniture is shipped fully assembled, except for tables that have detached legs. Van Klassens, Inc., Knoxville, Tenn.

53. **Iron fencing**
Aegis ornamental-iron fences feature strong Forerunner rails, internal retaining rods, and specially designed panel brackets. The company’s new four-color brochure shows both industrial and residential products and includes data on structure, design, and options. Panel design is a component system for easy shipping. Ameristar, Tulsa, Okla.

54. **Paving system**
The Uni Eco-Stone Paving System includes funnel-like openings in the pavement surface which encourage rainwater infiltration, thereby reducing or eliminating stormwater runoff. The system consists of interlocking concrete pavers with spaces in between for infiltration. Uni-Group U. S. A., Palm Beach Gardens, Fla.*

55. **Exterior lighting system**
“Now You See It... And Now You Don’t” is the title of the brochure explaining the PISA Lite Landscape and Walkway Illumination System. Designed to fit with the PISA Retaining Wall System, the acrylic-lens lights blend with the system’s concrete blocks so they aren’t noticed in daytime. PISA Retaining Wall Systems, Palm Beach Gardens, Fla.

56. **Concrete pavers**
Special features and design considerations are presented in “Pavement Design With Concrete Pavers,” a four-page brochure published by the Concrete Paver Institute. Use, application, assembly, load transfer, and installation of concrete pavers are also addressed by the brochure. CAD software is available. Concrete Paver Institute, Herndon, Va.*

57. **Porous paving**
Grasspave2 is a porous paving system consisting of interlocking plastic rings with soil and grass set on top. Because it is porous, the system lets rainwater percolate into the ground, minimizing runoff and the need for drainage systems. The paving system can support up to 5720 psi when filled with sand. Invisible Structures, Inc. Aurora, Colo.

58. **Metal chair**
The Traverse Chair has a tubular-steel frame with either a grid or perforated-metal seat panel. All metal parts are finished with Pangard II powdercoat system, which is a hard but flexible coating that resists rusting, chipping, peeling, and fading. Landscape Forms, Inc., Kalamazoo, Mich.

59. **Retaining-wall system**
StoneWall SELECT is a concrete-block retaining-wall system that has electrical-cable slots cast into each block so lighting can be easily installed. The system, which has no components that can corrode or deteriorate, can accommodate steps, corners, inside and outside curves, and serpentine walls. ICD Corp., Milwaukee.

60. **Outdoor furniture**
A 40-page four-color catalog displays Victor Stanley’s diverse lines of metal and wood outdoor furniture, including its Ironsites collection of steel-bar benches and trash receptacles, the Parsons Series of wood-and-metal public furniture, and the Classics line of cast-iron benches. Victor Stanley, Inc., Dunkirk, Md.

*Product Data on CAD disk
61. Concrete hardener
Eight new colors have been added to the Lithochrome line of color hardeners. The new pastel colors—oyster white, ash white, antique rose, chalk blue, weathered sage, stone gray, blush beige, and smoke beige—complement the 16 colors already in the line of permanent, non-fading, dry-shake color hardeners. L. M. Scofield Co., Los Angeles.

62. Concrete finishing
Bomanite Color Flash is a multi-colored quartz-aggregate blend that is cast on the surface of new concrete surfaces such as paving. Available in four color blends of blue, green, red, and black with white aggregate, the new product offers added dimension and slip resistance to concrete flatwork. Bomanite Corp., Madera, Calif.

63. Precast ramp system
This precast-concrete ramp system meets new ADA requirements and is adaptable to any height up to 58 in. Available in units ranging from 4 to 9 ft in length (in 6-in. increments) and from 8 in. to 4-ft-10-in. in height (in half-inch increments), the ramp can be easily assembled and disassembled. Sullivan Precast Products, Lenox, Mass.

64. Baluster system
This new baluster system meets the current UBC code for allowable opening, while still providing the maximum viewable area. The system consists of 24- by 24- by 5-in. panels in an alternating mirror image of each other, and was designed by Bob Ray Offenhauser & Associates. Von Hausen Studio, Compton, Calif.

65. Curved metal formwork
A new "crimp-curving" process can produce custom-curving forms that are smooth, strong, and lightweight. Easy to install, the formwork can be used in a wide range of concrete construction applications. Panel substrates suitable for curved formwork include painted and unpainted steel up to 48 in. in width. Curveline, Inc., Ontario, Calif.

66. Water repellent
Chem-Trete BSM 40 water repellent is a clear, penetrating, silane-based formulation that is suited for protecting concrete in high-rise applications. The protective coating chemically bonds with the substrate, creating a long-term barrier against wind-driven rain and other sources of moisture. Huls America, Inc., Piscataway, N. J.

67. Reinforced-concrete design
The Concrete Reinforcing Steel Institute's 1993 publications catalog and price list describes manuals, software, and design aids for use in the design and construction of cast-in-place reinforced concrete. Product categories include detailing aids, bridges, testing, and pavement design. Concrete Reinforcing Steel Institute, Schaumburg, Ill.

68. Color and texture guide
The Precast/Prestressed Concrete Institute has published the "Architectural Precast Concrete—Color and Texture Selection Guide," a 360-page publication that illustrates 430 colors and textures for precast concrete panels. The guide includes 236 color plates and costs $40. Precast/Prestressed Concrete Institute, Chicago.

69. Cement and concrete video

70. Fiber reinforcement
Caprolan-RC nylon fibers, which can be used as an alternative or in addition to wire mesh, can control shrinkage cracking, will be listed in Underwriters Laboratories Inc.'s Fire Resistance Directory. High strength and toughness (15,000 psi) allow the fibers to reduce cracking and increase impact resistance. AlliedSignal Fibers, Petersburg, Va.

71. Concrete sealant
The ProSpec Graffiti Master Seal Sheet provides an overview of some advantages of Graffiti Master sealant, citing the water-based product's ability to seal out spray paint, markers, chalk, and other graffiti. The sealant is safe for indoor use and can be washed with soap and water to eliminate graffiti. Watson Bowman Acme Corp., Amherst, N. Y.

72. Bonding agents
Larsen concrete and plaster bonding agents offer high-performance bonding of cementitious material direct to structural surfaces. Weld-Crete is a chemical concrete bonding agent. Plaster-weld is a plaster-bonding agent for interior use only. Acrylic Admix 101 is an integrally added bonding agent. Larsen Products Corp.
SOLVING THE MORTAR PUZZLE!

Masonry Cement Helps Make Watertight Walls

Laboratory tests* show that masonry cement mortars shrink only half as much as portland cement-lime mortars. Crack less! So masonry cement mortars help make walls more watertight, less likely to leak. It's that simple.

*In a series of ASTM C 1148 tests, masonry cement mortars had only half the shrinkage as portland cement-lime mortars. Send for a free report.
3. Colorful glass block
Solaris Trimline block comes in four styles that offer varying degrees of privacy. Peach, blue, and green integral colors are available. Aluminum grids as large as 8- by 12-ft facilitate mullioning together standard sections. Acme Brick Co., Fort Worth.

4. Gasket liner holds thin brick
Brick gasket liner is a urethane mat with pockets that hold thin brick or tiles. The liner is attached to a precast bed. Thin bricks are then placed into the pockets, and concrete is poured over the assembly. This wet-casts the brick or tile into the concrete-panel face. Installation pictured: Museum of Modern Art, San Francisco. Scott System, Denver.

75. Seismic structural tile
A new construction in structural glazed facing tile adds two large vertical holes to the horizontally cored masonry unit. These holes allow placement of grout or steel bars to meet the security standards of the Federal Bureau of Prisons and Zone 4 seismic requirements. Stark Ceramics, Inc., Canton, Ohio.

76. Stone design manual
An architectural binder seeks to promote uniform detailing of dimension stone, including granite, limestone, marble, quartz-based stone, and slate. Sections cover ASTM master material specifications, text standards, installation recommendations, and typical details. Trade price: $89.50 plus shipping. Marble Institute of America, Farmington, Mich.

77. Glass block in new pattern
Textra glass block comes in a matrix design that combines sparkle and distortion of its multi-ribbed squares with transparent open areas. The pattern changes with movement, viewing point, and light source. It offers moderate light transmission and minimal privacy. Pittsburgh Corning Corp., Pittsburgh.*

78. Pyramid-shaped block
Pyramid-shaped block comes in concrete and clay brick, and is available in a wide range of colors and finishes. Block is modular at 7 5/8-in. square by 3 5/8-in. high to base of pyramid, which is at a 30-degree angle. Tile is 6-in. square. Custom sizes may be ordered. Pyridiam Block & Tile, Stamford, Conn.

79. Damage-resistant corners
Modular pre-glazed concrete-masonry corner units are designed for high-traffic areas. They come in standard wall thicknesses, and eliminate the need for cutting and piecing. Reference points allow for easy alignment, and blocks are simple to tie and reinforce, says manufacturer. Burns & Russell Co., Baltimore.

80. Classical balustrades

81. Glass-block shower kits
Glass-block shower enclosures come in kits. Aluminum extrusions at corners snap together with aluminum grid wall sections, making a symmetrical joint without mortar or grout. Free software contains detail drawings and installation details on 3.5-in. diskettes for either AutoCAD DWG or generic files in DXF:IBP Glass Block System. Acme Brick Co., Fort Worth.*

82. Improved block glaze
Manufacturer’s Astra-Glaze-SW lightweight concrete blocks now come with an improved finish that makes for greater color consistency and brighter colors. With recent USDA approval, the units may now be used for food-processing applications. Trenwyrth Industries, Inc., Enigsville, Pa.

83. Cast-stone ornament
Friezes, keystones, and medallions made of cast stone and known as SculptStone are described in an eight-page brochure. Units come in assorted shapes and sizes up to 48 in., and in historical, geometric, animal, and floral motifs. Data available on CAD for AutoCAD. Pineapple Grove Designs, Delray Beach, Fla.*

84. Stone identification guide
Quick-reference stone pocket guide makes it easier to identify marble and granite. Each of several booklets contains over 135 3- by 5-in. full-scale color plates of natural-stone types, each identified on the back with name, country of origin, and technical data. VMC-TAC, Dallas.
85. Brick
This four-color brochure highlights some of the advantages of brick as a building material and offers an overview of the Belden Brick Co., which has been operated by the same family for over 100 years. The company's bricks, made in six plants in Ohio, are available in over 200 colors, sizes, and textures. The Belden Brick Co., Canton, Ohio.

86. Greek marble
A broad range of marbles from Greece are displayed in a four-color product sheet distributed by the Hellenic Export Promotion Organization. The sampling ranges from ash white marble from the island of Paros to the pink stone of Lefkos and the green of Tinos. Greek Trade Commission, New York City.

87. Thin stone sheets
RSgs7 is a 5/16-in. composite sheet of ultra-thin natural marble, granite, or limestone reinforced with fiberglass and epoxy. The sheets can be applied in large sizes with adhesives and mechanical attachment to exterior surfaces, interior walls, floors, ceilings, soffits, movable partitions, and furniture. Marble Technics, New York City.

88. Clay products and tile
In Partnership with the Imagination is a video that serves as an introduction to clay products and tiles from Endicott. Available for free, the video covers the company's broad range of colors, textures, and shapes of bricks and clay products. Endicott Clay Products Co./Endicott Tile Ltd., Fairbury, Neb.

89. Masonry restoration
A complete specifications guide for Sure Kleen Restoration Products is available on computer diskette, and comes with a printed copy, product brochure, and product data sheets. The diskette is free for both DOS and Macintosh users in 3.5-in. and 5.25-in. sizes. The guide follows CSI 8-Part format. ProSoCo, Inc., Kansas City, Kansas.*

90. Architectural masonry
Architectural masonry products, as well as roof tiles and landscape products, are available from companies around the country under the Oldcastle brand name. Products include masonry units, ballast pavers, plaza pavers, interlocking pavers, fire-rated wall systems, energy-efficient wall systems, and segmental retaining walls. Oldcastle, Inc., Atlanta.

91. Chinese granite
A four-page color brochure introduces Cheer Skill's collection of marble and granite from China and around the world. The line includes some stones unique to China, as well as more familiar stones from places like Italy. The parent company is in Hong Kong, but American distribution is from the Midwest. Cheer Skill (USA) Co., Park Forest, Ill.

92. Minnesota limestone
Dolomite limestone from southern Minnesota comes in three colors—cream, golden buff, and gray—and can be cut either across the stone beds to reveal veins or with the sedimentary bed to reveal flowered patterns. Mainly calcium carbonate and magnesium, the stone has above-average hardness. Mankato-Kasota Stone, Inc., Mankato, Minn.

93. Rockface masonry
RichStone masonry units offer the color and texture of natural stone in a variety of block sizes and shapes. Surfaces can be either burnished or rockface, and blocks can have a combination of the two finishes. Scoring and fluting are available on most units. United Glazed Products, division of the Burns & Russell Co., Baltimore.

94. Water repellent
Dry-Block is a system of two liquid polymeric admixes, one that is mixed with concrete during manufacturing and the other that is used during mortar preparation. The admixes become integral with the concrete, forming a low-maintenance water repellent. Grace Construction Products, Cambridge, Mass.

95. Fossil stone
Examples of fossils found in Solnhofen limestone are shown in the company's four-page Fossilstone brochure. Formed during the Jurassic Period 150 million years ago and incorporating the remains of nautilus, marine worms, and corals, Fossilstones come in colors such as beige, gray, and green. Solnhofen Natural Stone, Inc., San Francisco.

96. Glass block
A 16-page catalog from Pittsburgh Corning presents design information, detail drawings, and specifications for mortared installations for its Glass-Block line of products. The catalog, including drawings, is also available on 3.5-in. and 5.25-in. computer diskettes. Pittsburgh Corning, Pittsburgh.*

* Product Data on CAD disk

Circle 1011 on inquiry card
97. Ornate replica
A cast-iron canopy at the Joliette, Illinois, train station was replicated in sand-cast aluminum painted to match the Beaux Arts original (A. M. Kinney Associates, Inc., restoration architects). Rubber molds of the elaborate elements were used to recreate the intricate details using the lost-wax process. Historical Arts & Casting, Inc., West Jordan, Utah.

98. Custom-rail system
The Decorail is an integrated series of post, panel, rail, kneewall, traffic control, display, and partition components in an Art Deco motif. The balcony rail pictured has Art Deco-style finials on top of anodized-brass posts holding panels of safety glass. Wylie Systems, Etobicoke, Ont.

99. Blue anodized aluminum
The Spectra color electrolytic color-anodize process allows aluminum to be manufactured in a variety of metallic shades previously unavailable. KeyAno 2000 blue, offered in both dark and light tones, will be followed by red, green, gray, and bronze colors. Metal meets all pertinent ASTM test standards. Keymark Corp., Fonda, N. Y.

100. Cast-iron stairs
A replica of a decorative straight-stair style often found on 19th-century townhouses. The cast-iron Kensington can be ordered in modules, from a two-step unit for a low porch to a multiple-stair landing fire exit installation as shown. Stairs come in kit form, with treads, risers, side panels, and fasteners. Steptoe & Wife, Toronto, Ont.

101. Multidirectional metal
Pattern 6-HC can be used at various angles, eliminating the waste of trimmed pieces. The design is said to diffuse light evenly, without hot spots, and to be more rigid than flat metals. Shown in satin-finish brass, the pattern comes in a number of colors, metals, and finishes, and gauges up to 1/8-in. thick. Rigidized Metals Corp., Buffalo, N. Y.

102. Long-span catwalk
The Heavy Duty Grip Strut catwalk spans 24-ft openings with minimal deflection, reducing costs of extra supports. Large, diamond-shaped openings will not collect gravel, mud, snow, or ice; steel grating available up to 36-in. wide with 5-in. integral treads. GS Metals Corp., Pincneyville, Ill.

103. Pre-engineered stair
Furnished factory-built to specified dimensions, the Quick Stair incorporates a standard design with three tread and three handrail options. Pre-poured treads are said to provide the sound-dampening of conventional concrete-pan treads; stair meets all code requirements. CAD-format details available. Anderson Industries, Denver.*

104. Nylon-over-steel rail
A new process makes an environmentally safe, cadmium-free nylon product, as well as greatly improving UV- and weather-resistance. ADA-compliant rail and balustrade systems are built with colorful nylon over a continuous, galvanized-steel core; connections are internal, with no exposed fasteners. W&W Sales, Ltd., Spring Valley, N. Y.

105. Interior spaceframes
New finishes and framing geometries are offered for the Meroform spaceframe, suggested as a design solution for ceilings, displays, and interior graphic structures. Chrome, anodized, and many powder-coat color finishes. MERO Systems Group, Div. of MERO Structures, Inc., Germantown, Wis.

106. Non-directional stainless
Stainless-steel sheet has a totally non-directional mirror-polish finish. Suitable for elevator cabs, column covers, ceilings, and other architectural applications, metal may also be ordered in bronze, blue, gold, red, green, and black electro-chemical colors. Clark Metals, Inc., Gardena, Calif.

107. Nickel-silver rails
A new handrail-metal option from this architectural-metal manufacturer, nickel silver (also referred to as white bronze) adds a warm silver color to interiors. Unprotected metal will tarnish to a mottled gray-green patina in about six years. Julius Blum & Co., Inc., Carlstadt, N. J.

108. Oval handrails
An oval extrusion used in marine applications, British-made Oval 316 tubing is now available for handrails, spiral staircases, barriers, and other architectural components. Made in sizes from 3/4- to 5-in., tube can be supplied with radius bends and forms in both planes, in satin-mill and mirror finishes. Malcolm Cole Ltd., Opa-Locka, Fla.

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* Product Data on CAD disk

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For more information, write item numbers on Reader Service Cards.
109. Elastic expansion joint
Completely non-metallic, the Inter­
span joint withstands the climate,
loads, and movement of exposed con­
crete decks, parking ramps, and
other automotive- and pedestrian-
traffic structures. Installed with
epoxy applied on three surfaces.
Cannot catch heels or trap dirt.
Larsen Products Corp.,
Rockville, Md.

110. Gratings and stair treads
A PC-based electronic manual as well
as a 16-page catalog help design and
specify FRP grating, stair treads,
and floor plate. Includes charts, load
and deflection tables, and stair-tread
calculation programs for all slip-
resistant, one-piece grating products.
Chemgrate Corp., Woodinville, Wash.*

111. Vinyl-rail system
Extruded vinyl-pipe railings are sug­
gested for marine, industrial,
residential, and other applications
where appearance or cost of mainte­
nance is a concern. The Perma-Rail
component system permits site-
specific assemblies from heavy-gauge
vinyl fittings. Perma-Rail, Inc.,
Columbia, Md.

112. ADA-compliant joints
The Iso-Flex textured seal makes
concrete expansion joints watertight
while providing slip-reducing traction
for pedestrian and automotive traffic.
An illustrated brochure describes the
molded seal and lists technical data
and test results. Harry S. Peterson
Co., Berea, Ohio.

113. Aluminum railing
An architectural catalog explains the
functional, structural, and design fea­
tures of Series 900 heavy-duty
aluminum-rail components. Offered
in rail and post styles that meet the
specific decorative and code require­
ments of industrial, multifamily,
residential, and institutional applica­
tions. Superior Aluminum Products,
Russia, Ohio.

114. Graphics on metal
Fabricator can execute custom and
standardized finishes on sheet metal,
from design concept to completed
installation. Techniques include multi-
directional and non-directional
brushing, sandblasting, polishing, and
electroplating on stainless steel,
brass, copper; and nickel silver.
Surface Design + Technology,
Hialeah, Fla.

115. Curving capabilities
A six-page booklet outlines various
methods of metal curving, available
for any architectural project requir­
ing custom shapes in aluminum,
brass, steel, bronze, and other metals.
Applications include window, skylight,
and storefront framing, handrails,
lighting fixtures, and signage struc­
tures. J. Sussman, Inc.
Jamaica, N. Y.

116. Metal refinishing
Brochure on architectural field-
service capabilities provides an
overview of “state-of-the-art” paint­
ing processes and restoration
techniques for column covers, panels,
curtain walls, storefronts, entrances,
and other building components of
metal, porcelain-on-steel, brick, con­
crete, glass, and plastic. Linetec,
Wausau, Wis.

117. Parking structures
Catalog details specially construction
products that improve the long-term
performance of parking structures,
including concrete cube additives,
traffic-bearing membranes, ProSpec
cemental and masonry cleaners, and
Wabo compression seals, slide bear­
ings, and expansion and seismic
joints. Watson Bowman Acme Corp.,
Amherst, N. Y.

118. Anodizing standards
An architectural application kit con­
tains samples of the six most
commonly produced and requested
anodized-aluminum colors included in
this industry group’s color uniformity
assurance program: what you see is
what you’ll get. Aluminum Anodizers
Council, Winconda, Ill.

119. Unobtrusive joints
The Flash Thinline expansion-joint
cover, offered in one- and two-in.
widths, is said to blend well with adja­
cent surfaces, as its smooth
dual-durometer gasket is flexible
enough to allow full movement
without needing surface grooves.

