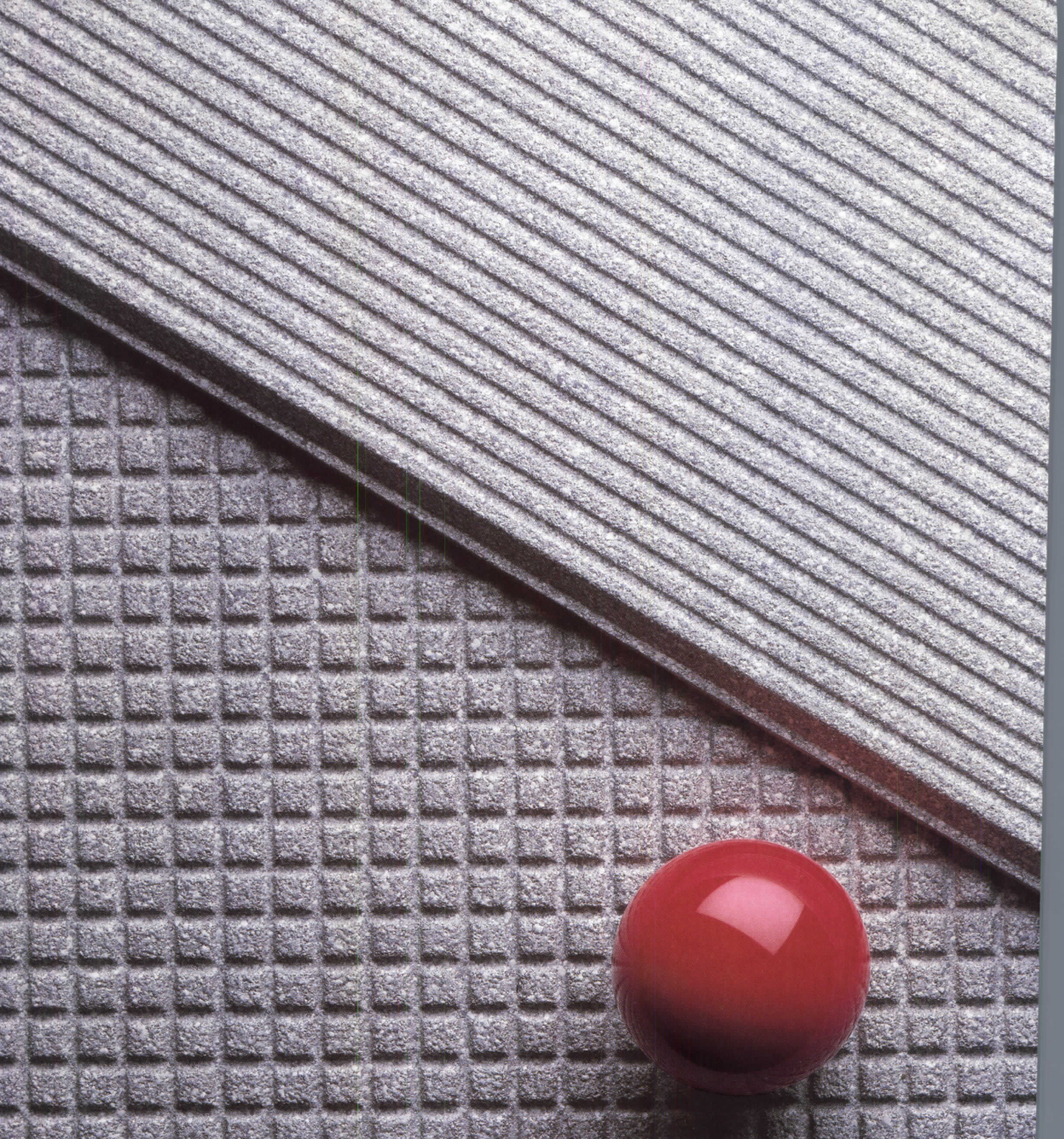




ARCHITECTURAL  
**RECORD**

Business Design Engineering  
A McGraw-Hill Publication, Seven Dollars  
October 1988

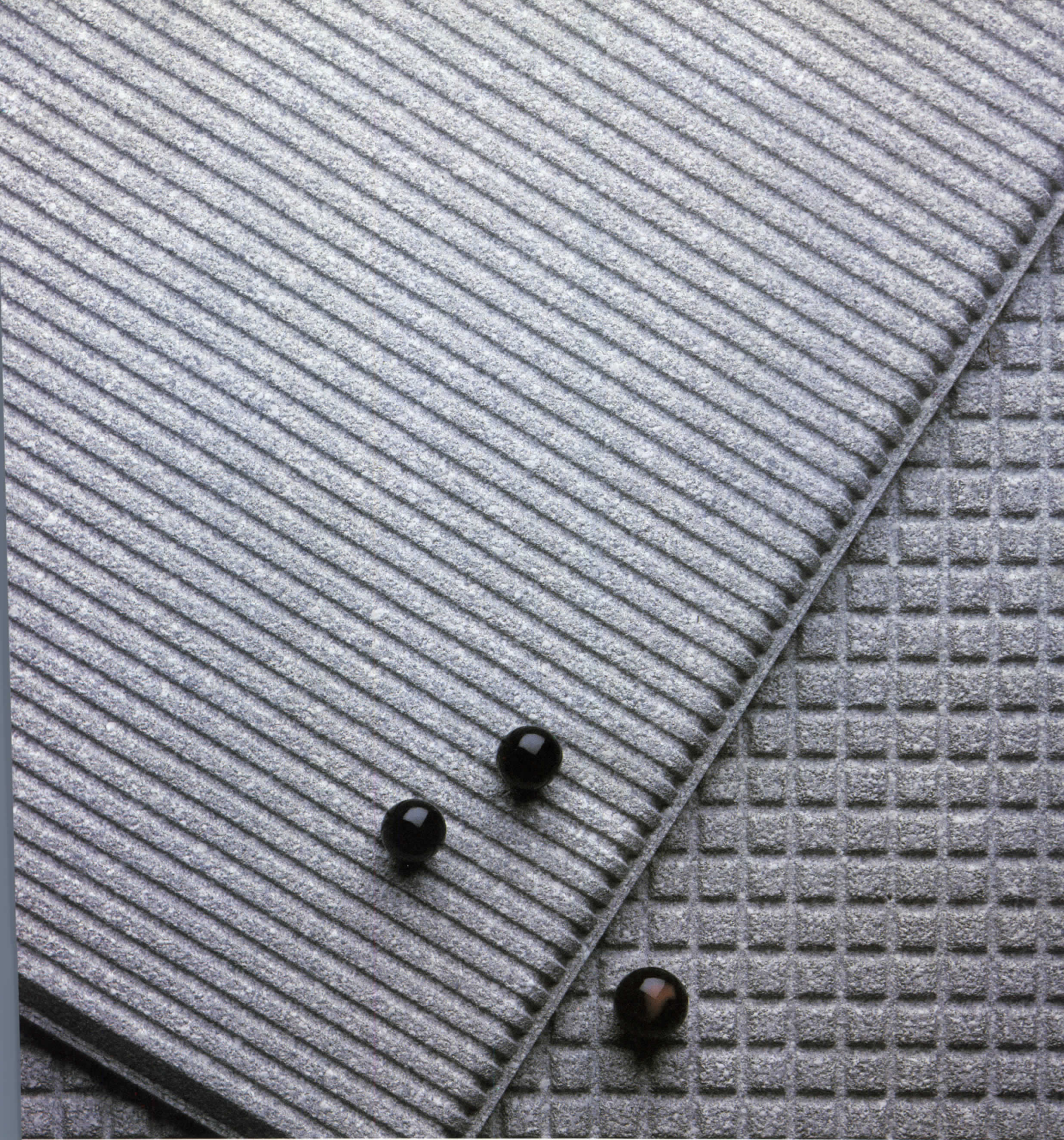




# NEW CEILING FINISHES

Multitoned. Finely textured. Three finishes. Available on five Artran<sup>®</sup> patterns. For our brochure, call 1 800 233-3823 and ask for Ceiling Finishes.





# ARMSTRONG CONTRACT INTERIORS

CEILINGS  
CARPETS  
FLOORS  
WALLS



Circle 1 on inquiry card

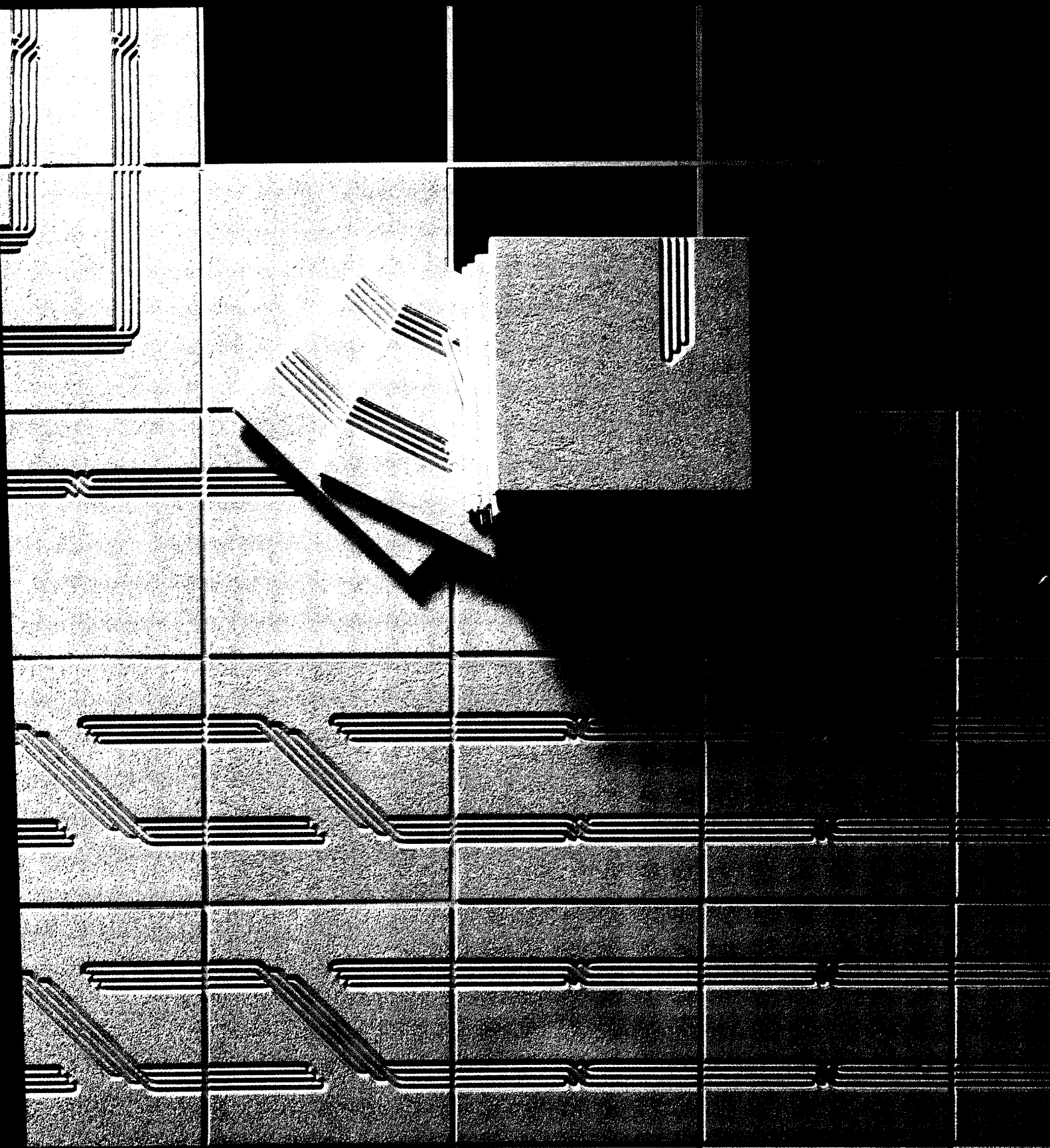




# CUSTOM CEILINGS

New 2' x 2' Syllables<sup>®</sup> ceiling system. Seven systems available. Each offers unlimited custom opportunities. For our brochure, call 1 800 233-3823 and ask for Custom Ceilings.





# ARMSTRONG CONTRACT INTERIORS

CEILINGS  
CARPETS  
FLOORS  
WALLS

**Armstrong**

Circle 2 on inquiry card



Upon attending the recent exhibition *Deconstructivist Architecture* at the Museum of Modern Art in New York City, I was struck with very profound emotions. Although too little space was allotted for the exhibition, the displays were remarkably well presented. I was brought to laughter upon seeing the three-dimensional manifestations of designs I have only seen before in the pages of magazines such as ARCHITECTURAL RECORD. The whimsical colors and idiosyncratic shapes seemingly used at random caused great delight. I am curious to feel the impact of being in these spaces.

One of the main flaws of this exhibition is the mislabeling of Deconstructivist Architecture as "disturbed architecture." When compared with some of the extremes of Russian Constructivism, or the starkness of high Modern, Deconstructivist architecture is infinitely more humane. The forms, while distorted, are not "disturbed," and rarely disturbing. To label them as such suggests that they deviate from true architecture, which they do not. They are a logical progression most definitely inspired by our culture. We have already discarded more architectural styles in the 20th century than in the previous five hundred years.

Our culture also suffers from the trivialization of style, not from a profusion of art. We have gone a long way towards dehumanizing the earth, and the Deconstructivist architects shown in the exhibition seem to be reintroducing individualism and idiosyncrasy into architecture. Thank you, Masters Johnson and Wigley, for bringing this collection to our attention.

Jeffrey Scott Penn  
Huntington, Massachusetts

It seems that the year 1988 marked the victory of the square

and the *circle* in house planning, as RECORD HOUSES 1988 shows.

The *square* appeared either as a whole or as a part in the plans of 10 houses of the 14 shown in the mid-April issue, and in elevations as a window boundary, and internally as square-gridded partitions, cabinet divisions, and even in furniture as tables. The *circle* appeared in the plans of about half of these. Although we are now living in an era of Postmodern dominance, the "purist" spirit of Le Corbusier strongly survives in these "prime geometrical shapes and forms."

How about a change? The *triangle* for 1989!

And my second remark. I wonder why, after more than a half century since Frank Lloyd Wright's houses integrated the building with its surrounding nature and site, should we see such an *unintegrated* house as shown on your mid-April cover, a house completely separated from the surrounding horse farm (nature), like an alien space ship. What this house really misses is an "intermediate space," or transitional elements, that could mediate between it and the nature around, elements that produce a sense of shelter, such as an entry porch, or attracting recessions, a terrace, a balcony . . . or even shading devices that could protect the large double-story south windows from the sun.

Selim A. Nazerian  
Teheran

**Correction**

Credits that should have been given for Western Wyoming College (RECORD, January 1988, pages 96-101) include Bruce A. Lutz, interior project manager, and Kenneth P. Scofield, AIA, project architect, both with The BKLH Group, and J. Stanley Schoen, AIA, of Anderson Mason Dale, who was the architect's manager in the field.

**Through October 30**

Two exhibits of drawings, photographs, and furniture: "Saarinen in Finland," organized by the Museum of Finnish Architecture, Helsinki, and "Saarinen at Cranbrook: Designs for Cranbrook and Kingswood Schools," organized by the Cranbrook Academy of Art Museum; at Cranbrook Academy of Art, Bloomfield Hills, Mich.

**Through mid-December**

"World Cities and the Future of the Metropolis," the International Exhibition of the Triennale de Milano; in Milan.

**October 14**

"Citiscapes," installations by artists and architects addressing the issues of city life, sponsored by Olympia & York Companies (U. S. A.); at the World Financial Center, New York City.

**October 19-23**

42nd National Preservation Conference, "Preservation: The People's Choice," and trade show, sponsored by the National Trust for Historic Preservation; in Cincinnati. For information: National Trust for Historic Preservation, 1785 Massachusetts Ave., N. W., Washington, D. C. 20036 (202/673-4100).

**October 25-28**

Conference on court design issues, with exhibit of justice facilities, sponsored by the AIA Committee on Architecture for Justice; in Dallas. For information: Joanna Bache, American Institute of Architects, 1735 New York Ave., N. W., Washington, D. C. 20006 (202/626-7361).

**November 2-6**

32nd annual convention of the Society of American Registered Architects, "Fresh Perspectives and New Directions in Architecture"; at Plaza of the Americas Hotel, Dallas. For information: SARA National Headquarters, 1245 S. Highland Ave., Lombard, Ill. 60148 (312/932-462).

ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, and WESTERN ARCHITECT AND ENGINEER) (ISSN0003-858X) October 1988, Vol. 176, No. 12. Title© reg. in U.S. Patent Office, copyright © 1988 by McGraw-Hill, Inc. All rights reserved. Indexed in Reader's Guide to Periodical Literature, Art Index, Applied Science and Technology Index, Engineering Index, The Architectural Index and the Architectural Periodicals Index.

Every possible effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), to the editors and the corporation will not be responsible for loss or damage.

Executive, Editorial, Circulation and Advertising Offices: 1221 Avenue of the Americas, New York, NY 10020.

Officers of McGraw-Hill Information Services Company: President: Walter D. Serwatka. Executive Vice Presidents: Kenneth E. Gazzola, Aerospace and Defense Market Focus Group; Brian H. Hall, Legal Market Focus Group; Ira Herenstein, Computers and Communications Market Focus Group; Robert P. McGraw, Healthcare Market Focus Group; Russell C. Whelan, Construction Market Focus Group; Group Vice Presidents: Norbert Schumacher, Energy/Process Industries Market Focus Groups; Russell C. Whelan, F. W. Dodge Group; F. P. Jannott, Sweet's Group and Real Estate Information Services. Vice President/Group Publisher: Ted R. Meredith, Construction Magazines. Senior Vice President: Robert D. Daleo, Finance; Peter J. Balestiere, Human Resources. Vice Presidents: George R. Elsing, Circulation; Julia Lenard, Systems Planning and Technology.

Officers of McGraw-Hill, Inc.: Chairman, President and Chief Executive Officer: Joseph P. Dionne. Executive Vice President, General Counsel and Secretary: Robert N. Landes, Senior Vice President, Treasury Operations: Frank D. Penglase.

Associated Services/McGraw-Hill Information Services Co.: Sweet's Catalog Files (General Building, Engineering, Industrial Construction, Renovation, Light Residential Construction, Interiors), Dodge Building Cost Services, Dodge Reports and Bulletins, Dodge/SCAN Microfilm Systems, Dodge Management Control Service, Dodge Construction Statistics, Dodge regional construction newspapers (Chicago, Denver, Los Angeles, San Francisco).

Subscription rates for personnel of Architecture, Engineering, Interior Design, and other directly related firms and students thereof, are as follows: U.S. and U.S. Possessions \$39.00; Canada \$39.00; all other countries \$125.00. Single copy for Domestic and Canadian: \$7.00; for Foreign: \$12.00.

Change of Address: Forward changes of address or service letters to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 2025, Mahopac, NY 10541. Provide both old and new address; include zip code; if possible attach old address label.

Guarantee: Publisher agrees to refund that of subscription price applying to unfiled part of subscription if service is unsatisfactory.

Copyright and Reprinting: Title© reg. in U.S. Patent Office. Copyright © 1988 by McGraw-Hill, Inc. All rights reserved. Where necessary, permission is granted by the copyright owner to libraries and others registered with the Copyright Clearance Center (CCC) to photocopy any article herein for the base fee of \$1.50 per copy of the article plus 10 cents per page. Payment should be sent directly to the CCC, 21 Congress Street, Salem, MA 01970. Include code with request: ISSN0003-858X (\$1.50 + .10). Written permission must be secured for any other copying. Write Reprint Manager for such permission at address below, or to obtain quotations on bulk order.

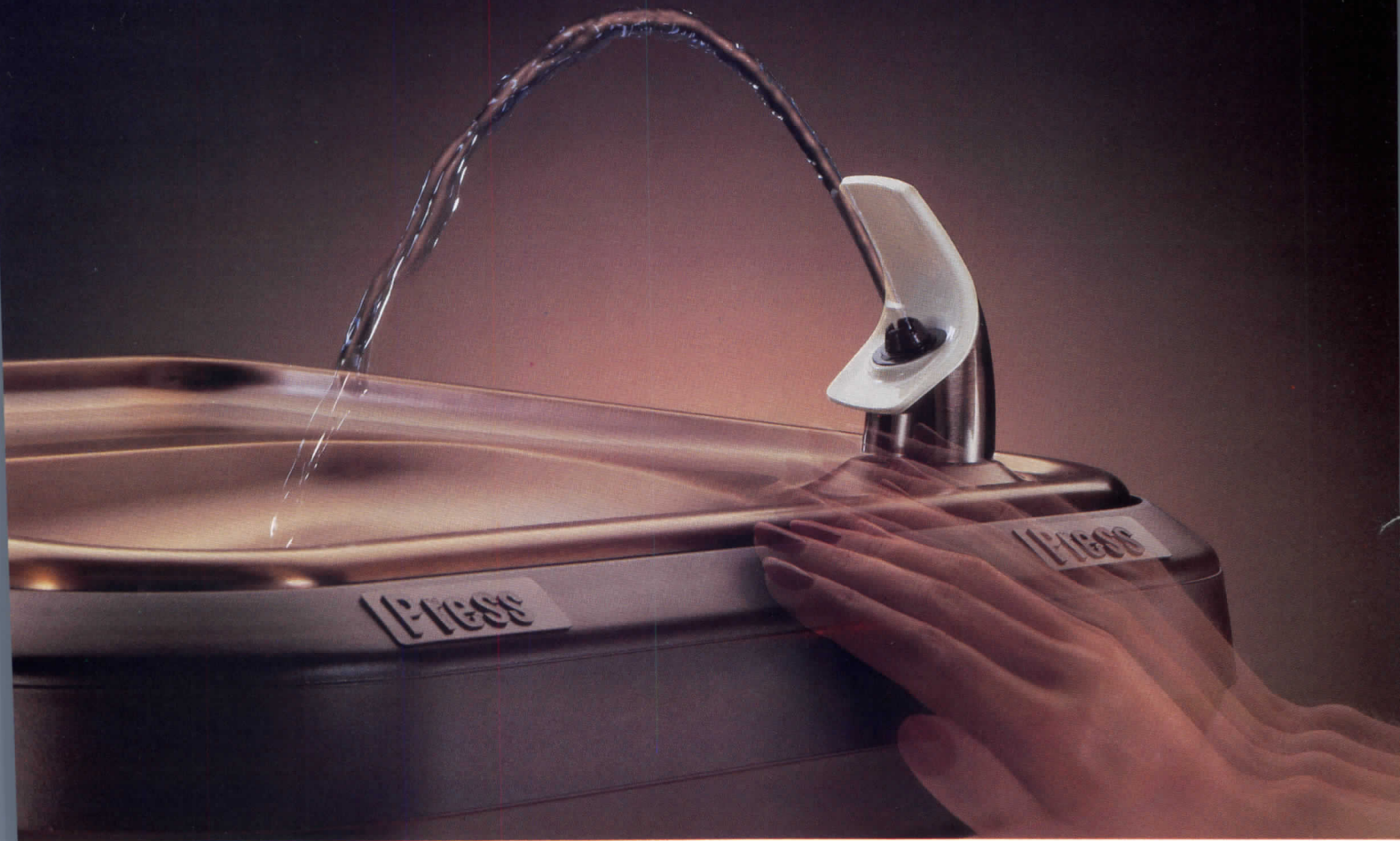
Subscription List Usage: Advertisers may list to mail information to readers. To be excluded from such mailings, subscribers should send request to: ARCHITECTURAL RECORD, Fulfillment Mgr., P.O. Box 555, Hightstown, NJ 08520.

Publication Office: 1221 Avenue of the Americas, New York, NY, 10020. ARCHITECTURAL RECORD (ISSN0003-858X) published monthly, with additional issues in April and September by McGraw-Hill, Inc. Second-class postage paid at New York, NY and additional mailing offices. Postage paid at Windsor, Ontario, Canada. Registration Number 9617.

Postmaster: Please send address changes to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 2025, Mahopac, NY 10541. THIS ISSUE is published in national and sectional editions. Additional pages or separate editions numbered or allowed for as follows: Eastern Section 32Ea through 32Ef. Sunbelt Section 32Sa through 32Sf.



# Beauty that knows no barriers.



This new barrier-free cooler is one beautiful example of how Elkay is bringing coolers for the disabled out into the open.

It's stylish enough to belong in any public lobby. Yet sports the technology and features for which Elkay is known.

The Light Touch™ pressbar technology is an example. The wrap-around bar enhances the cooler's design aesthetics. Yet it makes drinking less difficult for many people, particularly the disabled, since it's easy to operate from any direction.

Just as importantly, the Light Touch technology helps reduce maintenance difficulties. It uses

simple mechanical levers instead of complex electronics. Like all our coolers, this new barrier-free design comes with the exclusive Flexi-Guard™ safety bubbler to help prevent accidental mouth injuries. And the cooler meets every known state and federal building code.

For more information about Elkay's new barrier-free cooler and the rest of our complete line of barrier-free coolers, contact your Elkay representative, or write Elkay Manufacturing Company, 2222 Camden Court, Oak Brook, IL 60521.

You'll find out why Elkay presents no barriers to beautiful designs.



© 1986 Elkay Manufacturing Company

## ELKAY®

*Where Great Ideas Flow.*





# Clear Advantage

*Profile™ Shower.* To get a shower into better shape, look for a better angle. The Profile Shower by Kohler. It gives a bath a spacious, modern look. A clear-cut solution because it can work as a one, two or three-sided shower, in a corner or against a single wall. Profile Shower's heavy tempered-glass doors come in a variety of sizes, with posts and receptor in decorator colors, and all-black gloss hardware. Versatile. Elegant. From all sides, the Profile Shower is a clear improvement.

THE BOLD LOOK  
OF **KOHLER**®

See your plumbing contractor, Kohler® distributor or write: Kohler Co., Dept.TBO, Kohler, WI 53044.

© 1988 by Kohler Co.

Circle 4 on inquiry card





Editor  
Mildred F. Schmertz, FAIA

Managing editor  
Carolyn De Witt Koenig

Executive editor  
Douglas Brenner

Editor-at-large  
Herbert L. Smith, Jr., FAIA

Senior editors  
Grace M. Anderson  
Margaret F. Gaskie  
Paul M. Sachner  
Charles K. Hoyt, AIA  
Darl Rastorfer  
Deborah K. Dietsch

Associate editors  
Karen D. Stein  
James S. Russell, AIA

Assistant editor  
Joan F. Blatterman, new products

Design director  
Alberto Bucchianeri  
Anna Egger-Schlesinger, senior associate  
Ariel Cuttrell, illustration  
Dyck Fledderus, illustration

Design consultant  
Massimo Vignelli

Editorial production manager  
Annette K. Netburn

Editorial consultants  
George A. Christie, Jr.  
Nathan Barnett, FAIA, AICP

McGraw-Hill World News  
Peter Gall, director

Group circulation director  
Richard H. Di Vecchio

Circulation manager  
Phyllis Josselson

Director of business  
Production  
Joseph E. Wunk

Director of marketing  
William H. Padula

Assistant to publisher  
Catherine Hayman

Associate publisher  
Roe C. Smith III

Publisher  
R. Meredith

Correspondence and submissions of work for publication may be addressed to any of the editors listed below, though the editors listed below have a special responsibility for the subject areas named:

Deborah K. Dietsch, houses  
Karen D. Stein, interior design  
James S. Russell, design news and competitions  
Charles K. Hoyt, business  
Darl Rastorfer, engineering  
Joan F. Blatterman, new products and product literature

## Business

News, 35

Legal perspectives: Who should decide client-contractor disputes?, 37

Construction finance: Strains threaten economic expansion, 39

Construction costs: Should we say inflation?, 41

## Design

News, 53

Design awards/competitions, 66

Observations/books, 71

Phyllis Lambert: Peripatetic heroine of architecture, 73

In this issue, 81

**Summit Green, Greensboro, North Carolina, 82**

*Gwathmey Siegel & Associates, Architects*

**Five projects, 88**

*Antoine Predock, Architect*

**Two museum exhibits for children, 98**

*Architects design to teach art and architecture*

**Building Types Study 659: Industrial buildings, 104**

Talbots Distribution Center, Lakeville, Massachusetts, 106

*Symmes Maini & McKee Associates, Inc., Architects and Engineers*

City of Edmond Water Treatment Plant, Arcadia, Oklahoma, 108

*HTB Inc., Architects and Engineers*

Technical Center, Franklin Township, New Jersey, 112

*Beckhard Richlan/Brandt-Kubida, Joint Venture Architects*

**Michelin House, London, 114**

*Conran Roche and YRM Architects & Planners*

**National Gallery of Canada, Ottawa, Ontario, 120**

*Moshe Safdie, Design Architect*

*Parkin/Safdie, Architects and Planners*

## Engineering

**A flexible approach to fire-code compliance, 130**

*By Clifford S. Harvey*

**New products, 140, 143**

**Computers: Technology, 145**

Software reviews for architects, by *Steven S. Ross*

Letters/calendar, 4

Product literature, 152

Manufacturer sources, 167

Classified advertising, 174

Advertising index, 188

Reader service card, 191

Cover:

*National Gallery of Canada, Ottawa, Ontario*

*Moshe Safdie, Design Architect*

*Parkin/Safdie, Architects and Planners*

*Photographer: ©Timothy Hursley*



# — *Logix* —

It works...

An expansive modular seating system that works in public areas... without great expense.

- Interchangeable seating, table, planter, waste receptacle and display case components.
- Available in a wide array of sizes and shapes.
- Colorful standard or custom finishes and upholstery.