120. Industrial coatings
A brochure on Nubelar Satin fluoro-
carbon coating for exterior aluminum,
galvanized steel, or Galvalume
includes a spec sheet with physical-
property data, and color photos of
architectural applications such as
cladding, fascia, curtain wall, span­
drels, and column covers. The
Glidden Co., Cleveland.

* Product Data on CAD disk
121. Molded-stone millwork  
Cassel, a composite, stone-look product for interior use, comes as veneer wall panels, 5/16-in.-thick, and as trim, furnished as crown moldings, baseboards, light cover, and door surrounds. Installs by adhesive or clips; has a Class I fire rating. DecoForm Corp., Etobicoke, Ont.

122. FRP belvedere  
For a restoration of Buffalo's Niagara Mohawk building, Kidney Architects replicated weathered terra-cotta elements in fiberglass-reinforced plastic. Rubber molds copied the original elements of the rooftop lantern to create new pieces said to be indistinguishable from the ceramic ones, even up close. Molded Fiber Glass, Union City, Pa.*

123. No-squeak floor joists  
The Silent Floor structural system now features Performance Plus web members, which combine the strength of oriented-strand board with the dimensional stability of plywood for a stronger, more weather-resistant joist. Also, the system's Micro-Lam (laminated-veneer lumber) flange has been made stronger. Trus Joist MacMillan, Boise, Idaho.*

124. Solid-surface selection  
The Avonite range of solid-surface material now includes 30 different solid colors and stone-look patterns. All can be specified in matte, satin, or gloss finish. New colorations pictured are limestone, quarry gray, royal sapphire, and desert tan. Avonite, Belen, N. M.

125. Pastel woodgrain HPL  
Cool blues and greens, a soft yellow, and a copper color, while not found in natural wood, are offered by this Italian source of decorative high-pressure laminates in a new line, Serie Acero Legni Colorati. There are six woodgrain colors, all in the Soft Surface finish. Abet, Inc., Teterboro, N. J.

126. Solid-surface CAD  
New software provides help in the specification, fabrication, and installation of Fountainhead solid-surface material. On 5.25- or 3.5-in. disks, the program has over 150 drawings for use with AutoCAD. Applications include commercial food-service counters, toilet partitions, and wet walls as well as residential uses. Nevamar, Odenton, Md.*

127. Biocomposite material  
NewStone is said to look like granite and work like wood. Made from recycled and renewable resources—soybean protein and used newspaper—its random pattern disguises joints. Applications include desktops, furniture, trim, and windowsills. Tested to ASTM standards, it has a Class 2 fire rating. Phenix Composites, Inc., Mankato, Minn.

128. Chemical-resist composite  
Trespa solid architectural material combines color selection with reagent-level chemical resistance. It is non-porous and will not support bacteria or fungus. Various grades are suggested for lab tops and shelving, as shown, as well as furniture, lockers, toilet partitions, and exterior cladding. Hoechst Celanese, Somerville, N. J.

129. Fashion laminate  
Pearlescent veining on dark copper, sapphire, and purple backgrounds characterize this maker's new Aztec pattern laminate. Designs available in a choice of surface textures, including Hi-Velvet and pebbly Crystal. Applications include elevator cabs, wall panels, furniture, and cabinetry. Westinghouse Micarta, Hampton, S. C.

130. Formable sheet  
Architect Michael McDonough's Ribbon Candy Chair demonstrates the unique properties of Nuvel, jointly developed by General Electric and Formica. Said to have many of the appearance and performance qualities of traditional solid-surface material, such as seamability, at less cost, Nuvel can be postformed easily. Formica Corp., Cincinnati.

131. Fiberglass structural shapes  
A design-manual computer program offers help in working with Extrend beams, columns, and other structural components, and Duradek non-corroding decking. Specification options include deflection limitations, beam conditions, and loads. Hard copy also offered. Cost: $99.95. Morrison Molded Fiber Glass, Bristol, Va.*

132. Nature-motif laminate  
A line extension added 22 new colors and patterns to the Design Group I collection. Shown is Calderia Jade, a blend of verdigris with tause and gray colorways. A new finely textured standard finish, #60, provides consistent gloss levels regardless of the lay of the material. Architectural sample program. 800/433-3222. Wilsonart, Temple, Tex.

* Product Data on CAD disk

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enough — recycled newspaper.
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TO keep

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absorbent. In other words, we saw the problems

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about the FiberBond advantages, call (208)772-6011 in Hayden Lake,
Idaho, (708)517-8833 in Chicago, Illinois or (902)625-3070 in Canada.

place.
133. Laminate guidebook
At 50 pages, The Complete Book of Laminate Surfaces is just that, a walkthrough of corporate development and new product technologies, with all Formica products shown close-up and in-use. A Zip Chip program offers return-mail samples to architects and designers. Formica Corporation, Cincinnati.

134. Beaded-plank panels
An APA-rated paneling for interior and exterior applications, 4- by 8-ft Ply-Beard sheets combine the economical strength of plywood with the decorative appearance of beaded planking. Available in two thicknesses, sanded and ready to paint or stain. Georgia-Pacific Corp., Atlanta.

135. Oak stairs
An eight-page catalog shows wood curved and spiral stairs in various configurations—as a grand, traditional-staircase off an entry foyer, or as space-saving access to an office loft—detailing rail, tread, riser, and stringer options in pine, oak, and poplar. A. J. Stairs, Inc., Brick, N. J.

136. Fire-retardant wood
Dricon-treated fire-retardant wood is said to provide greater design latitude for the architect, as an alternative to construction materials classified as non-combustible for weather-protected applications. A 16-page catalog covers hygroscopicity, fire performance, appearance, strength factors, and other properties. Hickson Corp., Atlanta.

137. Architectural details
Orac Decor is a British-made line of high-density polyurethane cornice moldings, chair rails, door surrounds, and other authentically detailed decorative elements. A catalog offers 22 pages of material specifications, with all products shown in detail drawings and colorful application photos. Orac Decor U. S. A., Lodi, N. J.

138. Renewable resource
Noting that nothing can be sustained that cannot be renewed, Choices brochure discusses the environmental impact of building-material selection, and compares the low-energy and less-polluting production of wood construction members to concrete, steel, and petroleum-based products. Western Wood Products Association, Portland, Ore.

139. Laminated-veneer lumber
A 12-page catalog describes Gangan-W LVL as a minimal-waste, reliably performing member with more load-bearing capacity per pound than solid sawn lumber. Includes load tables and connection and framing details, and explains how Wood-E software helps design with engineered beams and joists. Louisiana-Pacific Corp., Portland.

140. Rated wood construction
Revised in May, 1993, an 18-page booklet is described as the latest word on cost-effective fire-rated construction systems, using wood and wood structural panels. Brochure covers safety criteria, protection methods, and updated building-code and UL-listing references. $2 charge. American Plywood Association, Tacoma, Wash.

141. Solid-surface palette
A design brochure illustrates all Corian colors, including 10 new 1993 shades, grouped into different families based on aesthetics. Corian is said not to fade under UV exposure, to be uniform and consistent from sheet to sheet, and to be non-metameric (not changing in color under different light sources). DuPont Co., Wilmington, Del.*

142. Wood-veneer laminate
Truwood sheet is a high-pressure laminate in which the decorative surface is unfinished veneer, in any of eight popular wood species, ready for staining and sealing. The laminating process is said to make the wood surface harder that standard veneer; can be curved to a 2-in. radius. Laminart, Inc., Elk Grove Village, Ill.

143. Southern pine lumber
A 14-page brochure explains how the unique cellular structure of Southern pine species facilitates pressure treatment with EPA-approved chemicals. Lists code requirements, design values, standard size and appearance considerations, and suggests fasteners and finishes. Southern Forest Product Association, Kenner, La.

144. Wood-care tips
Flood's 28-page Wood-Care Guide covers Seasideite stabilizing treatment, Dekswar cleaner, and CWF-UV ultraviolet-resistant clear wood finish, showing how the products look after application to new pressure-treated and other exterior wood surfaces, including roofs. Gives wood-problem-solving tips. The Flood Co., Hudson, Ohio.

* Product Data on CAD disk
145. Roof-drainage products
Rain-carrying gutters, leaders, eave and slope boxes, downspouts, and ornamental conductor heads can be specified in copper, as shown, as well as aluminum in several high-gloss white, bronze, and brown enamels, and a galvanized finish. K-system gutters can come in single lengths of up to 37 ft. Benjamin Obdyke, Inc., Warminster, Pa.

146. Push-button shading
This manufacturer offers a new full-function electrically controlled venetian blind for all its models and sizes of roof windows and skylights. Blinds are eggshell white, supported by four ladder cords to prevent sagging; they adjust to control glare and raise completely for an unimpeded view. Velux-America, Inc., Greenwood, S. C.*

147. French-style roof tile
A vertically embossed clay roof tile with a geometric design and defined texture. Gran Marseille comes in 50 standard colors, including new shades of patina green and Vermont gray. Field tile is 9- by 14-in., and is said to have exceptional cross-breaking strength and color fastness. Ludowici-Celadon, Inc., New Lexington, Ohio.

148. Reinforced mod-bit roofing
A roll-roofing cap sheet reinforced with a polyester mat, DynaLastic 180 SBS-rubber and asphalt roofing is said to offer elasticity, tensile strength, better accommodation of thermal stress, and to resist punctures. Surfacing granules come in black, white, and colors. Manville Roofing Systems, Div. of Schuller International, Inc., Denver.*

149. Cedar roof panels
The Cedar Panel Roof System is an easy-to-install, 40-in. long panel of cedar shakes or shingles designed for steep roofing and mansards. Backed with #90 felt, shingles are mounted on wood nailing and hurricane bars, and come in three different styles. Shakertown, Winlock, Wash.

150. Sealant for plastics
GE is marketing a silicone sealant developed specifically for primerless adhesion to plastics, including Lexan and other polycarbonate sheet products, PVC, and various types of fiberglass. Offered in four colors plus translucent, LexSil SPS2900 will not craze plastic. GE Silicones, Waterford, N. Y.

151. Pyramid skylight
Five sizes of aluminum-framed pyramid skylights come ready to install, completely assembled and glazed with insulated, tinted safety glass. Available in sizes up to 8- by 8-ft, with a 7/12 pitch, units meet all pertinent AAMA and building-code specifications. Skytech Systems, Bloomsburg, Pa.*

152. Cedar-look siding
A new line, Cedar Lane solid-vinyl siding is said to provide a natural, stained-wood appearance without the maintenance drawbacks of real cedar. Embossed with a random woodgrain, the siding comes in three clapboard profiles and coordinating trims, and accessories such as vents and lighting blocks. Georgia-Pacific Corp., Atlanta.

153. Fire stops
Using Firecode penetration-sealing compound with Thermafiber safing insulation is said to offer an economical fire-stop system that blocks smoke, flame, toxic gas, and water to all national building-code standards. Insulation is placed by hand, then the compound is troweled in place over it. United States Gypsum Co., Chicago.*

154. Rot-resistant shingles
Cedar-Plus CCA natural-cedar shakes and shingles, pressure-treated with an EPA-approved preservative and pesticide, offer a 50-year warranty against fungal decay, even in humid climates. The Clarke Group, Sumas, Wash.

155. Custom-color roofing
This maker’s reinforced, heat-weldable thermoplastic sheet can now be specified in computer-matched colors for roofs as small as 5,000 sq ft. Colored membranes add a decorative and functional design element to prominent, visible roofs. Sarnafil, Inc., Canton, Mass.

156. Panelized tile facade
A recent application of the Cygnus wall system by the architectural firm HOK used about 200,000 ceramic tiles, bonded with structural silicone, to build a 170,000-sq-ft facade with reduced radar reflectivity, a requirement of the governmental-agency client. Eastern Exterior Wall Systems, Inc., Lekigh Valley, Pa.
169. **Standing-seam snow guard**
This non-penetrating snow guard will not compromise the integrity or finish of metal roofs. Traditional in appearance, it clamps to standing seams without restricting thermal movement. The product is available in cast aluminum and bronze; custom colors can be ordered to match prefinished metals. Real-Tool, Inc., Purcellville, Va.

170. **Fire-rated roof decking**
Flame Break is a new roof decking made of performance-rated plywood or oriented-strand board bonded with a layer of gypsum board that has imbedded glass-mat faces and a silicone-treated core. As a result, the product combines dimensional stability with low flame spread and moisture protection. Georgia-Pacific, Atlanta.

171. **Vinyl siding**
Vinyl siding, soffit systems, accessories, and finishing trim from CertainTeed are low-maintenance products made from the company's own PVC resin. A comprehensive siding-color system offers a wide selection, and all products are made with solid color throughout. CertainTeed Corp., Vinyl Building Products Group, Valley Forge, Pa.

172. **Foam insulation**
Styrofoam brand rigid insulation is an extruded polystyrene foam that can be used in residential and commercial walls and slabs. Its dense, closed-cell structure gives the product excellent moisture resistance, thermal performance, and compressive strength. Made with HCFC blowing agents, it is CFC-free. The Dow Chemical Co., Midland, Mich.

173. **Cement siding**
Hardiplank and HardiPanel are lap- and vertical-fiber cement siding products that won't rot, are non-combustible, and immune to water damage, salt spray, termites, and, when properly installed, hurricane-force winds. Textures include smooth, wood-grain, and rough-sawn. James Hardie Building Products, Inc., Fontana, Calif.

174. **Metal roofing panel**
Met-Tile is a metal-roofing panel that imitates the look of tile. At less than 125 lb per square, the product is about one-tenth the weight of most clay tiles. Panels run up to 20 feet in length and provide insulating air space that improves energy efficiency. Vertical application without horizontal laps helps wind resistance. Met-Tile, Inc., Ontario, Calif.

175. **Protective treatments**
ProSoCo water repellents penetrate deeply to provide long-term protection against damage and staining from water intrusion. Sure Klean Weather Seal products use silane and siloxane technologies to protect vertical masonry surfaces, while Stand Off items protect tiles, pavers, and stone. ProSoCo, Inc., Kansas City, Kansas.*

176. **Roof windows and skylights**
The Complete Guide to Roof Windows and Skylights presents design ideas and applications for the Velux line of products. The guide includes information on installation, choosing the proper models, and finishing techniques, and introduces the new Electric Venetian Blind and Flat Roof Curb. Velux-America, Inc., Greenwood, S. C.*

177. **Fiber-cement roofing**
FireFree is a lightweight fiber-cement roofing material for residential and commercial buildings. The product weighs under 400 lb per square and is freeze-thaw resistant so it can be used in all climates. It has a Class A fire rating and comes in three styles: Rustic Shake, Quarry Slate, and Classic Shingle. Re-Con Building Products, Inc., Sumas, Wash.

178. **Elastomeric waterproofing**
A new brochure from the VIP Division of the Flood Co. provides details on selecting the proper elastomeric waterproofing system. Products offered by VIP combine structural flex with elongation properties to compensate for thermal expansion and contraction, shrinkage, and movement cracks. VIP Division of the Flood Co., Hudson, Ohio.

179. **Modified-bitumen roofing**
Published by the Asphalt Roofing Manufacturers Association, this guide helps direct readers to materials that can shed new light on the proper design, application, and specification of asphalt roofing enhanced with agents such as polypropylene and synthetic rubber. Asphalt Roofing Manufacturers Association, Rockville, Md.

180. **Fire protection**
FireMaster fire-protection products are made from inorganic and non-combustible materials and range from wraps, blankets, and boards to putties and mastics. Applications include cable tray/conduit fire protection, construction/saing joint protection, and liners for fire-training facilities. Thermal Ceramics, Augusta, Ga.*

* Product Data on CAD disk
181. Metal-roof retrofit
A 36-page design manual explains the NuRoof framing system, which supplies slope and a structural base for roofing over a leaking flat roof. Design flexibility is stressed, with a choice of slopes, hips, valleys, gable endwalls, vertical and trapezoidal standing-seam panels. Metal components come in a selection of colors. MBCI, Houston.

182. Cladding materials
A series of architectural case studies highlight in-use design, cost, and installation benefits claimed for Reynobond fire-retardant aluminum composite material. Design solutions include ability to match straight runs with multi-step radius corners. Includes as-built photos and detail drawings. Reynolds Metals Co., Richmond, Va.

183. Cedar siding
A 20-page reference, Specifying Cedar Siding, describes and illustrates (with color photos and line drawings) the bevel, tongue-and-groove, channel, and board-and-batten siding products produced by member mills. Includes grade and coverage data, and shows cedar on completed projects. Western Red Cedar Lumber Association, Vancouver, B. C.

184. Fire stops for fiber optics
An eight-page brochure describes fire-stop protection materials designed for fiber-optic cables, including those with PVC and PE jackets and inner ducts. Penetrations and inner duct openings are sealed with fire-resistant materials that expand under heat to seal out flames, smoke, toxic fumes, and water. 3M, Fire Protection, St. Paul, Minn.

185. Roofing problem solver
One of a series, Bringing Airport Roofing into the 90s outlines the high-performance, cost-effective advantages attributed to thermoplastic single-ply materials on very large, very visible, projects such as the 1,350,000-sq-ft Denver International Airport. TROCAL Roofing Systems, Piscataway, N. J.

186. Cold-applied roofing
The C. A. Ecool-applied polyester—system is said to provide cost-effective metal-roof restoration and preservation, sealing, rustproofing, and to improve the appearance of existing metal roofs. The monolithic surface resists UV and reduces under-roof temperatures. GMX, Inc., Cleveland.*

187. APP-modified bitumen
A complete, updated specifications and design manual contains 160 pages on the appropriate selection and detailing of all Dibiten USA roofing products, including waterproofing materials. Excellent layout, black and white photos, and two-color details. Dibiten USA, South Gate, Calif.

188. Visible roof project
An illustrated case history spells out the reasons Paul Steehman Architects specified Bondcote fabric-reinforced NBP membrane for the flat roofs of the enormous MGM Grand Theme Park in Las Vegas: superior UV resistance, no loss of color or thickness over time, and non-curing installation flexibility. Bondcote Corp., LaGrange, Ga.*

189. Curveable cladding
A capabilities brochure covering the long-term (20 year) in-place performance history of Alucobond Material describes the cladding as an economical alternative to brick, marble, granite, and pre-cast materials. New less-expensive attachment systems and new color options are illustrated. A-T-I, Benton, Ky.

190. Sprayed fireproofing
Cafco Deck-Shield I is said to be an abrasion-resistant fireproofing for exposed steel surfaces. Drying to a smooth surface, it can withstand the day-to-day abuse found in mechanical rooms, parking garages, and elevator shafts. Offers FR ratings of up to four hours, and a noise-reduction coefficient of 0.65. Isoltech International, Stanhope, N. J.*

191. SBS-modified roll roofing
A 12-page architectural brochure, illustrated in this maker's strong graphics style, includes "everything you need to know" about Awaplan SBS-modified polyester roll roofing. Interactive software assists in generating CSI-format specifications, drawings, and construction details. TAMKO Asphalt Products, Joplin, Mo.*

192. Assured R values
An overview of expanded polystyrene insulation gives product characteristics and illustrates specific uses—on wood or metal decks, sub-slab insulation, exterior sheathing—with line drawings. Explains the long-term, consistent thermal performance backed by the Acu-R quality-assurance program. Society of the Plastics Industry, Tampa.

* Product Data on CAD disk
193. Fiber-cement slate
Said to be the only manufactured slate with an unpainted, quarried-slate finish, SupraSlate II comes in Bangor black, Pennsylvania gray, Vermont green, Rutland red, and Granville purple. Data sheet illustrates all colors and edge treatment; lists freeze-thaw, UL, and other test data. Supradur, Rye, N. Y.

194. Skylights
This maker's complete line of skylights and roof windows is covered in a new, full-color architectural specification catalog. Details, installation suggestions, and dimensional data given for all models; also highlights accessories such as pleated shades, motorization, and telescoping poles. Therma-Vu, Stamford, Conn., and J. R. Watkins, Evanston, Ill.

195. Intumescent firestops
Silicone Penasil firestop systems are said to be designed to simplify specification, installation, and inspection procedures in a number of applications, including three-hour UL-classified floor and wall void and penetrations. Technical guide details use of Penasil sealants, foams, and intumescent putty. GE Silanes, Waterford, N. Y.

196. Multi-ply vapor barriers
A laminate of high-density polyethylene and nylon yarn, Griffolyn sheets perform as vapor barriers under slabs and roof decks and in cold storage facilities, and reduce heat transfer through wall and ceilings to lower interior humidity and prevent in-wall condensation. Puncture resistant, tape sealable, Griffolyn, Reif Industries, Inc., Houston.

197. EIFS restoration
A four-page brochure describes Dryvit's new Care and Restoration of Exterior (C.A.R.E.) program designed for buildings clad with EIFS. It suggests fast and economical options for those buildings that could use new design elements, protective coatings, renewed color, or other preventative maintenance. Dryvit Systems, Inc., West Warwick, R. I.*

198. Customized shingle roofs

199. Panelized cedar shingles
Portfolio of light-commercial and residential projects explains how the panel concept makes the best, most economical, and least wasteful use of natural cedar shingles. An interlaced fiberglass-reinforced asphaltic moisture barrier and interlocking end joints improve sidings' performance and appearance. Cedar Valley Shingle Systems, Hollister, Calif.

200. Copper roofing system
Revere, trying to reduce the perceived complexity of roofing with copper and lower and stabilize material costs, developed a system of solid-copper shingle panels and concealed joint pans. A four-page brochure highlights system components and ease of installation. Revere Copper Products, Inc., Rome, N. Y.

201. Roofing insulations

202. FRP rain gutters
The Resolite gutter and downspout systems resist attack from corrosive material washed off roof surfaces, even in severe building environments such as smelters or pulp mills. Molded gutter and downspout sections snap together; gray, beige, or white colors standard. Custom colors on volume orders. Resolite, A United Dominion Co., Zelienople, Pa.

203. Metal roof systems
Building components—cladding, standing-seam and architectural roof panels—are available in 17 different profiles, several gauge and pretreatment options, and nine standard colors. Design catalog from this 30-year-old firm illustrates them all, and lists manufacturing locations. Metal Sales Manufacturing Corp., Louisville, Ky.

204. Cellular-glass insulation
Its all glass, closed-cell composition is said to make Foamglas the only insulation available that is impermeable to moisture in liquid or vapor form. A 30-page catalog documents the very long-term, consistent performance claimed for the non-combustible board product. Pittsburgh Corning Corp., Pittsburgh.

* Product Data on CAD disk
217. Bath accessories
The ARIA line of towel bars, soap dishes, shelves, switch plates, robe hooks, paper dispensers, toothbrush holders, and shower caddies is made of Corian with solid-brass trim and reinforcement. There is a wide selection of finishes. The company also makes Corian shower bases. Colonial Bronze Co., Torrington, Conn.

218. Thin-trim window vents
Billed as a "concealed vent," the operable exterior-opening lower panel has minimal visible trim. The metal GLASSvent opens on four-bar hinges, has sturdy locking hardware, and is compatible with thermal-framing lines. Panels pass certified tests for water and air penetration, as well as structure and U value. Kawneer Co., Norcross, Ga.

219. Access panels
New fire-rated models from this manufacturer accommodate edge conditions for two different wall finishes. The FDPW has plaster-stop flanges and the FDWB has a drywall bead. Model CP (photo) is a recessed panel with metal lath for plaster ceilings. J. L. Industries, Bloomington, Minn.

220. Art-glass panels
Renato Toso and Noti Massari have created two glass designs. One relies on the colorless transparency of the material and contains designs "traced in air" (photo). The other is Murano glass patterned with red, blue, and gray "ancient signs." Both are said to be suitable for skylights and doors, and wood or metal frames. Lecos USA, Inc., Edison, N. J.

221. Swiveling TV bracket
Heavy-duty performance in relation to a modest size are said to be major features. The load capacity is 180 lb. The extension is 14 in. Bracket holds set up to 32 in. diagonal measure. A 16-in. mounting plate and unit-support brackets are designed to eliminate rocking. Comes in black or zinc-plated finish. Accuride, Santa Fe Springs, Calif.

222. Thermal-glass spacer
Said to be more effective at sealing out moisture and air penetration than conventional aluminum and carbon-steel spacers, the SST model is made of laser-welded light-gauge stainless steel to resist corrosion. The spacer is corrugated for structural performance and novel appearance, and is lap-welded for rigidity. Allmetal, Inc. Itasca, Ill.

223. Seven-ply FR door
A three-ply "skin" has a 1/50-in. face veneer over a particleboard core, and is said to accept stains uniformly. Factory staining is available. Industrial-grade hardboard is another option. The SP model has a 20-minute fire rating. Weyerhauser Co., Marshfield, Wis.

224. Insulated divided lights
Each light is a separate double-glazed unit in this manufacturer's Williamsburg line. Advantages over lines in which wood dividers are attached to the face of one large insulated-glass unit are said to be: reduced chance of stress and lower replacement costs. Dividers are 7/8-in. wide. Weather Shield, Inc., Medford, Wis.*

225. Folding glazed units
Offering a 92-percent free opening in folded-back position, this system can be used for doors, windows, and full walls. Flush-bolt locking and screens to cover the full opening are included. Glass is insulated, tempered, and tinted bronze. Aluminum frames are available in white or bronze finish and 14 standard sizes. Skytech Systems, Bloomsburg, Pa.

226. Vinyl windows
Intended for domestic use, these solid-vinyl window and door units are said to never rot, peel, crack, rust, scratch, dent, or stain. Configurations include standard bay windows, small bay windows for use in such locations as over kitchen sinks, tilt-in windows, and sliding doors. Louisiana-Pacific Corp., Portland, Ore.

227. Metal-roof skylights
Insulated vacuum-formed domes are designed to be installed between standing-seam panels 16 in. wide. The company's installers cut panels to accept 11- by 48-in. Seallbrite light-transmitting units, which are factory-sealed to the metal; unit is supplied as a roofing panel. Sequentia, Strongsville, Ohio.

228. Colored wire glass
"Georgian" colored laminated clear-float wire safety glass is offered in red, blue, white, black, brown, green, and yellow. Wire is electronically welded mild steel. Thickness is 1/4-in. Standard size is 62-in. by 106 19/64-in. Other sizes available. FDI Glass Corp., Fairfax, Va.

* Product Data on CAD disk
229. **Key-in-lever lockset**
The Survivor, a grade 1 cylindrical action locking mechanism, reduces damage when locked because non-rigid outside lever turns without opening latch. Automatically adjustable for door thicknesses from 1 5/8- to 1 7/8-in., without use of spacer plates. Marks Hardware, Inc., Amityville, N.Y.

230. **Non-reflecting glass**
Amiran, the first non-reflective window glass, was developed through a special dipping process that coats both sides of the glass with a thin transparent skin. Reduces reflections from 8 percent to less than 1 percent, and cuts lighting costs and fading. Suitable for showrooms, shops, and restaurants. Schott Corp., Yonkers, N. Y.

231. **Starck lever handle**
From FSB in Germany, the PSI Series polished-lever door handle designed by Philippe Starck echoes the shape of its circular, matte-silver backplate. Asymmetric forms indicate what the designs do and how. It can be furnished with passage, privacy, and entry lock and latch sets. FSB for The Ironmonger, Inc., Chicago.

232. **Laminated glass**
Colored- or clear-textured glass laminated on large tempered or safety-glass surfaces produces a cost-effective way of creating shatterproof architectural glass with a full range of patterns and textures. Can be applied to any thickness of float glass. Palmer-Pohlmann Studio, Inc., Atlanta.

233. **Warp-resistant French door**
A new French door can be hinged in a wide variety of configurations. Wood stile has innovative, fiber-reinforced core that is said to eliminate warpage and be three times as strong as wood. Does not react to moisture or temperature change. Meets NWWDA Grade 60 Commercial performance standards. Marvin Windows & Doors, Warroad, Minn.*

234. **Electromagnetic lock**
The Adams Rite magnet Series 1200, a high-security lock with 1,200 lb. of holding force, has options that include face-mounting for inswinging doors, monitoring, surface wiring, and indicator lights. Internal electronic circuits designed to provide instant release and avoid residual magnetism. Adams Rite Manufacturing Co., City of Industry, Calif.

235. **Solar-control glass**

236. **Mortise locksets**

237. **Curved glass**
Specialized curved and angle-bent glass sheets are fabricated by manufacturer for custom-designed or assembly-line architectural glass and manufacturers’ display cases. Large-scale shapes can be made in laminated, tempered, insulated, reflective, and tinted glass as well as standard glass. Dhubak Corp., Freeport, Pa.

238. **Thermal glass**
InSol-Edge technology increases inside-glass temperature along window edges and overall insulating performance. Combines the strength of two galvanized-steel spacers separated by low-density, moisture-resistant foam. Flow of cold and heat is practically eliminated and condensation significantly reduced. Hurd Millwork Co., Inc., Medford, Wis.*

239. **Gliding garage door**
The Quiet-Glide panel garage door features CFC-free molded polystyrene panels to provide extra-quiet operation. Polystyrene backer and dovetail design add strength and durability. Available with windows and trim and in all sizes except 12- and 14-ft widths. Stanley Door Systems, Troy, Mich.

240. **Lever lock**
Schlage Lock Company’s ADA-compliant S-Series Saturn key-activated lever is a light- to medium-duty commercial lock. Used in lower-traffic commercial areas such as interior offices, medical centers, stores/shops, and bathrooms, and heavy-duty residential and multifamily houses. Schlage Lock Co., San Francisco.

* Product Data on CAD disk
241. Residential entrance
Suggested as appropriate for several architectural home styles, the Venetia fir or hemlock door features decorative lights with beveled glass set like a mosaic in brass caming. Doors come in 3-ft and 42-in. widths, up to 8-ft high; matching sidelights are an option. Simpson Door Co., Mc Cleary, Wash.

242. Rated veneered grillwork
Fire doors with veneer-wrapped grills now qualify for 20- through 90-minute labels, allowing architects to specify a French door style or a divided-light insert while meeting occupancy-code requirements. Door bead and grillwork can be provided in all available foreign and domestic veneers. Eggers Industries, Appleton, Wis.

243. Architectural glass
Truly monumental installations (entrance pictured is 10- by 17-ft) can be created with blown, cast, beveled, and stained glass fabricated in wood and/or metal structures. Custom glass panels become site-specific skylights, domes, window walls, and entries. Juras Architectural Glass, Oakland, Calif.

244. Vinyl-framed windows
A new product from a maker of commercial and residential aluminum windows, Aurora windows and patio doors are made with multi-chambered vinyl extrusions in bright white or almond. UV-stabilized vinyl is said to offer superior energy efficiency and long-term, low-maintenance performance. Acorn Window Systems, Inc., Detroit.

245. French door
The Marquis insulated entrance features thinner muntts and bars that coordinate with popular window-glazing styles, and wider, 4 3/4-in. stiles that will accept most decorative hardware and locksets. Door comes in pine, oak, and fir; as well as one-, 1.5-, and 15-light designs. Nicolas Doors, Oshkosh, Wis.

246. ICU sliders
Described as easy to install and maintain, RotoSwing manual (non-automatic) sliding and awing doors come in two-, three-, and four-leaf models that offer immediate access to patients in intensive- and critical-care hospital units. Can be installed without a floor track; wide range of finish options. RotoSwing Division, EFCO Corp., Minnet, Mo.*

247. Clad-wood French door
Made with an extruded-aluminum exterior, new French doors have natural, vertical-grain Douglas fir on the inside. Metal may be finished in white, sand, or dark bronze; wood interior surfaces may be stained or painted. Line offers several grid, hardware, and energy-saving glazing options. Milgard Manufacturing, Inc., Tacoma, Wash.*

248. Mullionless corner window
The CornerView unit, made of clear pine on the interior and with an aluminum exterior in any standard or custom EnduraClad color, miters two lights of clear glass to create a totally unimpeded view. Units may be stacked two high; three sizes, up to 5-ft 5-in. high. Pella Corporation, Pella, Iowa.*

249. Tamper-resistant closer
HS 83-series surface closers provide vandal- and tamper-resistance for openings that must meet accessibility codes yet be secure against deliberate damage. An adjustable spring-power range lets the closer meet both interior and exterior-door opening-force requirements. The Dorma Group, Reamstown, Pa.

250. Art Glass panels
A decorative option for new or existing Andersen windows, maple-trimmed Art Glass panels in over 100 shapes include elements such as clear antiqued glass, semi-privacy lights, and colorful stained glass in Art Deco, Victorian, contemporary, Tudor, and other motifs. Andersen Windows, Inc., Bayport, Minn.*

251. Panic entrance
A new concealed, vertical-rod exit device, VIP II has a slim appearance with narrow sightlines and hidden fasteners. Available for narrow-, medium-, and wide-stile entrances, the device is rated for use in schools, hospitals, and other high-traffic applications; touch bar has a non-slip linear-tread pattern. Vistawall Architectural Products, Torrell, Tex.

252. Warning surface
Metal and rubber Traction Tread modules can be secured onto a variety of walking surfaces, or embedded in concrete as illustrated, to provide detectable warnings for the visually handicapped at the top of stair runs, escalators, and other locations specified under ADA 4.29.2 criteria. Zero International, Inc., Bronx, N.Y.*
WE WERE LOOKING FOR A WINDOW COMPANY THAT WOULD HELP THE GOVERNMENT RESIST LEAKS AND INFILTRATION.

The GSA contract called for random testing to verify the air infiltration and water resistance specifications of the building's glazing system. The curtain wall, storefront, doors, and windows all had to perform to spec or they would be rejected.

We wanted to work with a manufacturer that could give us the kind of products and performance we needed to keep the job moving on time and on budget.

We awarded the job to EFCO.


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1-800-221-4169
The 817 Pella® Architect Series™ windows in the renovated B&O Warehouse at Camden Yards combine historical authenticity, energy efficiency and low maintenance.

Only Pella could provide historically authentic windows with low-maintenance aluminum cladding.

"We felt very strongly that the replacement windows should have the appearance of true divided light on both the exterior and interior," explains Janet Marie Smith, Vice President of Planning and Development for the Baltimore Orioles. "We were delighted to find a window from Pella that would give us the authentic look, the energy efficiency and the low maintenance we wanted, at a competitive price." Let the Pella Commercial Division provide innovative solutions (and architectural support services) for your window challenges. Contact your Pella Commercial Specialist.

Quality like this only comes from Pella.

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253. Protective doors
Exterior and interior rolling doors and grilles are covered in a 24-page color brochure. The galvanized-steel and aluminum doors provide security and protection from the elements. Options include fire-proofing, motorized operation, a baked-enamel finish, and automatic closing in the event of fire. Cornell Iron Works, Mountaintop, Pa.

254. Door closers
A user-friendly closer designed to reduce the force required to open a door by 75 percent is one of the products described in LCN’s eight-page brochure. Other items include electrical closing devices that function in tandem with existing alarm systems. Drawings detail various construction and mounting options. LCN Closers, Princeton, Ill.

255. Window dressing
Soleil hurricane-resistant, roll-down shutters offer both automatic and manual louvering, can be lacquered to specification, and are constructed of either Burmese teak, Honduran mahogany, or aluminum. In a six-page brochure, color photos show the shutters in place. Schematic drawings and plans also provided. Soleil Shutters, Inc., Riverdale, N. Y.

256. Translucent insulating glass
A detail of the skylight in Camberly Town Centre, Surrey, opens the tri-lingual, 16-page brochure by Okalux. Color photos show the light-diffusing insulating glass used in both new buildings and restorations. Cross-sections detail the capillary-slab design. A chart provides data on light transmission and deflection. Schott Corp., Yonkers, N. Y.

257. Fire-resistant glass
Photos, drawings, and specs of two types of labeled glazing are included in an eight-page color booklet. Contratlam consists of a polymer gel between two sheets of glass, and can have a 90-minute glazed-wall rating. Pyroswiss is a single sheet tempered to withstand the heat of a fire. SAFTI, Div. of O’Keeffe’s, Inc., San Francisco.

258. Windows and doors of vinyl
Schematic drawings and cross-section photos detail the construction and applications of Rehau windows and doors in an eight-page catalog. The vinyl composition is impact- and weather-resistant. Products are available in many shapes and colors. An optional roller-shutter system is designed to provide additional security. Rehau, Inc., Leesburg, Va.

259. Three-panel sliding door
The compact, microprocessor-driven motor in the Dura-Glide Telescoping Sliding Door makes small openings wider, and the synchronized panels start and stop simultaneously. Powered or manual operation. Security glazing and approach sensor are standard. Photos and additional details in a color flier. Stanley Works, Farmington, Conn.*

260. The inner life of glass
Transparent? Opaque? You decide with Priva-lite. With the flip of a switch an inner layer of Taliq Liquid Crystal Film is rearranged, making frosted glass completely see-through. Before and after photos illustrate the dual nature of Priva-lite glass. Frost tones include neutral, bronze, and gray. St. Roch Euroglass, White Plains, N. Y.

261. Metal doors

262. Architectural hardware
Color catalog offers several models of doorpulls and shower-door hinges constructed of aluminum, steel, brass, or bronze. Spherical and T-shaped pulls available, as well as standard and custom designs. Polished-metal hinges join wall to glass and glass to glass. Scale drawings accompany each product. Hiawatha, Inc., Bloomington, Minn.

263. Locks
In a four-color, four-page brochure, Arrow describes its light-, medium-, and high-traffic cylindrical locks. Steel, brass, and alloy construction. H-series and M-series feature interchangeable and custom keying. All locks ADA compliant. Photos and scaled diagrams of each 139 series. Arrow Lock, Brooklyn, N. Y.

264. Laminated glass

* Product Data on CAD disk
265. Special windows
A 12-page capabilities brochure describes expertise developed since 1906 making complex metal-framed windows for churches and other prominent structures. Aluminum-framed windows can be produced in virtually any shape or size, including designs that match historical fenestration with pivoted ventilators. J. Sussman, Inc., Jamaica, N. Y.

266. Metal-faced doors
A colorful brochure illustrates dozens of doors made of embossed metal over a solid-wood core. Some have dots and stripes in striking, one-of-a-kind patterns; other styles juxtapose different metals in five standard—or any custom—design. Forms+Surfaces, Inc., Santa Barbara, Calif.

267. Security glazing
Glass laminated with Saflex PVB interlayer can meet the specific levels of security and storm-resistance required by most high-value architectural applications, such as museums, embassy facilities, banks, and stores.Spec binder and CAD software reference complete design, load, and testing parameters. Monsanto Co., St. Louis.*

268. Curtain-wall design
A color portfolio illustrates recent high-rise office and institutional projects incorporating stick, butt-glazed, slope-glazed, and I-beam curtain-wall designs in custom colors and styles that integrate with the manufacturer's storefronts and entrances. EFCO Corp., Monett, Mo.*

269. Solid-brass locksets
Omnia's 12-page catalog covers six distinct hardware styles, all offered across a range of entrance, interior, and passage configurations that allow a design theme to be carried throughout the home. The 2 1/2-in. backset mortise locks are built for high traffic and security requirements. Omnia Industries, Inc., Cedar Grove, N. J.

270. Custom-cladding services
When a project calls for the lustre of polished brass, the sparkle of stainless steel, or the richness of bronze, Brite Vue has the capability of cladding aluminum curtain walls, framing, or entrance systems with these metals. A catalog page describes these and other specialty metal services. Kawneer Co., Inc., Norcross, Ga.

271. Fire-rated glass
An architectural catalog provides technical, dimensional, and code information on two labeled glazing products: FireLite wireless glass-ceramic, a 60-minute vision light, and laminated FireLite Plus, an impact-resistant, safety-rated version. Both configurations fit standard fire-rated frames. Technical Glass Products, Kirkland, Wash.

272. Six-panel door system
The Nana bi-folding French-door assembly is a series of glazed panels that can span openings as wide as 18 ft 5 in., expanding indoor/outdoor space in homes, shops, and restaurants. An eight-page brochure illustrates panel, hardware, and glazing options, showing the wall as installed. Nana Windows & Doors, Inc., Mill Valley, Calif.

273. Balanced doors
It is spring pressure which slows the swing-back of a balanced door. A new 18-page catalog previews a line of balanced doors made of stainless steel, bronze, extruded aluminum, or tempered glass that are ADA-compliant without powered operation. Color photos of each door type, specs, and mechanical details included. Ellison Bronze, Falconer, N. Y.

274. Panels for access
Four types of access panels are featured in an eight-page brochure from Nystrom: fire-rated, flush, recessed, and security. Each is made from commercial-grade cold-rolled steel, but can vary in the gauge of steel used. Every panel offered in a range of sizes; custom modification available. Nystrom, Minneapolis.*

275. Architectural doors
Solid-core, hollow-core, fire-rated, and lead-lined doors, each useful in a variety of commercial and institutional applications, are drawn and described in a four-page catalog. Choices of six veneers. Bowed and squared vision panels. Custom colors and finishes available. Vancouver Door, Inc., Puyallup, Wash.

276. Picture windows
Custom windows in a variety of configurations fill an architectural brochure. Fixed and casement units and corner windows without obstructing supports are suggested for new construction and retrofit. Insulating glass, aluminum exterior cladding, and custom woods are optional. Approved by preservation groups. Pella Corp., Pella, Iowa.*
277. Steel windows
This manufacturer's 1994 catalog has 12 pages on windows and glazed-door assemblies made of hot-rolled or formed steel, illustrating architectural applications, design features, and thermal performance. Steel frames can accept large IG units without increasing sight lines. Hope's Architectural Products, Inc., Jamestown, N.Y.

278. Access doors
An 18-page catalog illustrates access doors and panels for all types of walls and ceilings. Standard configurations and mountings—recessed, flush, and surface-mounted—are offered for all occupancies; a custom-door division accommodates special metal, hinging, or wall-opening requirements. Karp Associates, Inc., Maspeth, N.Y.