Put Logix to work for you. Call KI at 414/468-8100 or write KI at P.O. Box 8100, Green Bay, WI 54308-8100 for brochures.

**Circle 5 on inquiry card**

**KI**

*The Contract Furniture division of Krueger International*



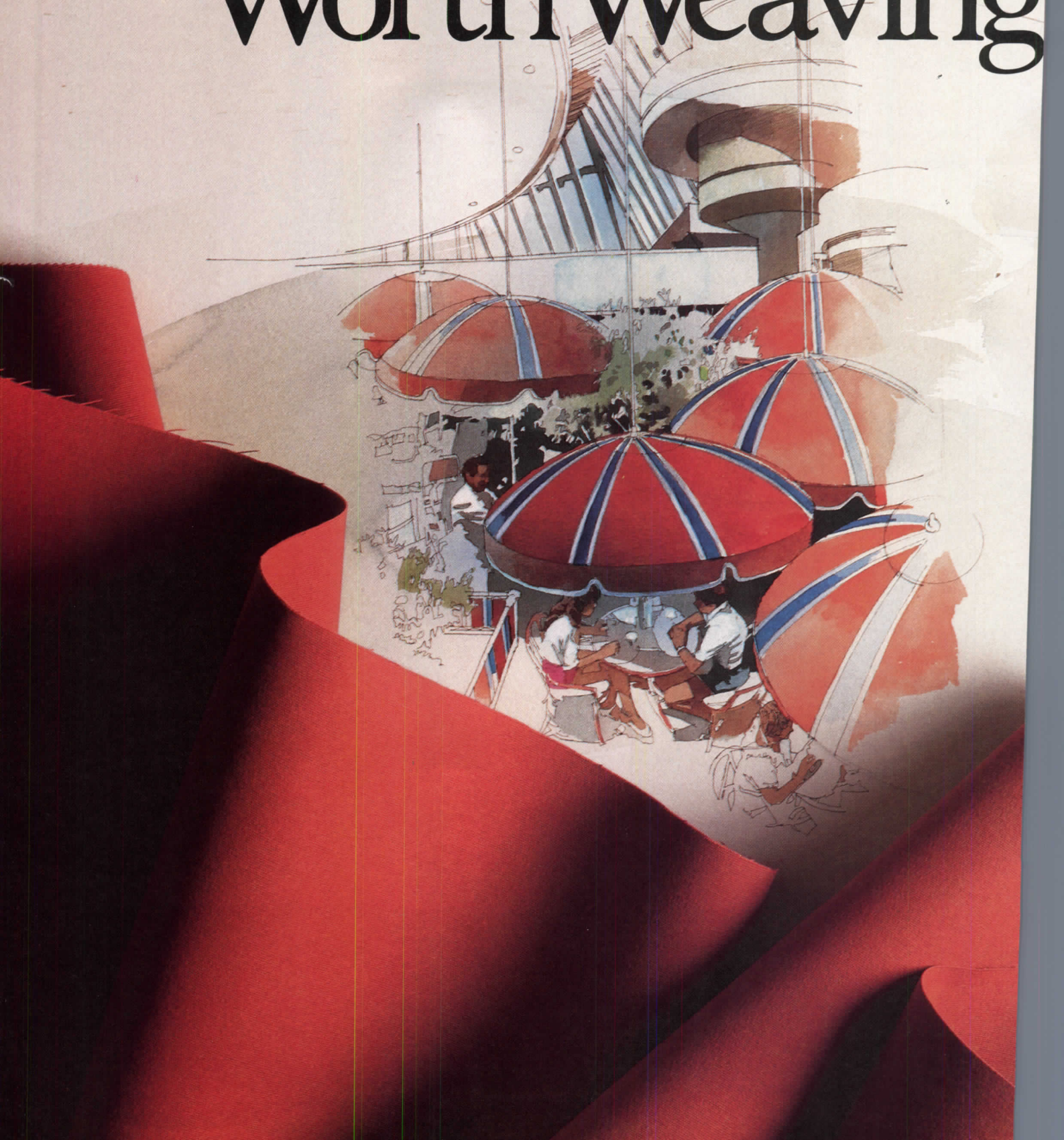


g/Science Library Center,  
of New Mexico,  
e, New Mexico

Interior Designers:  
ger and Associates, Incorporated  
e, New Mexico



# At Last An Indoor Worth Weaving





# Outdoor Fabric into Your Designs.



## It's The First Flame-Retardant Canvas You Can Warm Up To.

Inside and out, there's nothing like awnings and decorative fabric treatments to interest to commercial settings. The only problem is finding fabric that can measure up to your expectations as well as it does to fire codes. That's because most flame-retardant materials are coated with finishes or made out of vinyl, making them shiny or stiff or both. Which is why Sunbrella Firesist® is such a breakthrough for designers.

Our material is woven entirely from self-extinguishing fibers — woven so it has the look and feel of traditional canvas. And yet its fibers are made of color-pigmented modacrylic. So they last much longer than any duck or cotton. And they provide rich, saturated hues, too. Hues that are colorfast so they can't be faded or washed out.

In addition, Sunbrella Firesist won't crack, peel, harden, mildew or rot. And it's highly soil resistant. In fact, we're so sure Sunbrella Firesist will live up to these promises, it comes with a 5-year limited warranty. And it has another advantage, too: It's highly breathable, making it very energy efficient.

Of course, Sunbrella Firesist meets the toughest codes like the requirements of the National Fire Protection Association and the California Fire Marshal's test. Which means you can specify canvas treatments such as awnings, canopies or decorative panels just about anywhere. And finally get the results you want. So find out about our wide selection of solids and patterns. Contact your local fabricator or Glen Raven

Mills, Inc., Glen Raven, NC 27215,

919/227-6211. \*Sunbrella Firesist is a registered trademark of Glen Raven Mills, Inc. \*SEF-PLUS is a registered trademark of Monsanto Chemical Company.



## Sunbrella Firesist®

Circle 7 on inquiry card





**Versatility  
you never  
thought  
possible  
with  
exterior  
insulation  
systems.**

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

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

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



**STO INDUSTRIES, INC.**  
Quality Lane, Box 219  
Rutland, VT 05701  
Toll Free: (800) 851-5533

A subsidiary of STO Corp.,  
the Systems Technology Organization



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

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

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









# Now, Pella doubles your choice of window colors.

**Pella® introduces Tan and Gray colors to their standard brown and white offerings to meet your need for greater design flexibility.**

You've always listened to what features architects and designers want in windows and doors. Today, owners are demanding a greater color selection. That's why we're offering new tan and gray clad finishes with an accelerated availability—to complement our already popular standard white and brown clad colors.

## Don't color your thinking.

These are the same high quality structural finishes for which Pella Custom Clad Colors are famous. They're baked-on, electrostatically-applied finishes that protect off the many ills that windows are heir to: fading, chipping, cracking, peeling, blistering, and chalking. Not to mention their resistance to the corrosive action of acid rain, salt spray, airborne pollutants, and corrosive chemicals. All in compliance with AAMA spec 603.8—assurances that these windows will endure and endure.

## Accept no limitations.

Of course, we still offer dozens of Pella Custom Clad Colors. If you have a specific color in mind, we'll match most any sample. But even on these custom orders you'll marvel at our fast turnaround time.

You can obtain information on these new colors and free samples from your Pella distributor. Look in your Yellow Pages under "Windows", call Sweet's BUYLINE or consult Sweet's General Building File. Or send us the coupon below.

## Bring your designs to Pella.

Please send me the current literature on new Pella Clad Colors.

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

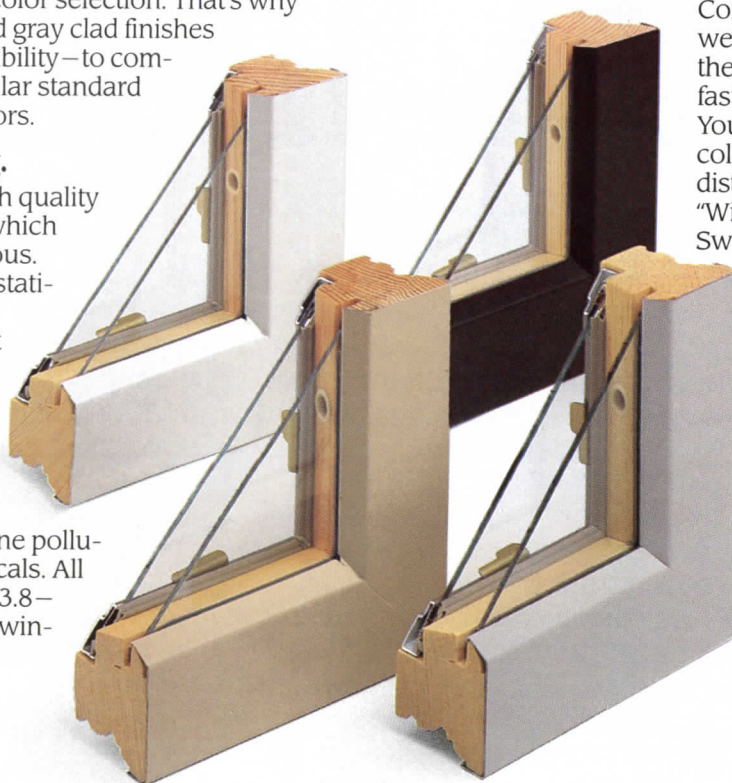
Telephone \_\_\_\_\_

Pella Windows and Doors, Commercial Division

Dept. T31J8, 100 Main Street, Pella, Iowa 50219

Also available throughout Canada.

© 1988 Rolscreen Company



Circle 10 on inquiry card







# A BAD ROOF CAN BE THE RUIN OF A GREAT IDEA.

Consider the Parthenon. Then imagine its beauty today if the roof had stood the test of time.

## HOW HYPALON\* HELPS PUT YOUR BRIGHT IDEAS ON TOP.

With roofing systems based on HYPALON® synthetic rubber, imaginative colors and inventive design can make the roof an integral part of your architectural statement. Roofing systems based on HYPALON are easy to install, even over complex shapes. They're simply unrolled, secured in place, and heat or solvent welded—all at competitive installed costs. And even when systems are fully cured, additions and repairs are easy to do.

## WHY NOTHING UNDER THE SUN—OR RAIN— IS BETTER THAN HYPALON.

With HYPALON, design versatility does not diminish roofing integrity. The sunlight that can weaken other roofs actually strengthens roofing systems based on HYPALON. When installed, these roofing systems exhibit high strength and flexibility—and resist attack from snow, ozone, acid rain, corrosive chemicals and temperature extremes.

Also, the chlorine in the molecular makeup of HYPALON gives these roofing systems a flame propagation resistance that can qualify them for UL Class A and FM Class 1 fire ratings.

## SPECIFY HYPALON AND PROTECT YOUR CLIENTS' MONUMENTAL INVESTMENTS

For over 20 years, HYPALON synthetic rubber for single-ply roofing systems has been proving itself in hundreds of installations throughout the world. To give yourself and your clients the security and value of a long-lasting roof, specify roofing systems based on HYPALON. To learn more just call 1-800-441-7111.

\*Du Pont's registered trademark for its synthetic rubber. Du Pont manufactures HYPALON, not single-ply roofing membrane systems.

**DU PONT HYPALON®  
A MATTER OF TOP SECURITY**



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

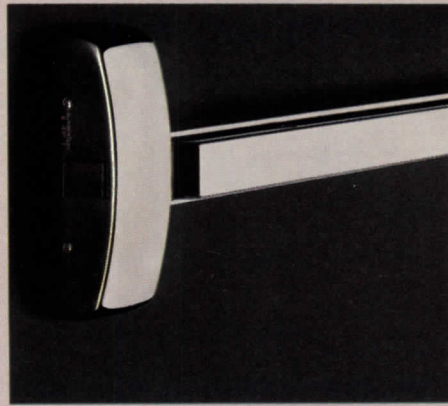
Circle 11 on inquiry card



## Design and performance. Hardware classics by Sargent.

This is what you're looking for in exit hardware: timeless design and exacting craftsmanship. Complete security. Reliable, long-lived performance. Backed by responsive service and on-time delivery.

For enduring qualities in exit devices, locks and door closers, choose the complete Sargent line. And get classic architectural hardware.



# SARGENT

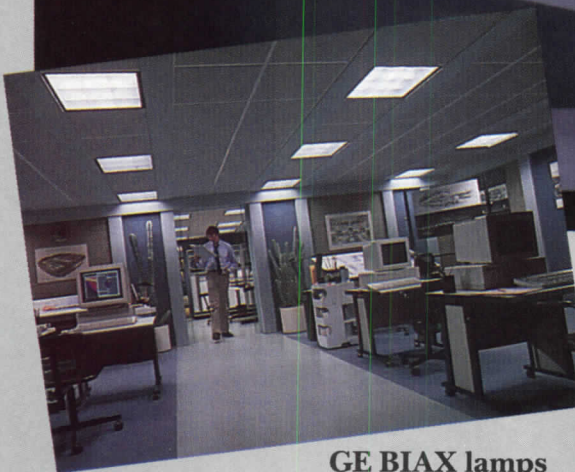
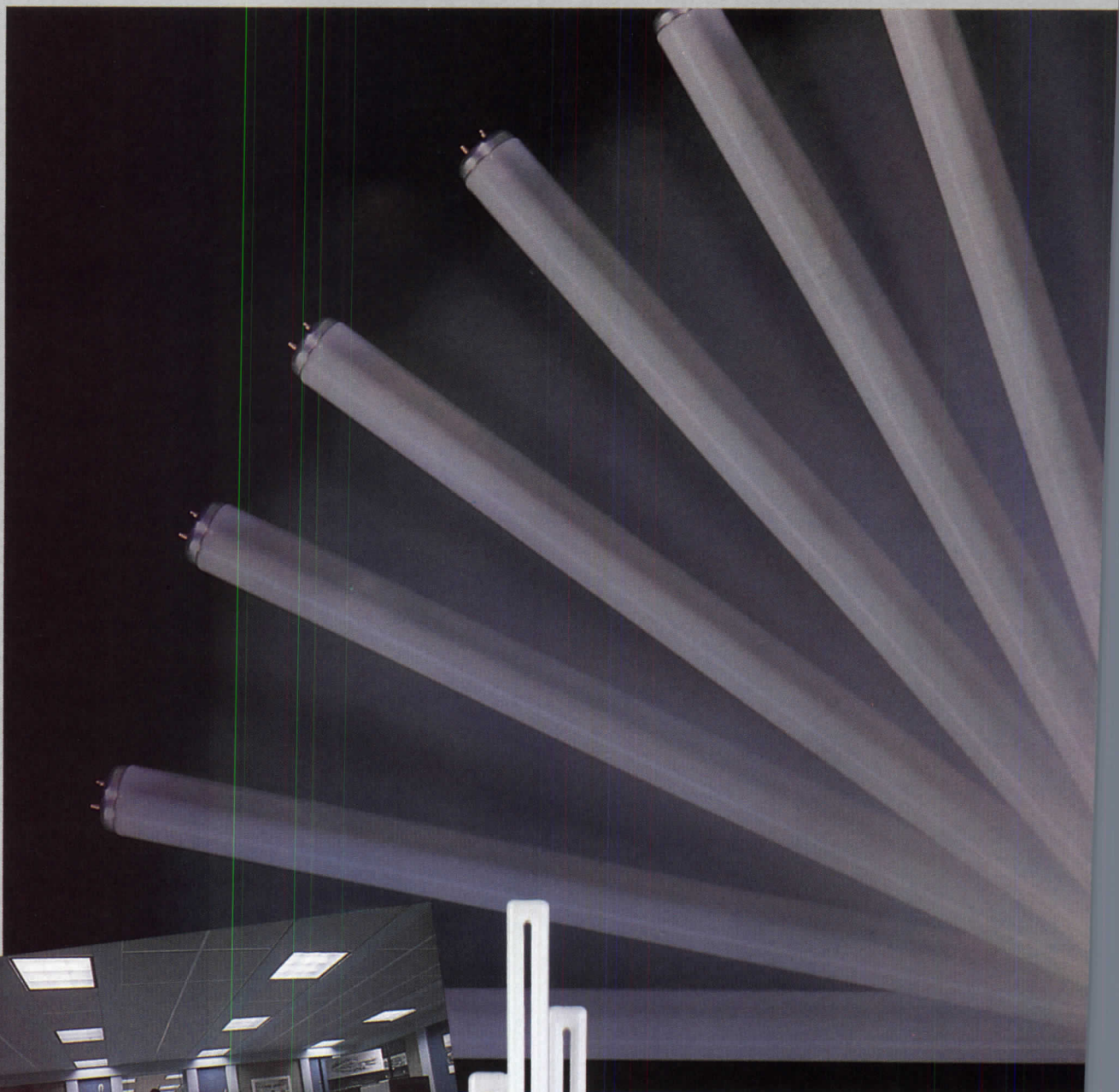
**ESSEX**  
INDUSTRIES INC.

Sargent, New Haven, Connecticut 06511  
Sargent of Canada Ltd.

Circle 12 on inquiry card



# GE IS THE LIGHT THAT WILL RESHAPE THE WAY



**GE BIAX lamps  
make everybody and everything,  
including operating costs, look better.**



It won't take you long to discover that with GE BIAX™ 40-watt lamps, the design possibilities are endless.

Because they're only 22.5 inches long, they deliver all the light of standard four-foot fluorescents, you can design with smaller fixtures. And that means more attractive ceilings.

And because BIAX lamps make colors richer and more vibrant than standard fluorescents,



# YOU DESIGN LIGHTING.



can, the lighting you design will make the environment and the people who work in it attractive.

ally attractive is the amount your clients save on operating costs. GE BIAX 40-watt lamps you see, last up to 8,000 hours longer than conventional U-shaped tubes. And 13 times longer than incandescents. Let your imagination on the endless pos-

sibilities of the GE BIAX family of lamps.

For more product or application information, call your local GE Specification Area Manager. Or call the GE Lighting Information Center at 1-800-523-5520.

**GE is Light.**



**GE Lighting**



# EUROPEAN DESIGN HAS FOUND ITS PLACE I

Our remarkable new line of Hostess™ kitchen sinks gives you the best of both continents.

Designed and crafted in Europe, these sinks have sleek, elegant curves made of the finest fire-clay ceramic for the look and feel of luxurious china.

And their design features reflect the sophistication of American lifestyles. With contoured shapes, custom-fitted utility baskets and optional cutting boards that offer more room for creativity.

In addition, all four distinctive models are available exclusively in Champagne or Pearl White.

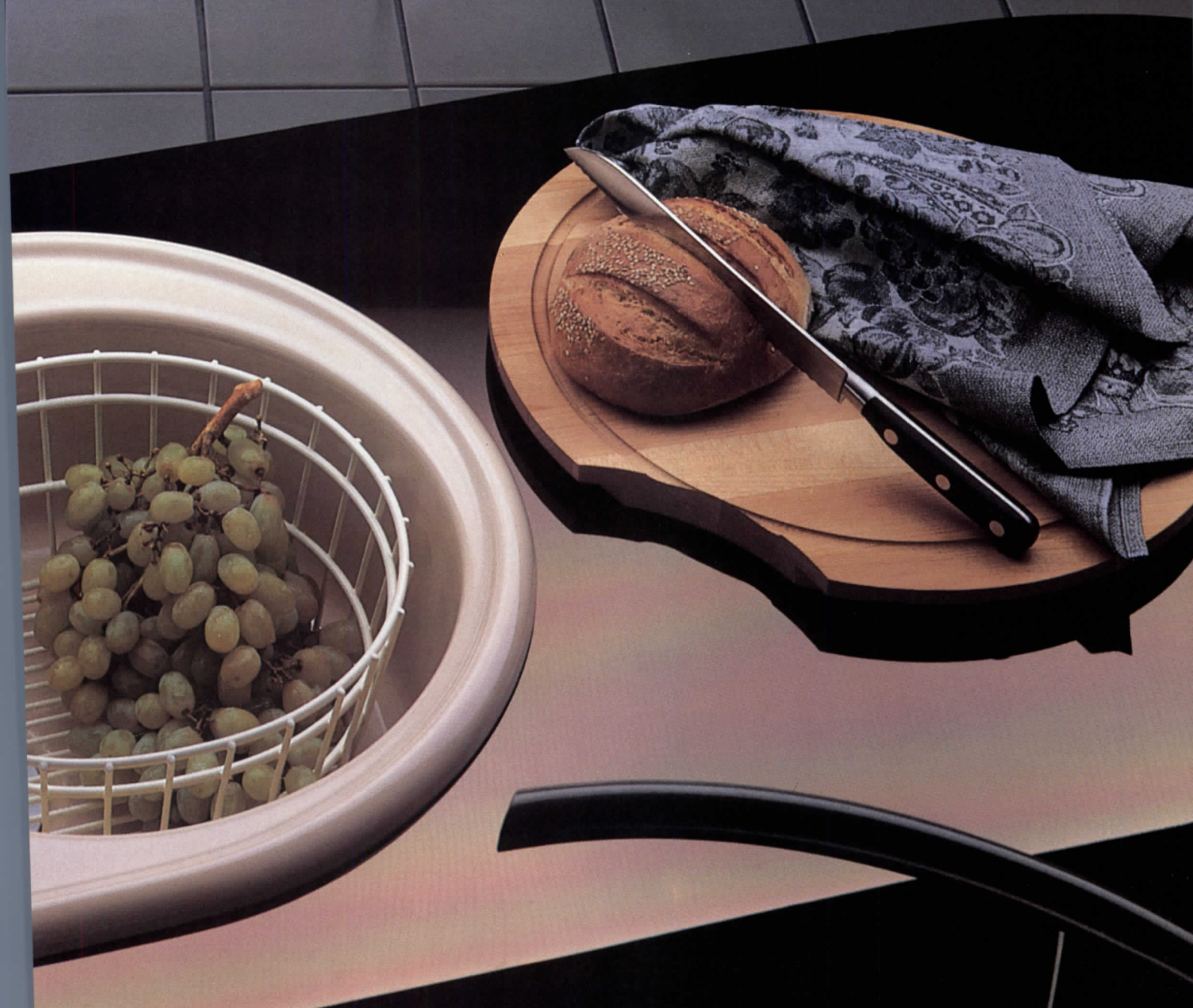
The American Standard Hostess kitchen sinks. Where European design and American ingenuity come together.

To find out how successful our Hostess sinks can be for you, see your local American Standard wholesaler or call 1-800-821-7700 (ext. 4023) for your local showroom.

For our Luxury Products Brochure, write to American Standard, PO Box 6820, Piscataway, NJ 08855-6820.



THE AMERICAN KITCHEN.



*American  
Standard*

PURE LUXURY

Visit our Showplaces: Chicago (Ill Crossroads of Commerce, Suite 100, Rolling Meadows) 312-506-0800; Dallas (12344 Inwood Rd.) 214-991-0841;  
Los Angeles (116 N. Robertson Blvd.) 213-657-7600; New York (40 W. 40th St.) 212-703-5484; Pittsburgh (100 Ross St.) 412-471-8200.

Circle 14 on inquiry card





## Stage presence.

Two years ago, Dave Jenkins, seating design manager for Stow & Davis, needed a design for a new chair. One that would show a high degree of craftsmanship, and make a unique statement.

So, while in New York for Designer's Week on Saturday, Dave called the most unique person he knew—Calvin Morgan.

Former professor of literature, drama, and theater design. Rebuilder and director of Juilliard's stage department. Internationally acclaimed set designer. Master woodworker. Now doing commercial and residential interiors as well as furniture.





Calvin, are you working on anything interesting?" Dave asked.

They got together for lunch at Calvin's house in the Dakota. Calvin showed Dave the Acanthus<sup>TM</sup> prototypes, and told him this story:

I reached an impasse, struggling with the idea of a square chair. One day I loved the look of the flat-sided chaise longue. But the back kept ending in a square, and a square-backed chair wouldn't sit. Then I remembered Leonardo's drawing of a man standing in a square circle. I started working with wire, plaster, and foam, and at

3 A.M. the chair came out as if I'd discovered it, not created it. And once the chair arrived, the table concept evolved. Sometimes art seems to be pre-existent, and the artist the lightning rod who finds the means to express it."

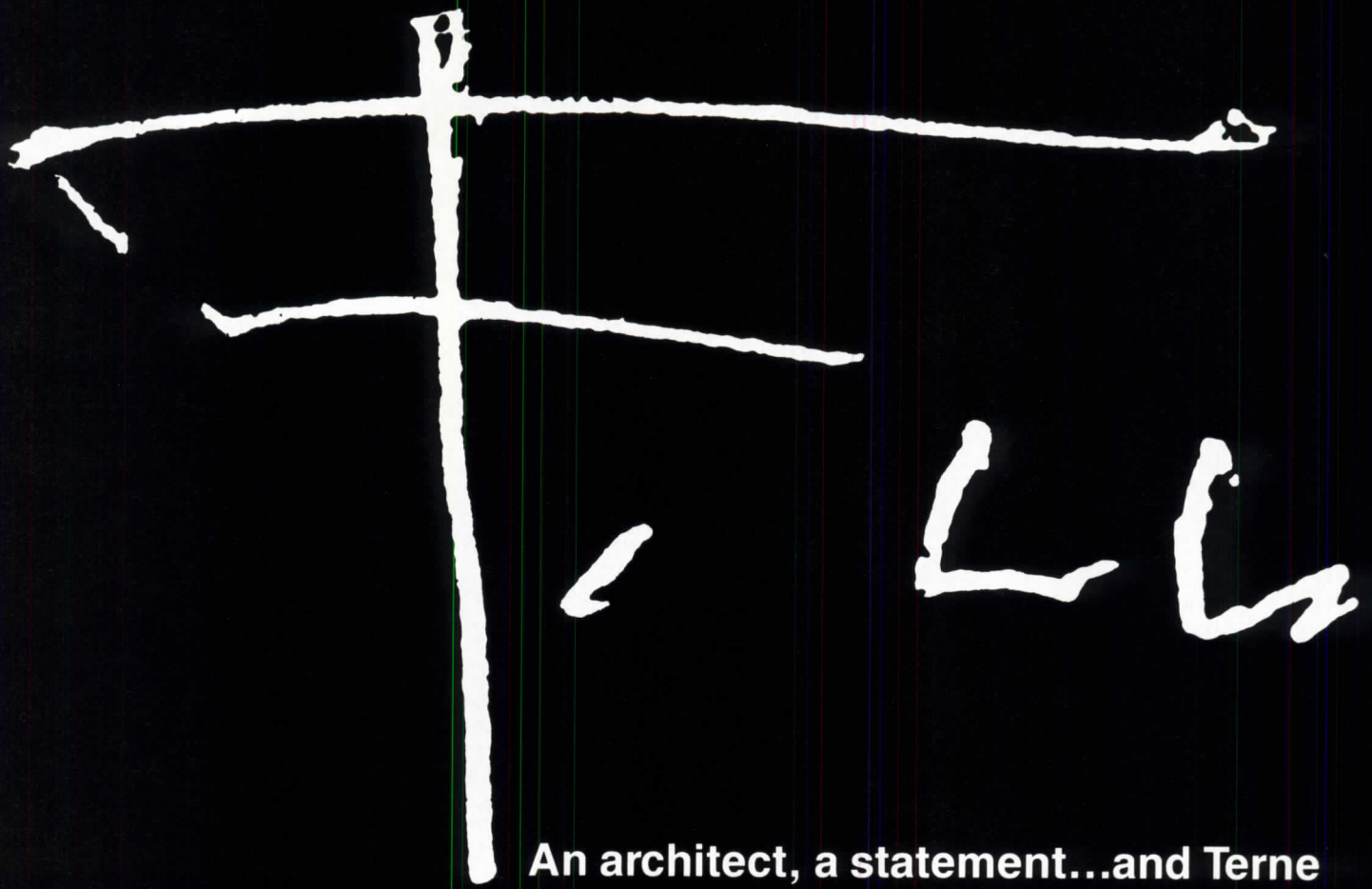
The Acanthus collection. A chair, and a table in three sizes. As much craftsmanship as anyone can manufacture. Something to behold.