279. Automatic windows
Motorized windows can be specified as part of a total home-automation system that controls security, temperature, lighting, and appliances. Temperature, moisture, or carbon-dioxide monitors can signal windows to open or close. Ideal for physically limited users and remote openings. Marvin Windows & Doors, Warroad, Minn.*

280. Shutters
Available made-to-order and in knocked-down kit form, hardwood window shutters are made using blind-pocket mortise-and-tenon construction and solid-brass fasteners and hinges. Can be specified in woods for interior or exterior, as fully operable louvers or a solid-panel style. Kestrel Manufacturing, Elverson, Pa.

281. Composite window
Orion residential windows are made of Compozit C/G, an especially heat-resistant thermoplastic developed by GE Plastics. White, tan, and dark-brown extruded frames are colorfast, thermally-efficient, and meet or exceed all pertinent AAMA and ASTM standards. Complast, Inc., Minneapolis.

282. Hardware finishes
Available from Schlage to help architects specifying locksets and other door hardware, a finish sampling ring holds 11 standard metal-color options, such as simulated 613 bronze, bright brass, satin brass (blackened), bright, satin, and oil-rubbed bronze, and bright chrome. Schlage Lock Co., San Francisco.

283. Aluminum entrances
Standard and special-use doors and entrance systems are detailed in a 12-page architectural catalog. Included are glazed-panel and flush doors, bi-fold units for wide openings, and narrow-, medium-, and wide-stile doors that replicate the look of vintage apartment buildings. REBCO, Inc., Paterson, N.J.

284. Fire-door operators
Listed and labeled operators for sliding fire doors have a battery backup for closing and emergency egress; no closing weights, reels, cables, or disconnects are required. Brochure explains how the easy-to-test devices install on new or existing doors subject to everyday use. Saino Manufacturing Co., Memphis, Tenn.

285. Door options
A brochure gives dimensional data and frame details for all of this maker's ventilating door louvers and VisionLite glazing frames, which can come with listed wire glass. Louvers can be fixed or adjustable; a spring-loaded, fusible-link-activated model achieves a 1 1/2-hr rating in both hollow-metal and composite fire doors. Air Louvers, Inc., Pico Rivera, Calif.

286. Lever-handle hardware
Constructed of sanitary, warm-to-the-touch nylon over stainless-steel and brass components, HEWI door hardware, accessories, knobs, pulls, hooks, and rail systems are presented in a complete 16-page catalog. All 13 color choices are illustrated. HEWI, Inc., Lancaster, Pa.

287. Architectural hardware
Apparent for the first time, all of this manufacturer's hardware—locksets, exit devices, door closers, and key systems—are presented in a single, 100-page-plus catalog. The redesigned format highlights all handicap-code-compliant products. Corbin Russwin Architectural Hardware, Berlin, Conn.

288. Heavy-duty hinges
An illustrated brochure offers detailed specification guidance for a full line of high-performance door-hinge systems, including the Unigear continuous hinge, the high-traffic Unipin hinge, and cam-lift hinges for sound-rated doors. Zero International, Bronx, N.Y.
289. Non-toxic wall finish
Acrylic-latex multicolor finishing system offers the durability of alkyl colors but, as a water-based decorative finish, avoids the odor and VOC emissions of oil-based products. System dries in a half hour and resists dirt, fingerprints, and mildew, according to manufacturer: California Products Corp., Cambridge, Mass.

290. Software evaluates carpets
Known as Carpet Mentor, software runs under Microsoft Windows and allows architects to develop accurate fiber-specific carpet specs that take into account carpet construction, design, and yarn type, as well as carpet’s intended use, exposure, traffic, and other environmental factors. DuPont Co., Wilmington, Del.*

291. High-traffic coating
Decoat X is designed for high-traffic exterior and interior surfaces. Product combines multicolored aggregate beads in an acrylic binder for a virtually indestructible finish, says manufacturer: Related design kit allows specifier to create custom colors. Color combinations are limited only by the 14 colored beads. Sto Industries, Atlanta.*

292. Tile warns sight-impaired
Warning tile alerts visually impaired of an approaching hazard such as pools or vehicular-traffic areas. Resilient tile is part of manufacturer’s system of tiles, treads, risers, and stringers, and comes in eight colors. Tile meets appropriate ADA requirements and ANSI standards, according to manufacturer: Flexco, Chamblee, Ga.*

293. Classroom wall
The Learning Wall is simply reconfigurable to fit changed classroom sizes demanded, for example, by computer integration, relocating lab stations, or adding ADA-compliant facilities. System consists of gypsum wall panels and door frames, along with interchangeable support studs and finish trim. USG Interiors, Inc., Chicago.*

294. Detectable warning tile
Warning tile for the sight-impaired is said to meet all physical property requirements of ADA and ANSI A-137.1. Impervious, frost-resistant tile comes in 2 1/16-in. square sizes and is available in black, white, and daffodil. Dal-Tile Corp., Dallas.

295. High-NRC panels
A 3/8-in. thick 2-ply fiberglass-core acoustical panel system delivers high NRC values, and absorbs impact without destroying effectiveness. Available in 4- by 8-, 4- by 9-, and 4- by 10-ft standard panels (plus custom sizes), panels are installed with a V-joint reveal or coordinated moldings. Construction Specialties, Inc., Cranford, N.J.

296. Embossed wallcoverings
Collection of Type II vinyl wallcoverings offers architectural embossings and innovative printing. Known as Counterpart/3, product comes in nine patterns, in a broad selection of colors and textures. Suitable for healthcare, and institutions, as well as commercial, retail, and hospitality uses. Maharam, New York City.

297. Bulgarian limestone
Flooring is made from a mixture of three Bulgarian stones to provide a veiny appearance in a beige/cream color range. Blue English and French stones also available. Colors make possible checkerboard patterns. Floor can be laid indoors or out. Paris Ceramics, New York City.

298. Vinyl tile in 18 colors
New colors in manufacturer’s Standard Excelon Imperial Texture vinyl-composition-tile series include six off-white colors with high light reflectivity. Suitable for healthcare, retail, and educational uses, tile offers a textured look based on tone-on-tone grained visual elements. Armstrong World Industries, Inc., Lancaster, Pa.

299. Security wall panel
Composite wall panel is made of 3/4-in. or 5/8-in. fire-rated gypsum wallboard laminated with a .081-in. opaque Lexan LF300 polycarbonate sheet. Exposed surface is then finished with traditional drywall materials. Suitable for interior security uses such as correctional facilities. Coreguard, Inc., Bay City, Mich.

300. VCT in 60 colors
Vinyl-composition tile comes in two series: Essentials, offering 48 base-grade colors, and Inspirations, offering 12. Product complies with requirements of ASTM 1066-87 for Composition 1, Class 2 VCT, according to manufacturer, and is suitable for high-traffic areas. Mannington Commercial, Salem, N. J.

* Product Data on CAD disk
**301. Laminated-wood flooring**
A new narrow width, Windsor 2 1/4- in.-wide strip can be installed in areas said to be too abusive for conventional wood-floor products. Finished in a medium-gloss, UV-cured polyurethane, the five-ply floor comes in six colors, and can be glued,-nailed, or floated over many subfloors on-, above, or below-grade. Mannington Mills, High Point, N. C.

**302. Thin FRC underlayment**
Ultraboard, made of autoclaved fiber-reinforced cement, comes in a 1/4-in.-thickness for use as an underlayment, resilient-flooring substrate, and ceramic-tile backerboard for both vertical and horizontal applications. Panels weigh 1.9 lb psf, can be scored and snapped, or cut and drilled with normal wood-working tools. Eternit, Inc., Blandon, Pa.

**303. Rubber-floor options**

**304. Textile wallcovering**
An expanded pattern and color range in Gossamer Steel wallcoverings includes jacquards in motifs drawn from nature. Fine-denier yarn is said to improve seaming; synthetic material meets or exceeds federal, state, and local toxicity, flammability, and other standards. Koroseal Wallcoverings, Fairlawn, Ohio.

**305. Sculptured border tiles**
Based on design elements from nature popular in Arts & Crafts Movement ceramics, art tiles simulate tree branches, pine cones, vines, and animals. Highly dimensional, they are suggested as wall borders and fireplace and backsplash trims. Color range includes deep greens, russet, and deep blue. Country Floors, Inc., New York City.

**306. Three-dimensional ceiling**
The Dynamix metal reveal-edge suspended ceiling comes in a choice of panel sizes, metal types, perforation patterns, and finishes. Said to be more durable than standard mineral-board or fiberglass ceiling panels, they qualify for a Class A flame-spread rating. Chicago Metallic, Chicago.

**307. Ornate wallcoverings**
Available from stock, Anaglypta SupaDurable Victorian-era wallcoverings are made with cotton fiber, and are said to be hard-wearing enough for high-traffic wall areas yet light enough to use on ceilings. The embossed wallcovering is finished on-site with paint or faux treatments. Outwater Plastic Industries, Inc., Wood-Ridge, N. J.

**308. Mosaic-look sheet vinyl**
A new design suggested for residential use, Celestial sheet-vinyl flooring offers a range of mosaic-tile patterns, in relatively bright colors. Pictured is Zodiac, a pearlescent look with multi-colored tile star bursts and white "mortar joints." Congoleum Corp., Mercerville, N. J.

**309. Glazed porcelain pavers**
A new, 16- by 16-in. paver size meets architectural demand for large-area tile requiring minimal grout lines. Made using recycled materials, Imperva and other glazed porcelain tile products have water absorption rates near zero, and breaking strengths are said to be double the industry standard. Summitville Tiles, Inc., Summitville, Ohio.

**310. Noise-control wallcovering**
Acousticord, a fusion-bonded ribbed-texture blend of wool/mohair and synthetic yarns, deadens sound, cushions impact, and provides a level of thermal insulation in commercial buildings. Contrasting colors may be juxtaposed to create wall graphics; the surface is compatible with both Velcro and pushpins. Eurotex, Philadelphia.

**311. Safety stair treads**
Made to match Johnsonite rubber or vinyl floor tiles in color and luster, treads meet visibility requirements with a clearly contrasting 2-in.-wide abrasive strip insert. Stair products come in a selection of raised-, square-disk, and smooth-surface treatments. Johnsonite, Chagrin Falls, Ohio.

**312. Speckled grouts**
Described as stain proof, grouts have less than 1/2 percent water absorption. Setting materials are offered in 35 solid colors, seven Spec-L blends, and a new, highly chemical-resistant epoxy suggested for kitchen use where spills aren't cleaned up quickly. Laticrete, Inc., Bethany, Conn.*

* Product Data on CAD disk
313. Gypsum wall panel
Ultradeck Core is the first single-layer interior gypsum-board wall system to provide a two-hour fire rating, says its manufacturer. The 3/4-in. Sheetrock gypsum panels are 4-ft wide and come in lengths of 8, 9, 10, and 12 ft. Because it is a single-layer system, the product reduces both labor and material costs. United States Gypsum Co., Chicago.*

314. Ceiling system
The Bold Beam ceiling treatment can be installed as easily as acoustical tee-grid systems, but adds depth and detail to ceiling designs. A modular system that can incorporate a luminous ceiling, Bold Beam is available in real wood veneers, as well as painted and laminated surfaces. Norton Industries, Lakewood, Ohio.

315. Prefinished wall panels
Available in four color combinations, the Gold Bond Durasan Da Vinci Collection of prefinished vinyl-covered gypsum wall panels achieve a one-hour fire rating when used with steel or wood studs. The color combinations imitate the look of stone. Gold Bond Building Products, a National Gypsum Division, Charlotte, N.C.

316. Stair treads
The Grip Strip VI Series of stair treads for the visually impaired meets building codes that require contrasting color strips at least 2-in. wide on the top and lower tread of each stairway. Treads come in nearly a dozen different colors with contrasting stripes of black, gray, brown, or yellow. Musson Rubber Co., Akron, Ohio.

317. Porcelain tiles
The Old Stone series of porcelain tiles recalls the look of natural stone pavers with their dimpled surface and variations in shades. The tiles are 1/2-in. thick and come as either triangles or 6-in.-by-6-in. squares. Available in nine earth colors, the tiles can be used indoors or outdoors. Buchtal Ceramics, Roswell, Ga.

318. Carved ceiling panels

319. Interior wall finishes
Surface Systems is a line of wall-surfacing products that offers a range of materials and finishes, from natural wood and metal veneers to high-pressure laminates and faux stone. The product is a pre-engineered system with 16-by-24-in. or 24-in. square panel modules for easy installation. Marlite, Dover, Ohio.

320. Exterior coating system
Loxon Exterior Masonry Acrylic Coating is a VOC-compliant coating system specifically engineered for above-grade masonry surfaces. The complete Loxon system (including primer and topcoat) is designed to protect demanding surfaces such as highly alkaline masonry and marginally cured concrete. The Sherwin-Williams Co., Cleveland.*

321. Metal-ceiling system
A new installation system gives Cassettes metal-ceiling panels the monolithic look of drywall but with total downward accessibility. The system uses a standard 15/16-in. exposed tee grid on a 24-in. module to create narrow reveals. Panels are either smooth, or perforated for acoustical absorption. Armstrong Contract Interiors, Lancaster, Pa.

322. Vinyl floor tiles
Collage vinyl-composition floor tiles include multi-colored Thru Chip mottles throughout their thickness to maintain colors even after years of use. The collection of tiles comes in 12 color schemes that were created to harmonize with existing commercial and institutional environments. Tarket, Parsippany, N. J.

323. Flat and engraved tiles
The Steppes Portfolio is a collection of floor, wall, countertop, accent, and trim tiles available in two monochromatic colors: Lumina white and French Provincial cream. The line includes 8-in.-square engraved field tiles, 12-in.-sq engraved tile, and engraved listello tiles. Florida Tile Industries, Lakeland, Fla.

324. Resilient flooring
Developed in England, Arteca resilient flooring imitates the look of wood, tile, marble, brick, or stone. Instead of being sold in prefabricated sheets, Arteca floors are created using custom-cut tiles, strips, inlays, and borders. A CAD/computer-aided-manufacturing process provides flexibility in designs and colors. Courtauld's Flooring U. S., Louisville, Ky.

* Product Data on CAD disk
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**337. Multicolor textures**
Described as a durable, UL Class A fire-rated alternative to paint and vinyl, Zolatone multicolor wall finish comes in various degrees of texture. A specification folder holds actual samples, from marble-like creams and tans to dark granite looks. Surface Protection Industries Co., Los Angeles.

**338. Cast-stone tiles/panels**

**339. Tile-setting products**
Pertinent characteristics and specification compliances for a full line of grouts, mortars, adhesives, and other tile materials illustrated in a 1994 architectural catalog. Contains reference charts, installation diagrams, and technical and packaging information. MAPEI Corp., Elk Grove Village, Ill.*

**340. Hardwood flooring**
Flooring made of Northern-grown hardwoods—maple, ash, oak, cherry, and beech—shown in contemporary, classic, and country styles. Planks come in either 2 1/4- or 1 1/2-in widths and random lengths; “shorts” also frequently available. A four-color, eight-page booklet illustrates all wood types and grades. Action Floor Systems, Inc., Mercier, Wis.

**341. Historic and other paints**
A new fan deck holds paint chips of over 1,850 distinct shades, including Moore-O-Matic custom colors for commercial, industrial, and residential use, as well as the 174 colors in this manufacturer’s Historical Collection. Benjamin Moore & Co., Montvale, N. J.

**342. Italian ceramic tile**
Produced by the Italian Trade Commission, a new buyer’s guide organizes information by tile type, use, designer, and manufacturer. Listings include 182 Italian ceramic-tile manufacturers active in the American market. An on-line computer service sources distributors and outlets for all tile. Italian Tile Center, New York City.

**343. Indoor/outdoor tile**
The design versatility of indoor/outdoor, all-weather ceramic tile is illustrated in an eight-page, full-color brochure. Extensive installation photography is included along with color swatches, performance specifications, special trim shapes, and installation and maintenance recommendations. Metropolitan Ceramics, Canton, Ohio.

**344. Recycled-rubber flooring**

**345. Earthtone acrylic stains**
A new Earthtone Custom Color Card introduces an expanded line of solid-color 100-percent acrylic exterior stains. Paint dealers can mix any of the over 90 O.V.T. stain colors using just three all-acrylic tint bases. Said to be exceptionally durable, the stains have a 12-year guarantee when applied to new wood. Samuel Cabot, Inc., Newburyport, Mass.

**346. Vinyl/linoleum floors**
Available to architects, interior designers, and specifiers, the Forbo Floor Covering Sample Set contains a facts binder, folders featuring linoleum and vinyl flooring, and eight flooring-sample strap sets. Sets include patterns and colorways for the new MultiStep sheet vinyl and Colorstyle solid-vinyl tile listings. Forbo Industries, Inc., Hazleton, Pa.

**347. Durable carpeting**
Woven interlock carpets, in a wide range of patterns, textures, and fibers, are displayed in an eight-panel fold-out color brochure. Suitable for busy commercial locations subject to wheeled traffic such as educational facilities, healthcare, airports, and shopping centers. Mohawk Commercial Carpet, Atlanta.

**348. Ceramic tiles**
Prepared for the architect and specifier, a 60-page catalog covers a full range of commercially-rated tile products for walls and floors. Also describes natural-stone tile, installation materials, custom-design services, and a loose-tile sample program. Separate residential catalog available upon request. American Olean Tile Co., Lansdale, Pa.

*Product Data on CAD disk*
349. Laminated-plank flooring

350. Carpet backing

351. Powder coatings
A 16-page powder coatings color chart and stocklist contains product descriptions, features, and applications. Also includes minimum order amount, packaging, storage time, theoretical coverage, cure parameters, substrates and pretreatment, methods of processing, and measures of salt spray and acid resistance. Tiger-Drylac U.S.A., Inc.

352. Rubber flooring
Endura rubber flooring is said to combine durability, comfort, and slip resistance. Installations include convention centers, college chemistry labs, research laboratories, and sports stadiums. A 13-page, four-color booklet describes product range and shows flooring designs and colors. Endura Flooring, Waltham, Mass.

353. Precast terrazzo flooring
New installation procedure makes precast-terrazzo flooring easier and cleaner to install. Square-edge tiles are set with a 1/16-in. minus joint, grouted flush, and then ground and polished on site. Catalog shows application photos, color swatches, standard and custom accessories, and technical data. Wausau Tile, Inc., Wausau, Wis.

354. Custom tile signage
Questech Premium Metals are used for architectural surfacing, trim, signage, graphics, display, and merchandising. A combination of real metals and polymers, the material may be cast in a multitude of forms and textures ranging from high relief to delicate patterns. Four-color, fold-out brochure demonstrates applications. Intaglio, Ltd., New York City.

355. Floor products
A 34-page catalog, loaded with illustrations, charts, and specifications, demonstrates a broad range of rubber, vinyl, and static-control flooring and accessories. Applications include educational, light-industrial, hospital, retail, office, and hospitality. Detailed resistance chart. VP!, Sheboygan, Wis.

356. Acoustical ceilings
The Voyager line of commercial-grade ceilings satisfies applications requiring Class A ratings and acoustical properties. A four-page brochure describes physical properties, designs, sizes, and specifications of the complete mineral-ceiling product line. Celotex Corp., Tampa, Fla.

357. Textile wallcoverings
The Sterling Collection, comprised primarily of linen, cotton, and rayon, offers horizontal weaves and jacquard-patterned wallcoverings in eight decorative colors. Patterns are stocked in the U.S., Scotchguarded, and meet Type I, Class A specifications. Suitable for healthcare environments. Wolf-Gordon, Long Island City, N.Y.

358. Tile flooring

359. Concrete floor coating

360. Latex mortar

* Product Data on CAD disk
361. Bumper system

362. Fireplace mantels
Mantels created from architectural drawings or existing designs offer unlimited design possibilities for commercial and residential applications. May be ordered in any size and in many kinds of wood. Handcarved designs include: Louis XVI and Classic and Country looks in the French and English manner. Chadsworth Inc., Atlanta.

363. Building directory system
King Link, a solid-state, stand-alone, touch-screen computer, gives users access to a system capable of displaying thousands of lines of information. Combines state-of-the-art technology with experience in the design and manufacture of architectural sign products. King Products Ltd., Mississauga, Ont.*

364. Structural signage
Spaceframe systems provide signage in virtually any color. A maintenance-free finish consisting of galvanized steel coated with polyester powder that insures long life. Complete CAD and specification software services available. Mero Structures, Inc., Germantown, Wis.*

365. Glass-top sink module
A glass-top sink module designed for wall-mounting directly into modular Series M mirrored cabinet. Stacking System appears suspended in space. Fully mirrored, 30-in.-high cabinet with 3/4-in. clear furniture-quality glass top contains a stainless-steel bowl, chrome faucet, and trap. Plumbing is hidden within cabinet. Robern, Inc., Bensalem, Pa.*

366. Ergonomic railings
Aerovyn’s three new ergonomically styled hand railings offer an array of design options. Dividing railing height into individual sections provides up to five different color options in one railing. Can be mixed/matched from 63 solid colors and 53 stone or wood patterns. High-impact vinyl/acrylic material. C/S Group, Muncy, Pa.

367. Bicycle-storage locker
The Cycle Pod’s wedge-shaped, space-saving design allows for optimum space utilization for bicycle storage. Molded from coextruded, engineering polymer with a structural steel frame, pods can be installed individually, in circular configurations, or in rows. Weather-proof and vandal-proof. Rally Enterprises, Inc., Santa Rosa, Calif.

368. Porch-screening system
Porch-screening frame system eliminates staples, nails, wooden lattice, and paint. Combines maintenance-free vinyl with spline screening method that adapts to wooden frame porches. Allows quick replacement for fiberglass and aluminum screens. Available in 8-ft lengths in white, gray, beige, and brown. Screen Tight, Georgetown, S. C.*

369. Phenolic compartments
Phenolic-toilet, shower, and dressing compartments all constructed of heavy-duty stainless steel. Doors, partitions, and pilasters guaranteed not to warp or delaminate under high moisture conditions. Ideal for hose-down cleaning. Available in overhead braced, floor-mounted, and ceiling-hung configurations. Metpar Corp., Westbury, N.Y.*

370. Advanced training system
The Tactics Plus Advanced Training System is a wall-mounted, double-track modular system that allows overlapping of reversible writing surfaces, tackable panels, flip charts, and projection screens for training seminars. Lightweight components can be moved and placed across corners. Peter Pepper Products, Inc., Compton, Calif.

371. Floor costumers
The TD1 and TD2 floor costumers combine a smooth, sleek form with a modern, powder-coated steel finish in gray or soft beige. The TD1 design features an umbrella holder and one coat hook, while the TD2 design includes two coat hooks. Both costumers are fitted with completely untraditional hangers. Vogel Peterson, Garden Grove, Calif.

372. Library shelving system

* Product Data on CAD disk
373. Modular sign systems
Modular signs can be made of virtually any material, and in any shape or size, through precision-registration on perforated metal chassis. Replacement components can be interchanged. Meets all ADA requirements. ASI Envision software with database-management system and a drawing program is also available. ASI Sign Systems, Inc., Dallas.*

374. Partition/cubicle systems
Melamine-covered phenolic panels are used to form framed and frameless Marathon and NT Normbau systems. Both are said to be water-proof, rust-proof, and impervious to chemical damage. Standard- and custom-colors can be mixed or matched. W&W Sales Ltd., Spring Valley, N. Y.

375. Bath-in-a-box
The Rain Room is an all-tile, self-contained wet area with 5-ft whirlpool tub and separate shower. Coordinated wall panels, ceiling, ceramic-tile shower tray, and accessories come in kit form. Rain Room can be completely installed in eight hours by two workers using dry-construction methods, says the maker. Hoxan America, Inc., Piscataway, N. J.

376. Custom signage
ADA-compliant interior and exterior sign systems feature carved signs that are available in most building materials, from mirror metal to marble. Raised-lettering signage is achieved with the manufacturer's Graphic Blast process. Free catalog, samples, and a loan-out video are available. Best Manufacturing Sign Systems, Montrose, Colo.

377. Awning fabric
Awtex vinyl-coated polyester in an open-weave construction is said to provide shading without trapping heat or air flow. Two styles offer 70- and 90-percent shade factors. Open-mesh weave is designed to reduce dirt build-up and promote rapid drying. Fabric is said to be mildew-, UV-, flame-, and water-resistant. The Astrup Co., Cleveland.

378. Locker systems

379. Braille signage
Architectural signage for the visually impaired is said to meet or exceed ADA requirements. In addition to generic signage, customized signs are available for those who require specific colors, logos, materials, manufacturing processes, and designs. Certified by the Lighthouse for the Blind. Intelligent Signage, Inc., Sarasota, Fla.

380. Atomizer ring

381. Concrete toilet partition
Designed to foil vandals and peeping toms, concrete toilet-stall panels resist hand drilling since they are nearly twice as strong as sidewalk concrete. Only 1 1/4-in. thick, the ADA-compliant partitions can be retrofitted. Standard white and beige colors can be coordinated with doors and pilasters. Restroom Facilities Corp., Reno, Nev.

382. Accessible signage
ADA-compliant Adapt line is available in a variety of choices: single unit in any size, color, or shape; retrofit plate for existing signage; raised numbers or letters with Braille window and modular inserts. Also, standard-symbol and lettered signage. Signage survey sent on request. Innerface Architectural Signage, Inc., Lilburn, Ga.

383. CAD bumper details
The Boston Bumper wall-protection line on AutoCAD 12 includes drawings of seven profiles, end treatments, and corners. Available on 3.5- and 5.25-in. diskettes, software is said to save architects time by reducing drafting. Boston Retail Products, Division of Boston Metal Products Corp., Medford, Mass.*

384. Protective handrails
Contoured to fit the hand, aluminum handrails come in one-color solid and two-color accent-stripe versions. Designed to protect 5 1/2 in. of wall surface, rails have 1 1/2 in. of gripping area to aid the elderly and disabled. Each rail style complies with flammability standards and ADA accessibility guideline 4.26.2. Pawling Corp., Wasssaic, N. Y.

* Product Data on CAD disk
Three brochures include Sunbrella—a woven from self-extinguishing fabric that comes in Fire-resistant fabric specifications, modacrylic fiber, the Sunbrella line palette of colors and patterns available. Glen Raven Mills, Inc., Glen Raven, N. C.

New architectural binder is designed to guide the architect/specifier through typical signage requirements of a project. Includes information on interior and exterior signage systems, with sections on specifications, colors and finishes; graphic options; and ADA compliance requirements. Charleston Industries, Elk Grove, Ill.


Security-locker line is presented in 12-page brochure with specifications, color guides, and locker-construction details. Styles shown range from coin-operated lockers to cluster-box units for apartment mailrooms; from luggage lockers to pistol lockups. American Locker Security Systems, Jamestown, N. Y.

Floor-to-ceiling systems are highlighted in an eight-page brochure: the design-oriented Benchmark Series I, in a wide choice of coverings and finishes; the more moderately priced Academic Wall; and the economical Rapid Wall Series 2. Cutaway-section illustrations detail construction of each system. Dowcraft Corp., Falconer, N. Y.

New brochure highlights phenolic-core toilet compartments, which are overhead-braced, floor-supported, and ceiling-hung. Also shown: the Infinity and Fast-Tab lines of compartments and stalls and the Elegance solid-hardwood line of toilet cubicles. Partition Systems, Inc. Columbia, S. C.

Stainless steel washroom accessories are detailed in a 48-page guide. The products are especially suited for hospital, school, commercial, and hotel/motel use. The lines featured are especially suitable for the needs of the physically challenged. A & J Washroom Accessories, New Windsor, N. Y.

Deteriorating wood latticework can be replaced with vinyl latticework that never needs painting. Comes in 10 standard colors, and diagonal and rectangular patterns for home as well as commercial use. Aluminum railing and framing systems available with commercial versions. Eight-page brochure sent on request. Cross Industries, Atlanta.

Sturdy uprights and crossbars can be used for support while waiting for counter service. All elements of Deco­rail system are fixed, and come in three styles—Art Deco, Contemporary, and Gothic. Six finishes—brass, bronze, black, copper, chrome, and pewter—and customized versions are available. Wylie Systems, Mississauga, Ont.

A 20-page brochure features the complete line of Myson towel warmers. Handcrafted by English artisans in Britain, the warmers come in a range of styles and a variety of finishes, including chrome, brass, gold-plate, and 22k gold, as well as a palette of coordinating colors. Accessories also available. Myson, Inc., Essex Junction, Vt.

Tensabarrier portable traffic-control have constant-force spring tapes that pull out easily yet remain taut and sag-free. Literature also shows signs, frames, and utility and decorative rail systems, including turnstiles, gates, and stair rails, and specialty items like sneeze guards and drink-rail bars. Lawrence Metal Products, Inc., Bay Shore, N. Y.

Custom-design banners, flags, and awnings can add a splash of color to lobby interiors and restaurant facades. Most work is done by applique process, some by silkscreen. A complete line of national and international flags, flagpoles, and banner hardware is also featured in the company's literature package. Flagraphics, Somerville, Mass.
397. Wallbed system
Sico introduces an attractive wallbed system to improve both the functionality and livability of today's home. Its "Power Pak" fingertip controls are said to require virtually no more effort than it takes to open or close a door or desk drawer. The furniture line is available in black, natural oak woodgrain, white, and almond. Sico, Inc., Minneapolis.

398. Compact dishwasher
Where space is a premium, Miele Slimline dishwasher combines upscale features such as a stainless-steel interior, three wash arms, quiet operation, and a cutlery tray with surprisingly large capacity. This 17 1/2-in. wide dishwasher fits snugly into small spaces. Miele Appliances, Inc., Somerset, N. J.

399. Automatic window washer
A custom-designed automatic window washer for highrises enables buildings to be washed at least eight times a year. All of the building's vertical exterior is washed, not just the windows. The operator remains safely on the roof of the building. SteepleJack, Inc., Minneapolis.

400. Refrigerator/freezer
Traulsen & Co. introduces ULTIMA, a 48-in. wide refrigerator/freezer for homeowners who want a professional-quality unit. It features two self-closing, full-length doors, and stainless-steel interior and exterior construction. Options include custom-framed plastic laminates on the cabinet exterior. Traulsen & Co., College Point, N. Y.

401. Custom cabinetry
Rutt's new Empire style cabinetry, shown here configured as a home theater system, features doors with mitered frames, solid center panels, cabinets with quintet-mullion doors, beveled glass, diamond-shaped details, and ornamented drape pulls. Available in a variety of woods, finishes and colors. Rutt Custom Cabinetry, Goodville, Pa.

402. Store fixtures
Mero presents store fixtures with maximum flexibility and a minimum number of parts. Each system fully integrates with the others, supplying the designer with an extensive library of possible solutions. Features a variety of finish and material options and a broad line of accessories. Can be reconfigured at minimal cost. Mero, Germantown, Wis.

403. Mailflow systems
Kwik-File offers innovative mailroom design. Components have beveled shelf fronts, self-adhering label holders, rounded corners, PVC edging that prevents peeling, chipping and breaking, recessed door handles, and three riser heights, all in one-piece sorter construction with custom design capabilities. Kwik-File, Inc., Minneapolis.

404. Kitchen cabinetry
Snaidero's newest Italian design has the look of fine furniture. It has a melange of laminates, woods, lacquer finishes, restful pastels, and glass doors. Worktops are covered with scratch-proof, impact- and acid-resistant laminate, and door hinges with built-in springs that permit the doors to be perfectly adjusted. Snaidero International, Los Angeles.

405. Adjustable table
Mobile lab station and adjustable table for the physically challenged is designed to allow wheelchair access from either side. One-in.-thick top material must be specified. Ideal for biology or chemistry labs and classes. Meets ADA requirements. Mohon International, Paris, Tenn.

406. Chef-style range
Wolf Range offers redesigned lift-off burners and drip pans for their Gourmet Series. Also available are chef-size porcelain ovens, large-capacity spillover bowls, thermostatically-controlled commercial-grade griddles and infrared charbroilers. Gourmet Series stoves come in black and stainless steel. Wolf Range, Compton, Calif.

407. Security panel
Model LHSP offers maximum security for prison and detention facilities, with a 3/16-in. plate-steel door; box-formed and welded (to discourage tampering), with 2- by 3- by 3/16-in. steel angle frame. The hingeless design improves security to areas where removal of doors is necessary. J. L. Industries, Bloomingston, Minn.

408. Compact kitchens
The high-pressure-laminate kitchens feature all-steel cabinets, and resist moisture absorption, warping, and delamination. The baked-enamel finish can be color-coordinated to the laminate selection and can match every color and pattern offered by Wilsonart, Formica, and Nevamar. Dwyer Products, Michigan City, Ind.

* Product Data on CAD disk
409. Integrated dishwashers
The Bosch "Integrated Series" represents the optimum design approach for fitting the dishwasher into the kitchen environment. A four-color brochure describes measurements and cabinetry styles so that designers can tailor dishwashers to match the grid of the kitchen design. Robert Bosch Corp., Broadview, Ill.

410. Custom kitchens

411. Commercial refrigeration
Bally Northwind Blast Chillers cool quickly and safely without freezing to keep foods safe and meet demanding HACCP requirements. A two-page brochure describes units, contamination hazards, and a probe and monitoring system. Appropriate for institutions, commercial operations, and large restaurants. Bally Engineered Structures, Inc., Bally, Pa.

412. ADA complaint pay phone
A four-page brochure is offered to help architects and builders comply with the accessibility requirements outlined in Title III of the Americans with Disabilities Act. Telephone kiosks designed to comply with ADA requirements for new and existing pay-phone installations are described. Fortec, Inc., Waukesha, Wis.

413. Appliance planning
The Less Challenging Home, a guide for architects, builders, and remodelers, describes how careful planning and proper selection of kitchen and laundry appliances can meet the needs of people with physical or mental limitations. The 24-page booklet has many good suggestions and provides diagrams. Whirlpool, Benton Harbor, Mich.

414. Kitchen accessories
Customized kitchens with fine wood cabinetry and accessories take advantage of every inch of available space. An eight-page brochure gives a sampling of cabinet styles, wine racks, shelving, drawers, glass doors, moldings, and decorative hardware. Timberlake Cabinet Company, Winchester, Va.

415. Custom cabinetry

416. Discreet refrigeration
The producer of built-in refrigeration equipment offers a 20-page booklet describing high-quality custom-designed units. Blending into the overall room, the products fit flush with 24-in. deep kitchen cabinets. Decorative panels complement decor. Spec guide is offered to architects. Sub-Zero Freezer Co., Inc., Madison, Wis.

417. Wood-burning stoves
Energy King introduces a redesigned combustion system in its Legacy line of non-catalytic wood stoves and fireplace inserts. EPA-approved product refinements result in appliances that burn cleaner and produce more heat. Information available for different sizes and models. Chippewa Welding, Chippewa Falls, Wis.

418. Kitchen interiors
A fold-out poster introduces SieMatic's modern, European range of kitchen designs and accessories featuring interiors and quality storage units. The SieMatic Kitchen Book with over 180 pages of kitchen interior design suggestions is also available. SieMatic Corp., Trevose, Pa.

419. Hands-free wood stove
The Firelight is the only wood stove to offer hands-free operation of the top-loading door. Top door is opened and closed by foot pedal located beneath the ashpan. Equipped with oversized ashpan. Capable of heating 1,500-sq-ft space. Accommodates 22-in. logs and burns up to 12 hours. Jotul USA, Inc., Portland, Me.

420. English cabinetry
Smallbone offers new Piaster Collection brochure. Hand-painted kitchen cabinetry influenced by classicism of the 18th century Georgian period displays fitted and free-standing pieces such as larders, bacon settles, and dressers. Full range of neutral colors, color washes, and translucent glazes available. SieMatic Corp., Trevose, Pa.

* Product Data on CAD disk
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421. Adjustable work surfaces
Interaction Counterforce tables have a handle-operated mechanism that adjusts to heights anywhere between 24 to 41 in. and a built-in weight adjustability range of up to 100 lb. Eight table-top shapes and 18 laminate and 28 veneer colors are available. The Knoll Group, New York City.

422. Rotating cabinets
Inspired by the “lazy susan,” Twinfile cabinets have rotating interior-storage compartments. The units come in six sizes and can be stacked to create room partitions. A range of colors is available. TAB Products Co., Palo Alto, Calif.*

423. Window blinds
SheerView horizontal 1-in.-wide aluminum blinds have a random pattern of pin holes that allows light to filter through metal slats, while providing privacy and glare control. The blinds come with a steel headrail and a concealed mounting system. Levolor Corp., Sunnyvale, Calif.

424. Casegoods
A drawer unit, wardrobe, desk, and television stand are part of the Concert collection of casegoods and seating intended for healthcare use. Cabinets have swivel shelves for easier patient use and contoured edges. Health Design, Div. of Brayton International, High Point, N. C.

425. Patient-care furniture
Patient-care furniture in four styles—Cambridge, Concord, Ashby, and Carlisle—features laminate tops, solid-oak drawer fronts, hardwood oak veneer surfaces, smooth-action drawer slides, and drawer pulls said to be particularly easy to grasp. Adden Furniture, Inc., Lowell, Mass.

426. Faux leather
Watershed, made from a biodegradable water-based urethane, is intended to resemble leather. Available in 30 colors, the material is water-resistant and said to be easy to clean and maintain. Watershed costs $2.89 per sq ft. DesignTex, Woodside, N. Y.

427. Cabinet system
The Liaison cabinet system was designed by Jean Beirise. Cabinet tops and bottoms contain raceways for routing voice and data cables. The units are 15 1/2-in. deep and come in four different heights and three widths. Herman Miller, Inc., Zeeland, Mich.*

428. Benches
Designer Scott Regenbogen drew inspiration from a wide variety of sources—ranging from Greek Revival to American Arts & Crafts—for his East Side Collection of seven benches. The benches are intended for use in lobbies, waiting rooms, and executive offices. HBF, Hickory, N. C.

429. Entrance mat
Pedimat II is the manufacturer’s latest addition to its line of entrance mats. Six rail colors, intended to coordinate with carpet treads and floor surfaces, are available. The mats have vinyl/acrylic treads and aluminum hinge connectors. Construction Specialties, Inc., Muncy, Pa.

430. Office furniture
The manufacturer’s reconfigurable office furniture is intended for use in reception areas, cafeterias, and conference rooms. A variety of colors, finishes, and coordinating office accessories is available. Mero Systems Group, Germantown, Wis.

431. Fabrics
Fabrics designed by Debra Lehman-Smith (shown) are part of the 8 By 5 (three fabrics from five designers) collection. The collection includes 17 designs in 175 colorways, with prices ranging from $25 to $75 per yd. F. S. Contract, Div. of Schumacher, New York City.

432. Office partitions
Since the stackable panels of the manufacturer’s Interior Options Program do not require an inner-frame structure, they can be added or removed as necessary. Panel surface treatments include textiles, laminates, and woods. Panel trim comes in wood or metal. JG Furniture Systems, Inc., Quakertown, Pa.*

* Product Data on CAD disk
433. Task chair
The new TEChair II task chair has adjustable arm height and width; seat height and angle; and back height, depth, and angle. American Seating Company, Grand Rapids, Mich.

434. Wood-framed furniture
The Jane Family of wood and upholstered chairs (in arm and armless versions), two- and three-seat sofas, stools, and tables was designed by David Ritch and Mark Saffell. Frames are of maple and ash. Charlotte Co., Inc., Belding, Mich.*

435. Contract-application fabric
The manufacturer’s new collection of fabrics for contract use includes Darien Grospoint, made of 100 percent cotton. Yarn in two different sizes and a variety of colors visually enhances the traditional grospoint construction. Brunschwig & Fils, New York City.

436. Shade headrail
A gently curved headrail is a recent addition to the Lightlines Designer Series of micro- and mini-blinds. The headrail can accommodate valances and slats without gaps between the top slat and the headrail. It comes with hidden mounting brackets. Hunter-Douglas Window Fashions, Upper Saddle River, N. J.

437. Lounge furniture
Overlay is a seating series designed by Brian Kane for health-care applications. A variety of wood types can be specified to cap armrests and protect the upholstery. Coordinating tables and sofas are also available. Wieland Furniture, Grabill, Ind.

438. Occasional tables
Los Angeles architect David Kellen’s collection of tables has tops in rectangular and tri-arc shapes. Tops come in a variety of materials, including Venetian plaster, Corian, and wood veneer. Atelier International, Long Island City, N. Y.

439. Flame-resistant fabrics
Fahrenheit is a collection of Class A flame-resistant woven upholstery fabrics made with a Monsanto modacrylic fiber. The collection includes 12 patterns and 212 colorways, which are treated with a Teflon soil and stain repellent. Douglass Industries, Inc., Egg Harbor, N. J.

440. Artificial “windows”
ARTificial Windows is a collection of wood-frame light boxes containing back-lit photographs of over 180 different scenes, including golf courses, beaches, gardens, and snow-capped mountains. ARTificial Windows, Div. of Vemco Corp., San Dimas, Calif.

441. Sun shading
Sun shades made of fiberglass scrim can be ordered with custom supergraphic designs. The shades’ ability to admit light is unaffected by the designs, while the fire-resistant scrim is said to minimize interior heat gain, according to the manufacturer. Sol-R-Veil, Inc., Bronx, N. Y.

442. Ergonomic stool
The Protilt Two, a recent addition to the manufacturer’s line of ergonomic seating, is an adjustable height stand/sit stool intended for people who work standing up. By allowing users to partially sit as needed, the stool is said to relieve pressure and weight on backs, legs, and feet. BodyFit Engineered Seating, Waterville, Ohio.

443. Desk accessories
Decathlon, a collection of desk accessories that includes different-size trays, a calendar, and pencil cup, was designed by Ross Lovegrove and Julian Brown. The rubber-like plastic “tread” of the pieces was inspired by the design of athletic shoes. The Knoll Group, New York City.