## Stow & Davis

A Division of Steelcase Inc.  
The Office Environment Company™

For more information, call 1-800-333-9939





An architect, a statement...and Terne





FRANK LLOYD WRIGHT

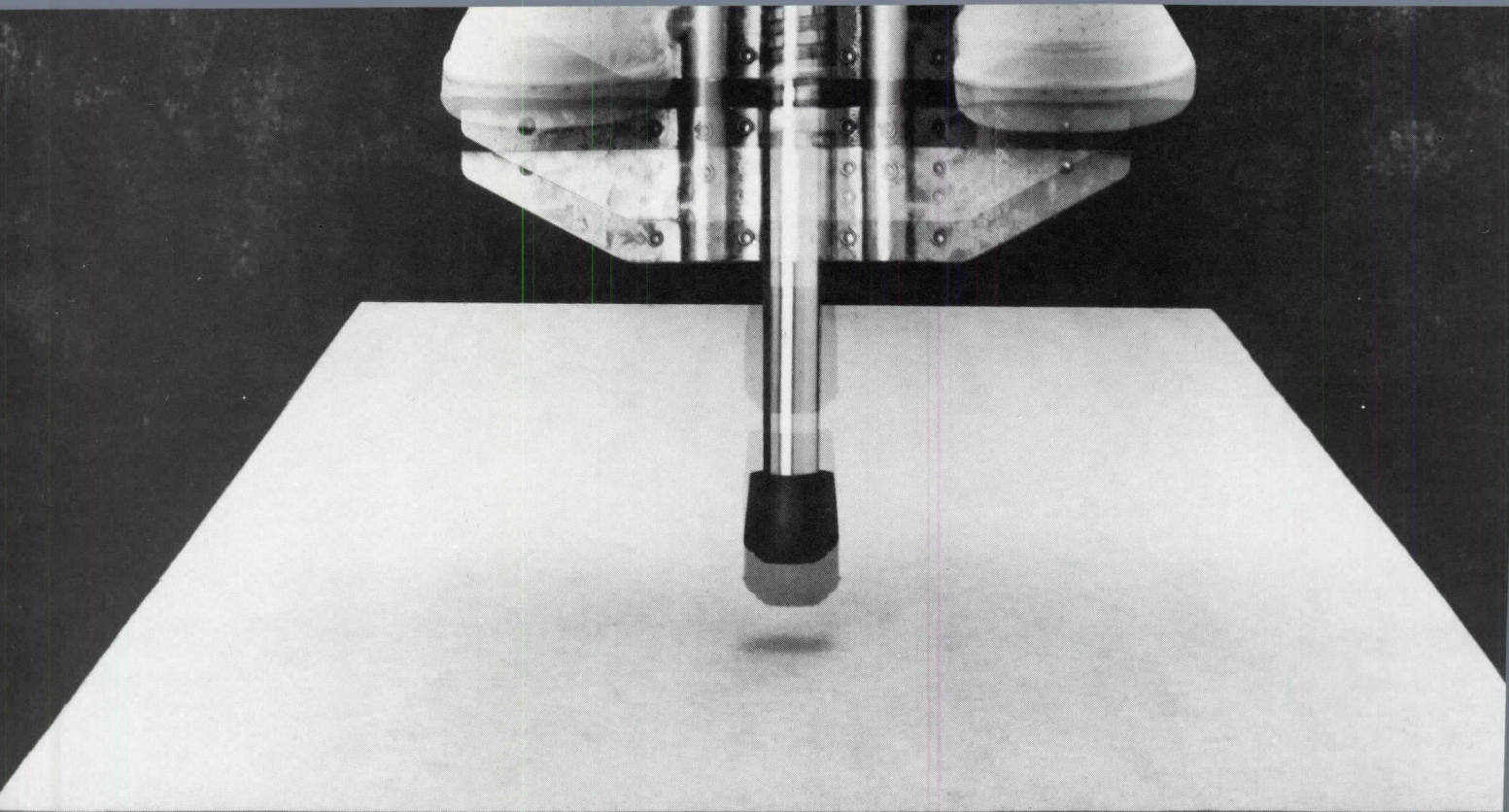
area to become a significant part of structural design. Thus by re-discovering and re-interpreting a time-tested material, we make out of the very old the very new. I have furthermore found terne superior to other roofing metals in economy, color-adherence, heat-reflection, permanence, workability, and low coefficient of expansion." Frank Lloyd Wright

"Imaginative new conceptions in architecture can frequently trace their origin to a basically simple idea. One of the oldest types of roofing, terne metal, thus lends itself to many dramatic new applications in the contemporary idiom. Because of its inherent adaptability in both form and color, Follansbee Terne permits the visible roof

**FOLLANSBEE STEEL • FOLLANSBEE, WEST VIRGINIA**

Circle 16 on inquiry card





# We're jumping up and down over impact noise reduction.

Actually, we've been pounding away at the subject of noise reduction for about eighty years. That's why our 440 CarpetBoard is the sound solution to the problem.

Easily applied over ordinary plywood or concrete, 440 CarpetBoard provides a resilient, sound-deadening layer between floors. More sound isolating than plywood alone. It's been proven an effective part of the flooring system for carpet, tile, wood parquet or hardwood strip flooring in thousands of applications—residential, commercial and institutional.

Homasote 440 CarpetBoard virtually assures you a higher STC for a quieter structure.

SOUND PERFORMANCE WITH 440 CARPETBOARD	
APPLICATION	ACOUSTIC RATING WITH 440 CARPETBOARD
FLOORING SYSTEM OVER CONCRETE SLAB	IIC 70 STC 49
WOOD SUBFLOOR/CEILING ASSEMBLY	IIC 65 STC 48

Tested in accordance with ISO-R140 and HUD Guide to Airborne, Impact and Structure Borne Noise Control in Multi-Family Dwellings. Actual test data is available.

When you specify it, you'll end up with a unique selling feature and happy clients. Which is something to jump up and down about.

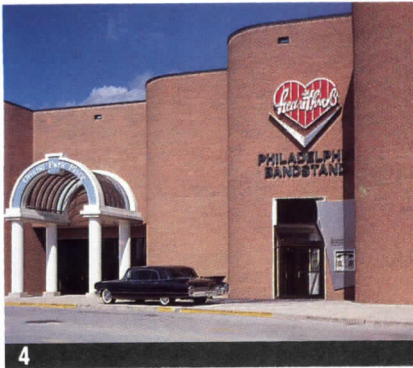
Whenever you have a problem with noise—impact or otherwise—Homasote has the answer you can build on. For a free sample Homasote 440 CarpetBoard, technical specifications and application details, call our toll free number: **1-800-257-9491, Ext. 88**

**homasote** *Company*  
We're here by design.

Write: 440 CarpetBoard, Box 7240, Trenton, NJ 08628-0000

# Homasote 440 CarpetBoard





4



5



6



3



2



1

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

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

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

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

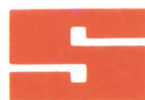
The next time you consider specifying a substitute, think about these six buildings. Then specify Sloan. The first time.

***Another***  
**six reasons**  
**to specify**  
**Sloan...**

**the first**  
**time.**



1. Valley Forge Park Place, King of Prussia, PA 2. Virginia Mason Hospital, Seattle, WA 3. Swedish Hospital, Seattle, WA 4. Heartthrob Cafe, Orland Park, IL 5. Spruance Hall, Embry Riddle University, Daytona Beach, FL 6. Foster Plaza Building No. 6, Pittsburgh, PA



**SLOAN VALVE COMPANY**

10500 Seymour Avenue, Franklin Park, IL 60131

*A Tradition of Quality and Pride*



**WE MAKE WINDOWS WHERE MONEY'S NO OBJECT.**





## AND WHERE MONEY'S PRECISELY THE POINT.



Over the years, we here at Marvin have built something of a reputation for ourselves. We've become the company to call when the plans call for a dazzling, one-of-a-kind masterpiece.

But there's another side to Marvin. A more practical, down-to-earth side. In addition to difficult, one-of-a-kind windows, we make the industry's broadest and most versatile line of standard shapes and sizes.

As a result, you can probably maintain the basic integrity of your design at practically any budget level.

You see, we make windows to order. Which means you can specify the features you want us to build in. And you can specify the features you want us to leave out.

For more information call 1-800-346-5128 (in Minnesota, 1-800-552-1167; in Canada, 1-800-263-6161) or write, Marvin Windows, Warroad, MN 56763.

Sometimes money's no object. Sometimes money's precisely the point. Which is precisely why Marvin Windows are always a smart choice.

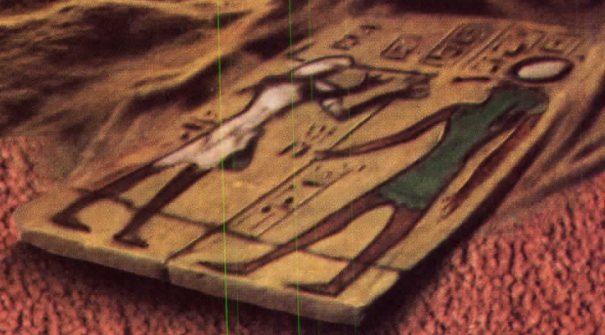
**MARVIN WINDOWS  
ARE MADE TO ORDER.**



Circle 19 on inquiry card



D U P O N T





A N T R O N<sup>®</sup>



## ONLY CARPETS OF ANTRON PRECEDENT<sup>®</sup> SURVIVE THIS BEAUTIFULLY.

Good looks that last longer. Antron Precedent<sup>®</sup> DuPont. Antron Precedent<sup>®</sup> has superior soil resistance along with unsurpassed texture retention, so it retains its new look up to two times longer than most commercial carpet. When you specify contract carpet, make sure you specify Antron Precedent<sup>®</sup>, and enjoy a carpet

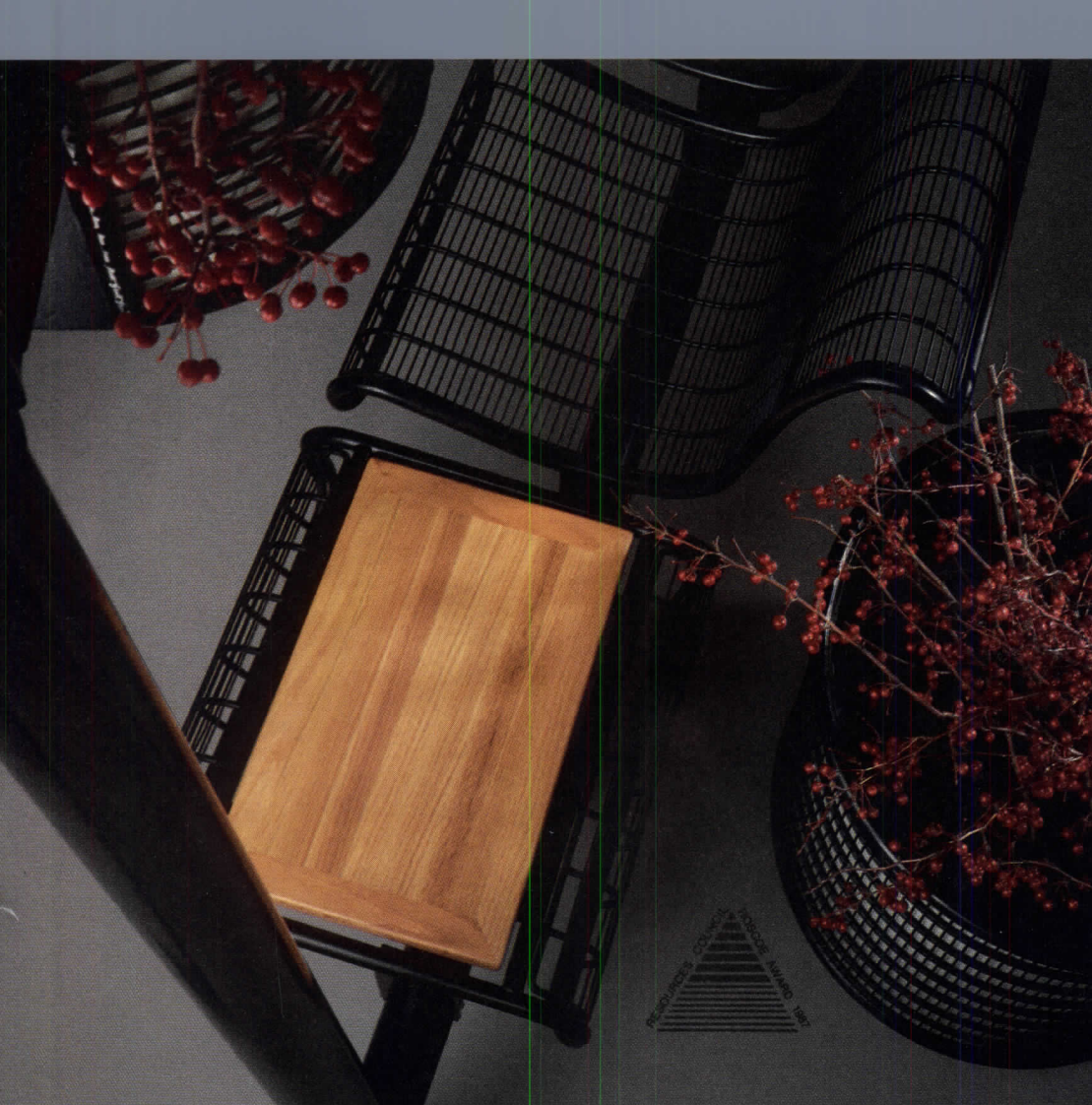
whose beauty will stand the test of time. Find out more about Antron Precedent<sup>®</sup> in the DuPont Antron Specifiers Guide. For your free copy, call 1-800-448-9835.

**THE ANSWERS COME EASY WITH ANTRON:**



Circle 20 on inquiry card





## LANDSCAPE FORMS

The Plexus™ Collection is strong and comfortable, graceful and durable. The design and construction make it ideal for interior applications and it transitions easily to exterior environments as well. Complete Plexus Collection specifications upon request.

LFI/Landscape Forms  
431 Lawndale Avenue  
Kalamazoo, MI 49001  
616/381-0396  
800/521-2546  
616/381-3455 FAX

THE PUBLIC SPACE  
FURNITURE COMPANY

Circle 21 on inquiry card

# LEARN THE FACTS!

## Beware of misleading fire rating data

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

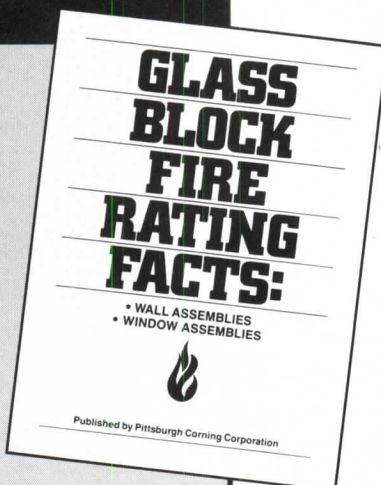
Get the facts before you specify any glass block for fire-rated applications!

All UL fire-rated glass block on the market are tested in accordance with UL9, "Fire Test of Window Assemblies," for a 45-minute period in openings not to exceed 120 ft<sup>2</sup> in area.

All national building code bodies recognize nothing longer.

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

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



Circle 22 on inquiry card

## How many ways to use cedar shingles? How many trees in a forest?



The possibilities are as infinite as your own imagination. Because the enduring beauty of red cedar shakes and shingles adds striking warmth to any design you create.

To learn why red cedar shingles and shakes are such an excellent architectural solution, send for your free copy of our Architect's Cedar Library. It offers everything you need to know about cedar shake and shingles.



These labels on the bundles of Red Cedar shingles and shakes are your guarantee of Bureau-graded quality. Insist on them.

## Red Cedar Shingle Handsplit Shake B

The recognized  
Suite 275, 515-116th Ave. NE, Bellevue

Circle 23 on inquiry card





# DISCOVER NEW MARBLE AND GRANITE THIN TILES

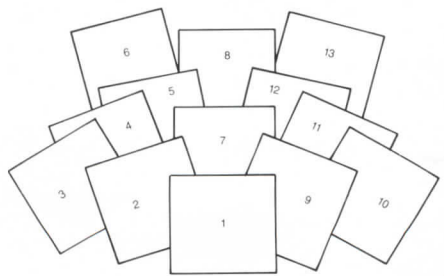
IGM continues to add new varieties of different colored Marble and Granite to its already extensive selection. Thin Tiles are a high quality, economical and convenient product for residential and commercial applications.

Available in more than 80 varieties of color, Thin Tiles have excellent flatness and tight sizing. Standardized measurements allows quick and easy installation. Packed in polystyrene cases for easy shipping, storing and handling, Thin Tiles increase profitability by lowering the cost of purchasing, transportation and installation.

FINISHING: Marble — Polished or honed.  
Granite — Polished, honed or flamed.

SIZES:  $\frac{3}{8}$ " Thin and  $\frac{1}{2}$ " Thin in Sizes 12" x 12", 12" x 24", 18" x 18", 24" x 24".

Marble and Granite Thin Tiles are in stock at the six IGM distribution centers and at independent distributors across the country. Special orders on request.



1. Serpeggiante
2. Crystalline Rose
3. Tunas Green
4. Juparano Rose
5. Itasul Brown
6. Rosso Levanto
7. Calacata Golden Vein
8. New Imperial Red
9. Aqua Blue
10. Hematite
11. Mondariz
12. Violetta
13. Ochavo



**North Bergen**  
(Corporate Headquarters)  
2038-83 St.  
North Bergen, N.J. 07047  
Phone: 201-869-5200  
N.Y. 212-697-7230  
Watts 800-446-2677  
Telex 125868 Fax 201-869-9403

**Baltimore**  
2020 Lord Baltimore Drive  
Baltimore, Md. 21207  
Phone: 301-265-6770  
Fax: 301-265-6225

**Atlanta**  
590 Travis St.  
PO Box 93286  
Atlanta, Ga. 30318  
Phone: 404-681-3715  
Fax: 404-524-8608

**Hialeah**  
885 W. 18 St.  
PO Box 911  
Hialeah, Fl. 33010  
Phone: 305-885-2718  
Fax: 305-888-3084

**Chicago**  
1400 Nicholas Boulevard  
Elk Grove Village, Il. 60007  
Phone: 312-593-7560  
Fax: 312-593-7904

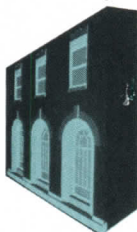
**Houston**  
1118-A Pleasantville Drive  
Houston, Tx. 77213  
Phone: 713-675-9140  
Fax: 713-675-1620



# YOUR Automation EDGE

## The Reason You Must Attend

Whether you design, engineer, manage or build, you need the right automation tools to maintain your competitive edge.



computer-aided

The AEC EXPO Show helps power your business with new technologies in graphics & marketing, business management, maintenance & operations, system integration, and more.

*New For 1988...*

- **Enhancement Center For AutoCAD\* Users**

- **Microstation Mall Featuring Intergraph Plus 25 Developers**

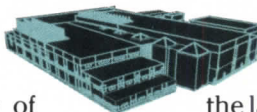
**Call 800-873-EXPO**  
(9 to 5 EST)

It's not just CAD. It's *everything* you need to build your automation edge. Interact with the experts during three days "Super Sessions." They'll tell you how to



your automation of **Conference** use and inte-

grate the latest AEC technologies. Get super-practical advice. Debate current trends with your peers. Discover proven-successful strategies for implementing ideas that work—right away... ideas like high-tech marketing, advanced 3-D CAD, total business management, and networking. **Free Show Tickets & Product Catalog**



**Product Catalog**

Call for free show tickets, conference

programs, and a preview of the latest automation systems. Just a glimpse of the thousands of automation solutions you'll find when you attend the AEC EXPO.

**1988**  
The Show & Conference  
for Architects & Engineers

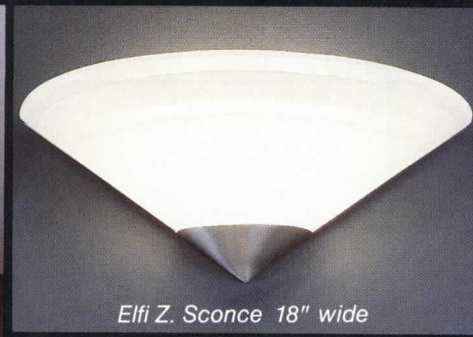
**AEC  
EXPO**

**Javits Convention Center · New York City · December 6-8, 1988**





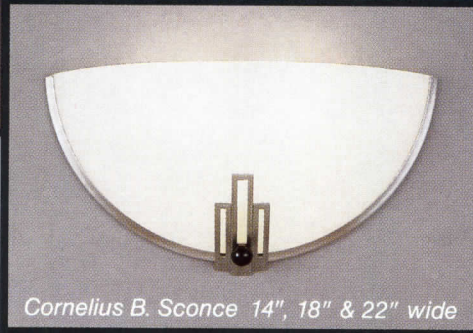
Tom Squares Uplight 17" & 22" wide



Elfi Z. Sconce 18" wide



Beetle Sconce 20" wide



Cornelius B. Sconce 14", 18" & 22" wide



Sandy's Favorite Sconce 14", 18" & 22" wide



Ulysses Uplight 26" wide



Winston Uplight 22", 32" & 48" wide



Alexandra Uplight 17" & 22" wide

**Because the  
Details Make  
the Difference.**

"Details are everything." It's what we believe in and it's why our customers believe in us.

Designed by architect Sandy Littman, the new American Glass Light collections uniquely combine fine detailing with glamorous and classic composition. All fixtures are manufactured to the highest technical standards and most are available in fluorescent.

All of our fixtures are UL listed. Some are even available in up to 3 foot and 4 foot widths.

Using only the finest materials, our products are executed by our own team of engineers and manufactured in our own factories—here in America.

Call for our new and complete catalog, or for an appointment to visit our showroom.

Custom projects are welcome.



**A Littman Group Company**

Circle 26 on inquiry card

SHOWROOM: 49 West 27th Street, New York, New York 10001 (212) 213-1200



## FREE ADMISSION!

Save \$5! Preregister NOW for the 1st Annual

# Mid-Atlantic Construction Expo & Conference

FREE ADMISSION ONLY IF YOU PREREGISTER BY NOVEMBER 1. AFTER NOVEMBER 1, BRING THIS AD TO SAVE \$5.

**AVOID LONG LINES!**  
**SAVE \$5!**  
 MAIL IN BY NOVEMBER 1 FOR  
**FREE ADMISSION TO EXHIBITS.**  
 On-Site Registration with this Ad. or a  
 Photocopy is \$5. Price without Ad or Pass is \$10.

# THE BIG '88 SHOW

**NOVEMBER 16-18, 1988**  
**PHILADELPHIA CIVIC CENTER**

- Over 400 Exhibits of Construction Materials, Equipment & Services
- DesignWorld Interiors Pavilion
- Construction Equipment & Trucks, Concrete, Masonry, Doors, Windows, HVAC, Metals, Pools, Finishes, CADD, Associations, Publications & Much More!
- 30-Session Conference & Workshops
- COM-STRUCT '88 Computers & Software Sponsored by *Architectural Record*
- F.W. Dodge/Dataline WorkMatch Center™ Free Job Leads from the *Dodge Reports*



### SPONSORED BY

The Blue Book  
 Contractors Register,  
 The Mid-Atlantic's #1  
 Construction Industry  
 Source Book.



and

**gbca**

General Building  
 Contractors Association



The Contractors Association  
 of Eastern Pennsylvania



Associated General  
 Contractors

### ■ BIG SHOW BONUS!!

Sign-up to qualify for a FREE copy of the 2,000-page Contractors Register.

PHOTOCOPIES ACCEPTED • SAVE \$5! MAIL BY NOVEMBER 1

**FREE ADMISSION COUPON.** Avoid long lines! Save \$5! Mail by November 1 to register for FREE Exhibits Admission - you will receive a badge in the mail good for all three days. After November 1, bring this coupon, or a photocopy, to the show entrance; **price for exhibits admission with this coupon at site is \$5. (Price without coupon or pass is \$10.)**

### FREE ADMISSION EXHIBITS ONLY

(Preregister by Nov. 1 - Save \$5)

# VIP

### EXHIBIT HOURS

Wednesday, November 16  
 12 noon - 9 p.m.

Thursday, November 17  
 12 noon - 9 p.m.

Friday, November 18  
 12 noon - 5 p.m.

**ATTENDEE INFORMATION** (Use photocopies for multiple registrations) Mail coupon to: Slater Expositions, 1502 Providence Highway, Norwood, MA 02062-4620. For more information call 215-222-1119.

PLEASE PRINT CLEARLY.

Name \_\_\_\_\_

Title/Function \_\_\_\_\_

Company \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone (required) ( \_\_\_\_\_ )

Area code

Check box for more information on:  Conference  Hotel/Travel  Exhibiting

### Type of Firm (check one)

- Architectural/Engineering
- Design/Specifying
- General Contractor
- Subcontractor
- Owner/Developer
- Supplier/Vendor
- Consultant
- Facilities Dept.
- Real Estate
- Government Agency
- College/University
- Other \_\_\_\_\_





# Break away from this sort of thing!

EKKI timbers don't do this sort of thing.

EKKI (Bongossi/Azobe) hardwood has the characteristics you associate with steel and concrete. Strength and durability.

EKKI also has one thing neither steel or concrete will ever have: The enduring beauty of natural hardwood. And, EKKI has durability that soft pines or other wood simply cannot offer.

EKKI is so strong, so durable, it needs no chemical treatment. None whatsoever. EKKI also fends off insects, decay, and rot — even fire!

Environmentally, EKKI is perfect. It presents no hazards at all. Think what a boon that is to installation crews, the people who erect bridges, build docks, piers, and fender systems.

HWH Corporation is an affiliate of The GWZ Group, The Netherlands, which has 90 years of experience working with this wonderful wood. We can design, engineer or fabricate your hardwood structure. We can and we will.

Make a break away from the way certain projects are always done at your place. Call Dave Harkins, our Director of Marketing at 215-661-2000. Tell him about your next project. Discover the benefits you get when you opt for EKKI.

One will almost surely be cost effectiveness.

Working with EKKI frequently reduces the amount of material you need by one-third.

Not bad. Not bad at all!

---

#### Please send literature on:

- |   |   |
|---|---|
| <input type="checkbox"/> EKKI Hardwood              | <input type="checkbox"/> Landscape Applications |
| <input type="checkbox"/> Bridges                    | <input type="checkbox"/> Marine Construction    |
| <input type="checkbox"/> Design & Material Services | <input type="checkbox"/> Other Applications     |

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Company

\_\_\_\_\_  
Address

\_\_\_\_\_  
Phone

Please call ASAP to discuss an immediate requirement.

---

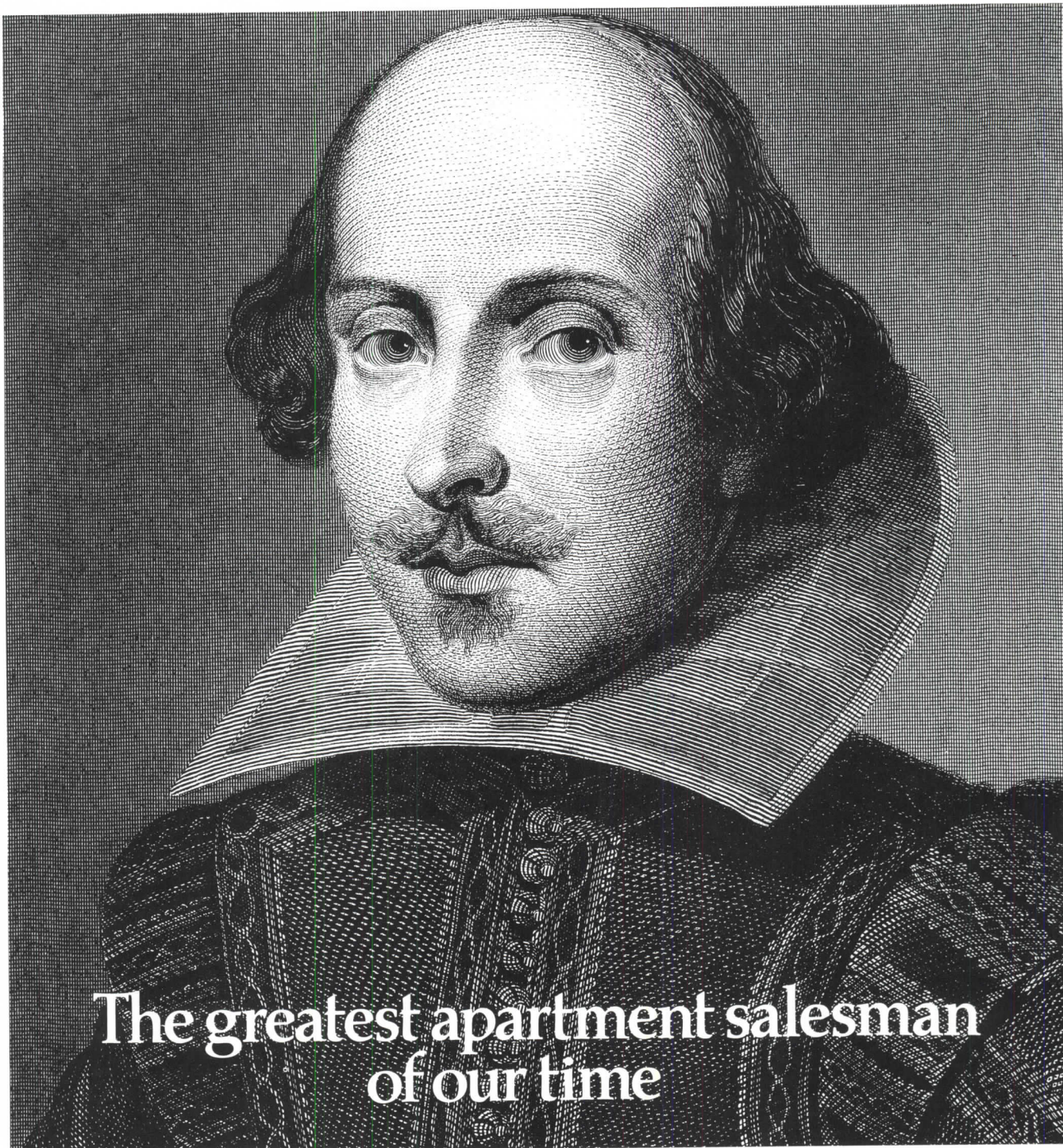
*EKKI does what you never thought wood could!*



P.O. Box 549 ■ 204 Progress Drive  
Montgomeryville, PA 18936

Circle 27 on inquiry card





## The greatest apartment salesman of our time

To most of us, William Shakespeare is the quintessential playwright.

But when the Ballard Realty Company of Montgomery, Alabama, needed tenants for a new apartment complex, Mr. Shakespeare proved to be a top-notch salesman as well. With every signed lease, Ballard Realty offered free membership subscriptions to the nearby Alabama Shakespeare Festival. In no time, over 80% of the company's units were leased before construction was even completed.