444. Patient chair
The Wedgewood patient chair has curved arms and legs made of 22 plies of hardwood laminations. Solid hardwood keystones give additional armrest support. A curved backrest is intended to provide lumbar support. Sauder Manufacturing Co., Archbold, Ohio.

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445. Tables
Intended for use in conference rooms, corporate cafeterias, and training rooms, the Derby table has three base elements—column, base foot, toe pad—that can be specified in one finish or a combination of colors. A variety of different-shape tops is available. Vecta, Grand Prairie, Tex.

446. Chair
New options have been added to the Uni chair designed by Werther Toffoloni, including arms, two stacking versions, and additional back-rest options. Made of solid beechwood, the chair frame is secured by cast-aluminum inserts bolted through legs and steel frame. Atelier International, Long Island City, N. Y.

447. Seating
A new seating collection designed by Lisa Smith is intended to coordinate with the manufacturer's collection of casegoods. Ascent Seating has exposed maple legs; upholstery comes in a variety of textiles and leathers. Mueller, a Haworth Co., Holland, Mich.

448. Library furniture
The components of this modular library carrel can be assembled in linear or pinwheel configurations. Made of solid hardwood, the carrels are constructed using traditional joinery methods. Thos. Moser Cabinetmaker, Inc., Auburn, Maine.

449. Fabric

450. Seating
CAD drafting and layout services are used to fit the manufacturer's chairs and stools within a client floorplan and budget. Coordinating counters and millwork can also be included on three-dimensional proposed installation views. Plymold Seating, Kenyon, Minn.*

451. Office seating
The Accolade office chair comes in high-back, mid-back, and sled-base versions. The height and tilt of the seat back can be adjusted independently and arm rests can be positioned at one of five different heights. Haworth, Inc., Holland, Mich.*

452. Office furniture
The Orfeo furniture system, designed by Atkinson Design Associates, includes freestanding, beam-linked desks, storage units, boardroom tables, lighting, and paper-storage accessories. A concealed steel chassis provides wire management. Kimball Europe, London.

453. Screen
Designed by Glendon Good, the Poseidon Screen is an adjustable room divider made of aluminum, nylon, and rubber. Good's collection of furniture also includes tables and stools. Abraxas, Berkeley, Calif.

454. Fabric
Designed by Tim Van Campen American Mosaic is a textile collection of five different intricate computer-generated patterns intended for contract use. A variety of colors is available. The Knoll Group, New York City.

455. Casements
The new Bubble Dot pattern is intended to resemble bubbles floating to the surface of a champagne flute, according to the manufacturer. Made of silk, the fabric is woven in France at widths of 51 in. Gretchen Belinger, Inc., Cohoes, N. Y.

456. Airport seating
Raphael Lounging, designed by Roger K. Leib, was recently installed in public areas of San Francisco Airport (above). Armrests use a dense, self-skinning foam said to resist punctures. Add Interior Systems, Inc., Los Angeles.

* Product Data on CAD disk
457. Office furniture
The Attache collection of office furniture includes desks, workstations, storage units, and credenzas (shown). Designed by Lauren Rottet and Richard Riveire, the system is based on a modular grid, allowing a variety of combinations. The pieces come in the manufacturer's standard woods and 12 Chemcolor finishes. Halcon, Stewartville, Minn.

458. Streamlined office
A collection of office furniture designed by Marina McDonald Rezek is constructed of maple, with polished-aluminum handles. Desks can be ordered with chrome or stainless-steel bases and 3/4-in.- or 1-in.-thick glass tops. Jazz Furniture & Lighting, Inc., Los Angeles.

459. Adjustable worksurface
WorkZone is a collection of tables that adjust to heights between 23 and 34 in. The tables can be ordered with coordinating privacy screens and horizontal and vertical wire-management components. Post-formed or bull-nosed edges can be specified. KI, Green Bay, Wis.

460. Banners
Industrial artist Koryn Rolstad works with architects and interior designers to create installations for large public spaces and atriums. Rolstad's installation in a corporate cafeteria (above), for example, is constructed of fiberglass rods, air-brushed stainless-steel mesh, and air-brushed spun polyester. Bannerworks, Inc., Seattle.

461. Fabrics
Jazz Masterworks is a fabric collection that includes Ragtime, Rhythm and Blues, and Basie patterns. All patterns are constructed of a cotton and rayon blend. A selection of 30 coordinated colors is available. Arc-Com Fabrics, Inc., Orangeburg, N.Y.

462. Guest chair
The Oberlin chair designed by Michael Vanderbyl has a perforated plywood backrest. The chair is 22 1/2 in. wide, 23 1/4 in. deep, and 34 in. high. It comes in maple or cherry, with the manufacturer's standard finishes. Bernhardt Furniture Co., Lenoir, N.C.

463. Upholstery collection
Surface Play is a line of nine upholstery fabrics designed by Laura Guido Clark. The collection includes cotton/polyesters, cotton/polypropylenes, cotton/polyester/rayons, and all-cottons in a variety of constructions. Carnegie, Rockville Centre, N.Y.

464. Office casegoods
Nines, a wood casegoods line, is based on a nine-inch-square module. Designed by Don Brinkmann of Gensler Associates, the collection of desks, credenzas, storage units, conference and occasional tables, is available in 10 veneers and five colors. Stow Davis, Kentwood, Mich.

465. Side chair
Player is a moderately priced stackable side chair that can be ordered with or without armrests. The lightweight frame is available in chrome finish or a choice of seven colors. Steelcase, Inc., Grand Rapids, Mich.

466. China
Italian designer Ettore Sottsass's new collection of china tableware for manufacturer Alessi is called "La Bella Tavola" or the Beautiful Table. The collection includes coordinating coffee and tea pots, milk jugs, and sugar bowls. The Markuse Corp., Woburn, Mass.

467. Seating
Originally designed for the lobby of the Holy Cross Hospital in Silver Spring, Maryland, Ariscape seating was designed by Peter Danko in two and three-seat units. Other of Danko's body-conscious designs are included in the design collection of New York City's Museum of Modern Art. Danko, Clinton, Md.

468. Fiber art
Jodi Kanter's custom-designed fiber artwork for interior spaces includes an installation at B. F. Goodrich Aerospace, in Akron, Ohio (shown). Kanter says her fiber art not only visually enhances a corporate lobby, it also provides acoustical benefits. Jodi Kanter Custom Designs In Weaving, Lyndhurst, Ohio.
469. Window hardware
A 12-page color brochure outlines the manufacturer's line of manual and motorized hardware for draperies, vertical blinds, soft shades, roller blinds, skylights, and panel-moving systems. Silent Gliss, a curved and motorized product custom-made for each application, is highlighted. Silent Gliss USA, Inc., Loganville, Ga.

470. Seating
Tandem seating, originally designed in 1962 for Chicago's O'Hare International Airport by Charles and Ray Eames, is the focus of a four-page color brochure. Tables may be interspersed with the seats in a variety of configurations up to 10 units per support beam. Herman Miller, Inc., Zeeland, Mich. *

471. Mats and grating
Roll-up mats and installed gratings intended to control dirt and eliminate slippery wet floors are described in a four-page color brochure. Specifications and insert details are included, showing thin-slab and drain-pan applications. J. L. Industries, Bloomington, Minn.

472. Insulating shades
Window Quilt, a five-layer composite of insulation, vapor barrier, and protective covering is said to eliminate window drafts and heat loss by as much as 80 percent, according to a six-page color brochure. Ten colors and two quilting patterns are available. Shades operate manually or with an electric motor. Northern Cross Industries, Brattleboro, Vt.

473. Office seating
A 62-page brochure outlines the manufacturer's line of office chairs, including well-known designs by Richard Sapper, Charles Pollock, Niels Diffrient, Ettore Sottsass, and Frank Gehry. A selection of finishes and upholstery fabrics is pictured. The Knoll Group, New York City.

474. Office systems
New additions to a line of office furniture are reviewed in a 12-page color brochure, including a midline electrical system, an alternative to panel-base raceways. Provides power at the work-surface level and cluster corner shelving. Panel Concepts, Inc., Santa Ana, Calif.

475. Metal furniture
A 26-page color brochure outlines the manufacturer's collection of metal furniture suitable for indoor and outdoor use. Designs with frames of rectangular steel tubing, welded flat steel, and tubular steel coated with a polyester-epoxy powder finish are shown. Sizes and colors are listed. Continental Creative Sales, Inc., Garfield, N. J.

476. Upholstery fabric
A specification guide outlines the benefits of Zeftron 200 nylon upholstery fabric, said to be highly fade- and dirt-resistant. Abrasion resistance, performance, cleaning, and environmental data is included. BASF Corp., New York City.

477. Outdoor furniture
Teak furniture, market umbrellas, and textiles suitable for outdoor use are described in a color brochure. The furniture collection, designed by Mark Singer, includes chaise longues, chairs, ottomans, dining tables, sofas, and side tables in three teak finishes. GIATI Designs, Inc., Santa Barbara, Calif.

478. Contract collection
Commemorating the company's 25th anniversary, a new catalog reviews an entire product line, including lounge seating, office seating, and tables. Dimensions of all products are listed, as well as available finishes and upholstery fabrics. Brayton International Collection, High Point, N. C.

479. Office furniture
Desks, seating, storage, and a variety of "work tools" for office or home-office use are outlined in a 52-page catalog. Targeted at small businesses, this new division of Steelcase promises 48-hour or five-day delivery and flexible lease plans. Turnstone, Wyoming, Mich.

480. Modular casegoods
New literature on Spec-Wall components describes additional panel-edge options, including radius and beveled-edge detailing. A wire-management harness provides computer connectors and isolated circuits for computer use, as well as standard electric and telephone hook-ups. Dar/Ran Furniture Industries, High Point, N. C.

* Product Data on CAD disk
**SPECIAL CONSTRUCTION**

### Products

**481. Tensile-structure fabric**
Sheerfill Architectural Membrane, a woven electrical-grade Fiberglas substrate coated with Teflon PTF, has sheltered the La Verne University library (The Shaver Partnership, architect) without problems for over 20 years. Noncombustible per E-136, fabric passes NFPA 701; it is highly translucent while reflecting most solar heat. Chemfab, Buffalo, N. Y.

**482. Clearspan skylight system**
A Michigan college building by Hobbs + Black, architect, uses a very-long-span insulated translucent skylight that combines insulated fiberglass panels with a pre-engineered aluminum structural system. The manufacturer provides site-specific services from design to installation. Structures Unlimited, Inc., Manchester, N. H.

**483. Adaptable habitat**
A climate-controlled structure with a sloping glass roof—whose 10-ft-high glass front wall can withstand the impact of a 300-lb panda bear—illustrates the adaptable nature of Skytech’s solarium and skylight systems. The manufacturer provides design, fabrication, and installation services. Skytech Systems, Bloomsburg, Pa.

**484. Modular detention units**
Modularized detention units are factory-built of steel and rolled into place on-site. Assembled modules may consist of up to six cells, and weigh one-third as much as a typical concrete cell. Units come pre-wired and pre-plumbed. Cell fronts, chase walls, and wall panels are also available. Hopeman Correctional Systems, Waynesboro, Va.

**485. Fiberglass structures**
A 37-ft-tall, all-fiberglass spire atop the NationsBank building in Atlanta houses communications antennae. The spire illustrates how Durashield foam-core panels and Extren structural I-beams and angles can be used together to prefabricate architectural structures that are transparent to electromagnetic waves. MMFG, Bristol, Va.

**486. Amazing aviaries**
Artist William Bateman Ruffner designs and constructs large, functional aviaries that make reference to a number of styles, including Victorian, Post Modern, and Art Deco. The cages are handmade of brass, bronze, copper, and steel, in a series of limited editions or to order (without birds). British-By-Nature, Beverly Hills.

**487. EMI-proof glass**
Datasheet glazing safeguards information held on computers from unauthorized interrogation from the outside, interference, or loss due to extraneous electronic noise, as might be produced by radar. No metal mesh is embedded in the glass, and impact resistance and light transmission are high. Pilkington Architectural, Tampa, Fla.

**488. Invisible speaker panels**
Invisigrid integrated acoustical speaker panels match Celotex’s Cashmere line of lay-in ceiling panels. A factory-painted fabric covers the opening in the panel where the speakers are mounted. The fabric is said to coordinate well with the textured surface of the panels, which resemble fine fabric. Celotex Corp., Tampa, Fla.

**489. Super-insulating solarium**
This maker’s solarium structures can now be ordered with R-10 Maxi-Glas, developed exclusively for flat-glass applications. This 1 1/8-in.-thick, R-10 configuration has two layers of Heat Mirror 77 film suspended within Krypton gas; warm-edge spacers give the units additional insulating capability. Sunshine Rooms, Wichita, Kan.

**490. Tensile structures**
The transit-bus depot in Northgate, Washington, designed by the Zimmer Gunsel Frasca Partnership, is an example of a Birdair Tensioned Membrane Structure. The Teflon-coated fiberglass structures can be used for many building types, including small-scale sports, performing arts, and transportation facilities. Birdair, Inc., Amherst, N. Y.

**491. Over-aisle storage**
Over-aisle Mezzanine Systems allow floor space to be created in normally wasted space. The units come in 8-ft or 10-ft heights, and can be ordered with several floor-grating styles and a number of accessories, such as railings, drop gates, and stairways. Load-bearing capacity of the units is 150 psf. Equipto, Aurora, Ill.

**492. X-ray barriers**
Clear-Pb Lead-plastic X-ray Barriers and Windows are shatter-resistant, transparent plastic imbedded with 30 percent lead, by weight. It replaces the traditional tiny lead-glass windows with panoramic views of the X-ray room, using either permanently installed sheets of plastic, or temporary barriers. Nuclear Associates, Carle Place, N. Y.

*Product Data on CAD disk*
493. Radio-frequency shielding
A computerized design manual—software on 3.5-in., PC-compatible disks—is offered to assist the architect specifying all-fiberglass structures for radio-frequency shielding applications. It supplies complete beam, loading, shear, and deflection data for FRP beams and decking components. Morrison Molded Fiber Glass Co., Bristol, Va.*

494. Wine Cellars
Working from supplied data (the number of wine bottles needing storage) Kedco can design bins, cabinets, racks, and refrigerated units to an architect's specifications. Brochure illustrates storage applications from a kitchen closet to large retail stores and restaurants. Kedco Wine Storage Systems, Farmingdale, N. Y.

495. Interior Spaceframes
A four-color, eight-page 1994 catalog describes and illustrates MERO spaceframes, trussing and mezzanines, aluminum display cases, ceiling systems, and trusses. Details, applications, and design services are featured. MERO Systems Group, Germantown, Wis.

496. Acoustical Environments
Noise-absorbing and controlling components engineered primarily for music-education facilities are explained. A questionnaire highlights the design parameters vital to insuring a comfortable, productive environment for any type of music-oriented application. Wenger Corp., Owatonna, Minn.

497. Motorized Pool Cover
Automatic covers of reinforced vinyl are custom-fit into unobtrusive tracks to form a tight, protective, and insulating cover over indoor and outdoor swimming pools. Can fit any straight-edge pool up to 25- by 75-ft; a surface-mount universal track system accommodates curved and existing installations. Cover-pools, Inc., Salt Lake City.

498. Anechoic Rooms
An 18-page illustrated technical brochure explains how over 40 years of expertise in building acoustic test facilities, including over 150 large and small anechoic (free field) and reverberation rooms, has developed sound-control products for any architectural application. Details design-assistance services. Industrial Acoustic Co., Bronx, N. Y.

499. Buildings Ready-to-Go
A color portfolio illustrates as-built applications of modular and mobile structures used as both temporary and permanent space for sales offices, branch banks, clinics, classrooms, detention facilities, and other customized adaptations. Structures may be designed to user's needs, or drawn from inventory. GE Capital Modular Space, Devon, Pa.

500. Clean-room Envelopes
A color brochure explains how Unistrut can handle all aspects of clean-room construction, including walls, floors, ceilings, structural supports, and equipment hook-ups. Describes a full range of planning, construction, and technical-support services based on 40 years of experience. Unistrut Corp., Ann Arbor, Mich.*

501. Parking Lot Show-and-Tell
A 20-minute video profiles design and construction basics for new concrete parking lots, examining site planning, subgrade prep, quality concrete-mix designs, placing and finishing, slab jointing, and traffic control. Small charge; brochure also offered. Portland Cement Association, Skokie, Ill.*

502. Daylit Pavilion
A color catalog illustrates how translucent Danpalon panels, opening roof system, and perimeter walls and sliding doors of insulated, tempered, glass can turn an outdoor pool into a year-round recreational facility. Motorized-roof technology can also be applied to skylights or atriums. CPI International, Solar Structures Division, Mundelein, Ill.

503. EMI-Shielding Fabric
A brochure and CAD software provide architectural-design and installation data on Flectron metalized material. A metal-plated polyester or nylon fabric, Flectron comes in various constructions to shield across a wide dB range. Material supplied in continuous, cut-to-fit rolls; will not trap moisture vapor. Monsanto Chemical Co., St. Louis.*

504. Wood-framed Solarium
One of several residential and commercial catalogs offered, an eight-page color brochure suggests the open and airy feeling made possible by a solarium addition. Woodhaven units are made of laminated pine or cedar, with exterior aluminum cladding, and may be add-ons or freestanding. Florian Greenhouse, Inc., West Milford, N. J.*

* Product Data on CAD disk
505. "Esthetic" escalator
The new TransVario escalator is said to work well as an architectural-design component. Glass balustrades fitted directly to handrails can be spot-lit for special effects; widely projecting stair ends add balance and rails. Needing no drive chains and to work well as an architectural-spot-lit for special effects; widely pro-fitted directly to handrails can be reduced. O&K, Newport News, Va.

506. Automated cable car
Computer-controlled transport handles difficult urban sites requiring tight curves and lightweight struc-tures. Each POMA cable car holds 40 people, and can run at 22 mph up steep gradients. Multiple-jaw grips connect cars with traction cables inte-grated in the track; cars can reverse without maneuvering. POMA America, Inc., Grand Junction, Colo.

507. Battery-powered elevator
Model BP Elevette offers full and continuous operation during power outages. With a rated capacity of 500 lbs. it can travel a maximum of 50 ft. at a speed of 28 fpm. Can be ordered in standard-wood or custom-built cars, in any combination of one, two, or three gates. Inclinator Company of America, Inc., Harrisburg, Pa.

508. Portable platform lift
The Portable Unit Package for Porch-Lift vertical platform lifts provides the solution when only temporary access is required, as for special events in facilities with low-rise barri-ers. Unit can be stored out of sight. Lifting heights to 72 in.; loads up to 750 lbs. Access Industries, Inc., Grandview, Mo.

509. Larger but smaller
A new utility container for use with this maker's Electric Track Vehicle material-transport system has a lower profile but provides 20 percent more usable cargo space than existing containers. System uses self-propelled vehicles that travel both horizontally and vertically along a network of aluminum track. Trans-Logie Corp., Denver.

510. ADA-compliant controls
An overlay design allows the labor-saving re-use of existing wiring conduits and boxes when upgrading in-cab or hall-landing elevator-control panels to meet accessibility require-ments. Metal parts can be specified in either bronze or stainless, in #4 and #8 finishes. A. D. A. Elevator Prod-ucts, East Lansing, Mich.

511. Quick and smart
Artificial-intelligence technology used in new elevator controls allows the system to make qualitative judg-ments based on immense databases of elevator-traffic information. Car-dispatching decisions are made on total travel-time needs of passengers, not just waiting time. Said to greatly reduce elevator downtime. MEC Elevator Co., Cypress, Calif.

512. Accessible elevators
Dover offers a new, "common sense" guide to evaluating existing elevators for ADA standards, and will answer specific questions an architect or building owner may have about any type of elevator upgrade. Dover Eleva-tor Systems, Inc., Memphis, Tenn.

513. Economical elevator
The Exeelevator, a 2:1 roped hydraulic residential elevator, is said to be as economically priced as most winding-drum lifts while offering smooth, gentle starts and stops. Rated for 700 lbs.; travels at 30 fpm to a maximum height of 50 ft. Four cab-design, wood-gate, and panel options. Waupaca Elevator Co., Inc., Waupaca, Wis.

514. Signal fixtures
A 16-page color brochure illustrates three significantly upgraded in-cab and lobby elevator-signal styles: Conventional, Vector, and Select. Each now meets all ADA require-ments, and offers a variety of options to meet design and specification needs of architects and building owners. Montgomery Elevator Co., Moline, Ill.

515. Passenger conveyors
Compayeavor booklet illustrates two types of conveyors that move a large volume of traffic: the RSE for inclines of up to 10-12 degrees, and the RSH for inclines of up to four degrees. A short pallet design is said to minimize space requirements; "no-axle" mechanics reduce operational noise. Schindler Elevator Corp., Morristown, N. J.

516. Stair-lift design
A newly revised guide has 40 pages with information on codes, layouts, installation photos, and site require-ments. Stair- and platform-lift sys-tems can be installed indoors and out, often with minimal impact on building appearance. Videos show lifts in use; specification text on disk. Garaventa (Canada) Ltd., Blaine, Wash.*

* Product Data on CAD disk
517. New sink colors
Blanco, a manufacturer of composite sinks, recently added two colors. Opal, which has a green metallic effect, has been added to the existing Siligranit colors: white, almond, black and metallic. Polar, simulating white granite, has been added to the existing colors: Impala, Sand, and Perla. Blanco, Blackwood, N. J.