Throughout the country, small and medium-sized businesses, like Ballard Realty, are discov-

ering what blue chippers have known for years: that the arts can help create a positive public image, increase a company's visibility and improve sales. All this while reducing taxable income.

If you would like information on how your company — no matter what its size — can benefit through a partnership with the arts, contact the Business Committee for the Arts, Inc., 1775 Broadway, Suite 510, New York, New York 10019, or call (212) 664-0600.

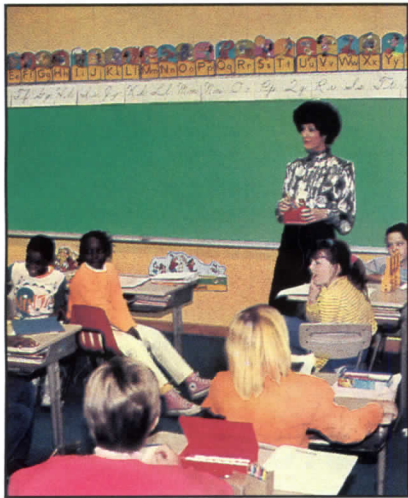
It may just be the factor that decides whether this year's sales goals are to be or not to be.



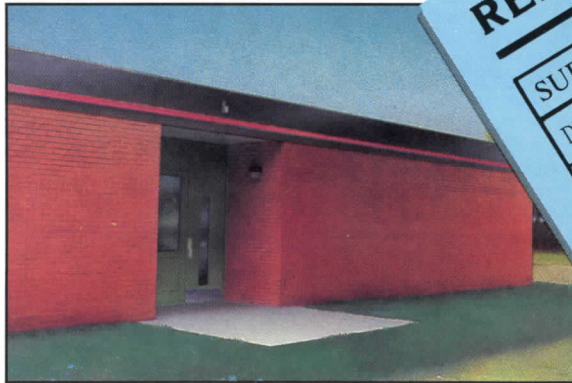




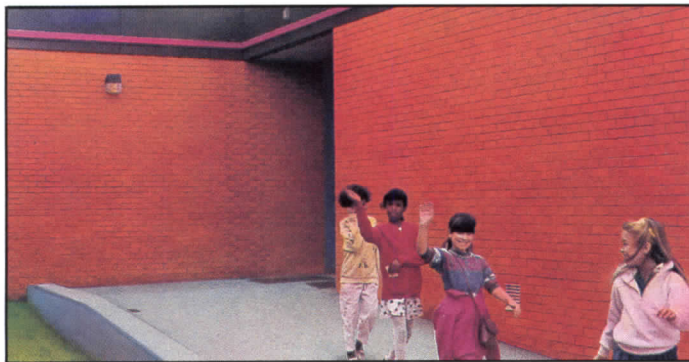
# STANDS OUT IN THE CLASSROOM BECAUSE WE'VE DONE OUR HOMEWORK



**A** BESTEEL modular classroom is the fast track, high quality solution to student overcrowding and rising construction costs. Ask hundreds of school board members, school administrative officials, architects, principals, teachers and students nationwide. For over 30 years, as one of the nation's leading manufacturers of modular building systems, we've done our homework and built our reputation on research, design, development and installation of classrooms which provide a "permanent" solution to population surges yet are relocatable for flexibility. Whether your present need is for a single classroom or a complete campus, we understand education—the needs and the problems—and can work best with you to provide on-time delivery to meet your schedule. BESTEEL structures can be ready in as little as 30 to 45 days from the day permits are granted.



**B** ESTEEL modular classrooms are constructed with rigid steel frames and structural components all designed to withstand the stress of time and relocation. Our non-combustible buildings meet the most stringent state requirements, yet are cost-effective and relatively maintenance free.



**C** ompared to traditional buildings of conventional construction methods, our classrooms have more structural steel combined with concrete and glass which provides a longer lifecycle for a safe, quiet and comfortable educational environment. For more information including lease and finance assistance, mail the coupon below today or call 1-800-BESTEEL.

SUBJECT	GRADE
DURABILITY	A
AESTHETICS	A
RELOCATABILITY	A
QUICK DELIVERY	A
LOW MAINTENANCE	A
NATIONWIDE SERVICE	A
COST EFFECTIVE	
4.0	

PLEASE SEND ME INFORMATION ABOUT BESTEEL'S MODULAR BUILDING SYSTEMS. OUR TARGET COMPLETION DATE IS APPROXIMATELY \_\_\_\_\_ I  AM  AM NOT INTERESTED IN LEASING.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_ SCHOOL/SYSTEM \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY/STATE/ZIP \_\_\_\_\_

TELEPHONE ( \_\_\_\_\_ ) \_\_\_\_\_

MAIL TO: BESTEEL / 1199 SOUTH FULLERTON ROAD / INDUSTRY, CA 91748



**1-800-BESTEEL**



---

# REPRINTS OF ARCHITECTURAL RECORD ARTICLES

**R**eprints of articles that have appeared in Architectural Record over the past five years are available for use in mailings and presentations. These custom promotion brochures reproduce the article exactly as it appeared in Record—if the article was published in color, the minimum order is 500 copies; if published in black-and-white, the minimum order is 100 copies.

For more information, cost estimates, and help with the layout and design of your reprints, call: Janice Austin 609-426-5494

ARCHITECTURAL  
RECORD



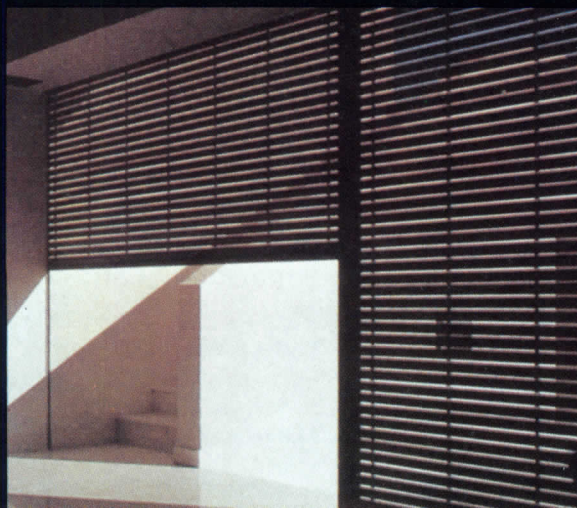
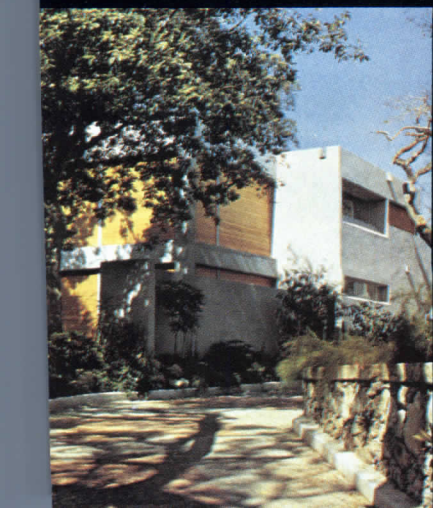


# Soleil®

New York (212) 430-7823  
Miami (305) 635-2372

## Roll Down Shutters Wood or Extruded Aluminum Security, Storm Protection, Energy Savings

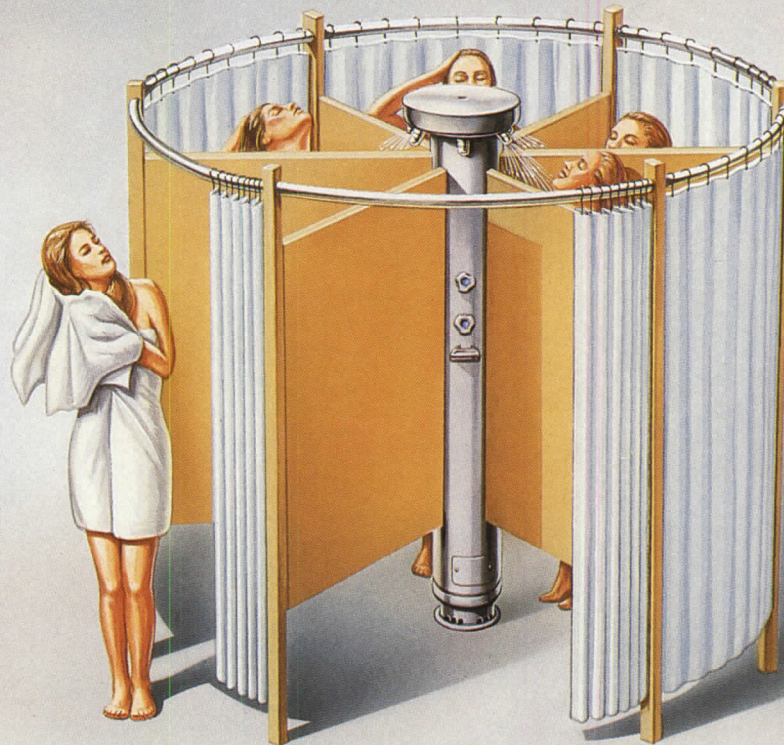
Circle 29 on inquiry card







**THEIRS: \$5,280**



**OURS: \$3,500**

Want to avoid taking a bath on shower room costs?

Then compare the expense of individual privacy showers to Bradley multi-station privacy showers.

The facts add up.

The total installed cost of a six-person Bradley column shower with partitions is only \$3,500, compared to \$5,280 for six individual showers with partitions.\*

That's a savings of \$1,780.

Now, consider the total number of heads needed in a typical shower room.

In a 12-showerhead room,

Bradley multi-station privacy showers will save you \$3,560.

In an 18-showerhead room, \$5,340. And you save even more because a Bradley multi-station shower gives you the sanitary benefits of a trough drain without the expense.

And since we have a

broad line of multi-station showers and privacy options, Bradley can help you handle a shower room design challenge more efficiently.

To find out more, send for a free price comparison data sheet, shower design guide and layout book by circling the reader service number, or call your Bradley representative.

**HOW COLUMN  
PRIVACY  
SHOWERS  
SAVE MONEY.**

- Only one set of supply connections is required for up to six stations.
- Easy accessibility to supply piping means easy maintenance.
- Water wear on existing walls is virtually eliminated.
- Remodeling is easier because worn out valves and piping can be bypassed without costly wall repair.

**Bradley**  
CORPORATION



We get the job done better

P.O. Box 309, Menomonee Falls, WI 53051  
1 414 251-6000

\*(Based on 1987 National Mechanical and Electrical cost data. Copy available upon request.)



## Engineers fight limitations on their practice of architecture

The American Consulting Engineers Council is assisting the Pennsylvania chapter in its lawsuit against that state's architectural licensing board. The suit challenges the board's proposed regulations limiting practice to design firms owned by at least one-third registered architects. Although the ACEC legal defense fund committee rarely involves itself in cases until they reach the appellate level, the Pennsylvania regulations are seen as encouraging similar ones in other states and the national organization is jumping in early. ACEC president Jim Poirot explains that, in many cases, members will not be able to operate under the regulations. And, of course, architects, looking at the issue from the other side of the fence, will indeed watch the proceedings in Pennsylvania with interest.

## ATRA gets its way on tort reform in the Republican platform



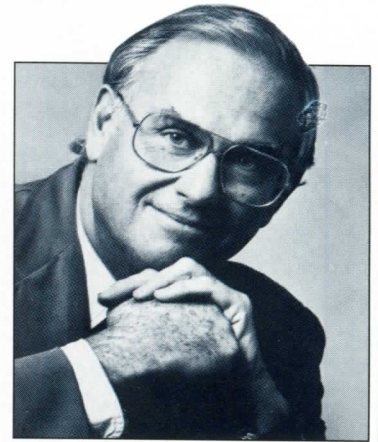
J. David Clem photo

Citing his testimony before the Republican platform committee as the basis, Blair Childs (photo), executive director of the American Tort Reform Association, applauded language that calls for "a reasonable state and federal liability standard that will be fair to small businesses, including professionals [and] return the fault-based standard to the civil-justice system." He says such a standard would save jobs, encourage useful and sometimes lifesaving products, and stimulate the nation's ability to compete, as well as lower costs in general.

All of this helps work being done by ATRA at the state level around the country. To date, 39 states have passed tort reform laws of some kind, but much must still be done, says Childs. One of ATRA's prime goals is the elimination of joint-and-several liability in which all parties even remotely connected to a case can be named as defendants, and plaintiff awards imposed on not the most guilty, but the richest. Other goals include limits on noneconomic and punitive damages, the elimination of double recoveries, limits on lawyers' contingency fees, and sanctions on frivolous suits.

ATRA is a coalition of some 400 organizations and claims to represent 35-million people. As to the Democratic position, "We weren't asked and there isn't one," said ATRA spokeswoman Libby Dolvin.

## Senate bill would expand architects' responsibility to on-site safety



In a seeming contradiction to his own party's position that would lower professionals' liability exposure (see article at left), Senator Lowell Weicker, Jr. (R-Conn.) has sponsored S. 2518, the Construction and Health Improvement Act of 1988, which would require architects and engineers to not just check that a project is being built according to plans and specifications but to physically supervise it. In what observers regard as a well-meaning reaction to much-publicized structural collapses and faults in his state, the senator's bill would blur long-standing distinctions between design professionals and contractors that have made what gets built the former's responsibility and how it gets built the latter's.

The bill reads: "Work on a construction project shall be performed only when the engineer-architect or his certified representative is present at the site," and, "[He] shall be liable to the same extent the supervisor is liable for applicable provisions of this act." Those provisions, of course, include job safety—an issue that architects and engineers are particularly warned to steer clear of in these litigious times. "Call the owner but don't even talk to the contractor about dangerous conditions," advises one lawyer.

## Asbestos abatement gets a reprieve

Schools across the nation (and their architect and engineer consultants) received postponement of an October deadline that would have made it mandatory to devise asbestos-inspection procedures and develop management plans. Under the provisions of a bill passed by Congress in early summer and signed by President Reagan July 18, local education agencies now have until May 1989 to come up with these procedures and plans under the Asbestos Hazard Emergency Act. But the date for actually implementing school asbestos programs is still unchanged:

July 9, 1989, as written in the original act.

By and large, architects and engineers welcome the postponement. A lack of sufficiently trained inspectors and engineers has hampered implementation, according to Ed R. Bajer, director of energy and interprofessional programs for the American Consulting Engineers Council. "We would rather take the extra time to have qualified people," said Bajer. "It's good for the schools. They were under pressure, and they just couldn't meet their deadline." But he warns schools must have applied for the

extension by October 12, 1988, the original deadline for filing the plans. It is not automatic.

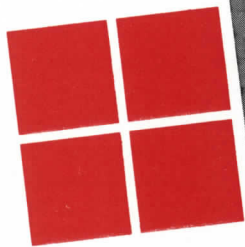
The Environmental Protection Agency, in its July announcement of the deadline change, warned that a deferral request can be granted only when it "is accepted [by the state] as complete and acknowledged in writing."

In introducing the bill on the House floor, Representative Thomas A. Luken, chairman of the House transportation, tourism, and hazardous-materials subcommittee, said that EPA estimates there are some 31,000 school buildings across the country that contain some form of asbestos. As many as 15-million school children—almost one-third of the nation's school population—and some 1.4 million school employees may be studying and working in buildings with asbestos. *Peter Hoffmann, World News, Washington, D. C.*



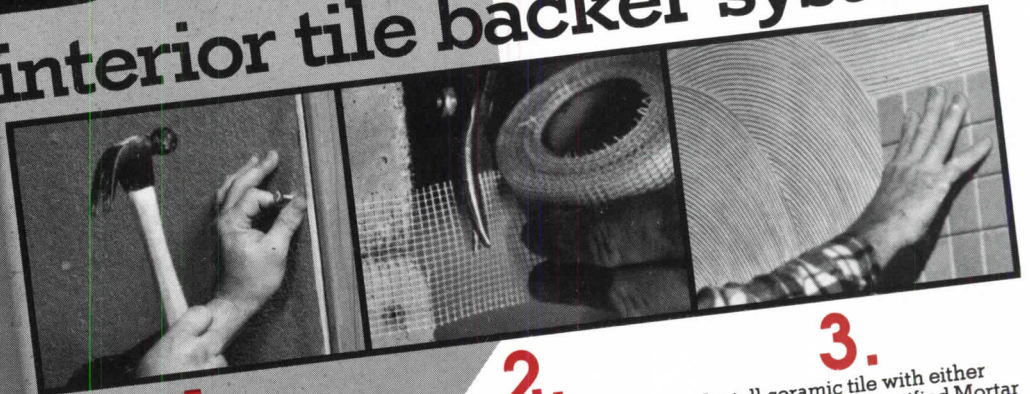
 **DUROCK**

**ADD YEARS OF  
BEAUTY TO YOUR  
CERAMIC TILE  
WITH THE NEW**



# **DUROCK**<sup>®</sup>

**interior tile backer system**



**1.**

Install strong, lightweight DUROCK Interior Tile Backer Board quickly and easily over wood or steel framing. This versatile cement board attaches readily with DUROCK screws or roofing nails.

**2.**

Treat joints between boards. Open weave of DUROCK Type P glass fiber tape helps tile-setting mortar or mastic provide a better bond through to the board, reinforcing the joint.

**3.**

Install ceramic tile with either DUROCK Latex Fortified Mortar OR DUROCK Type I Ceramic Tile Mastic, as you prefer. Each of these high performance systems assures optimum results when used as recommended.

New reinforced edge  
for superior joints!

DUROCK Interior Tile Backer Board has been tested and shown to resist deterioration for a period of 20 to 25 years. You can be assured that your bath or floor will retain its lasting beauty when you protect it with the DUROCK Tile-Setting System.

Write to **United States Gypsum Company** or **Durabond Professional Products, DAP Inc.**, 101 S. Wacker Dr., Chicago, IL 60606-4385, Dept. AR108



© 1988 United States Gypsum Company



## Legal perspectives: Should you decline to be the decision-maker in client-contractor disputes?

By Arthur T. Kornblut, Esq.



The architect's role as the initial decision-maker is a time-honored one when disputes or claims arise between the owner and contractor. In the First Standard Edition of the AIA General Conditions, published in 1911, a clause gave the architect the right to make "the final decision" on all questions arising under this Contract," with the decision being a "condition precedent to any right of legal action by either Owner or Contractor." The concept embodied in those simple words has evolved into a fundamentally important role—often with a potentially risky exposure.

The logic behind the architect being the initial decision-maker stems from the architect's intimate knowledge of the project and its design requirements, and from the architect's general involvement in construction-contract administration. If the architect were not available to guide the inevitable questions that arise during the construction process, the owner and contractor could be left to their own devices—with the potential for many more claims and disputes to blossom into full-blown legal proceedings. The protection to the owner and contractor from an architect who might act

*Kornblut is a registered architect, a practicing attorney and partner in the law firm of Kornblut & Associates, P.C., in Washington, D. C., and former chairman of the American Bar Association's Construction Industry Committee on the Construction Industry.*

improperly in this decision-making role is the mechanism within the contract that makes all such decisions (except those involving esthetics) "appealable" to arbitration. If both parties are satisfied with the architect's decision, it stands. If either or both are dissatisfied, they can resort to arbitration for a further and final determination.

The law historically has given architects immunity from liability when acting in the decision-making role. In the 1962 case of *Lundgren v. Freeman*, (307 F.2d 104), the court said: "If their decisions can thereafter be questioned in suits brought against them by either party, there is a real possibility that their decisions will be governed more by the fear of such suits than by their own unfettered judgment as to the merits of the matter they must decide."

### What can happen when the architect fails or refuses to act?

Under the current AIA contract documents, the architect, as a basic service, "shall interpret and decide matters concerning performance of the Owner and Contractor under the requirements of the Contract Documents. . . ." (B141, 2.6.15). Under the general conditions, the architect is required to play a pivotal role at the outset of a highly complex procedure for dealing with claims and disputes (A201, 4.3 and 4.4). These contract clauses are appropriate and sensible when the architect is presented with straightforward technical questions arising during the course of construction. They create a potential trap, however, when the architect is asked by the owner or contractor to decide a single claim involving millions of dollars in delay damages at or near the conclusion of a project that has suffered serious setbacks in its schedule for completion; when claims involve highly complex equipment

*AIA contract documents require architects to act as quasiarbitrators and render decisions on these disputes as a basic service. But there are ways to protect yourself from any resulting undue liability exposures and/or excessive amounts of time spent in the process.*

systems for which the design team has relied heavily on the manufacturer's expertise representations; or when the owner and contractor have engaged in extensive claim negotiations with minimal involvement by the architect and then one or the other demands the architect's decision as a tactic to gain bargaining leverage.

To further illustrate the problem, scheduling experts are paid significant fees to document, prepare, and present delay claims, often hired at the outset and then taking the entire duration of construction to assemble their data. Yet, the architect is required to analyze and make a decision on the claim within a limited time. (The architect cannot simply make any decision to get off the hook. The decision must be based on the supporting data presented by the parties. If he acts arbitrarily or capriciously, the immunity articulated by the court in the *Lundgren* decision can be lost.) If the architect fails to make a rational decision, the parties can claim he breached his contractual obligation—thus forcing them to expend considerable sums on the formal legal process.

### To avoid dilemma, the architect should have options when very complex claims are presented

For one, the architect's role in dispute resolution should be an additional service, not a basic service. (Under B141, it is an additional service only when the architect is required to evaluate "an extensive number of claims submitted by the Contractor or others." It is unclear whether "others" includes the owner, and "extensive number" certainly does not include a single delay or other type of claim that may be a blockbuster.) If relatively simple or minor issues must be decided, the architect always can elect not to bill for the time required to deal with them, but he at least should have the option to do so.

To accomplish this, a clause could be added to Article 12 in B141: "If the services set forth in Subparagraphs 2.6.15 through 2.6.19 of this Agreement are required, they shall be Additional Services and shall be paid for in accordance with Paragraph 11.3." Alternatively, if the owner is unwilling to agree to this, a basic-service time limit (10 hours, for example) for dispute resolution might be offered.

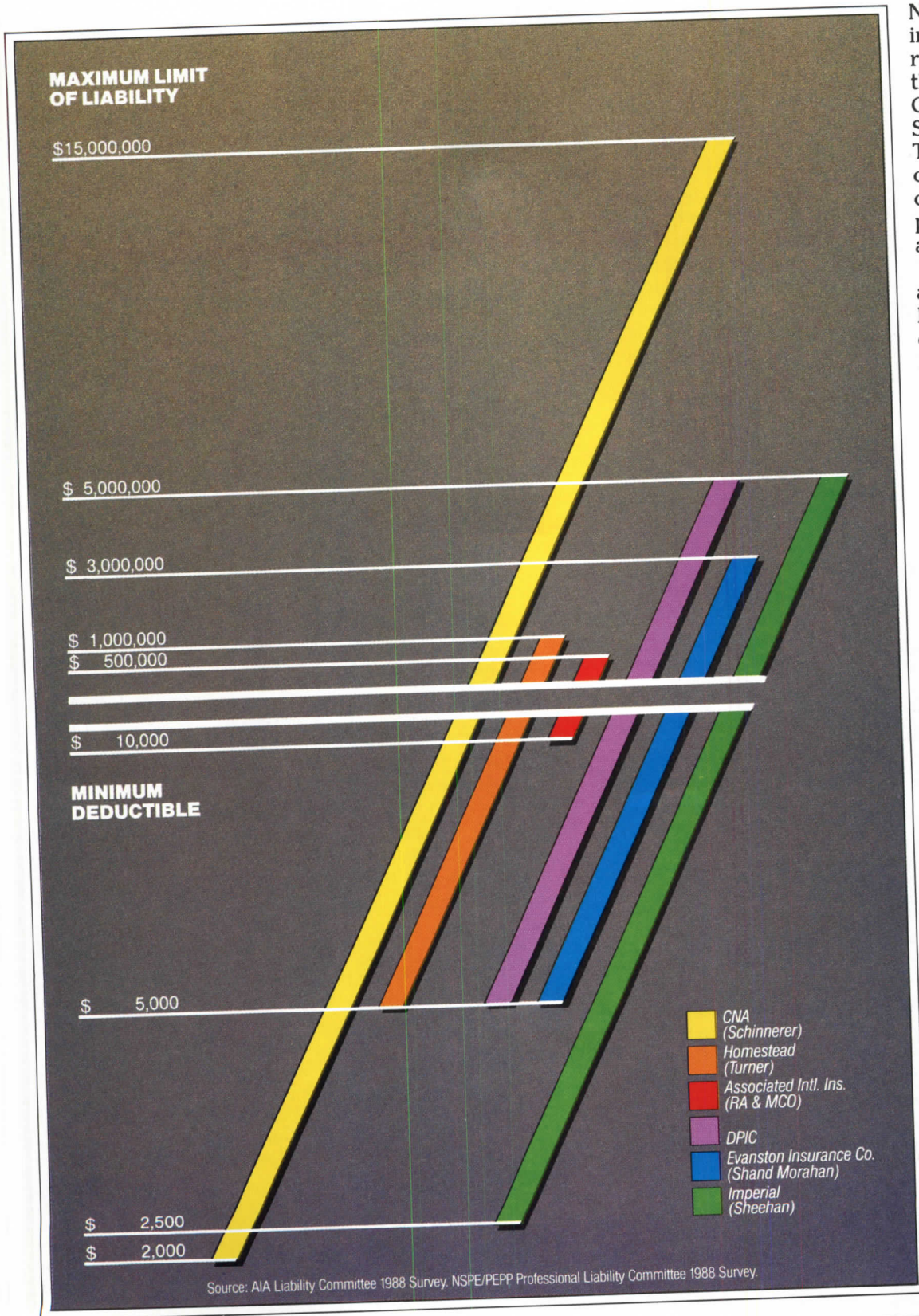
The other major change that is needed is an opt-out clause to give the architect an absolute right to decline to make a decision. Consider these possible additions to B141 and the Supplementary Conditions to the construction contract:

"In the event a claim, dispute or other matter in question is presented by the Owner, Contractor, or any other party to the Architect for an interpretation or decision, the Architect shall endeavor to provide such interpretation or decision as required by this Contract. However, if the Architect determines that an interpretation or decision would be impractical under the circumstance, that the issues presented are beyond his knowledge or expertise, that there is insufficient time for him to evaluate the issues, or that satisfactory arrangements have not been made for his compensation for the services necessary to evaluate the supporting data and issues presented, he shall have the absolute right to elect not to make the interpretation or decision being requested. In such event the Owner, Contractor, and such other party shall be so notified, and they shall proceed to arbitration or take such other course of action as they may mutually agree."

An opt-out clause is far preferable to claiming an implied waiver of the obligation to serve as the initial decision-maker when declining to decide is the appropriate course.



# It pays to look high and low for your liability protection.



No professional liability insurer offers you a broader range of coverage choices than the CNA Insurance Companies and Victor O. Schinnerer & Company, Inc. These choices give you great control over your insurance costs by letting you more precisely match your coverage to your needs.

The chart shows two examples of the flexibility you have with CNA coverage offered through Victor O. Schinnerer & Company, Inc. CNA's flexibility accommodates all sizes of firms by providing the lowest deductible of \$2,000, minimum liability limits as low as \$100,000 and maximum liability limits as high as \$15 million.

The stability of the CNA Schinnerer program is unsurpassed. We've offered coverage to architects and engineers continuously since 1957.\* Your future stability can be assured by our financial strength and by CNA's A financial rating from the A. Best Company.

We also offer extensive loss prevention seminars, newsletters and other guidelines to help you minimize claims. But, if one should arise, we maintain claims offices throughout the country to help you.

Look high and low. You won't find a better quality professional liability program than ours. To learn more, have your independent agent contact Schinnerer.

\*CNA/Schinnerer is proud to have earned the commendation of the AIA and NSPE/PEPP.

Victor O.  
**Schinnerer**  
& Company, Inc.

Underwriting Manager  
Two Wisconsin Circle  
Chevy Chase, MD 20815-7003  
(301) 961-9800, Telex 892340

Chicago, (312) 565-2424  
New York, (212) 344-1000  
San Francisco, (415) 495-3444

**CNA**

For All the Commitments You Make

Coverage for this program is provided by Continental Casualty Company, one of the CNA Insurance Companies.

Circle 32 on inquiry card



# Construction finance: Strains threaten economic expansion

By Phillip E. Kidd

As the economic expansion approaches its sixth anniversary, unmistakable signs of strain are apparent. Consumers have resumed borrowing to spend. Shortages in manufacturing employment, materials, and production are appearing. Inflationary pressures are mounting. And interest rates are climbing. With less and less slack in the economy, something is to give.

Starting in 1987, rapidly expanding domestic and overseas demand for U. S. goods generated a resurgence in U. S.

manufacturing and exporting. Earlier this year, those sectors took over from consumer spending as the driving force propelling our economic growth.

Initially, there were surpluses of skilled and semiskilled labor, materials, and production capacity. Manufacturers eagerly drew on them to boost output. Equally important, starting in 1987, industrial concerns steadily increased investment. Into early 1988, however, most of those expenditures went to purchase equipment, which, when integrated into current facilities,

*Fewer consumer purchases on debt, a move recommended by the author to control upward inflationary pressures and rising construction-financing costs, would take some time to be felt. Accordingly, expect more interest-rate hikes, hampering construction activity.*

lifted output. Meanwhile, outlays for new plants, or for additions or rehabilitation of existing structures, dawdled.

Conditions changed in the spring. The dollar, whose plunge in the previous 2 1/2 years had eventually triggered the revival in industrial production, firmed and even gained in value. Still, overseas and domestic orders flowed in. Capacity-utilization rates edged even closer to optimum production levels in many industries. In turn, manufacturers accelerated spending on structures.

Unfortunately, it will be months before those growing expenditures turn into additional operating capacity. Consequently, inflationary pressures in the industrial sector will intensify and spread through the economy—unless there is some slowing in the consumer sector.

Instead of building up their savings, consumers, who had moderated expenditures and credit use in 1986 and 1987, have revived their spending and have borrowed more to do it. A continuation of those trends could soon have several negative impacts on the economy.

Larger household purchases would fuel demand for business output, straining production capacity even more. That would fan inflationary pressures. Expanded borrowings would compete with business for increasingly more costly and tighter supplies of money. Unchecked, relentlessly rising interest rates would eventually undermine economic growth and tumble the economy into a recession.

In the coming months, fiscal policy will offer no relief. The federal deficit is no longer shrinking, having stabilized around \$150 billion. Thus, the government will remain a substantial competitor for funds.

In contrast, the Federal Reserve will persistently firm

monetary policy to counter inflationary tendencies. Since the spring, it has forced short-term rates up twice as fast as long-term rates.

One result of these movements is that longer-term funds have remained available for business investment at acceptable prices; whereas shorter-term loans have become more costly for consumers. By now, consumers with outstanding adjustable-rate debt (mortgages, equity lines of credit, charge cards, and other consumer loans) have felt the first pinches of the run-up in short-term rates. With less to spend from current income because of higher interest payments and with new credit more expensive, consumer borrowings will ease this quarter.

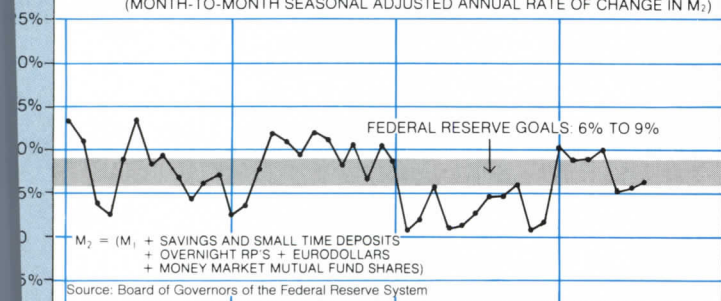
Nevertheless, the growing competition for funds among businesses, consumers, and governments will push the yield curve up another 50 to 75 basis points (one-hundredth of a percent) by year-end. Rates on quality assets will fluctuate from 8 to 9 percent for short-term instruments; 10 to 11 percent for seven- to 10-year governments; and 12.5 to 13.5 percent for mortgages.

Such rate hikes will inhibit construction activity. Industrial building will advance, but housing, retail, and office building will slip below their third-quarter pace.

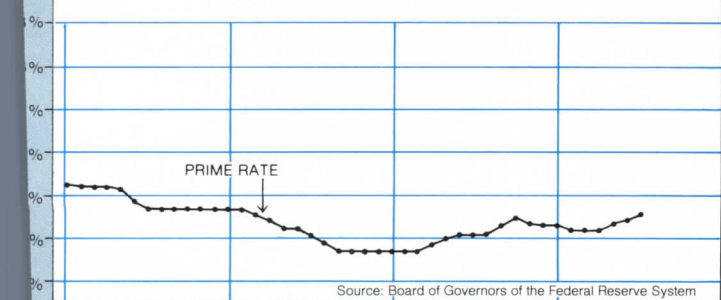
*Dr. Kidd is a prominent economic consultant and former director of economic research for the McGraw-Hill Information Systems Company*

## THE SUPPLY OF CREDIT

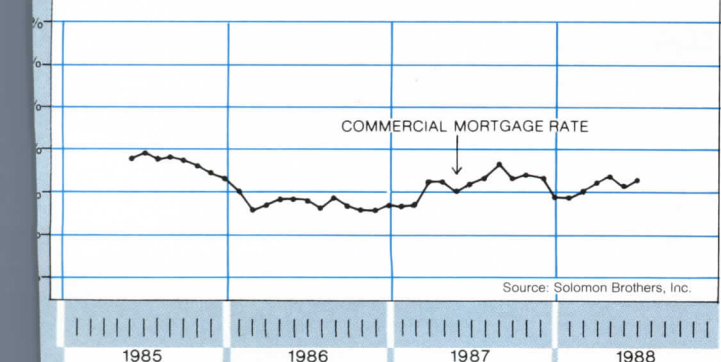
(MONTH-TO-MONTH SEASONAL ADJUSTED ANNUAL RATE OF CHANGE IN M<sub>2</sub>)



## THE COST OF SHORT-TERM CREDIT



## THE COST OF LONG-TERM MORTGAGE CREDIT







Do it right.

Do it once.

Do it

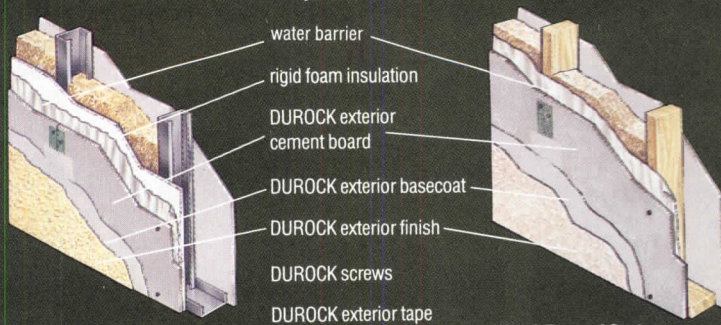
**DUROCK**<sup>TM</sup> Exterior Finish System

The warmth of traditional stucco without the worry of doing it over. DUROCK system-matched components help you **do it right**. DUROCK Exterior Cement Board, attaching screws, joint treatment, and DUROCK Exterior Basecoat and Finish are all designed together, to work together. To give you solid, strong attachment. To speed construction. To give you quality assurance from the leader in construction technology—United States Gypsum Company.

**Do it once**, because the substrate resists dents and penetration. While the basecoat and elastomeric finish system withstand minor building movement, *thermal expansion*, and moisture.

Enduring beauty in stucco-looks or textures in a spectrum of creative colors. Do it all, once and for all with DUROCK Exterior Finish Systems. Write us at 101 S. Wacker Drive, Chicago, IL 60606-4385. Dept. AR1088

**DUROCK System-Matched Components**



Steel-Framed System

Wood-Framed System



## Construction costs: Should we say inflation?

### Summary of Building Construction Costs

Number of metro areas    4/88 to 7/88    7/87 to 7/88    1977\* to 7/88

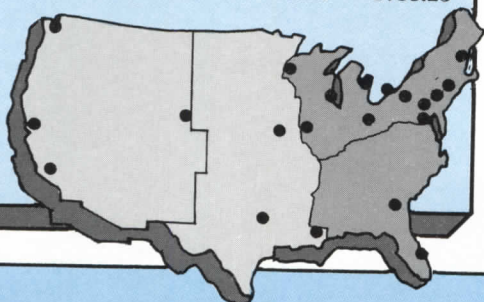
#### Eastern U. S.

Metro NY-NJ .....	18	1.24	3.78	1917.76
New England States .....	33	0.66	2.78	1825.84
Northeastern and North Central States .....	120	0.89	1.57	1724.48
Southeastern States .....	106	0.84	1.30	1761.54
<b>Average Eastern U. S. ....</b>	<b>277</b>	<b>0.87</b>	<b>1.76</b>	<b>1763.30</b>

#### Western U. S.

Mississippi River and West Central States .....	122	0.57	1.30	1710.95
Pacific Coast and Rocky Mountain States .....	106	0.73	1.30	1775.65
<b>Average Western U. S. ....</b>	<b>228</b>	<b>0.65</b>	<b>1.30</b>	<b>1741.03</b>

**United States Average ..... 505    0.77    1.55    1753.25**



\*Using only cities with base year of 1977

What else would account for continued strong rises in the cost of construction in the face of slackening demand? Costs in the second quarter of 1988 rose by 0.77 percent and almost matched those in the first, when the greatest rise since 1984 was hoped to be only an aberration.

While, in the opinion of Marshall & Swift analyst Frank Benz, inflation did indeed play some role in the continued run-up, that run-up can be seen to be heavily influenced by activities in just one section of the nation—metropolitan New York and New Jersey where costs rose 1.24 percent.

In the past few years, costs in both that region and the New England states have tended to drag the national averages up substantially, rising even when all the rest of the regions' costs were falling (as they did in the fourth quarter of last year). In this second-quarter report, New York and New Jersey pulled ahead of New England to almost double that region's performance. Cost increases in the remaining regions ranged from a high of 0.89 percent in

the other northeastern states to a low of 0.57 in the west-central states. So how much you got depended on where you were.

Why the wide geographic cost variations? Because the old law of supply and demand may still be at play—along with any incipient inflation. Demand has wide geographic variations. While all building construction for the first half of this year was off by 4 percent from last, according to the McGraw-Hill Information Systems Company, the value of residential construction in New England rose by almost \$125 million, in New York-New Jersey, by over \$200 million, and by some \$130 million in the Pacific Northwest. And the value of nonresidential building, beleaguered nationally because of offices, rose by some \$560 million in New England.

Most material costs rose modestly. Only such rises as lumber's 0.25 percent and gypsum board's 0.047 percent were noticeable—leaving the probable repeat culprit, labor.

*Dodge Cost Systems  
Marshall & Swift*

### Historical Building Costs Indexes

#### Average of all Nonresidential Building Types, 21 Cities

1977 average for each city = 1000.0

Metropolitan area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988		
												1st	2nd	3rd
Atlanta	1171.5	1712.6	1925.6	2098.6	2078.0	2360.6	2456.7	2448.7	2518.3	2561.9	2580.9	2606.8	2694.7	
Baltimore	1018.4	1107.7	1304.5	1446.5	1544.9	1639.5	1689.7	1703.7	1743.8	1765.2	1780.2	1823.8	1859.8	
Birmingham	1029.7	1142.4	1329.9	1407.2	1469.9	1468.1	1535.7	1594.7	1565.7	1587.4	1542.6	1555.5	1591.2	
Boston	1028.4	0998.6	1236.0	1283.7	1432.5	1502.0	1569.9	1646.0	1721.0	1773.6	1883.0	1945.5	1947.1	
Chicago	1007.7	1032.8	1199.7	1323.6	1344.7	1425.8	1439.5	1476.7	1528.0	1599.9	1591.4	1616.6	1636.8	
Cincinnati	0848.9	0991.0	1323.9	1385.2	1350.4	1362.6	1430.8	1484.5	1486.6	1499.4	1510.9	1523.1	1527.2	
Cleveland	1034.4	1040.8	1287.5	1388.2	1459.5	1511.4	1475.9	1464.0	1474.1	1525.7	1541.8	1537.8	1557.3	
Dallas	1042.4	1130.6	1431.9	1481.9	1750.6	1834.3	1925.9	1958.0	1963.3	1973.9	1947.2	1983.4	1980.0	
Denver	1038.8	1100.4	1495.6	1487.4	1632.2	1679.1	1800.1	1824.3	1821.8	1795.8	1732.7	1741.1	1764.6	
Detroit	1018.1	1087.3	1275.3	1447.4	1580.3	1638.0	1672.1	1697.9	1692.6	1696.6	1689.3	1688.2	1714.8	
Kansas City	1023.5	0951.5	1125.8	1233.2	1323.4	1381.8	1407.5	1447.1	1472.5	1484.7	1493.7	1504.2	1517.8	
Los Angeles	1022.5	1111.0	1255.3	1387.5	1474.3	1503.3	1523.9	1555.1	1571.0	1609.7	1675.1	1713.9	1770.1	
Miami	1004.5	1080.9	1330.1	1380.6	1369.1	1392.1	1467.6	1522.2	1540.6	1566.2	1589.2	1602.0	1594.9	
Minneapolis	1060.2	1196.8	1286.9	1327.7	1442.6	1576.8	1624.6	1640.4	1661.0	1674.0	1677.0	1698.4	1702.5	
New Orleans	1001.3	1138.8	1291.9	1505.7	1572.7	1616.9	1650.5	1691.4	1762.5	1760.2	1699.8	1706.3	1726.4	
New York	1005.4	1043.0	1247.1	1319.4	1419.2	1491.8	1672.5	1747.2	1806.7	1899.9	1980.9	2027.2	2062.7	
Philadelphia	1013.8	1074.2	1487.5	1539.5	1660.7	1769.4	1819.5	1922.1	1967.9	1992.7	2023.5	2085.0	2147.5	
Pittsburgh	1016.1	1015.0	1227.0	1341.7	1493.2	1479.5	1497.2	1576.1	1611.0	1665.8	1647.3	1662.7	1696.2	
St. Louis	1039.1	1198.8	1275.9	1320.0	1397.3	1451.2	1524.9	1625.5	1641.8	1647.4	1653.5	1661.7	1699.4	
San Francisco	1083.2	1326.8	1473.4	1644.8	1776.4	1810.1	1856.8	1935.3	1961.8	1995.5	1992.0	2007.6	2042.5	
Seattle	1142.5	1137.9	1373.4	1616.8	1814.9	1962.7	1979.0	1948.9	1937.9	1925.3	1874.7	1898.8	1932.2	

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200) divided by the index for a second period (150.0) equals 133%, the costs in the first period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 divided by 200.0 = 75%) or they are 25% lower in the second period.



# Close

# Move

# Open





# Another Hardheaded Dover Breakthrough On The Three Basic Elevator Functions.

## The World's First Totally Integrated Microprocessor Control System For Hydraulic Elevators.

We're particular, actually stubborn, about refinements in state-of-the-art technology for hydraulic elevators. Remember, we invented them.

Other manufacturers have made a lot of noise with assorted bells and whistles. Dover has been quietly and patiently perfecting the greatest advance in hydraulic elevators since we invented them 51 years ago. DMC-I® — the first totally integrated microprocessor control system.

Our new DMC-I elevator closes the doors more reliably. Moves the car to the next floor more efficiently. Opens the doors more dependably. What else is an elevator for?

Other brands have offered add-on microprocessor functions on a onesy, twosy basis, like bandages. Only Dover has taken the years and millions of dollars necessary to perfect a total, built-in system. Because only Dover's volume as the industry leader made it feasible for us to invest such vast resources in its development.



*Dover F.A.S.T. unit gives instant performance analysis.*

DMC-I has a unique new hand-held F.A.S.T. unit that is literally a "window" into

the microprocessor controls. It allows us to reprogram up to 40 elevator functions in minutes. It provides instant analysis of existing performance, permitting faster, more thorough preventive maintenance.

If you're buying or specifying elevators for low or mid-rise buildings, you need to see what DMC-I can do. Call your local Dover office or write Dover Elevator Systems, Inc., P.O. Box 2177, Memphis, TN 38101.

**DOVER**<sup>®</sup>  
**ELEVATORS**  
*Making more  
elevators makes  
Dover No. 1*



---

Weather Shield's cost-effective, Extruded Aluminum "Panning System" was the perfect choice for the Edgewater Psychiatric Center.

---

— Harrisburg, PA —



Edgewater Psychiatric Center



# At Last!

## A Cost-Effective, Extruded Aluminum Panning System

Building renovation is an important segment of the market. And in the past it was difficult to locate retrofit wood windows that were functional in design, easy to install and cost efficient. But not any longer.

Weather Shield's aluminum panning system offers the following advantages: (A) Minimal expenditure of labor; (B) Installation is accomplished from inside of the structure; (C) Existing perimeter wood frames can remain intact; and (D) All cutting, drilling and punching is done at the factory to speed assembly in the field.

Consider the additional benefits of Weather Shield's energy efficient wood windows:

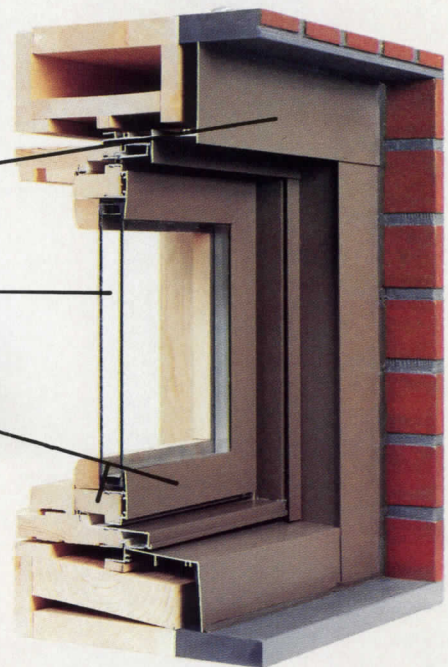
- Extruded aluminum panning of .072 thickness, for strength and paint durability, is available in three colors — White, Adobe and Desert Tan.
- Units are available up to 1½" triple insul glazing with optional hard coat Low "E" glass.
- Architecturally styled extruded aluminum clad sash interlocked to wood sash interior.

Contact Weather Shield for complete details on how our extruded aluminum panning system combined with our energy efficient aluminum clad wood windows can provide for the easy window replacement in both commercial and residential applications.

Weather Shield products are available with SUNGLAS HRp (heat reflective) Low "E" glass. A product of



Glass Division.



**Weather Shield Mfg., Inc.**  
Medford, WI 54451 • 715/748-2100



***"Better Ideas In Wood Windows!"***



**Our  
Bicentennial  
is only a  
hundred years  
away.**



In this, our hundredth year, we pause briefly to celebrate past achievements. And to consider the exciting opportunities ahead.

In the past two decades, the Information Revolution has changed the way people live and work. In that time, a new McGraw-Hill has taken shape.

Today we are a multi-media publisher and information services company, creating a vast array of print, software and on-line information products to meet the changing needs of the markets we serve.

As we look to the future, we see new information technologies emerging and new McGraw-Hill products that use those technologies to the fullest.

In the midst of these continuing developments, it's also important to remember that the underlying principles that guided our company for the past century will continue to define us in the next century.

People will always need information.

They will always seek out the authoritative information source.

They will always demand timely, relevant information they can work with.

And our task is clear: in print,

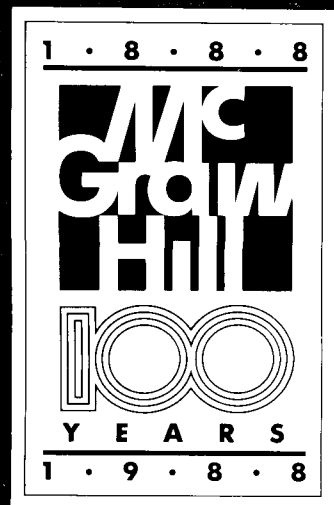
in the air or even in some as-yet-

uninvented form, McGraw-Hill must continue

to disseminate the best kind of

information that leads to action.

Information that leads to action.





# THE TRUE TEST OF GREATNESS IS THE TEST OF TIME.

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

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

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

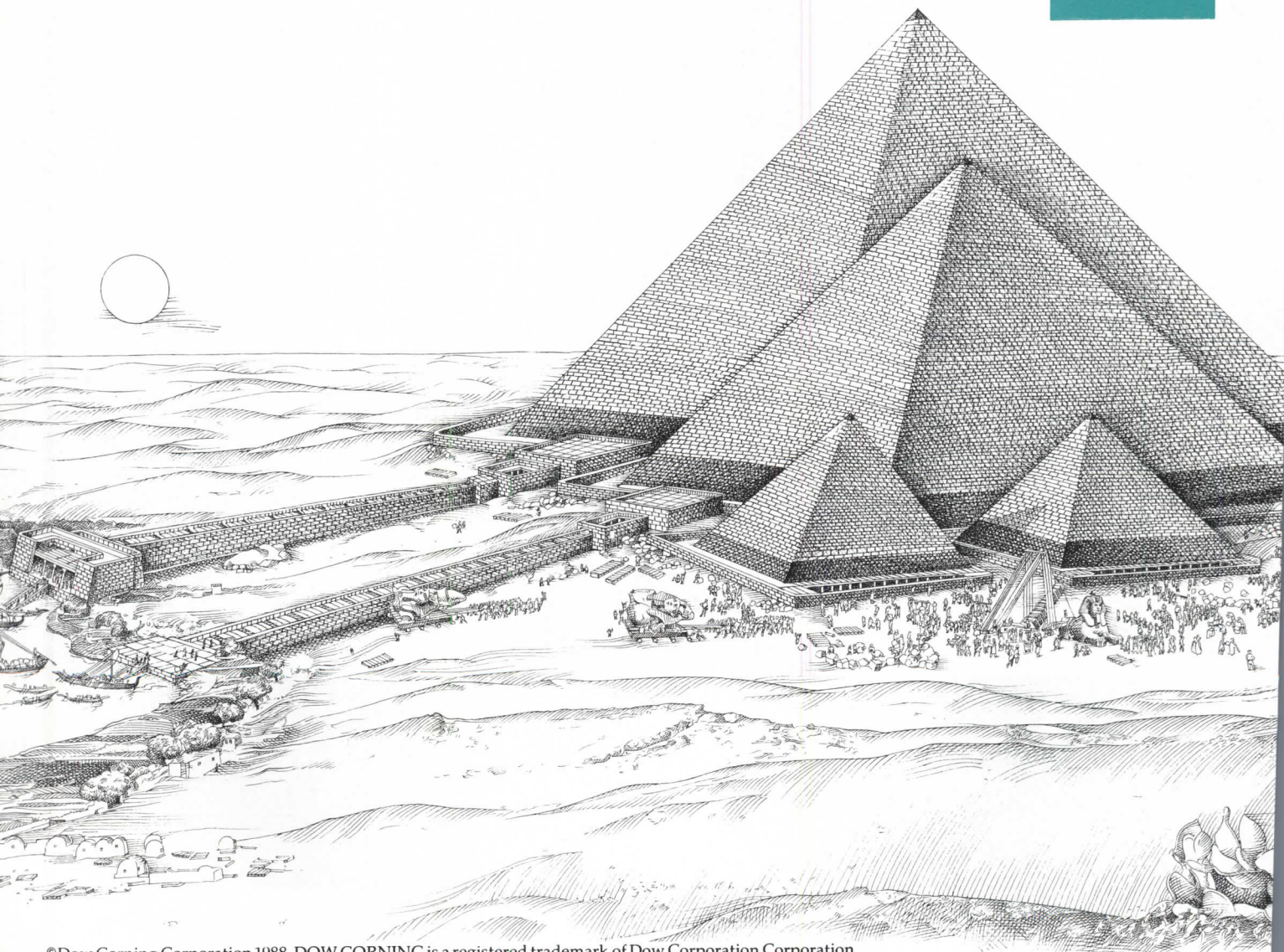
In another case, Dow Corning silicone rubber sealant was used to caulk Chicago's Northern Trust Bank. After 20 years of Chicago's icy winters and boiling summers, there's still no evidence of the

sealant pulling away, cracking, hardening or crumbling.

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

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

DOW CORNING





Cool

a

warm

day

the

way

you

warm

a

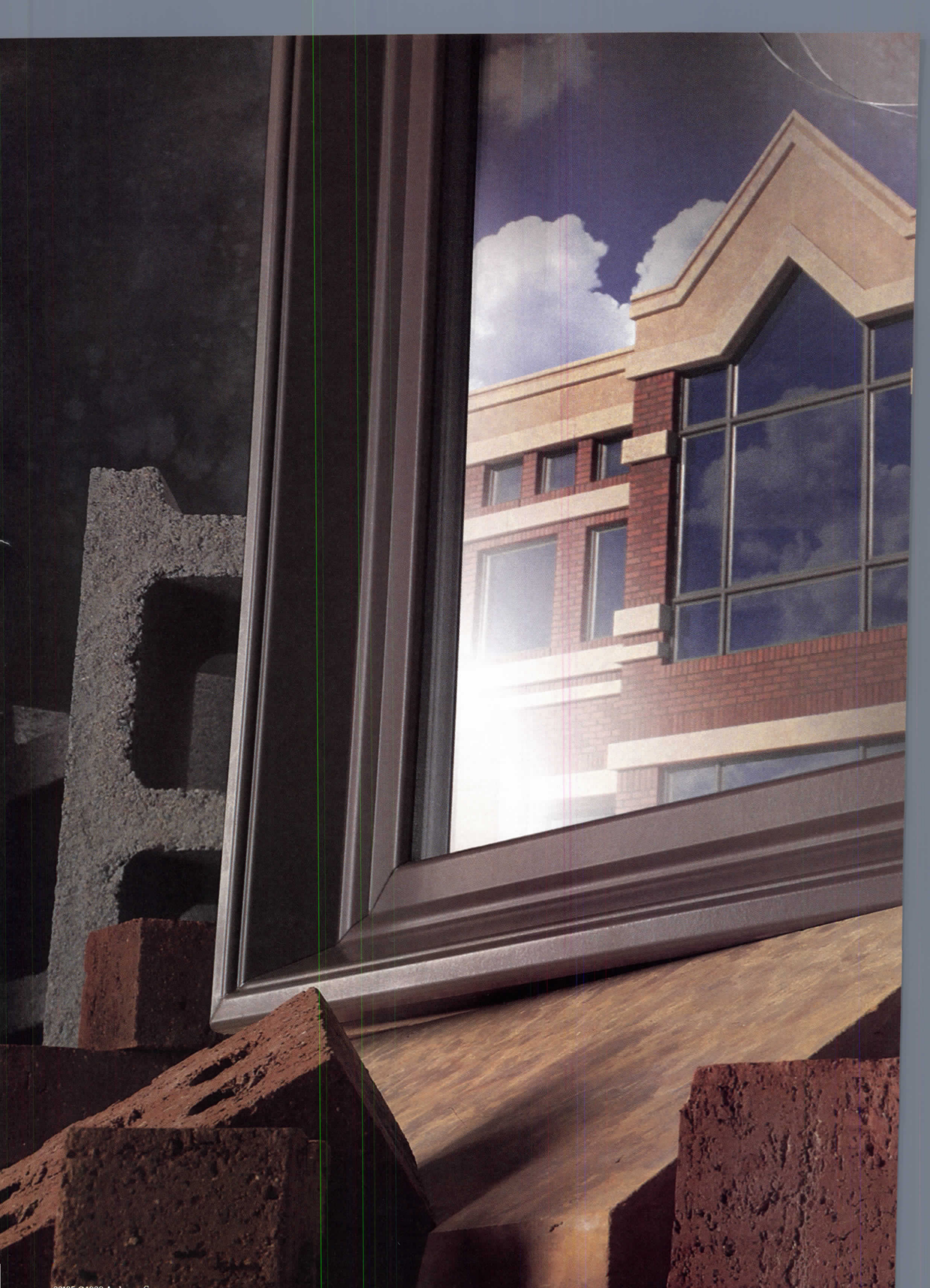
cool

one.

Today, a new generation of advanced gas cooling equipment brings to commercial air conditioning the same economy and reliability that gas brings to heating. Before you design your next project, let your gas company show you how right gas cooling can be. Gas. America's best energy value.

Circle 37 on inquiry card







WITH ANDERSEN® WINDOWS, THE LAST THING TO WORRY ABOUT IS RUNNING INTO A BRICK WALL.

Unlimited design potential. Is it too much to ask of Andersen windows? Simply and emphatically, no. Not with Andersen Perma-Shield® Flexiframe® windows. For with this versatile window line comes all of the custom benefits of designing buildings with an attractive stick window system.

You can create curtain walls, trapezoids, pentagons, octagons, whatever you fancy. In whatever size and combination you wish.

With our crisp, clean Andersen lines and smooth, tight Andersen corners.

In a style to complement any building facade, any pattern, any texture.

Unlimited design potential? Let's just say that with Perma-Shield Flexiframe windows even running into a brick wall can be a beautiful experience.

Call 1-800-635-7500 for the name of your local Andersen commercial representative. Or write Andersen Commercial Group, P.O. Box 12, Bayport, MN 55003.

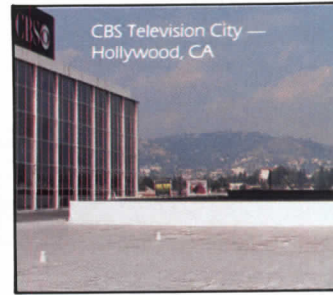
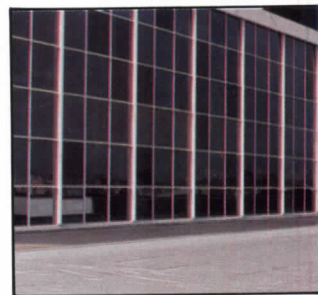
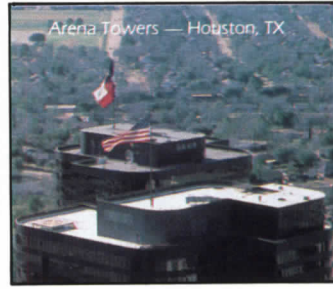
Circle 38 on inquiry card

ANDERSEN  
COMMERCIAL  
GROUP





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

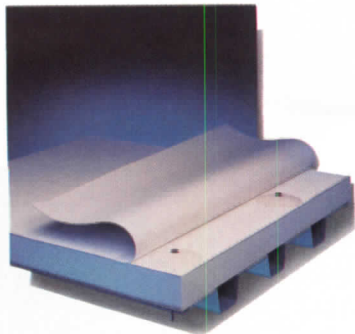


**W**ith a Duro-Last single-ply roofing system, you're joining some pretty good company . . . like CBS Television City, The Wall Street Journal, Con-Rail, Transwestern Property Company, Lake County Village Shopping Center, just to name a few.