518. Lavatory set
The sleek, sculptural Colorado lavatory set is finished in gold and polished chrome. The Colorado design is available for all functions in the bathroom, and in many other finishes. It is installed using the company’s Quick-Prep valving system. Paul Associates, Long Island City, N. Y.

519. Contemporary sink
The Notorious sink, imported by Watercolors, Inc., is available in two versions: with tops of solid glass or veenered pear wood. The bowl, made of polished 18/8 stainless steel, is recessed into the console top, and supported by tapered legs finished in plated polished chrome. Watercolors, Inc., Garrison, N. Y.

520. Lead-free fountains
The Design 2000 Cooler with the WaterSentry Lead Removal System reduces soluble and insoluble lead content to 0.15 mg/L and removes more than 75 percent of free available chlorine. A monitor counts water usage and sounds an alarm when the filter needs to be replaced. Available in barrier-free models. Elkay, Oak Brook, Ill.

521. Auto-mixing valve
The Grohmix pressure-balance mixing valve allows the user to preset the water temperature as easily as setting a thermostat. Accurate to 1°F, the temperature can be set anywhere in the 60°F to 100°F range. Hotter temperatures can be achieved by pushing an override button. Grohe America, Bloomington, Ill.

522. Barrier-free products
Danish designs for the physically challenged—hand rails, support arms, shower chairs, and adjustable fixtures—made by Pressalit A/S, are now being distributed by American Standard. Fittings are designed to combine functionality with an attractive, non-institutional appearance. American Standard/Pressalit, Piscataway, N. J.

523. Hydronic heating system
The Radiant Floor Heating (RFH) system circulates 90°F to 120°F-water through pipes encased in or stapled to the subfloor, producing economical, even heat without drafts or condensation. The manufacturer makes a complete line of RFH systems, such as floor, radiator, and hot water/air coil. Rehau, Inc., Leesburg, Va.

524. ADA-complying commode
The TurboFlush Model 4740 is 17 1/2-in. tall, and has an elongated bowl. It is made of vitreous china and uses only 1.5 gal. of water per flush. The toilet meets both ADA and water-saving requirements, and is suitable for hotels, office buildings, and hospitals, and homes and apartments. Briggs Industries, Tampa, Fla.

525. Adjustable showerheads
The InTouch II showerhead delivers water at a low 2.5 gallons per minute while providing wide, narrow, strong, or soft spray, as well as a pulsating massage. A temporary-shut-off setting turns the water-flow down to a trickle while soaping or shampooing. Interbath, Inc., City of Industry, Calif.

526. Ducted ceiling filters
The Cam-1 PX and BasiCam PX filter modules work for a full range of cleanroom applications. The Cam-1 PX, for cleanrooms as demanding as Class M1.5, has a damper which can be adjusted for precise laminar flow. The BasiCam PX is a damperless version for Class M6.5 to M4.5 applications. Farr Co., Los Angeles.

527. Bath fittings
German-made Groupe Jado fittings come in styles from traditional to contemporary, with a range of products in each design: lavatory faucets, shower sets, towel bars, and accessories. Pictured are Series Walz handles and spout, designed by New Yorker Kevin Walz. Jado Bathroom and Hardware Manufacturing Corp., Camarillo, Calif.

528. Electronic urinals
The Bardon Touchless Lite urinal features electronics and flush valve incorporated in a chamber integral to the urinal, and secured by a lockable lid. The unit uses only 1/2-gallon per flush, has a 14-in. extended rim to comply with accessibility requirements, and comes in 11 colors. Kohler Co., Kohler, Wis.
529. Anti-scald controls
Monitor-series valves prevent temperature fluctuation by automatically compensating for pressure surges before water leaves the pipes. Indicators eliminate guesswork in installation. High-end models offer bather-adjustable volume and temperature controls. Washerless. Delta Faucet Co., Indianapolis.

530. The fans of flight
The fantasy flyer is a replica of the F-4U World War II Corsair Navy Fighter Plane, with its 4-foot blades matching the original propeller scheme. An 8-ft applique applied to the ceiling is styled after the cockpit, wings, and landing gear. Combines air circulation and aerial assault. Three reversible speeds. Hunter Fan Co., Memphis, Tenn.

531. Gilt-edged faucet
A coat-of-arms and insets of 24-karat gold-plated brass distinguish the Cesello spread lavatory faucet uniform symmetrical design and ceramic-disk valve technology. Created by jewelry designer Antonio Bullo and manufactured by Sottini in Italy. Pictured above in chrome; also available in white. American Standard. Piscataway, N. J.*

532. Sub-surface heating
Fluid-circulating, corrosion-proof polyethylene tubing is installed below a floor, sidewalk, driveway, or playing field. When the liquid is heated, warmth rises to melt snow and ice or heat a room. Can be used under a variety of surfaces, from concrete to grass. Temperature can be adjusted from room to room. Heatlink, Grand Rapids, Mich.

533. Vanity
Countertop, mirror, cabinets, lighting, and fireclay pedestal lavatory are part of the new Trocadero Suite shown above. The unit measures 63-in. long by 24-in. deep by 82-in. high. Cabinets are available in maple veneer (shown) and in white; countertop is Avonite. Designed by Jacob Delafon of France. Dual-basin vanity an option. Kohler Co., Kohler, Wis.

534. Barrier-free bubbler
This ADA-compliant, wall-mounted water fountain is designed for both indoor and outdoor applications. The Double Bubbler is available only in granite-colored, weatherproof stone aggregate. Stainless-steel basin. Front push-button operation. Vandal-resistant. Freestanding models also available. Halsey Taylor, Inc., Oak Brook, Ill.

535. Baseboard accents
DesignLine offers rust-proof, extruded-aluminum baseboards in 19 colors for use with hot-water heating systems. Interchangeable inserts are available in over sixty colors. The baseboards rise 6 1/2-in. off the floor and mount close to the wall. Inserts can be matched to existing wallpaper or paint. Even heat distribution. Mestek, Inc. Westfield, Mass.

536. Outdoor fountain
A new pedestal-mounted drinking fountain offers dual-height bubblers to help comply with ADA requirements. Constructed of vibrocast, a reinforced concrete, with concrete guards over chrome-plated bubblers. Waste strainers allow for top-down access. Color tile insets are optional. For outdoor use only. Hawks Drinking Faucet Co., Berkeley, Calif.

537. Undermount sinks
A new line of dual-basin sinks offers 18-gauge, stainless-steel construction in three styles: a traditional-style sink, a contemporary design featuring round bowls, and the largest model, two bowls of equal size (13 1/2-in. wide by 16-in. long by 7 5/8-in. deep). All with scratch-resistant finishes. Elkay Manufacturing, Oak Brook, Ill.

538. Powder-room basin
This compact, corner wash basin is designed to fit in small washrooms. Its German-made straight lines and balance are designed to recall the classic Bauhaus style. The Series 1900 line from Duravit features other pieces, including a water-closet and bidet. Bathroom furniture is also available. Santile International Corp., Norcross, Ga.

539. Radiance
Five years in the making, the Entran 3 radiant heating system is designed to compete with up-market European systems. Four-layer hose construction. UL listed, Entran is rated to -40°F and warranted to 200°F. Can be installed in cold weather. Corrosion-resistant. Brass valves and unions. Goodyear/Heatway. Springfield, Mo.

540. The kitchen sink
The Surell sink is constructed of cast, non-porous material and is solid throughout. Flushmount or undermount installation options. Available in two sizes: 16- by 21- by 8 1/4-in., and 16- by 10- by 6 1/2-in. Stain-, burn-, and scratch-resistant. Choice of six solid, pastel colors. Permian Corp., Cincinnati.

* Product Data on CAD disk
541. Snow melts
The Infloor radiant-heating system is designed for both under-floor interior heating and outdoor snow and ice melting. Water is treated with propylene glycol and heated. Indoors, 1/2-in. or 3/4-in. tubes allow for 1,000-ft circuits. Outside, a single manifold can distribute heat to 500-ft of tubing. Gyp-Crete, Corp., Hamel, Minn.*

542. Bathing kits
Corian tub and shower-wall kits offer easy, five-step installation, even over existing tile. Three-wall tub and two-wall and three-wall showers are available. Grout-free, cornerless design. Non-porous surface discourages mold growth. Cut to specification. Choose from six colors. Color-matched trim molding. DuPont Co., Wilmington, Del.*

543. Steel sinks
A new eight-page catalog from Dayton pictures a builder’s line of stainless-steel sinks. Single-and double-bowl models are offered in three grades of resilient, chip-resistant steel. A special section is devoted to ADA-compliant basins. The catalog also features a line of sink accessories designed to fit Dayton’s sinks. Elkay, Oak Brook, Ill.

544. Bathroom chic
Designer lavatories, tubs, and toilets are featured in a new 24-page brochure. Most products are made of molded fireclay — a composite of clay, kaolin, talc, and pre-fired clay particles. Stain, scratch, and rust-resistant. Porcher, Chicago.

545. Sinks and faucets
Featured in a new 20-page, full-color catalog are 18 styles of faucets, 11 sink designs, and an array of kitchen accessories. Photos, specs, and schematic drawings of products. Some designed by Danish architect Arne Jacobsen and seen in the design collection of New York’s MOMA. Knoll, Cambridge, Mass.

546. Vitreous china

547. ADA faucets
A new brochure lists and illustrates faucets that comply with the Americans with Disabilities Act and ANSI accessibility standards. Featured products include a lever-operated, slow-closing metering faucet, and an offset grid strainer for installation in wheelchair-accessible sinks. Chicago Faucet, Des Plaines, Ill.

548. Whirlpools
A new catalog by a well-known maker of whirlpool baths pictures a line of tubs, showers, and accessories. The smooth acrylic finish is stain-resistant. Thirteen models feature room for two. Variety of shapes, sizes, colors. Adjustable jets and slip-resistant bottom. Jacuzzi, Walnut Creek, Calif.

549. Electronic plumbing
A new line of battery-operated plumbing products is designed to comply with the ADA and to make life more comfortable for the physically impaired. Products include self-flushing urinal and toilet valves and hands-free faucets. A single six-volt battery can run one unit for five years. Toto Kiki U. S. A. Inc., Orange, Calif.

550. Air filtration
A new air-filtration system works with two filters. A particle filter traps smoke and dust while a carbon filter absorbs gases and chemical vapors. One unit cleans and circulates 250 cubic feet of air each minute. Designed for both suspended and sheetrock ceilings. Components are UL listed. SelectAir, Charlotte, N. C.

551. ADA-friendly shower
A four-page catalog features a shower, shower floor, and ramp built of solid-surface material to comply with ADA requirements. Included in the brochure are color photographs, charts, new and retrofit installation possibilities, and schematic drawings. Swanstone, St. Louis.

552. Wooden grills
Seven models of floor-set wood grills for forced-air heating systems are featured in a new catalog. Models are designed to fit into either wood or carpeted floors; flush or framed. Made of red or white oak, or hard maple. Custom woods and sizing available. Grill Works, Minnesota, Minn.
553. Vandal-resistant sconce
The Columbus is a vandal-resistant wall-mounted fixture, with a cast aluminum housing, stainless-steel face struts, and a clear, light-stabilized fuse for glare from compact-fluorescent or high-intensity discharge sources. Poulsen Lighting, Inc., Miami.

554. Bauhaus lamp
The NT09 table lamp has been created with a classic Bauhaus look, combining a gracefully tapered stem and delicate base. The 25-in.-tall lamp has been created in brushed or polished brass or chrome. Black or white lacquered-paper shades are available with a choice of white or gold linings. Nessen Lighting, Mamaroneck, N. Y.

555. Low-profile sconce
The Surf sconce, designed by Piotr Sierakowski, projects only 3 1/2-in., meeting ADA requirements. It is available in mahogany or maple woods, or gold or silver leaf on maple, or may be custom finished. The sconce can be specified with either a 15W compact-fluorescent lamp, or a 60W T-lamp. Baldinger Architectural Lighting, Inc., Astoria, N. Y.

556. Invisible sound system
The Freespace bass module, when used with the Freespace suspended-ceiling adaptor, can be mounted above a suspended tile ceiling. The assembly meets UL-2043, which allows it to be mounted in plenum air spaces. The module directs its speakers through a conventional ceiling grille, and is otherwise invisible. Bose Corp., Framingham, Mass.

557. Tear-drop fixture
The Esplanade is designed to replicate the tear-drop-style streetlights common to the first half of this century. The 20- to 35-ft-high fixtures provide uniform pavement illumination, while the globe emits only a soft glow. Takes HID lamps up to 400W or incandescent lamps. Unique Solutions Div. of Holophane Co., Newark, Ohio.*

558. Fiber-optic illuminator
The 501 fiber-optic illuminator employs a 400W custom-designed metal-halide lamp, and is 30 times brighter than the illuminator originally introduced by this manufacturer in 1986. The illuminator uses quick-start ballasts and is UL-listed for indoor and damp outdoor locations. Fibrestars, Inc., Fremont, Calif.

559. Versatile sconce
The Meridian wall sconce is ideal for both indoor and outdoor applications and in corridors, elevators, and lobbies. Fabricated from solid bar stock and fluted glass, the sconces are available with compact-fluorescent or incandescent lamping, and in brass or chrome finishes. ADA compliance information is available. Boyd Lighting Co., San Francisco.

560. UV floodlight
The scene above is illuminated by the WF-400 Flood, a UL-listed UV floodlight that can illuminate fluorescent-painted objects up to 80 ft away. Constructed of corrosion-resistant aluminum, the fixture is ideal for film, video, display, and stage lighting. The manufacturer also provides special-effects design services. Wildfire, Inc., Los Angeles.

561. Mini wall pack
The MicroPro wall pack is suggested for security or perimeter lighting. The housing is made of molded polycarbonate, with an impact-resistant acrylic lens, and is available with HID or compact-fluorescent lamps in a variety of wattages. It can be mounted to recessed boxes or wired with surface conduit. Stonco, a division of Genlyte, Union, N. J.

* Product Data on CAD disk
565. Low-temperature sensors
The CB-100 and CB-200 passive infrared occupancy sensors are designed to control lighting in cold, damp environments, as low as -40°F for the CB-100 and 20°F for the CB-200. The gasketed, watertight units can be used to interface with HVAC, EMS, and monitoring systems in addition to lighting. The Watt Stopper, Inc., Santa Clara, Calif.

566. Task-lighting system
The System-2 task light is wall-mounted. It has a unique mid-arm joint which allows the light to be moved up and down and from left to right. The cool reflector-shade has a protective lens to reduce UV rays. The unit uses a 35W halogen lamp, and may be used with a quick-connect cord or hard wired. Luxo Corp., Port Chester, N. Y.

567. Fluorescent flood
The FF18 fluorescent wall washer uses 2-15W compact-fluorescent lamps to create broad washes of light. Ideal for galleries, museums, and showrooms, the six-pound fixture comes with an electronic ballast, removable louvers, and an accessory holder that accepts glass color filters. Times Square Lighting, New York City.

568. LED exit sign
The Signature LED exit sign consumes only 6.5W of electricity while providing bright, uniform illumination of the 3/4-in. letter stroke. The LED lamps have a rated life of 25 years, virtually eliminating lamp replacement. The nickel-cadmium batteries and electronics are concealed within the sign housing. Lithonia Lighting, Coeyers, Ga.

569. Mini-emergency light
A tiny emergency luminaire takes advantage of the super-efficiencies of a 5W halogen lamp and precision optics to rival the performance of larger units. The lights quick-mount to any 4-in. octagonal box. The maintenance-free sealed battery and precision charger are contained within the fixture housing. Yorklite Electronics, Inc., Bensalem, Pa.

570. Low-watt PAR lamp
A new 60W Capsylite PAR38 lamp with 17,500 CBCP and a 10-deg beam has been developed. In some circumstances it can be used to replace ordinary 150W PAR38s with 11,500 CBCP and 15-deg beam-spreads. The 3000K halogen lamps maintain full light output over their 2500-hour rated life. Osram Sylvania, Inc., Danvers, Mass.

571. Brass wall sconce
The sculptural, solid-brass wall sconce performs its uplighting task through the use of a 500W quartz lamp. A reflector is used to project light across the ceiling, and a back-splash shield eliminates the typical hot spot on the wall over the fixture. The mirror-polished fixture weighs 35 lb. Voight Lighting Industries, Inc., Leonia, N.J.

572. Low-brightness luminaires
The FC/2 family of low-brightness parabolic fluorescent luminaires uses proprietary technology to totally eliminate VDT glare, according to the manufacturer. New fixtures include 1- by 4-ft wall-wash and recessed luminaires, and a 1- by 2-ft one-lamp fixture. Metalux Division, Cooper Lighting, Elk Grove, Ill.

573. Adjustable medical light
An infrared remote-controller is used to aim a motorized, ceiling-recessed, 150W low-voltage halogen examination lamp, and adjust its intensity. The control wand stores on a magnetic wall plate, and a built-in beeper reminds users to return the wand where it belongs. Plug-in components simplify servicing. The Kirlin Co., Detroit.

574. Indirect luminaires
The Classica indirect luminaire uses lighted, perforated sides to balance brightnesses and eliminate VDT screen glare. The fixture is 13-in. wide by 3 1/2-in. deep, and can be lamped with 2, 3, or 4 T8 lamps or 2 40W or 50W compact-fluorescent lamps, depending on job requirements. Litecontrol Corp., Hanson, Mass.

575. Adjustable ballast
The Ultra 3000 electronic ballast can be preset by the user to any of four settings to optimize task-light level and energy savings. The ballast is designed for use with 1-, 2-, and 3-lamp fixtures. The electronic units produce silent, flicker-free light, with +5 percent total harmonic distortion. Canterra International, Engelwood, Colo.

576. Table lamp
The sleek Onidia lamp designed by Santiago Calatrava has a 17-in.-high base of molded glass-fiber reinforced nylon. The rotating cast aluminum diffusing head incorporates a high-efficiency reflector for a 20W, 12V halogen lamp. A two-level switch controls the lamp's intensity. Artemide, Inc., Farmingdale, N. Y.
577. Computer task lamp
The 13W compact fluorescent Birdy task light was designed by the Elixer Design Group of France. Translucent or solid shades are available in five colors. A louver on the underside of the fixture head directs light onto the work surface, while preventing glare on computer screens. J. O. L. T. Lighting, Ltd., Capron, Ill.

578. In-wall loudspeakers
The AuraStyle in-wall loudspeaker assemblies mount in side walls or ceilings, and may be easily installed in new or retrofit construction. The two- or three-way versions offer excellent bass response and high-power handling, according to the manufacturer. Installation aids and wiring accessories are available. Atlas/Soundolier, Fenton, Mo.

579. Asymmetric HID fixture
The Compact Surface-Mounted HID Series luminaires extend only 4 3/4-in. from the surface they mount to. They combine rigid, extruded asymmetric reflectors with high-output, metal-halide lamps. The fixture produces even light output, and wide lateral distribution. Elliptipar, Inc., West Haven, Conn.

580. Retro-track heads
The MR-Snap-16 is a low-voltage fixture that snaps onto existing 120V track. It has an integral transformer that uses small MR16 lamps available in a variety of beamspreads. The fixture replaces bulkier, less efficient full-voltage track heads and is available in black or white. Spartan Lighting Equipment Co., Div. C. E. W. Lighting, Inc. Dallas.

581. Dimming ballast
A new addition to the Hi-lume line of electronic-fluorescent ballasts has been introduced. The ballast operates 3-lamp, T8 fixtures at 277V, and is capable of dimming them as low as 1 percent of full output. The flicker-free, solid-state unit yields 95-percent power factor, and less than 10 percent total harmonic distortion. Lutron Electronics, Coopersburg, Pa.

582. Efficient downlights
Calculte downlights maximize the output of compact-fluorescent lamps by using electronic ballasts, precision reflector optics, and reducing lumen depreciation due to heat build-up. A wide variety of luminaire types is available with many iridescence-free reflector types. Lightrnier Division of Genlyte, Secaucus, N. J.*

583. Wet-location luminaires
A family of extremely durable recessed ceiling luminaires are UL-listed for wet locations. Finished in brushed stainless steel, the luminaires use 20W or 50W low-voltage halogen lamps, and are available with symmetrical, elliptical, or asymmetrical distributions. Many custom-applied colors are available. BÉGA/US, Carpinteria, CA.

584. Touch controls
Multi-button touch controls can eliminate wallbox dimmers, toggle switches, and other controls. Using a central-control unit, several control boxes can operate one load, or one control can operate several loads. Wiring is simple and flexible. Several different styles of touch controls are available. Light Touch, Salt Lake City.