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

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

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



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

**1-800-248-0280**

**1-800-356-6646** (West of the Mississippi)

**DURO-  
LAST®**  
Roofing, Inc.



## Tigerman's pictures at an exhibition

After opening in Paris [RECORD, November 1987, page 69] and traveling to Frankfurt, "Chicago Architecture 1872-1922: Birth of a Metropolis" returned briefly to its origin, The Art Institute of Chicago, in a lavish new installation designed by Stanley Tigerman of Tigerman McCurry. Beginning with a model representing the Chicago fire (right), Tigerman chose to present "pictures of architecture *within* architecture." Archways were styled to match the periods presented, and trellises enclosed thematically discrete spaces. Curator John Zukowsky did not require Tigerman to eschew didacticism, and so, for example, the European-academic roots of late 19th-century Chicago architecture were presented in columniated spaces in enfilade. The famous Tribune Tower competition occupied a room populated by street lights and benches, a reference to the Parisian-inspired planning of Burnham that prevailed as Modernism struggled to take hold (below right). The setting for Frank Lloyd Wright's work recalled the Coonley playhouse. Exhibition themes were reprised in four aediculae (containing books for sale) in the styles of Burnham, Sullivan, Wright, and Mies (below left).



Bruce Van Inwegen





## GYM DANDY

The assignment: design an audiovisual fitness center for a large insurance company in Hartford, Connecticut.

The media: WILSONART Color Quest® Decorative Laminates.

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

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

The result: A happy, healthy insurance company.

### HOTLINE

If you have a project you think belongs in this space, please call us.

For design details, and immediate delivery (within 24 hours) of product or literature, call toll-free (within the continental U.S.A.):

1-800-433-3222

In Texas: 1-800-792-6000

**WILSONART®**

BRAND DECORATIVE LAMINATE

Bringing new solutions to the surface™

The palette: Bluebell, Cameo, Lavande, Robin's Egg, Wisteria.

Circle 40 on inquiry card

©1988, Ralph Wilson



News briefs

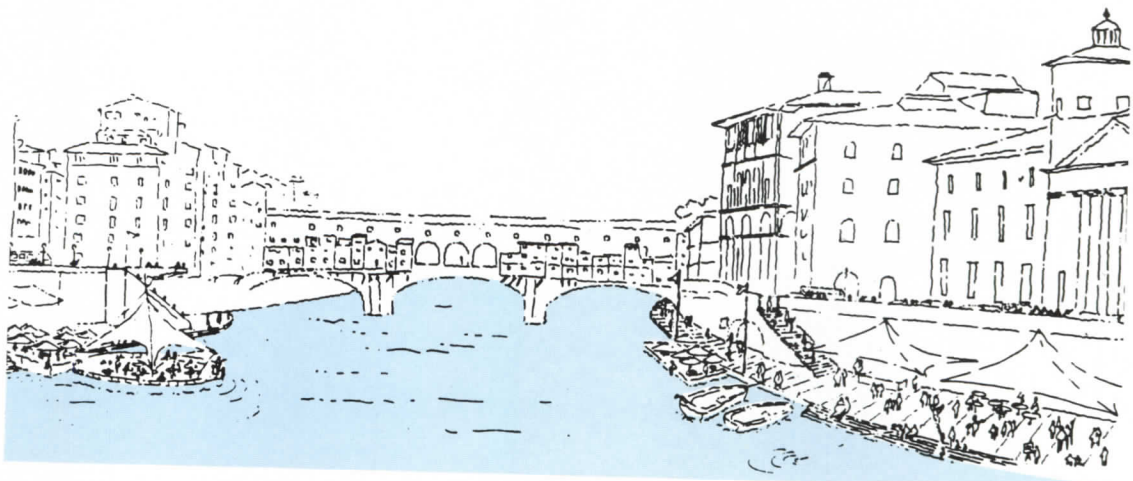
Along the Arno

The San Francisco Museum of Modern Art has narrowed its search for the architect of its new headquarters to three: Raymond, Beeby, and Babka, of Chicago; Mario Botta, of Switzerland; and Frank O. Gehry and Associates, of Santa Monica. The finalists will prepare a design proposal for the site, part of the Yerba Buena Gardens commercial development in the south of Market area. A decision is expected later this fall.

The Coney Island Cyclone, "a gravity ride of the wood-track roller coaster type, with six fan turns and nine drops,"—i. e., a roller coaster—has been designated a historic landmark by the City of New York. Historian Gary Krieger has written that "New Yorkers should consider the 1927 roller coaster [designed by engineer John S. Keenan] as valuable as the Statue of Liberty or the Empire State Building."

The Naude Santos's design for a 40-unit multifamily low-cost housing prototype has won an international competition sponsored jointly by The Museum of Contemporary Art and the Community Redevelopment Agency in Los Angeles. The contest was inspired, in part, by the Case Study Houses, experimental residences constructed between 1945 and 1965 and designed by architects such as Richard Neutra, Craig Ellwood, and Charles Eames. A retrospective exhibition of the Case Study program will be on display at MOCA late in 1989; the CA/CRA housing will be completed in 1990.

The XVII Triennale di Milano (present until December 18) on World Cities and the Future of Metropolis," a thematic exhibition exploring how urban areas, particularly in the third world, are being rapidly transformed. (What will it mean, for example, if the population of Mexico City grows to a projected 20 million people by the year 2000?)



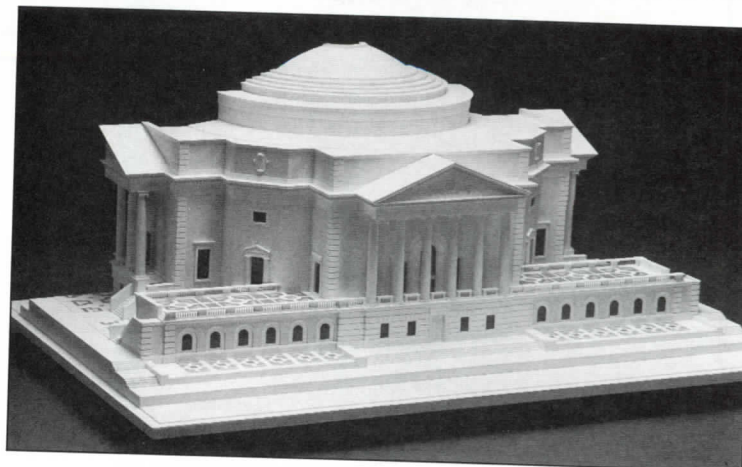
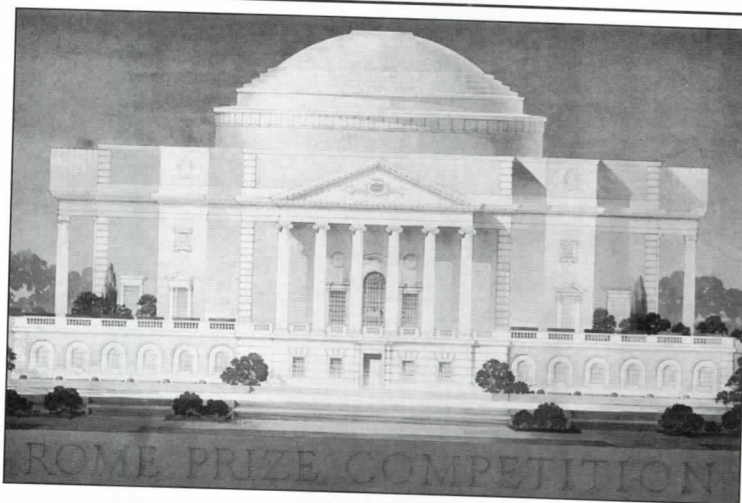
Aimed at restoring the neglected Arno River to a more vital role in the life of Florence, the Tuscan city has approved plans for a five-mile linear promenade, designed by Richard Rogers and Partners, of London, and Claudio Cantella, of Florence, that will serve as a focal point for outdoor recreational and cultural events, and a link to nearby suburbs. The river's unpredictable flow has been a deterrent to

revitalization of what was once a primary commercial and industrial artery (memories of the catastrophic 1966 flood are still vivid). By analyzing the effects of 15 years of seasonal crests, the designers determined a height for new riverside promenades that should keep them above water more than two thirds of the year. Food concessions, cafés, and tourist and cultural information

services will either be cut into the bank beneath a street-level quay or erected on floating platforms moored along the walkways. Demountable lightweight stairs will provide new access at key points along the quays; existing stairs, ramps, and retaining walls will be rebuilt with Pietra Serena, the characteristic gray building stone of Florence. *Claire Schiffman*

What do you give an octogenarian architect?

Early this year, Barton Simon, a real-estate developer in Eastlake, Ohio, discovered damaged drawings that his 81-year-old father had produced as a student at Yale—a design for a symphony hall which, though delineated in a meticulous Beaux-Arts style, failed to win Sanford Simon the Rome Prize in 1933. Simon *filis* had the drawings restored, and a model constructed from them. He reports that his father (who recently resumed his graduate studies in architecture) was thrilled to receive the resurrected project as a surprise 82nd-birthday gift, but less impressed by the forgotten grandeur of his scheme or the intricate construction of the model than with the steadiness of his own youthful hand.





# The new surface anodized can't match.

**commcoat**  
FLURODIZE COIL

What you see here is a brand new building material. Commcoat™ Flurodize® Coil.

The remarkable finish is made by bonding a Flurodize coating to our finest aluminum substrate, right in our rolling mill.

Commcoat looks a lot like anodized aluminum. Only better. And it comes in seven exciting colors. (Extrusions, too.)

For a price no higher than anodized.

But the difference is, Commcoat Flurodize Coil keeps on looking good

year after year. With far less weathering, fading or staining than anodized.

Nor does its color vary from panel to panel. Or crack when sharply bent.

To get your hands on some, call any of these distributors: Petersen Aluminum Corporation, Wrisco Industries or Idéal Me

Inc. Laminated panels are produced by Alucobond Technologies.

Or call us at 1 (800) 556-1234, Ext. In California, 1 (800) 441-2345, Ext.



**COMMONWEALTH  
ALUMINUM**

Commcoat is a trademark of Commonwealth Aluminum Corp. Flurodize is a registered trademark of DeSoto, Inc.

Circle 41 on inquiry card



News briefs

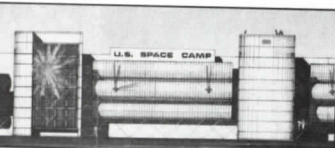
Practical, poetic



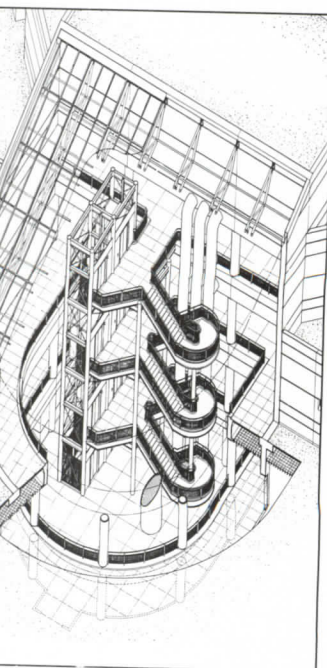
**191 Peachtree Tower** (1) appears to be a slender granite-clad shaft from the street sides of its downtown Atlanta location. Contending with a long, narrow, through-block site, John Burgee Architects (Philip Johnson, consultant) with Kendall/Heaton Associates have configured the long sides of the 50-story building as twin towers, reminiscent of New York's Waldorf Astoria. Construction will be completed late in 1990.



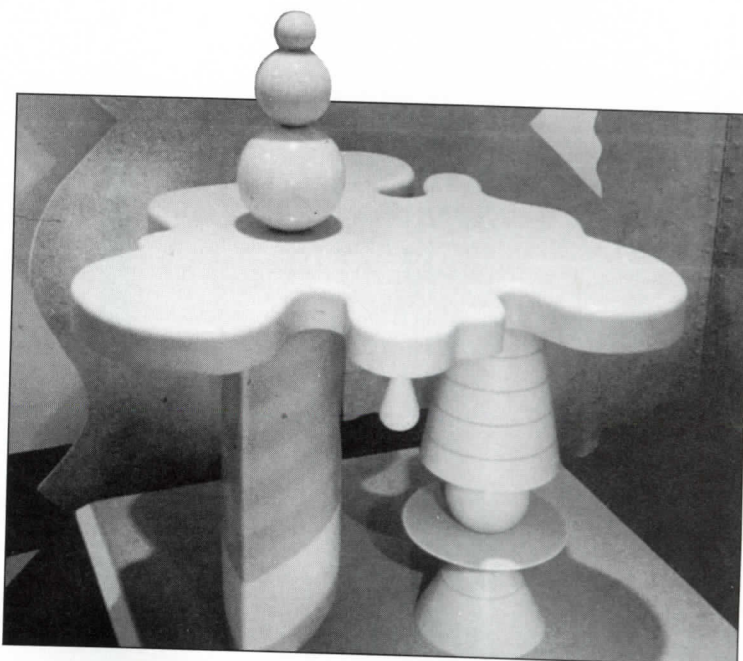
**Domino's Pizza** (2) is analyzing a new prototype freestanding store, designed by Gunnar Birkerts. While the keystone-cum-pizza-slice is intended as an iconic image for the chain, the structure is also seen by Domino's officials as evoking farmhouse imagery ("natural goodness"). If it passes muster, the design is likely to become ubiquitous: Domino's has 4,600 stores in operation worldwide.



**U. S. Space Camp** (3) in Huntsville, Ala., is a 4-story, 53,000-sq-ft "habitat" that will offer its youthful participants six-person sleeping modules with built-in exercise equipment and computer workstations. A series of metallic tubes, inspired by projected space-station designs, will be organized around an atrium. Several aerospace firms are contributing to the \$3.65-million project which is being designed by Tom Fricker of the Space and Rocket Center and Design Compendium, Architect; it will open this year.

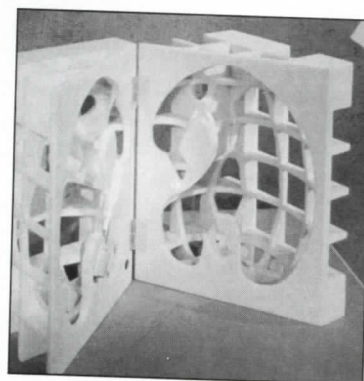


**The Applied Technology and Training Center** (4) in Michigan focuses on a five-story atrium that provides an opportunity for casual interaction of users. Architect Perkins & Will has made the internal workings of the center visible, where possible, to the students, faculty, and visiting experts from industry who will use the Grand Rapids Junior College facility to train and retrain workers for expanding midwestern high-technology industries.



Many of the entries in Formica Corporation's *From Table to Tablescape* competition were nominally domestic items: lamps, tables, chairs. As interpreted by the likes of Mark Mack, Billie Tsien, and others in the 2000X line of surfacing material, the results were, to say the least, unfettered. One lamp both glows and heats incense (Patrick Elie Naggar); another appears to be blowing in the wind (Mark Simon); a picket fence supports a glass tabletop (Brian Murphy); a serving tray becomes an extension of clothing (Karen Van Lengen & Joel Saunders). *Fountain*, by Dan Friedman,

(above) suggests a liquid solidity. Eric Owen Moss, on the other hand, has carved out the hinged, gridded cube of *One Wilshire* with organic curves (it lights when opened, below).



Competition calendar

- "Competition Diomedé" seeks ideas to unite the U. S. with Soviet islands across the Bering Strait. Write to PS #1, 46-01 21st Street, Long Island City, N. Y. 11101. Entries are due February 15, 1989.
- Expressions of interest are being solicited from architects

who would like to compete for the design of the U. S. pavilion at the 1992 Universal World's Fair in Seville. Submissions must reach the United States Information Agency by December 1. Additional information: (202/485-6414).

- Work that has been completed since January 1, 1982, is eligible for the American Institute of Architects 41st Honor Awards Program. The registration deadline is October 31, and forms can be obtained from Maria Murray, c/o Honor Awards Program, 1735 New York Avenue N. W., Washington, D. C. 20006 (202/626-7360).



# Spring Rain...Summer Sun.



And Winter snow. In every season of the year, Helios Modular Shelters are graceful, colorful structures for shade and shelter. Translucent by day, at night they are a cheerful, luminous accent that glows with underside lighting.

The pre-engineered Helios Modular Shelter is versatile. It can stand alone, or be joined and clustered in any formation that adapts to the requirements of your space. Hexagonal or square configurations in umbrella or inverted tulip shapes are standard.

More than just a pretty parasol, the Modular Shelter is the ultimate in practicality. It has a durable, ten-year-warranty membrane that can be left up through the year or demounted easily. The sturdy steel framework and membrane are engineered for heavy wind and snow loading, meeting many model building codes, and are shipped ready to install in less than a day.

Explore the many possibilities of the Helios Modular Shelter. Our literature tells all.

---

*Helios is a leading fabricator of custom designed soft shell structures, used around the world for their flamboyant, curvilinear shapes, light weight and long life. Send us your idea sketch, we'll help turn it into reality.*

---

**Helios Modular Shelters**  
at Saddlebrook, Wesley Chapel, Florida U.S.A.



**HELIOS INDUSTRIES, INC.**  
*Soft Shell Structures Division*

Helios Industries, Inc.  
20303 Mack Street  
Hayward, California 94545, U.S.A.  
Telephone (415) 887-4800  
Telex 176226  
Facsimile 4158870134

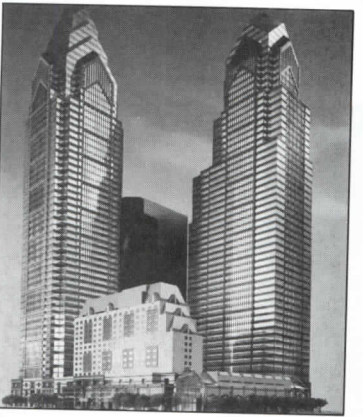
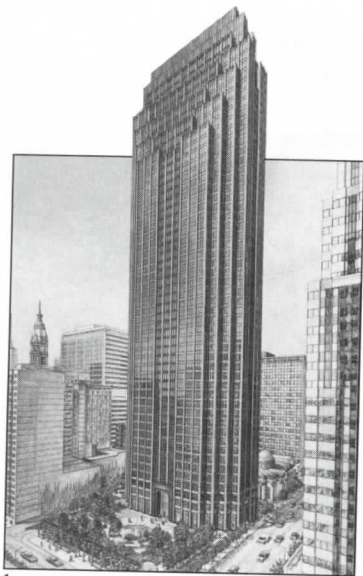


**Helios Modular Shelters**  
at Lighthouse Cove, Pompano Beach, Florida U.S.A.



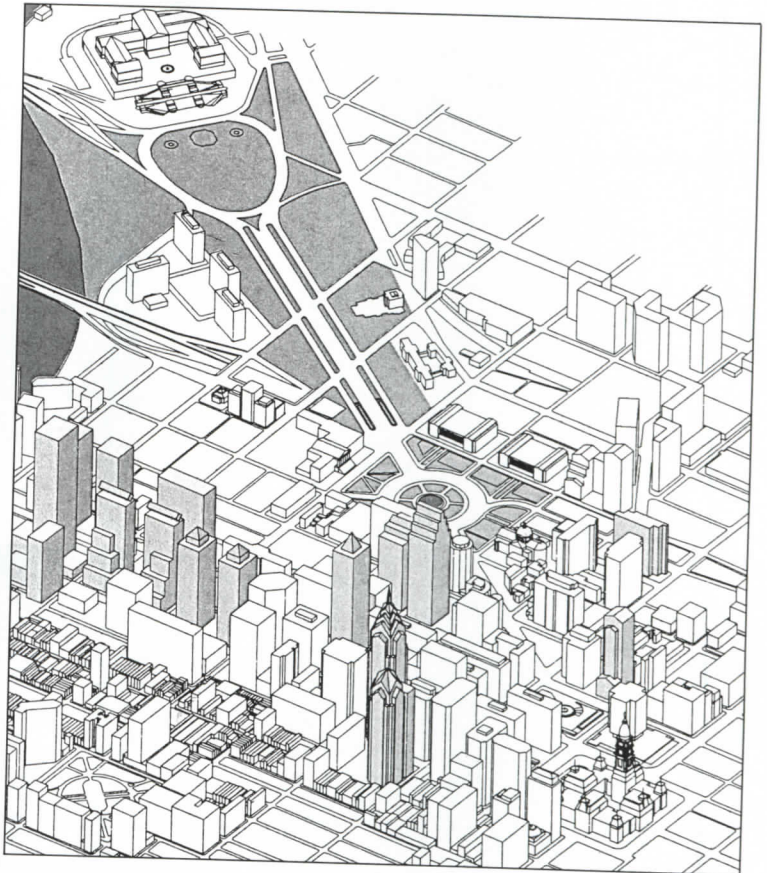
## New plan for Philadelphia: trying to do more with less

The recently unveiled Plan for Center City in Philadelphia embodies many current trends in both planning and urban design, but it is the clarity of this particular city's physical form—inherited from past pioneering efforts—that throws urban strategies applied elsewhere into sharp relief. Overlaid on William Penn's park-block-studded 17th-century grid is the diagonal Benjamin Franklin Parkway, a Haussmannesque tree-lined boulevard that radiates from the Second-Empire City Hall (at the center of Penn's plan) to the Neoclassical Museum of Art. From the 1940s into the '70s, commercial growth at the core was guided by the ambitious physical redevelopment strategy formulated by Edmund Bacon. No longer limited by a lethargic economy and a so-called gentleman's agreement" on height, Philadelphia is now seeing a spate of 50-or-more-story buildings—the previous average had been a modest 30 stories—produced by aggressive out-of-town developers. Coordinating this expansion became the impetus for the plan. Many of the greatest achievements of the Bacon years emerged from the search for a form for Philadelphia, with ideas contributed by the likes of Tomaldo Giurgola and Louis Kahn. Though widely admired and imitated in other cities, the result—an enormous remaking of Center City (which embraces the commercial business district as well as close-in residential areas)—has always been controversial within Philadelphia. Edmund Bacon thought that a great plan could be a beacon that would survive the messy here-and-now," asserts Denise Scott Brown of Venturi, Rauch and Scott Brown. As she recalls, "We vanguard planners of the social planning movement at the University of Pennsylvania were making equity in dealing with the poor, while architecture and



Growth under Philadelphia's new plan will extend the commercial core to the west, south of the diagonal Benjamin Franklin Parkway. Indicative of remaining problems, the Bell Atlantic headquarters (1 and center on map) avoids a

height limit zone with a north-facing plaza (Kling-Lindquist Partnership, architect). The 58-story 2 Liberty Place, designed by Murphy/Jahn with Zeidler Roberts, interrupts low-rise Chestnut Street (right-facing facade in 2; low center on map).



[Bacon-style planning] were going another way, clearing sites and rebuilding." In many parts of the country community-oriented plans did not produce the kinds of results that made headlines, however, and "concept" urban master plans, many of them simplistically derived from early European Modernism, were—like some of Bacon's efforts—shouted down. "Even [Bacon] might now admit that the vision and the reality were quite different things," notes Scott Brown. As it turned out, declining local tax revenues and federal budget cutbacks decimated the resources all planners customarily relied on, reflecting society's dwindling commitment to the city.

Barbara Kaplan, Executive Director of the Planning Commission says, "We've evolved since 25 years ago. Then you really needed the city to assemble sites and write down [the value of] the land in order to

get private investment. Happily, because of that activity and changes in the city's economic fortunes, you have a lot of private investment now. But we're not looking at government as the major agent of change as we were in 1964, when you had millions of dollars of urban-renewal money and you had public acceptance of the use of eminent domain on a wide scale. We are going to spend public money, but the investment will be *strategic*, to stimulate or respond to private-sector actions." In some ways, however, the new plan is actually more ambitious than Bacon's. It calls for sweeping changes in areas the untutored may not consider *planning*: new services such as job training, and a unified effort by virtually all city agencies to improve poorly delivered existing services (most obviously, sanitation and street maintenance). Critics have called Kaplan's broad approach a grab

bag of disparate ideas, lacking a coordinated set of priorities. "No matter how beautiful or appropriate buildings are, these kinds of management issues get in the way of really being a great city," replies Kaplan. (A new document, *Implementing the Plan*, organizes the concepts into categories, emphasizing those items that can be accomplished soon; i.e., with little money.)

The plan also specifies detailed proposals that will affect the physical configuration of the city but at a different scale. "The '63 plan rightly emphasized structure," explains architect Robert Geddes, of Geddes Brecher Qualls Cunningham, who is a consultant to the city. "We have emphasized the *fabric*, which means carrying ideas to the scale of zoning, historic preservation, even signs and doorways." Yet it is at this scale that problems with the plan



Zeftron® is a registered trademark owned by BASF Corporation.

Like Lowey, we've engineered breakthroughs.



Creating  
a  
Legacy  
of  
Leadership  
in  
Fiber  
Design.

Like Wright, we've explored new forms.



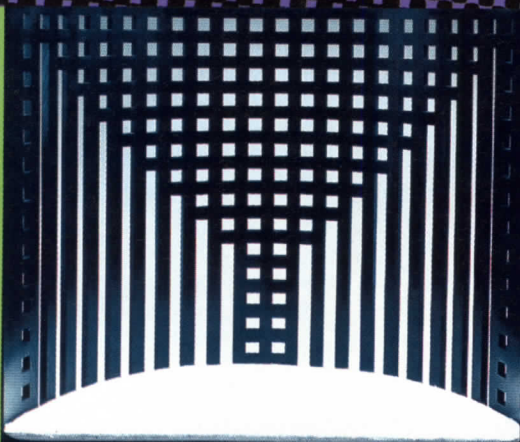
Photo credits (left to right): Ceiling of Great Workroom, Johnson Wax Buildings, Frank Lloyd Wright. Torkel Karling, supplied by David R. Phillips; S-1 Locomotive designed by Raymond Lowey, Willow 1, designed by C. R. Mackintosh, by Atelier International, Ltd.; Louise Nevelson and her work, Pedro E. Guerrero.





*Like Nevelson, we've explored new dimensions.*

It is the nature of leaders to break new ground. At BASF Fibers, that's just what we've done. We've created an unparalleled legacy of industry firsts in fiber design. In 1970, we introduced the advantages of solution dyeing to the contract market with our Zeftron<sup>®</sup> nylon fibers. We were first with a 10 year colorfast warranty. First with conductive carpets. First with contract carpet consultants. And first, more than 20 years ago, with a performance certification program guaranteeing the quality of every carpet that bears the Zeftron label from BASF. Like every other leader, we've been followed. But we haven't been caught. When you want to lead, remember the legacy of BASF, and tap into the spirit of innovation. Call 1-800-446-8953 today for a free brochure and the name of the BASF Consultant in your area.



*Like Mackintosh, we've backed our work uniquely.*

**Zeftron<sup>®</sup> nylon**

**BASF Corporation**  
Fibers Division

**BASF**

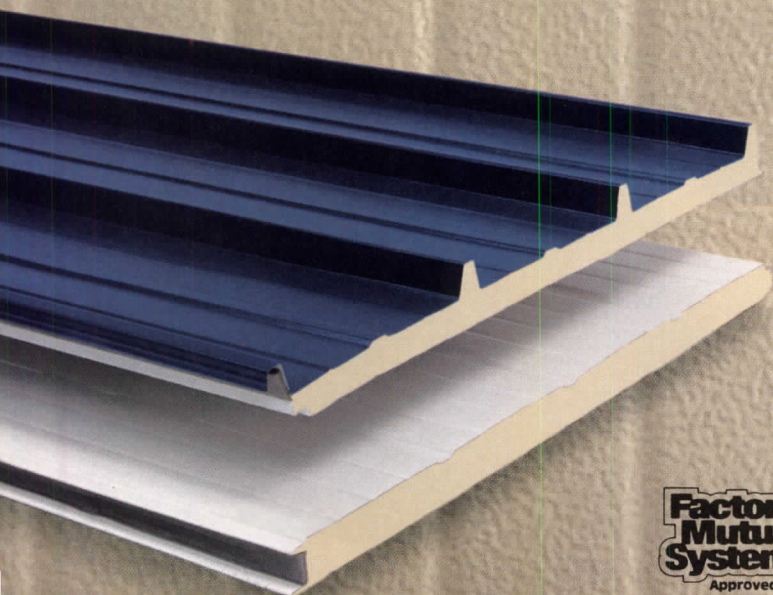
Circle 33 on inquiry card



# The Best Industrial Buildings Deserve Aluma Shield® Insulated Panels



Nissan Auto Assembly Plant—5,500,000 Square Feet of Roof and Wall Panels.



Choose Aluma Shield wall and roof panels and choose the most cost efficient high quality system money can buy. We offer a full line of panels insulated with foamed-in-place polyurethane to fit any temperature requirement for any industrial and commercial building design.

## New Panel Products For Roofs, Walls and Partitions

Aluma Shield offers a new high rib panel for wall or roof application, and is available with a choice of metals including copper. Also new is our flat exterior wall panel with concealed fasteners, and our exposed fastener partition panel for interior or exterior applications.

When compared to existing field assembled metal wall and roof systems, Aluma Shield panels provide a far superior system built in less time, with lower installation cost, and lower insurance premiums.

## New For North America — Proven In Europe

While Aluma Shield has operated a fully automated continuous line panel manufacturing system since 1983, the technology and equipment for producing our new line of panels is even better. Over 300 million square feet of complete buildings have been constructed in Europe utilizing this system... a system which is totally state-of-the-art and gives us the capacity to supply over 15 million square feet of panels per year.

This means you get the panels you need, when you need them with an assurance that our factory controlled quality and product expertise will result in a building that looks great, is energy efficient and highly affordable.

Call or write today for more information on the full line of Aluma Shield insulated panel products.



**ALUMA**<sup>®</sup>  
**SHIELD**  
INDUSTRIES, INC.

405 Fentress Blvd., Daytona Beach, FL 32014  
904/255-5391 • TELEX 808-631 • FACS 904/258-169



Design news continued from page 59

become evident. While officials claim that the plan is "in place" (as a blueprint it requires no enactment, but also has no legal force), zoning changes that implement its most critical aspects are still being formulated.

For example, height limits established for the Parkway and around the venerable City Hall (still the city's most potent symbol) will be extended to prevent erection of structures that would diminish the prominence of City Hall tower from certain vantage points. But in one case, a tower avoids the height-limit zone by stepping back behind a north-facing plaza, though new rules favor extension of street walls (figure 1, page 59). At another critical juncture, high-rises are allowed to abut three- to five-story landmarks on small-scale service streets. The 58-story 2 Liberty Place (2), for example, would not be affected by a 50-foot-high recession plane that restricts bulk on the opposite side of Chestnut Street. It is in these situations where, ironically, the lack of the kind of architectural vision Philadelphia has historically had seems most telling.

In devising guidelines to improve the street-level quality of commercial projects, Kaplan and her staff are caught between the Scylla of possibly toothless as-of-right requirements for bonus-eligible public amenities and the Charybdis of negotiating each project through an excessively complex process. (New York City, a pioneer in zoning-inspired public amenities, has repealed many rules enacted in the 1970s because of the meagerness of the "amenity" usually supplied in exchange for bonus square footage granted.) Philadelphia's planners have yet to come up with a list of amenities that are both genuine and comprehensible to the average code-review official. "There's some risk in this approach," admits Kaplan's deputy, David Baldinger, yet it also reflects an effort to put some distance between their plan and that of San Francisco. Another difference is that Philadelphia, although a pioneer in design review, will not extend review board's powers to any

aspect of the new plan). While it shares San Francisco's small-scale emphasis, "This is a plan to stimulate growth," Kaplan declares.

It may, though, be too developer-oriented. Philadelphia streets are, with few exceptions, narrow, and yet contemplated zoning lot density is as high as in much more open cities (the maximum allowable floor area ratio, at 24, is even greater than that in overbuilt New York City, at 21). Many of the city's attractive streets, already dark much of the time, are likely to become Wall Street-like canyons. Presumably to avoid conflict

within an often-contentious city council, miscellaneous actions that are either underway or were devised apart from the planners' effort have been incorporated boosterishly and uncritically, as if they had evolved in some coherent fashion—when, in truth, the city was asked to create the plan because redevelopment had been occurring in a vacuum. The plan does not tackle disconnected piecemeal development on the waterfront or in Franklinton (a privately owned 1960s urban-renewal area). And critics have questioned the location of the city's proposed convention center

on a site selected by a developer rather than the city. That the plan is not very courageous about controversial issues does not surprise Scott Brown: "American planners have never had the power of their counterparts in, say, England. And look at the money that has gone out of planning since the '60s. It is just being realistic to say, as this plan does, that you should deal with the immediate. But something very sad has happened. This document is responding to the will of society, which is not to depart from business as usual." James S. Russell

# DIMENSIONAL STONE

**Marble • Travertine**

**Granite • Limestone**

**Slate • Sandstone**

**Onyx • Quartzite**

**SOURCE INFORMATION**

**TECHNICAL ASSISTANCE**

**SPECIFICATIONS**

**JOB INSPECTION SERVICE**

Publishers of "Dimensional Stone—Volume III,"  
the industry design and specification manual.

**MARBLE INSTITUTE OF AMERICA, Inc.**  
 33505 State St., Farmington, MI 48024  
 (313) 476-5558



# Specify the vent with certified performance



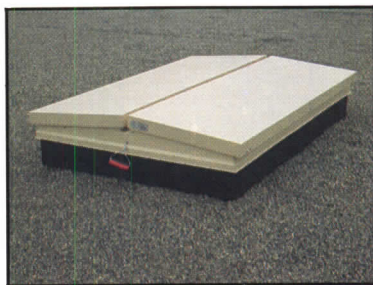
When you specify a Bilco Automatic Fire Vent you call for an insulated, gasketed, heavy-gauge product that is built to last... a vent equipped with the Bilco Thermolatch® positive hold/release mechanism. It is quality that assures your client of dependability, long service life and complete satisfaction.

Our new long form specifications include the requirement for a product performance certification and spell out clearly the quality and reliability you want for your clients. May we send you a copy?

Just write "Fire Vent Performance Specifications" on your letterhead and mail to: The Bilco Company, Dept. FS-115, P.O. Box 1203, New Haven, CT 06505.



The Thermolatch® positive hold/release mechanism assures prompt release when activated in an emergency.



And, just as important, it prevents accidental opening at other times due to wind uplift forces or vibrations.



The Bilco Company, P.O. Box 1203  
Dept. FS-115, New Haven, CT 06505



# *Sensor Operated* Another first from Haws.

## The First Water Coolers To Offer TOUCH-FREE Operation

Introducing "Hands-Off" water coolers from Haws. "Hands-Off" coolers feature a patented electronic sensor that activates the water stream as soon as a user comes within range. A built-in timer stops the water flow automatically if the sensor is blocked for more than 30 seconds, thus discouraging tampering and preventing damage to the sensor itself. Another protective feature—a time-delay mechanism—prevents accidental activation by passers-by. Now health care facilities, office complexes and all indoor public areas can be designed with the ultimate in barrier-free convenience.

## "Hands-Off," the "Smart" Water Coolers

**Models HWCF8HO, HWCF8-2HO, HWDFS8HO, HWDFS8-2HO and HWCT8HO**  
These sleek, wall-mounted units each feature a receptor, backplate and grille constructed of heavy-gauge stainless steel with #4 Satin finish. They're also available in Stainless Steel with a Sienna Bronze™ finish.

**Model HCBF7HO**  
This handsome wall-mounted model is manufactured of heavy-gauge steel and finished in Kenyan Beige Enamel. Optional finishes include: Alabaster Enamel; Espresso Enamel; Metallic Bronze Enamel; Cork Vinyl; Stainless Steel; and Stainless Steel with Autumn Bronze™.



HCBF7HO  
Stainless Steel



HWDFS8HO



HCBF7HO  
Kenyan Beige

**Envision the possibilities!**



**Haws Drinking Faucet Company**  
P.O. Box 1999, Berkeley, CA 94701  
(415) 525-5801 Telex: 33-6358

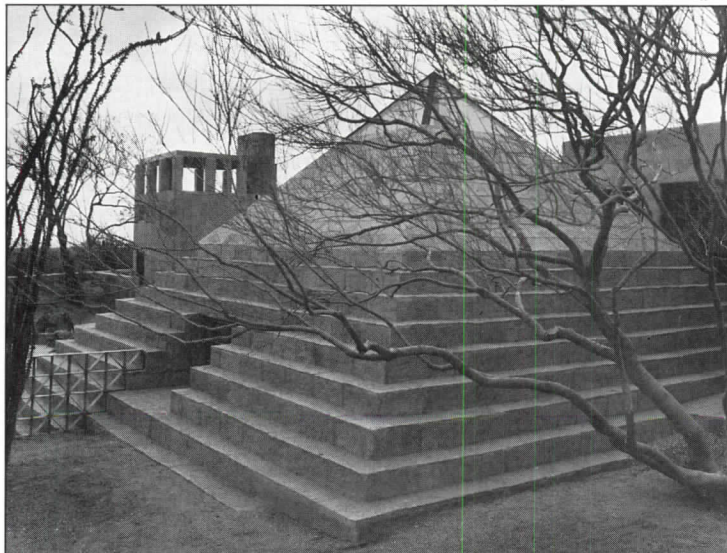
**Haws AG**  
Kirchberg/Bern Switzerland

For more information on Haws' new "Hands-Off" water coolers, contact your local Haws representative, see Sweets section 15.7C, or phone the Sweets Buylne.



## Design awards/competitions: Building Stone Institute 1988 Tucker Architectural Awards Program

©Timothy Hursley, The Arkansas Office

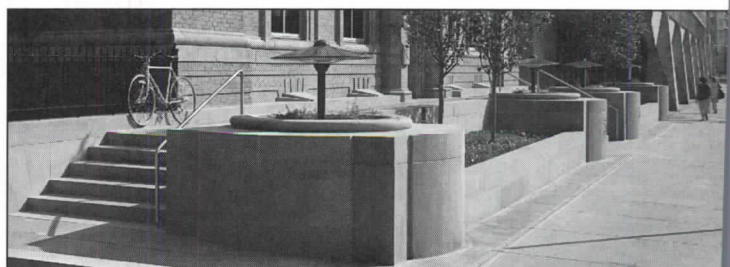


1

Five of the eleven buildings the Institute recognized for excellence in the use of natural stone were restoration or renovation projects, testifying to the continuing importance of this construction sector. Projects in the categories of nonresidential building, residential building, and interiors were also selected by jury chairman Philip W. Dinsmore, of Tucson, and his fellow panelists Bruce S. Fowle and James A. Kingsland, both of New York.



4



5

©Steve Rosenthal



2



3

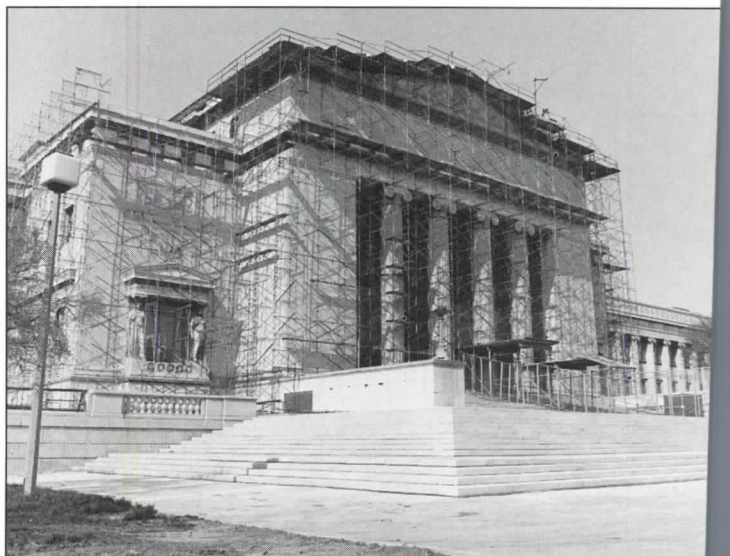
Wolfgang Hoyt

**1. Fuller House, Pinnacle Peak, Ariz.;** Antoine Predock, Architect. Perched on the edge of a mesa in the Sonoran desert, program spaces in this residence allude to indigenous land forms. The kitchen and dining areas are seen as boulders, the pyramidal den (shown) as a mountain. Predock's use of stucco trimmed with native adobe stone and his "sculptural interplay of forms" were praised by the jury as "ingenious."

**2. The Solow Townhouses, New York City;** Eli Attia Architects. Panelists commended "the subtle forms and detailing" of alternate bowed and flat rose-toned

granite facades for rhythmically distinguishing 11 luxury row houses. While abstractly traditional in exterior details facing the street, each of the 5,300-sq-ft residences is organized inside around a sculpturally dramatic 50-ft-high skylighted living space.

**3. 61 Broadway, New York City;** Skidmore, Owings & Merrill, Architect. Post-World-War-II renovations were undone and a lower-level lobby was removed in this renovation of the entrance to an office building, originally designed by Francis Kimball in 1914. The restored limestone facade and the lobby of black



6

Tim Shee

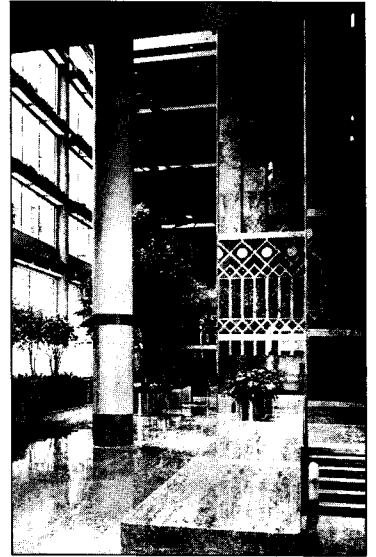
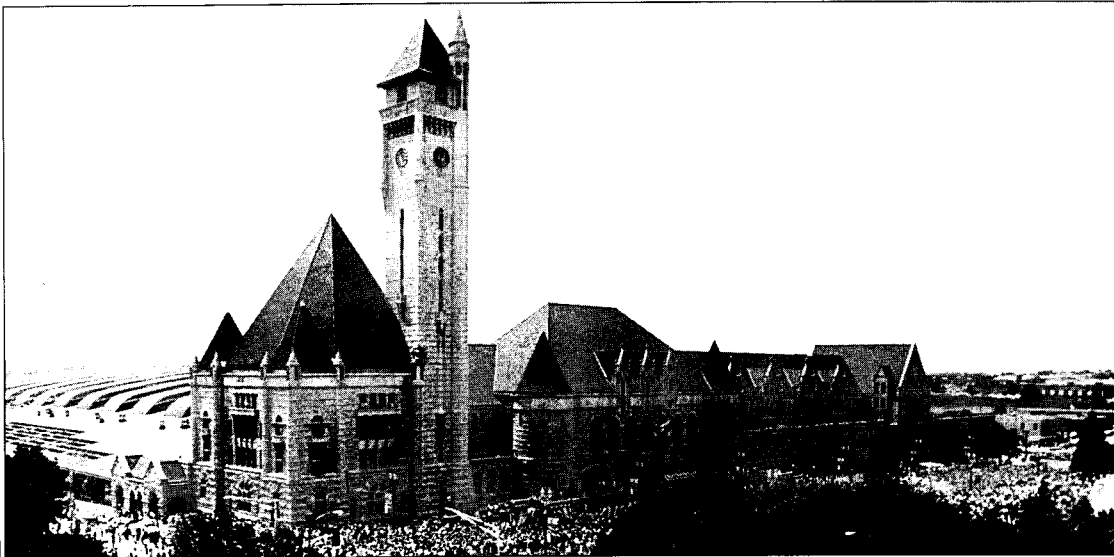
granite and white marble are "very much in the character of the original building and of many older buildings in New York's Wall Street area."

**4. New Museum and Research Complex for the Smithsonian Institution, Washington, D. C.;** Shepley Bulfinch Richardson and Abbott, Architect [RECORD, September 1987, pages 112-121]. Exhibit and support spaces are underground, but finely worked granite is prominent above ground on entrance pavilions and in garden elements. "No other material could have been used to achieve the delicate strength of the design," declared the jury.

**5. Arthur K. Watson Hall, Yale University, New Haven, Conn.;** Roth and Moore Architects. Masonry exterior walls were retained in this adaptive reuse of an 1894 structure on campus, though the interior structure was entirely rebuilt to house Yale's Department of Computer Science. At street level, a podium of bluestone panels "creates a new base for the building and makes it a much stronger statement than it originally was."

**6. Field Museum of Natural History, Chicago;** Harry Wee & Associates, Architect. An \$8 million exterior conservation

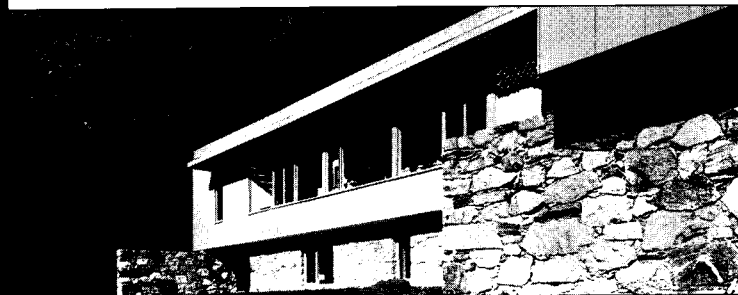




10 Harlan Hambright



©Steve Rosenthal



©Andrew Appell



©Jeff Goldberg/ESTO Photographics

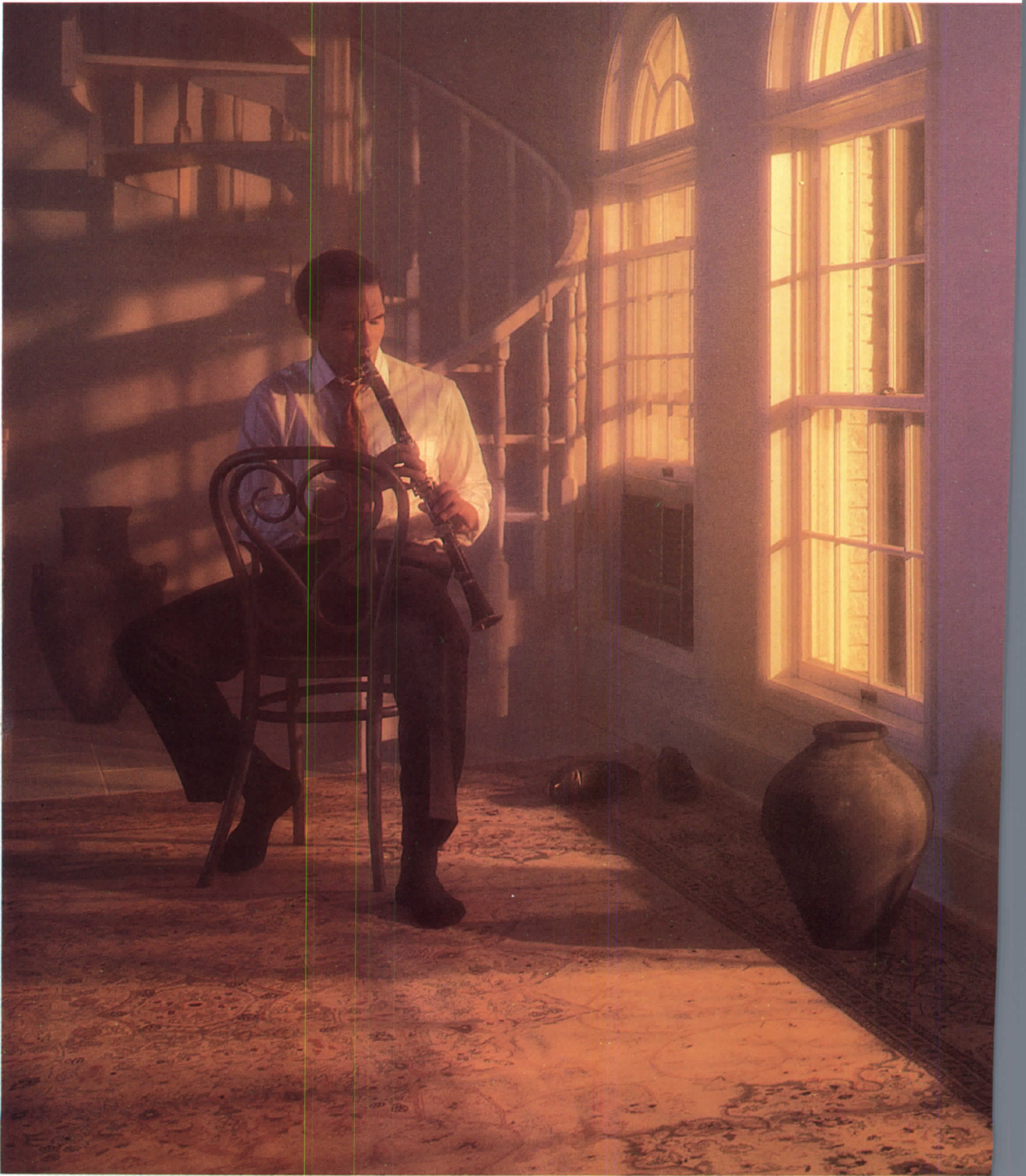
Effort is only part of a long-range modernization of this Chicago landmark, completed in 1921 to designs of Daniel Burnham. "The jury is impressed with the craftsmanship involved in this project . . . It is a true restoration in its finest detail." **St. Louis Union Station;** Hellmuth, Obata & Kassabaum, Architect. Formerly one of the busiest train stations in the country, the 1891 terminal (Theodore C. Link, original architect) now houses a 160,000-sq-ft festival market and 550-room hotel, a combination of new construction and restoration. The architects were able to

maintain what was there and create space for entirely different activities; they seem perfectly at home." **8. IBM Corporate Office Building, Purchase, N. Y.;** I. M. Pei and Partners, Architects. Detailing of this 450,000-sq-ft corporate center is "very subtly but finely resolved," according to the jury, "allowing the richness of the stone itself to prevail." Travertine cladding was selected to convey solidity and a continuity with nearby masonry residences. **9. Robeck House, New Canaan, Conn.;** Herbert Beckhard Frank Richlan & Associates, Architect.

11 A 1945 Marcel Breuer design had been altered both by subsequent owners and by progressive failure of cantilevered elements. The present architect restored the residence, added a wing, and as Breuer had, shored the sagging cantilevered walls with fieldstone piers. This work, the jury concluded, "was very sensitively handled." **10. 1615 L Street, Washington, D. C.;** Jung/Brannen Associates, Architect. New technology was used to bond 3/4-in-thick pieces of marble to a backing, making possible a mosaic effect without requiring mortar joints. Jurors called the project—a six-story

atrium lobby in a 13-story speculative office building—"exuberant" with "an uplifting quality." **11. Riverside Convention Center, Rochester, N. Y.;** James Stewart Polshek and Partners, Architect. A granite-based, glass-clad galleria links a newly developed river promenade in this revitalizing city center to a 50,000-sq-ft column-free exhibition hall. Commented the jury: "The alternating bands of granite are a unifying and enriching element to the otherwise very simple glass-enclosed components of the project."









## Cool should whisper.

We don't think you should hear it.

It's just meant to be *felt*.

To us, noise is more than a mere annoyance.

In fact, we have an entire research group that does nothing but look for ways to cut noise in the things we make.

So when our Carrier division set out to design the quietest room air conditioner in existence, all of our engineers took note.

You see, whether it's in buildings, planes or cars, silence is more than golden. It's good engineering.

The companies of United Technologies are working together to make the world a quieter place. From the ride of a Sikorsky helicopter to the elevators of Otis, from a Pratt & Whitney jet engine to UT Automotive components, we're turning down the volume.





# Great minds don't think alike.



No. 1 in a series.  
Max Pack data-entry stations designed by  
Mike Tatum, The HOK Interiors Group, Dallas.

This isn't exactly what we had in mind when we created PLACES.™

But it is what Mike Tatum had in mind.

Mike thought people in 36-square-foot workstations shouldn't feel like sardines. And he wanted their computers sitting within reach. But not on their laps.

He also wanted something no one had ever seen before.

With everything from fanlights to fabrics, wood to glass, PLACES gives you the freedom to create the spaces you always wanted to.

No matter what you have in mind.

For more information call  
1-800-344-2600.

**HAWORTH**

They're built.



# Books

**Bruce Goff: Toward Absolute Architecture**, by David G. DeLong. New York and Cambridge: The Architectural History Foundation with MIT Press, 1988, \$50.

*Reviewed by Ellen Posner*

In his lifetime Bruce Goff was viciously criticized, lavishly praised, the subject of myth, and an object of curiosity. He was called "The Michelangelo of Kitsch" by Charles Jencks; Ada Louise Huxtable, on the other hand, assessed his work as nothing less than "one of the most provocative manifestations of the American architectural genius." Although never normally associated with the Taliesin Fellowship, he often was described as having been a disciple of Frank Lloyd Wright—whom he did know well and who was an important influence on his work (Goff, in turn, was instrumental in securing the Price Tower commission for Wright). Though Goff actively practiced for some 60 years, and many of his exceedingly strange designs were widely published and exhibited, he built primarily in remote heartland locations (Oklahoma, Kansas, Kentucky, Texas, Missouri). When he arrived at Yale to teach a design seminar in 1976, it seemed to him that he had come to be regarded more as an odd survivor from another time than as a practicing architect with new ideas.

In 1987, however, five years after Goff's death, the AIA awarded his spiraling, cobblestone-clad Bavinger House a 5-Year Award. Last month, Goff's Pavilion for Japanese Art at the Los Angeles County Museum of Art (completed by former associate Bart Prince [ARCHITECTURE RECORD, September 1988, pages 99]) was formally opened. The triumphant debut of Goff's

*Ellen Posner is the architecture critic for the Wall Street Journal*

last work and largest public project is being marked by a retrospective exhibition, and by publication of *Bruce Goff: Toward Absolute Architecture*. The book's subtitle was used by Goff to describe his own work, but, according to David DeLong, he never gave it a precise definition. "Absolute architecture," as DeLong understands it, was really an "evolving ideal" and was meant to suggest an architecture that would not be dependent upon function or symbolism but that would be generated by the architect's own individualistic exploration of spatial possibilities.

Frank Gehry was an interesting choice as author of a short forward, perhaps because some of Goff's designs—the 1939 Cole House, for one, with its symbolic, angled, trellislike extension of the wood framing—show an affinity with Gehry's work. Gehry explains that he dismissed Bruce Goff and his "personal investigation" of form and space at the beginning of his own career, when he was preoccupied by "matters of social relevance." Now Gehry finds himself, as he says, "castigated for similar reasons by today's young 'socially responsible' architects, as though the artful manipulation of space, form, and materials in an individual's search for expression was in conflict with . . . social ideals."

David DeLong's text is an encomium, but it is also a thoughtful and careful documentation of Goff's "search." Goff came to architecture early and was turning out precocious drawings while still a teenager in Oklahoma. Largely but not purely imitative, his early designs particularly showed the influence of Wright, but also of Sullivan. DeLong indicates that ultimately a wide range of architects and styles were important: Gaudi, the Viennese Secession, Art Nouveau, German Expressionism,

Russian Constructivism, even orthodox Modernism and the Medieval tradition. As Goff began to come into his own, from the late 1930s through the '40s, he explored complicated, irregular, and unconventional geometries, and incorporated found objects. (The owners of the 1947 Ford House, which was at once domed, spired, and based on the structure of a Quonset hut, installed a sign in their yard that read "We don't like your house either.") In the years that followed, Goff designed small, wood-framed craftsmanlike houses, as well as unbuilt projects that took the American roadside esthetic to zany heights: a triangular all-glass chapel set over a hexagonal pool of water, the horseshoe-shaped Cowboy Hall of Fame, and the swirling concrete-framed Viva Hotel for Las Vegas.

Goff's remarkably expressive plans are reproduced here with great clarity as are his delicate perspective drawings. Photographs of built work are not all they might be (perhaps better ones just do not exist). Since many of the schemes are "internally focused," it is unfortunate that documentation

of interiors, with their podlike spaces, conversation pits, and the ritualistic placement of primitivistic fountains, pools, and plants, is frustratingly minimal.

DeLong also moves lightly over Goff's material esthetic, which ranged from goose feathers to purple-tinted mirrors and gold lamé. (In a house for a couple with a turkey farm, he employed plastic syringes—intended for poultry insemination—as sly decorative elements at the entrance.) There are few illustrations of these materials and virtually no comment by DeLong until the conclusion, at which point he volunteers that Goff "manipulated materials and finishes with a freedom that in itself constituted a kind of innovation, however brassy and unsophisticated the end result might seem."

DeLong knew Bruce Goff and was authorized to go through his papers and drawings after his death. He acknowledges that this book is just a beginning. Meticulous as it is (with extremely clear dating and indexes), it leaves critical interpretation still to come, but paves the way for it.



*"I have listened to all the theories about communal and social values. What I want to know is this: when it comes down to actually designing, why do we always end up with a bunch of pointy skyscrapers scattered around a couple acres of grass?"*



# DENS-SHIELD™ TILE BACKER FROM G-P. IT'S NOT JUST LIGHT... IT'S WATER-TIGHT.

The lightweight, water-resistant properties of the common duck feather make it one of nature's most perfect designs. At Georgia-Pacific, these same features served as our inspiration in the development of Dens-Shield™ tile backer.

## Easier To Handle And Less Expensive Than Cement Board.

Dens-Shield is a full 33% lighter than Durock® or Wonder-Board®—and far less expensive than cement board, as well. Because it's lightweight and easier to cut, Dens-Shield is easier to handle and easier to install. Dens-Shield gives the same 1 and 2-hour fire rating as cement board, yet saves you installation time, effort and cost—and no special cutting or drilling tools are required. Dens-Shield is also less brittle than cement board, so it's less



likely to chip or break—especially at the corners.

## Tougher On Moisture Than Conventional Gypsum Board.

Dens-Shield's revolutionary core consists of a unique gypsum material that provides greater water-resistance and dimensional stability. Fiberglass mats on the front and back add even more protection, and an exclusive water and moisture-resistant coating makes the face practically waterproof. Properly installed, Dens-Shield requires no additional water or vapor barriers to prevent moisture from entering the wall cavity.

Dens-Shield is ideal for use as a backer board for walls or ceilings in tile baths, showers, locker rooms, or other high-moisture areas. It can be tiled, painted or papered and



is available either 4' x 8' x 1/2" or 4' x 5' x 1/2".

Check out the light-weight, tough-performing alternative to conventional tile backer. Specify Dens-Shield—the revolutionary material inspired by one of nature's most perfect designs.

For more information and the location of the Georgia-Pacific Distribution Center or Sales Office nearest you, call 1-800-447-2882, ask for operator #1.

Georgia-Pacific  
**MORE POWER**  
*To you!*

Dens-Shield and MORE POWER TO YOU! are trademarks of Georgia-Pacific Corporation. Durock is a registered trademark of United States Gypsum Company. Wonder-Board is a registered trademark of Modulars, Inc. ©1988 Georgia-Pacific Corporation. All rights reserved.