585. Photometric database
DataMetrics is a database that supplies qualified lighting professionals with photometric data for the manufacturer's lighting fixtures. The annually updated disks come in 5.25-in. or 3.5-in. formats, and the photometric data is written in the IESNA91 format supported by most lighting-calculation software. Edison Price Lighting, New York City.*

586. Truss-mount indirects
The Lighttuss System is a series of indirect lighting modules that are supported by a continuous truss system. The trusses are formed of three extruded aluminum tubes, separated by aluminum bulkheads. These can be configured many different ways, and a wide variety of optical systems and light sources is available. SPI Lighting, Mequon, Wis.

587. Adaptable floor lamp
The Aladino, a floor lamp conceived by Matthias Dietz, uses either incandescent or halogen lamps. The lamp's shade designs are based on a cultural theme, such as the first, "For East Impressions," which was designed by a group of leading Japanese designers. Future editions will be feature other cultural themes. Belux AG, Switzerland.

588. Illuminance meter
The TL-1 is an inexpensive, easy-to-carry illuminance meter. Models of the meter are available to take measurements either in footcandles or lux, ranging from 0.01 to 1,999 in footcandles, or 0.1 to 19,990 in lux, expandable with an optional neutral-density filter. Flicker light and deviation between sources can be measured. Minolta, Ramsey, N. J.

* Product Data on CAD disk
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589. Task-lighting system
The Hanglight system allows task lighting to be mounted directly to office partitions, freeing up desk space while allowing the luminaires to be easily adjusted. Several different styles of louver-shielded halogen and compact-fluorescent luminaires are illustrated. Dazor Manufacturing Corp., St. Louis.

590. Complete track line
A 68-page track catalog includes product-system specifications, information on lighting techniques, and lamp-selection criteria and data. The "Creating with Light" section of the catalog explains photometric charts and wallwashing, and shows how to illuminate objects like sculpture and tabletops. Capri Lighting, Los Angeles.

591. Control devices
Lighting-control devices are featured in a 60-page catalog. Specification information on incandescent and fluorescent dimmers in many styles is included, such as sliding, rocker, rotary, and preset types, as well as occupancy sensors and motor-speed controls. Leviton Manufacturing Co., Little Neck, N. Y.

592. Decorative catalog
An extensive four-color catalog illustrates an array of highly sculptural halogen and incandescent lighting devices, including pendants, floor lamps, sconces, and desk lamps. Dimensioned line-drawings and fixture specifications are given. Artup Corp., Santa Ana, Calif.

593. Projection luminaires
A fact sheet lists and explains practical solutions for exotic lighting challenges. The sheet details the manufacturer's line of heavy-duty, UL-listed products, which are designed to resist exposure to moisture, chemicals, saltwater, shock, and vibration. Phoenix Products Co., Milwaukee.

594. Publications guide
Lighting Sources brochure describes the publications of the Illuminating Engineering Society of North America. Included are standard references such as the IESNA Lighting Handbook, the Recommended Practices book, lighting design guides, energy-management guides, and calculation guides. IESNA, New York City.

595. Specification guide
The 128-page Specification and Application Guide for lighting professionals, distributors, and end-users has been updated and improved. New information on the National Energy Policy Act of 1992 and the Green Lights Program is included, as is a 24-page application guide. Philips Lighting, Somerset, N. J.

596. Recessed-lighting guide
A 20-page recessed-lighting catalog features 140 products, including low-voltage and energy-efficient compact-fluorescent downlights. IC and non-IC incandescent housings for specific uses like sloped ceilings and remodeling are shown. Eighteen 4- and 6-in. universal trims are offered. Residential Lighting Div., Thomas Industries, Louisville, Ky.

597. Vintage exterior lighting
A 64-page color catalog presents a comprehensive array of vintage exterior-lighting products, including posts, luminaires, and bollards. Acorn- and globe-type luminaires can be matched with an extensive assortment of poles. Four-color application photographs and photometrics are included. Sternberg Vintage Lighting, Chicago.

598. Designer luminaires
A lavishly illustrated four-color catalog features Leucos U. S. A.'s extensive line of pendants, wall sconces, and table and floor lamps. The fixtures are said to be suitable for projects as diverse as corporate headquarters, shops, hotels, nightclubs, residences, and cruise liners. Leucos U. S. A., Edison, N. J.

599. Efficient direct/indirect
The Series 90 is a pendant-mount, direct/indirect fluorescent luminaire whose light distribution is nominally 60 percent indirect and 40 percent direct. Its use creates a visually comfortable environment with fewer luminaires, says the manufacturer. A four-page folder listing product features; photometrics are available. NeoRay Lighting, Brooklyn, N. Y.

600. 20th-Century replicas
A 40-page color catalog illustrates a full line of UL-listed Victorian, Arts and Crafts, Art Deco, and other 20th-century light-fixture reproductions, available in pendant, wall, table- and floor-lamp styles. Art glass and globe options and a complete ordering guide are included. Rejuvenation Lamp and Fixture Co., Portland, Ore.

* Product Data on CAD disk
601. Lamp catalog
The Spectrum 9200 Lamp Catalog lists lamps for a wide range of applications. Lamp types include incandescent, halogen, fluorescent, wattage, voltage, lumens, rated life hours, CRI and color temperature, dimensions, and other information are listed. General Electric Co., Nela Park, Ohio.

602. Pole catalog
A comprehensive lighting-pole catalog is available. The catalog features embedded and anchor-bolted fiberglass, concrete, wood, steel, and aluminum poles. Metal poles are available in square, round, straight, and tapered shapes up to 40 ft tall. Aluminum poles also come in a cruciform shape. Many finishes are available. Trimble House, Norcross, Ga.

603. Sunlight collector
The Himawari is a sunlight-collection device which uses Fresnel lenses mounted in a sun-tracking unit to focus light on the ends of fiber-optic cables. The light—almost identical in spectrum to sunlight—is transmitted via the cables to any location where needed. Most ultraviolet and infrared light is eliminated in the process. Mitsubishi Intl. Corp., New York City.

604. Full-line catalog
A full-line color lighting catalog presents over 1,100 traditional and contemporary lighting products, including chandeliers, pendants, wall sconces, ceiling units, and bath and vanity products. Exterior post- and wall-mounted fixtures and a full line of landscape-lighting products are also included. Kichler Lighting, Cleveland.

605. Flexible wiring system
The Holoflex flexible wiring system is described in a 12-page brochure. The system is complete from panel or junction box throughout the lighting installation, and allows fixtures in commercial, industrial, and institutional settings to be disconnected and rearranged without interrupting power to other fixtures. Holophane, Newark, Ohio.

606. Compact-fluorescent line
A 12-page color brochure illustrates a complete line of compact-fluorescent fixtures. Included are 6- and 8-in. recessed models, recessed spread lens fixtures, recessed squares and ovals, and step lights. Insulated ceiling (I.C.) recessed fixtures, emergency-light battery backups, and incandescent fixture conversion kits are illustrated. Juno Lighting, Des Plaines, Ill.

607. Track-lighting catalog
A 16-page catalog presents track, accent, and display-lighting equipment. Featured are track systems, various track-mounting devices, long-throw spotlighting fixtures, low-voltage spotlighting, line-voltage, tungsten-halogen and compact-fluorescent fixtures, and filters and accessories. Lighting Services, Inc., Stony Point, N.Y.

608. Parabolic panels
An engineering data and specifications guide to a wide range of specular-finished plastic and aluminum parabolic panels and baffles is available. The guide gives relevant dimensions, cutoff angles, and finish options. Photometric data include candela charts, lumen summaries, and more. A.L.E Lighting and Ceiling Products, Niles, Ill.

609. Prismatic luminaires
The Prismatics are a complete family of luminaires fitted with injection-molded acrylic reflectors, available with metal-bulb or high-pressure sodium lamps. They offer high-quality, three-dimensional task lighting in a number of settings, from retail to industrial, according to the manufacturer. Hubbell Lighting Inc., Glen Allen, Va.

610. Sconces and pendants
A series of catalog inserts details a number of contemporary sconces and pendants. The inserts give complete information on the fixtures, including color application photographs, pertinent dimensions, photometrics, finish, mounting, lighting and ballast information, and wiring requirements. Visa Lighting, Milwaukee.

611. Exterior catalog
A 44-page catalog illustrates a full line of contemporary exterior luminaires, including wall- and ceiling-mounted fixtures, pole-mounted fixtures, and bollards. Most are available in incandescent and fluorescent. The catalog includes photographs, lamping information, drawings, and photometric data. Artemide, Inc., Farmingdale, N.Y.

612. In-ground lights
A family of burial landscape-lighting fixtures features composite housings, sealed optics, versatile optics, encapsulated ballasts where required, and a full range of accessories. A 20-page specification guide illustrates these features as well as giving installation instructions and more. BronzeLite, a division of Genlyte, San Marcos, Texas.
613. Raceway options
The Access raceway is used as a baseboard, and its two-channel design can accommodate video, data, coaxial, or phone cables. It is UL listed for up to 300VAC. Snap-on covers come in white, gray, black, cherry, maple, mahogany, white oak, and custom colors or veneers. Corner pieces eliminate miter joints. Wiremold Co., West Hartford, Conn.

614. Surge protection
A 16-page catalog and application guide offers surge protection for virtually every data, signal, or telephone-line application. The guide shows how RS232, 485, 4-20, MA loops, modems, FAX and PBX, and LANs can all be protected from damage by transient overvoltage. MG Electronics, Deer Park, N.Y.

615. Downlight family
The Lite Box series of architectural downlights features precision-made AlzaK reflectors, preadjusted sockets, and die-cast trim rings. All of the trims have the same dimensions, ensuring a consistent appearance in the ceiling, whether an incandescent, low-voltage, compact-fluorescent or HID model is selected. Prescolite, San Leandro, Calif.

616. Low-voltage landscape
A 12-page catalog illustrates safe, compact low-voltage garden lighting fixtures. Architectural-grade products featured include path lights, flood lights, well, tier, and step lights, and numerous accessories. Various garden lighting effects are illustrated. Intermatic Inc., Spring Grove, Ill.

617. Mini bollard
The Compact Bollard Series of 24- to 32-in.-high garden lights provides soft pools of light for orientation and safety. Constructed of extruded and die-cast aluminum, the units use louvered and a prismatic-glass optical system. Incandescent, compact-fluorescent or HID lamps are available. Kim Lighting, Inc., City of Industry, Calif.

618. Low-voltage downlight line
A 16-page brochure illustrates a full line of low-voltage downlights. A complete explanation of the fixtures' housing construction, transformer types, lamp, fuse, trim, and accessory options is given, along with extensive photometric data and color photographs of applications. Lucifer Lighting Co., San Antonio.

619. Lighting-product poster
A four-page gatefold poster uses color photographs taken at notable installations to illustrate BEGA's full product line. Spheres, pendants, bollards, flood- and buried-uplights, garden luminaires, and pole-mounted lights are shown. Phone numbers of product representatives are given. BEGA, Carpinteria, Calif.

620. 2-D fixture brochure
An entertaining and informative eight-page catalog insert traces the history of the search for the perfect light source, culminating in the introduction of the 2-D fluorescent lamp. The insert discusses lamp efficacy, fixture types available, payback, and annual energy savings. Alta Illumination Co., Division of CSL Lighting Mfg., Valencia, Calif.

621. Exterior catalog
A 68-page catalog gives comprehensive details on a complete line of exterior lighting fixtures including dimensions, lamping options, fixture specifications, photometrics, finishing, and ordering information. Bollards, wall- and pole-mounts, and illuminated handrails are illustrated. Staff Sales, Inc., Highland, N.Y.

622. Outdoor fixtures
A 20-page, four-color catalog presents photographs of an array of outdoor lighting fixtures. Cast-aluminum sconces, pole-mounted luminaires, and bollards are pictured, along with drawings and overall dimensions. The fixtures are guaranteed against corrosion for 20 years. Noral Lighting Inc., Cleveland.

623. Floor boxes
The Walkerbox RFB is a cast-iron multi-service recessed floor box that can accommodate single or duplex power, GFI and surge-protection devices, modular jacks, or LANs. The brochure gives installation details, and lists features of various models and accessories available. Walker Division of Butler Manufacturing, Parkersburg, W.Va.

624. Compact cantilevers
A clamp-on portable luminaire uses up to a 60W MR16 lamp, which is cantilevered from an adjustable, telescoping arm. The unit is intended for display purposes, and comes with a 60W plug-in transformer. A kit with five luminaires, carrying case, and a 250W transformer is available, as is a ceiling-canopy-mounted model. Tech Lighting, Chicago.
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Marvin Windows
Mapei's 1994 Catalog

MAPEI's 16-page 1994 product catalog introduces an expanded grout color offering and features pertinent product characteristics and specification compliances. The catalog contains detailed technical drawings of typical installations, plus reference charts containing physical properties, installation coverages, and packaging information. The catalog coordinates with MAPEI's product color-code and graphic theme currently carried throughout its packaging and technical literature.

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Since 1966 APCO has met your wayfinding and identification needs with the broadest range of architectural signage products available anywhere. Our product line features interior and exterior sign systems, displays, directories, signmaking software, and a variety of sign solutions designed to help you meet the requirements of the Americans with Disabilities Act. Call (404) 688-9000.

Koala Bear Kare Brochure

The Bear Necessities For Happier Customers, the updated Koala Bear Kare product brochure, is now available from J.B.J. Industries. The brochure provides full details on the Koala Bear Kare line of customer service child care products. Now, parents can keep a baby in a car seat safe and secure in the Infant Seat Kradle instead of on the table or on the floor. The brochure also describes the Child Protection Seat, which allows a parent to keep their baby safely in view while occupying a restroom stall, and the popular Baby Changing Station, which makes diaper changing in public places safe, sanitary and convenient. For a copy of the Koala Bear Kare brochure, call 1-800-666-0363.
ASCEND IN STYLE

The standard "Princeton" double helix spiral stair (no center pole) rotates 180 degrees, however custom degrees of rotation can be manufactured. Shown is a 315 degree white oak stair. Wide selection of rail and baluster styles, as well as wood species. Family owned, quality is an A.J. Stairs commitment. Call for a free estimate and color brochure 800-STAIR-85 or in N.J. call (908) 477-8080, or fax (908) 477-8085.

ANCHOR DIAMOND® PINLESS RETAINING WALL SYSTEM

Anchor Wall Systems new full-color catalogue offers complete product specification information, installation guidelines and reinforcement usage for its pinless and mortarless segmental retaining wall system that is flexible in design, easily installed, long lasting and a cost-effective choice for any commercial or residential retaining wall need. Call (800) 473-4452 for a free catalogue and manufacturer's name.

HALE MANUFACTURING FOR THE FINEST BOOKCASES

Hale's new catalog features their traditionally beautiful and functional bookcases, including the new 500 LTD Series. All distinctly hand-crafted wood bookcases enhance their 86 year old reputation as "The Finest" bookcase builders. Bookcases are available in a variety of heights, woods and finishes. Call 1-800-USE-Hale for a free catalog.

HANDY-SHIELD™ BY PLUMBEREX PRODUCTS

HANDY-SHIELD safety covers conform to the Americans Disability Act (ADA) whenever insulation of drain & supply lines are required to protect individuals in wheelchairs from burns or injury, under water basins. HANDY-SHIELD features a unique conforming style with interior foam lining and exterior vinyl texture in an array of colors, resulting in an appealing finished product.

NEW VELCAD SOFTWARE

VELUX introduces the first design software created exclusively for roof windows & skylights. Designed in Microsoft Windows™ 3.0 & operable within or out of AutoCAD®, VELCAD accommodates two levels of user experience & can generate & receive .DXF files. VELCAD users can print detail drawings & specs & interfacing with AUTOCAD, can manipulate elevations, drawings and schedules. Contains a drawing viewer for printing & viewing head, jamb & sill designs. Available free-of-charge to design professionals.
Prefabricated Glass Block Panels

Circle Redmont now offers standard size, prefabricated glass block panels for installation as skylights, barrel vaults, skybridges, floor and deck lights, stairwells and landings, sidewalks, wall panels and complete structures. Structurally engineered, preglazed and fully waterproof, these panels are also available in custom sizes and a variety of glass block designs. Circle Redmont panels are constructed of reinforced monolithic grids in concrete or steel using solid glass block pavers or aluminum using hollow glass block. Call for copies of new brochures 1-800-358-3888.

Connectors for Wood Construction


Fire Retardant Treated Wood

Dricon® FRTW has not experienced a single failure due to heat degradation since its introduction in 1981. It’s patented, carries a 40-year builders’ warranty, has been registered with EPA for termite resistance, is listed with AWPA, and complies with all three model codes. This brochure explains its use and specification.

Revere Copper Shingles

Revere Copper Shingles are quicker and easier to install than ordinary asphalt shingles. There are no special skills required and no special tools. Because Revere shingles are manufactured from solid copper, not a foil laminate, they will likely last as long as the building they protect. To learn more about our copper shingles, or any of our other copper roofing products, call us toll-free at (800) 448-1776.

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* Radiator enclosures for steam and hot water heating systems.
* Fin tube (baseboard) heating replacement covers.
* Fan coil replacement covers.
* Bookcases and shelving for schools.
In business since 1934 serving residential, commercial, public and institutional building owners and renovators.

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New heavy-duty, tamper-resistant lamps for public areas, lounges, resident rooms & university apartments. Handsome Brass 'n Color table & floor lamps available in 7 designer colors or the Benjamin Moore color of you choice. Options include a night light, plug-in receptacle, theft-resistant Perma-Mount base & Safety Guard to prevent bulb removal. UL listed & CSA approved. Free 30 day trial offer. (800) 558-2628, or fax 96-2944 for info. & samples.
CATALOG PREVIEW '94

The Superior Architectural Glazing

HYZOD Polycarbonate Sheet is a tough, versatile glazing combining superior breakage protection and broad design latitude. With impact strength 250 times that of flat glass, HYZOD sheet provides lasting protection with the freedom to design and construct curved architectural glazing at a considerable cost savings compared to glass and acrylic. Sheffield Plastics (800) 628-5084

Circle 1107 on Inquiry card

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Low voltage cable lighting is the track lighting of the 90's. It works on horizontal and vertical planes, and any plane in 3D space, offering pendants, sconces and heads. TECH Lighting's Kable Lite is the best selling UL, ETL and CSA listed low voltage cable system in the nation. Look for our new Kable Lite brochure in this year's edition of Sweet's or call us at 312-252-0008.

Tech Lighting

Circle 1108 on Inquiry card

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DURAFLAKE FR is a smooth, grain-free, class I fire-rated particleboard panel designed to meet fire code regulations. It is an excellent substrate for fine wood veneers, high and low pressure laminates and vinyls in all wall systems, furniture and fixture applications where fire codes and public safety are critical. Contact Willamette Industries, Inc., P.O. Box 428, Albany, OR 97321 or call (503) 928-3341.

Linagre R.F. Enclosures, Inc.

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Architectural Shielding Systems

A compilation of Radio Frequency and Magnetic Shielding details and specifications related to the design and construction of Magnetic Resonance Imaging suites. The architectural design package includes a Site Planning Guide, a full color brochure with many unique interior designs and configurations, product data sheets - including detailed information about the brand new Lindgren Clearshield Window Wall System - designed to provide maximum viewing and enhanced aesthetic appeal. For immediate response please fax request to 708-307-7571.

Lindgren R.F. Enclosures, Inc.

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13 Colors

Tuflex resilient flooring stays bright and fresh, even after 15 years with regular maintenance. Tuflex lasts longer than carpet. Tiles are guaranteed. Tufex 3/8"-thick tiles for traffic areas, weight and locker rooms, golf pro shops, ice rinks, cafeterias. Manufactured of highest quality, 100% recycled materials since 1957. Superior safety features. Recent installations: St. Luke Hospital, Augusta National, Harvard. For a free sample contact Tuflex Rubber Products Flooring, 4521 West Crest Ave, Tampa FL 33614, Fax 813-875-2312, or call toll free 1-800-543-0390.

Tuflex Rubber Products

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Everhard Lift

Now you can provide access for the disabled without altering the integrity of your building's design, especially important with historical, government and church structures. The EVERHARD LIFT disappears into the ground when not in use and is designed to comply with the Americans with disabilities act, as well as Interior Department Historic Preservation guidelines. The EVERHARD LIFT also complies with the ASME A17.1 wheelchair lift code. For a free brochure, phone 606-231-1738 or order by fax at 606-255-7935.

Aging Technologies, Inc.

Circle 1112 on Inquiry card
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Circle 1120 on inquiry card
Getting a two-hour fire rating used to mean you had to specify double-layer wall systems. But with new 3/4" ULTRACODE™ Core SHEETROCK® brand Gypsum Panels, you can get that same rating with a single-layer system.

That means the extra fasteners and panels used for standard two-hour rated double-layer systems are eliminated, as are the labor costs that go with them. Which means time and cost savings for you.

All new fire-rated systems using ULTRACODE™ Core Gypsum Panels have been tested and classified by Underwriter’s Laboratories. Consult the 1992 U.L. Fire Resistance Directory for assembly designs U490, U491, & U492.

For More Information, write:
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Department #147-4
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Chicago, IL 60606-4385
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