Circle 50 on inquiry card for literature

Circle 51 on inquiry card to speak with a Sales Rep



## Phyllis Lambert: Peripatetic heroine of architecture



Laurels rest uneasily on Phyllis Lambert's brow. Although, at 61, the eminent Canadian architect has the noble, close-cropped head of an ancient Roman senator or Picasso's Gertrude Stein, she still confronts the world and all its honors with the wary frown of a precocious child unsure of being taken seriously. Marching down the streets of Montreal in denim overalls and running shoes, Lambert is ready enough to chortle over the nicknames "Joan of Architecture" and "Notre Dame de la Restauration," which she has earned at home and abroad as scholar-activist, champion of urban civility, and crusader for historic preservation. But mention the claim she has also won for philanthropy at every level of the built environment, and her hearty laughter turns staccato and dismissive. As an heiress to the fortune amassed by her father, the self-made distillery magnate Samuel Bronfman, and a strong-willed loner in her own right, Lambert has always cringed at the merest hint that her wealth and access to power might somehow diminish the authenticity of her accomplishments. "I don't consider myself rich," she once retorted in a television interview. "That's meaningless. The reality is what you do every day." The daily rigors of her self-imposed agenda, and the zeal with which she attacks them, are formidable. Active in the International Confederation of Architectural Museums,

chairman of the board of Columbia University's Temple Hoyne Buell Center for the Study of American Architecture, an advisor to the National Gallery of Canada, and a consultant to many other institutions, Lambert presides at a continuous cycle of symposia, serves as a juror for architectural competitions, lectures, and intermittently resumes research on a history of Montreal's original walled city. For the moment, though, her supreme priority is the opening next May of the permanent headquarters of the Canadian Centre for Architecture, an international museum and research complex in Montreal that she founded in 1979.

The C. C. A.'s collections of books, prints, drawings, and photographs already rival—and in some areas surpass—those of the Royal Institute of British Architects, Avery Library, and the J. Paul Getty Museum. The aim of the C. C. A., Lambert has declared, is to "make a case for architecture," to help remedy what she decries as deplorably widespread ignorance about an essential art. Lambert remains the Centre's director and chief benefactor, having single-handedly purchased its downtown headquarters site, donated more than \$10 million (beyond the \$8 million pledged by government agencies) towards construction of the new building designed by Montrealer Peter Rose, paid the salaries of a full-time staff that now numbers 100, and contributed the bulk of an undisclosed acquisitions budget (the value of current holdings is estimated to exceed \$50 million). Nevertheless, Lambert is indignant at suggestions that the C. C. A. is her personal monument. Even without this crowning triumph, or the slim portfolio of buildings she herself has designed, Phyllis Lambert would rank among architecture's few acknowledged heroines.

*Phyllis Lambert's first foray into the world of architecture was as a 28-year-old sculptor, called to assist her father in the selection of an architect for his company's headquarters, the now-classic Seagram Building in New York. Architecture has since become a magnificent obsession for Lambert, whose crowning achievement, the Canadian Centre for Architecture, will soon be installed in its first permanent home. RECORD's Douglas Brenner profiles this remarkable woman and her work.*

"Phyllis's greatest contribution has been as a catalyst," observes architect Robert A. M. Stern, a long-time friend and now colleague at Columbia University's Buell Center. "What did Henry James say about Isabella Stewart Gardner—that she was a *force*, 'a locomotive—with a Pullman car attached'? Phyllis is that person, only more so. She believes there are things that *ought* to happen in the world, and she makes them happen. Her passion and directness can offend, but boy, can she be on the mark." Phyllis Bronfman Lambert's vision and fortitude were tested early by a domineering father, the immigrant "rum-runner" she is often said to resemble in her drive and volatile temper, if not in her esthetic sensibility. Studies at Vassar and marriage to French financier Jean Lambert briefly promised deliverance from an opulently stifling background, although, ironically, it was yet another clash with her father that confirmed the young woman's ultimate vocation.

A glimmering interest in architecture sparked by her college studies suddenly flared up in 1954 when Phyllis Lambert, then living alone in a Paris studio, read reports of a New York skyscraper to be erected for Joseph E. Seagram and Sons, crown jewel of Sam Bronfman's commercial empire. As Lambert recalls, "One article about this *very* mediocre building so horrified me that I just bashed along and wrote to my father: 'You can't do that! I was in the midst of getting a divorce and Father was nervous about me. 'All right,' he said, 'you can come back and choose the marble for my building.' I was *enraged*. I told my mother 'I'm *not* coming back.' Mother said to Father, 'Dearie, maybe you should give her a chance . . .'" In a historic leap of faith (or coup of paternal cunning) Bronfman offered his

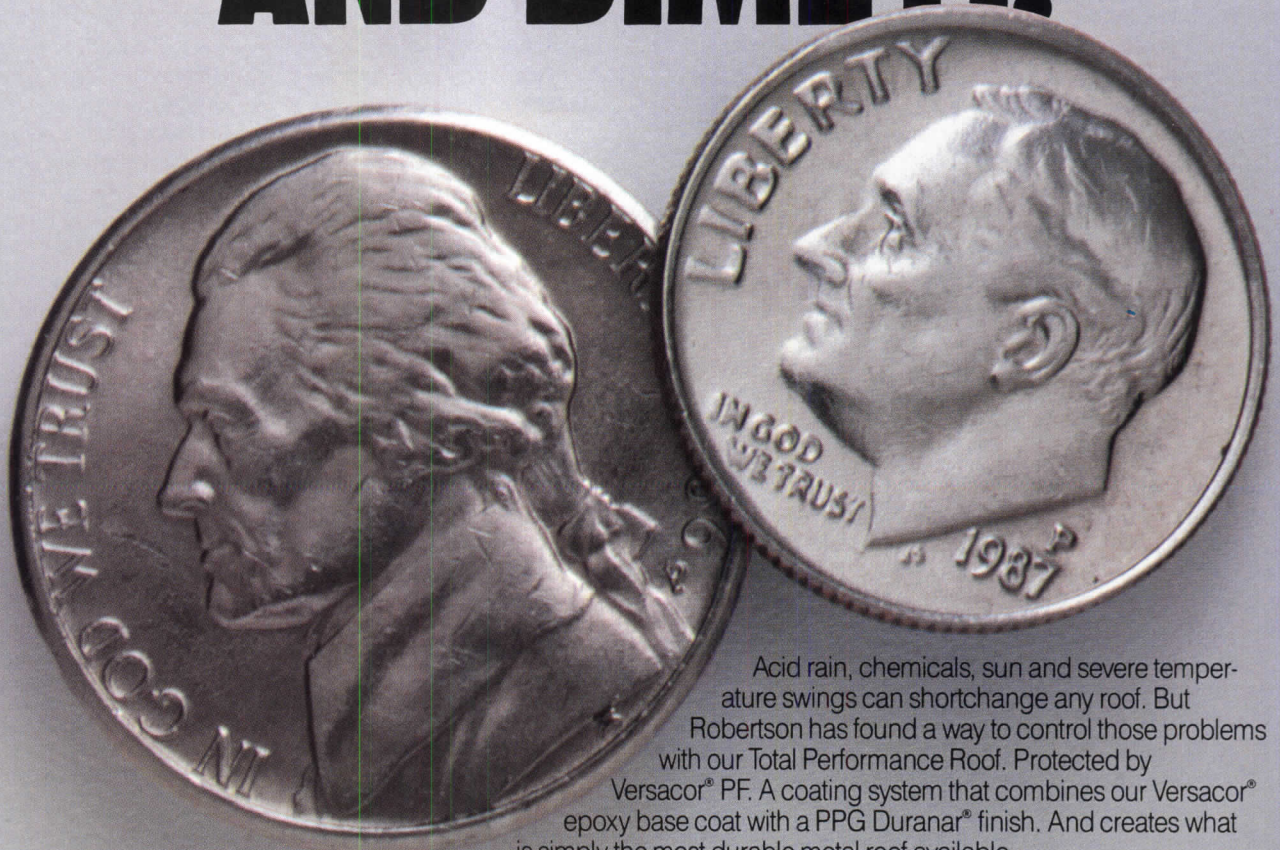
daughter the opportunity to advise him on the selection of a new architect. The 28-year-old Lambert plunged into her task with characteristic fervor, petitioning the counsel of renowned authorities and making pilgrimages to landmarks by the foremost living masters. A confessed tyro, she nonetheless bravely judged the great form-givers by her own lights. Of Frank Lloyd Wright she wrote to a friend: "His is not the statement that is needed now. America has grown up a bit and . . . Wright has expressed what it was when its energies were unharnessed . . ." Of Le Corbusier: "One is fascinated by his spaces, his sculptural forms, but are not people likely to be blinded by these and skip over the surface only?" The man of the hour, she concluded, was Ludwig Mies van der Rohe: "Mies forces you in. You have to go deeper. You might think this austere strength, this ugly beauty, is terribly severe. It is, and all the more beauty in it." Her final recommendation of Mies was so compelling that Sam Bronfman not only agreed to hire him, but appointed Lambert director of planning for his bronze-clad tower.

Philip Johnson, who joined the Seagram Building project as Mies's associate, recalls that "Phyllis's pepperiness, fieriness, and lack of tact were profits for us. Of course, she was younger then, less obdurate, even indecisive. All she knew was, 'Damn it, I'm going to build the best building anyone can build.' Her father would send people over to check on what she was doing and tell her what to do, and every one of them met bloody defeat at her hands. This little girl, slight and short, could walk into a room with eight powerful men, and if she said 'Mies wants this,' it was done. Things like that don't happen in the real world, but they

*Continued on page 75*



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



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

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

If all that sounds a little too good to be true, write H.H. Robertson Company, Department A10, 400 Holiday Drive, Pittsburgh, PA 15220. Or call (412) 928-7500. We'll send you a free copy of our Independent Test Results brochure. And show you what a little spare change can do for your roof.

## The No Compromise Roof



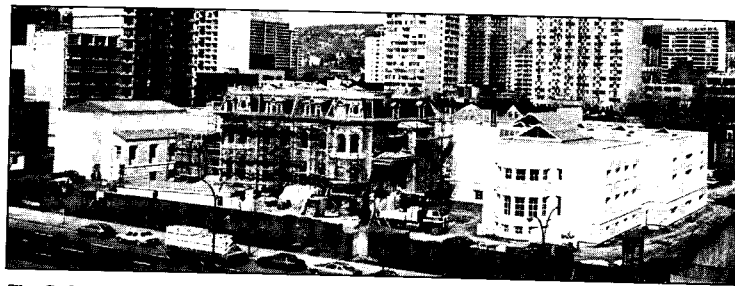
Robertson

Circle 52 on inquiry card



happened in her world." While assisting in the creation of a masterpiece, Lambert came to believe that she could best play an active role in the real world by becoming an architect herself. Mies remained her mentor, both as head of the architecture school at the Illinois Institute of Technology, from which she graduated in 1963, and after she entered private practice.

Lambert's most noteworthy design, the Saidye Bronfman Centre-YM-YWHA, in Montreal, completed in 1968, is a painstaking exercise in orthodox Miesiana. Her subsequent ventures—as consultant to major Canadian development firms, and as independent architect-developer in California, where she supervised the renovation of the Los Angelesiltmore Hotel—showed no obvious formal debt to Mies, though Lambert continued to emulate the critical "logic beyond logic" of her teacher. The focus of this relentless analysis shifted automatically around the time that Lambert moved back to Montreal, shortly after her father's death in 1971. Having rediscovered a childhood love of the city's venerable graystone buildings, she was appalled by the wholesale demolition of historic structures being carried out in the name of progress: "Watching one building after another come down, I thought, 'If it disappears, you've lost the city, that whole marvelous network that forms the medium of urban life.'" Lambert soon mounted the fight for parts of urban conservation, becoming a vocal leader of citizen-activist groups, organizer of housing cooperatives to save low-income neighborhoods ("without gentrification," she stresses), and a realist. In one skirmish over the changing streetscape, she bravely opposed the interests of the MacCallum-Fairview, a mammoth development firm backed by her family trust.



The C. C. A. (in construction), by Peter Rose, Architect; Shaughnessy House at center

Increasingly, the actual practice of architecture came to seem less fulfilling than other avenues for her interest in pressing urban issues. "I never liked selling myself, personally or as a designer," she explained recently. "In England there's something known as 'voluntary services.' You become like a person in a religious order; you don't have to go out and make a buck. I like that idea. There needs to be a *philosophy* of architecture. When there's a body of discourse, something else happens. You can pull back and be an advocate rather than be in it for yourself." While heeding the call of her conscience, Lambert also orchestrated exhibitions, supervised a Bicentennial pictorial survey of American courthouses, and systematically photographed Montreal graystones, including the former peanut warehouse she converted into her home and office. The interiors of the loft-dwelling are a self-portrait in vignettes: spartan, almost monastic, white-walled rooms; an industrial reading lamp clamped to the finger of a Rodin bronze, at the head of a mattress on the floor; books heaped on sawhorse tables beside Mies chairs; a construction worker's hard hat; a snapshot of the owner bearing a placard inscribed "Retraite obligé." Lambert's possessions have always reflected her abiding passions, and have in part provided a nucleus for the holdings of the Canadian Centre for Architecture. Similarly, her conviction that the wealth of

architectural documents she had collected ought somehow to "count," in a way they might not in a conventional art museum, helped formulate the very idea of a multifaceted study center.

"The concept of the precious object is actively repugnant to Phyllis," one C. C. A. colleague observes. "Her favorite pronouncement is: 'We collect things which show the *process* of architecture.'" Even when Lambert ran the C. C. A. from her Montreal house, she and her fellow-curators mounted full-scale traveling exhibitions, as impressive for their variety of subject matter as they were for ambitious themes that appealed to scholar and layman alike.

*Photography and Architecture: 1839-1939*, an exhibition-cum-book produced collaboratively in 1984 with curator Richard Pare, drew universal attention to one of the C. C. A.'s unparalleled strengths. Now comprising some 45,000 items, this assemblage of architectural photographs at the Centre is the finest resource of its kind anywhere. Images range in scope from tiny daguerreotypes to vast compendia on the scale of a 600-picture sequence chronicling the erection of Scotland's Forth Bridge. Phyllis Lambert's fascination with building technology—be it fortress engineering or the hydraulics of Mannerist fountain design—is also apparent in the C. C. A.'s collections of books and graphics. Above all, however, it is the abundance, diversity, and richness of the whole enterprise that dazzles the visitor. The

120,000-volume library encompasses the historical spectrum from incunabula scribed in the 15th century (among them one of the first Renaissance editions of Vitruvius) to ephemera of the 20th-century avant garde. Arguably less comprehensive, the treasury of prints and drawings is equally catholic in its intended reach.

The largest object in the entire collection is the Shaughnessy House, a mansion built in 1874, rescued a century later by Phyllis Lambert, and now restored as part of Peter Rose's handsome ensemble. More than six times the size of the Victorian relic, the new 130,000-square-foot structure adroitly defers both to its elder partner and to other venerable buildings in surrounding streets. Rose and Lambert (who is consulting architect as well as client for the project) agreed that the addition should sustain the local tradition of graystone facades, exquisite craftsmanship, and essentially classical proportions without sacrificing modern technology or resorting to stylistic pastiche. "Arguments over Modern versus Postmodern are meaningless," Lambert declares. "Most architects today are just packagers anyhow—including Philip [Johnson]. The only difference between them is that some are clever and some are not. We don't need more 'symbolism.' We need to ask how does a building approach its neighbors? How can we reconstruct the city, take it back?" Lambert pursues this inquiry more vigorously than ever as the C. C. A. prepares for its new home. She has yet to address other vexing questions that echo through the unfinished halls: having dedicated a forum to her own high ideals, how generously will she endow its future—and how graciously yield the floor when others rise to speak? *Douglas Brenner*



# EIFS AND 100 THE PAST, PRESENT AND

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

Times change. Brick, stucco and p  
concrete aren't the age-old answe  
anymore. Because high-quality EI  
with 100% acrylic-based coatings  
deliver excellent resistance to ult  
degradation, moisture and enviro  
pollutants. Plus, greater design fl  
Today, thousands of buildings  
and new, use EIFS. It's a lightwei



# CRYLICS. UTURE OF EXTERIORS.



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



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

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

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

...AND 100% ACRYLICS. FOR BEAUTY THAT ENDURES.





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

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



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

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

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

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



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

### A high note for each suite.

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

### Grand results brought Norco back for an encore.

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

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

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

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

Norco can make your imaginative window  
designs a reality.

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



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



**Architects:**  
Earl Swensson Associates  
Nashville, TN

**Windows:**  
Norco Windows, Inc.  
Hawkins, WI

*Masterpieces in wood windows and doors.*



**NORCO**  
**WINDOWS, INC.**

P.O. BOX 309 · HAWKINS, WI 54530  
PHONE: 715/585-6311

Circle 54 on inquiry card

© 1987 Norco Windows, Inc.





# REFLECTIONS OF THE FUTURE

Our spirit of innovation takes you even further into the future with the Design Concepts® Collection 2. The collection that revolutionized laminate by combining gloss and matte finishes now introduces two new patterns, "Flip" and "Rock," and a range of exciting new colors. Because Design Concepts® Collection 2 is the leading edge of design, the future is now.



For additional information, call 1-800-524-0159;  
in NJ 1-800-624-1914; in Canada 1-800-363-1405

Circle 55 on inquiry card

TABLE DESIGNED BY CONSTANTIN BOYD

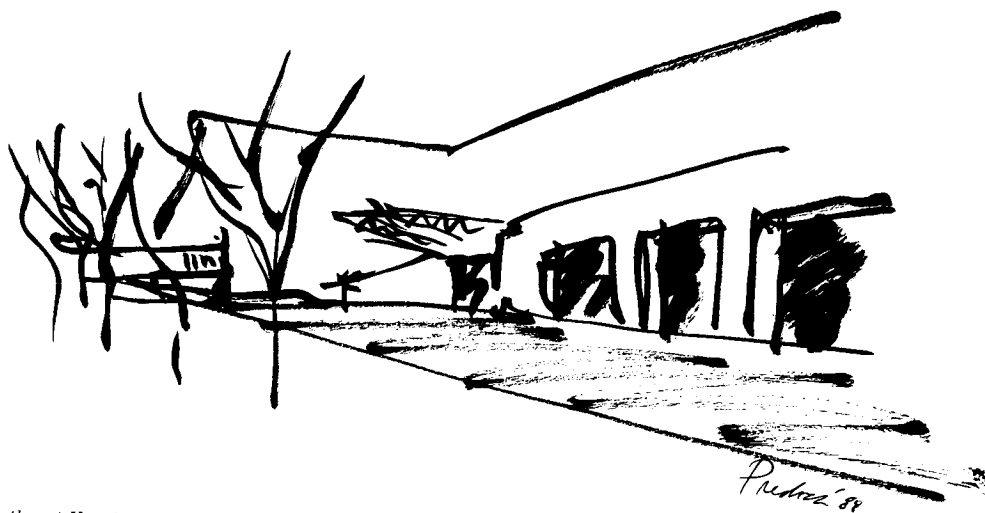


# In this issue

We are all over the map this month, so to speak, in a wide-ranging spirit personified by the well-traveled architect Antoine Predock, delineator of the sketch below and subject of a portfolio on pages 88-97. RECORD's thematic range may not stretch as far as Predock's—whose sources include music, dance, archaeology, and science fiction—but we are just as committed to exploring the diversity of our field. The journey encompassed in the following pages begins in familiar territory, a Modernist office building for IBM by Gwathmey Siegel & Associates (see pages 82-87). This project's exquisite pragmatism is a noteworthy reminder that sometimes the most successful solution to a given problem is the one that confidently honors recognized esthetic and technical boundaries, rather than straining after far-fetched allusions and special effects. The former may not proclaim its ingenuity as boldly as the latter, but may be all the more satisfying for its subtlety.

A very different perspective on the pleasure of rediscovering things we *think* we know inside and out comes with an excursion to two children's-museum installations designed by architects (pages 98-103). The respective subjects of these exhibits are the basic elements of art and architecture, charmingly devoid of capital "A"s and more fun than a Bauhaus full of monkeys. It's back to the grownup realm of corporate culture and bottom lines in a Building Types Study on design for industry (pages 104-113). A clothing distribution center, a water treatment facility, and a plant/office/warehouse are not exotic assignments, and the finished products are not glossily high-tech. Nevertheless, the architects behind our examples have all refused to turn out assembly-line structures. Efficient and economical, their buildings also respect the people who work in them and the sites they occupy; in short, they exemplify what one architect calls "industrial politeness."

Joie de vivre is not a common term in the architectural lexicon, but it's the phrase that best describes another building in this issue, the restored and expanded Michelin House (pages 114-119). Though located in London, this eccentric edifice fairly sparkles with Gallic wit. "Worth a detour," as the Michelin guidebooks say. Future guides, no doubt, will shower stars on Canada's newest landmark, the National Gallery in Ottawa, designed by Moshe Safdie as nothing less than a monument among monuments. The tour begins on page 120.



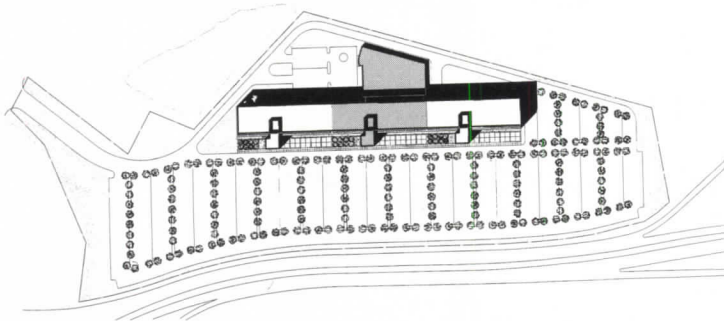
Northwest Housing, UCLA, Antoine Predock, Architect



Regional offices for IBM and tenants successfully integrate big-city refinement into the suburban spec-office landscape.

## Face value

©Richard Bryant photos



If ever there were an architect-client relationship made in heaven, it is the marriage of Gwathmey Siegel & Associates and IBM. Both artist and patron have adopted a stock in trade of functional logic and formal understatement—Gwathmey Siegel through a straightforward manipulation of materials and space-planning principals that has consistently reinforced the validity of architectural Modernism, and IBM through a corporate ethic that tempers profit-motivated impulses with the detached eye of a research scientist. Given the two firms' affinity for the poetic potential of common sense, it is altogether fitting that the computer giant turned to the New York architects for the regional offices of its marketing and national service divisions, located on a rolling 21-acre site formerly occupied by a golf course just north of downtown Greensboro, North Carolina.

Although Gwathmey Siegel has compiled an impressive portfolio of suburban office buildings over the past decade [see *RECORD*, July 1985, pages 100-115], Summit Green, as the Greensboro project is dubbed, presented the architects with a number of new challenges. For one thing, it was the firm's first work in poured-in-place concrete, which for reasons of climate and cost is traditionally preferred over steel-frame construction in the Southeast. Second, the 145,000-square-foot building is only the initial phase of a projected 385,000-square-foot complex, requiring the architects, in Charles Gwathmey's words, "to design something that could stand alone yet not lose its integrity" when future additions are built to the east and west (site plan left). Then, too, Gwathmey Siegel had to deal with an idiosyncratic program: five floors of offices and an attached one-story warehouse for IBM's parts-distribution component. Finally, even though IBM was the principal driving force behind Summit Green, Big Blue occupies only 70 percent of the completed first phase; the remaining space is speculatively leased. In order to attract prospective tenants, the architects had to devise a flexible interior with as many perimeter offices as possible, keeping in mind that IBM's presence, and financial backing, also demanded a higher level of design than this building type normally delivers.

Robert Siegel aptly characterizes the results as "architecture with a capital A." In response to Summit Green's setting alongside heavily trafficked Wendover Avenue, Gwathmey Siegel elected to configure the building as a linear, almost two-dimensional architectural graphic meant to be easily read from the highway. The architects exploited the building's structural system by positioning the glass-walled south-facing facade five feet behind a reinforced-concrete brise-soleil, and they successfully utilized the volumetric device of a full-height entrance tower—articulated by a four-story bay window, glass block, and a clear-glass curtain wall—as a vertical counterpoint to the building's overriding horizontality (top left and opposite). In contrast to the sculptured elegance of this street-facing facade, the northern elevation exhibits a far more utilitarian demeanor, shaped not only by the warehouselike character of IBM's service and parts-storage wing but also by a tripartite storefront glazing system on the office block that comprises reflective, clear, and white spandrel glass panels set between the building's concrete floor slabs (bottom left). In real-estate terms, the payoff for Gwathmey Siegel's meticulous architecture has been 100-percent occupancy from opening day at Greensboro's highest commercial rents; for IBM's public image, however, the value of Summit Green's handsome face is incalculable. *Paul M. Sachner*



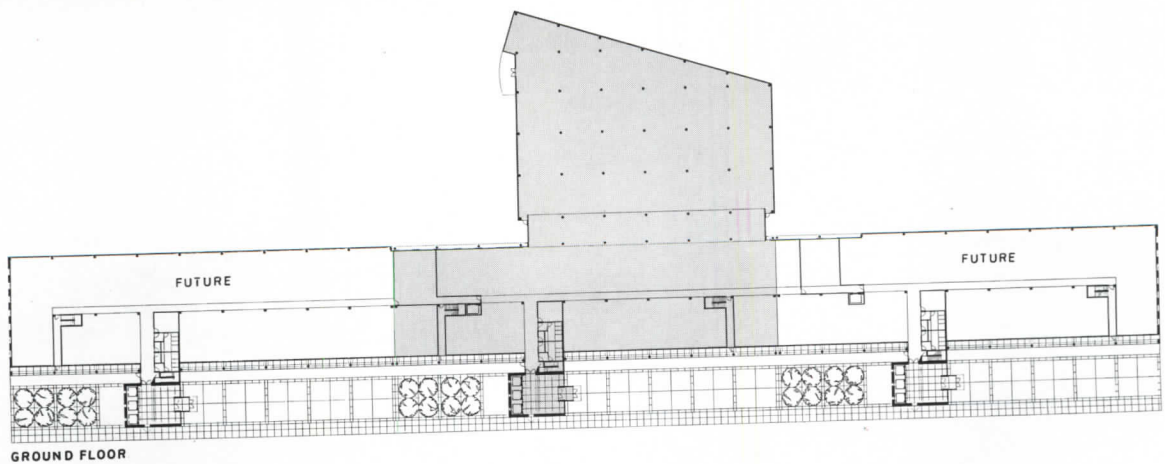
Summit Green  
Greensboro, North Carolina  
Gwathmey Siegel & Associates,  
Architects





*"In all our work," notes Charles Gwathmey, "we try to make materials a direct proposition in the design." Summit Green's material palette of gleaming white ceramic tile, porcelain-enamel panels, glass block, clear-glass curtain wall, and exposed*

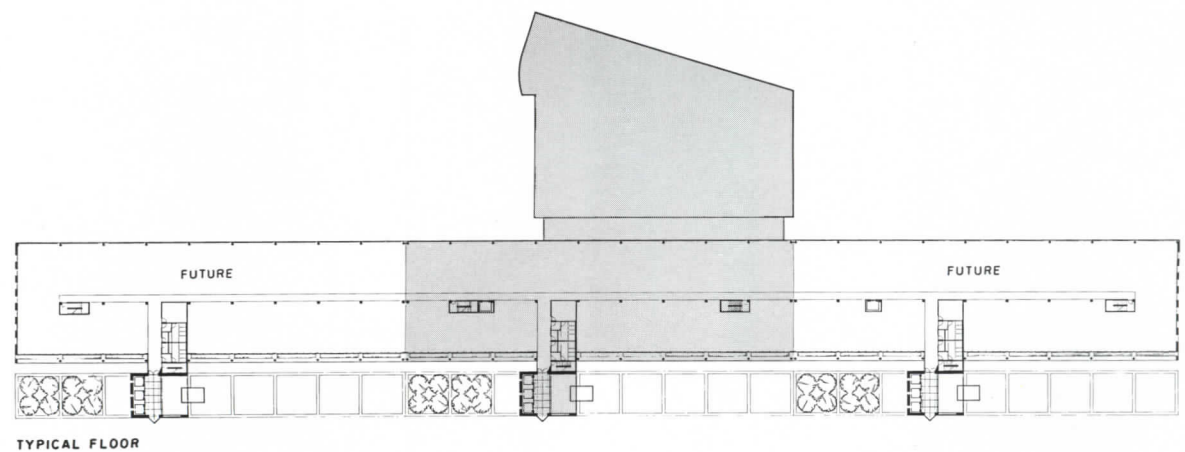
*reinforced concrete reflects the architects' decidedly Modernist roots. In addition to breaking down the scale of Summit Green's south elevation, the five-story tower housing the project's atrium lobby, elevator banks, restrooms, and fire stair*





allowed Gwathmey Siegel to plan an uninterrupted interior of 35-foot-deep offices flanking double-loaded corridors. Elevator passengers enjoy momentary glimpses of the North Carolina countryside through two-foot-square windows punched into the

tower's western wall (opposite left). Three-foot-wide metal grating set between a concrete brise-soleil and the glass window wall diffuses sunlight entering south-facing offices and serves as a convenient platform for window washers (opposite right).





*Gwathmey Siegel softened the jarring juxtaposition of building and parking lot that often mars suburban commercial developments by setting the office block of Summit Green behind a landscaped forecourt whose definition will be clearer once*

*the project's phase-two entrance tower is completed. The architects brought the outdoors into the five-story atrium lobby by sheathing the tower's eastern facade in a full-height clear-glass curtain wall (below) and its southern flank in translucent, 12-inch-square*





glass blocks (opposite). Building occupants emerging from the elevators onto atrium balconies have striking views of Summit Green's concrete sunshade through crisply layered grids formed by white-painted steel balcony rails and the mullions and frame of the curtain wall.

Two-sided bay windows terminate each balcony (below) and were designed, according to Charles Gwathmey, to allow people waiting for elevators "to step beyond the building facade" and enjoy a panorama of the surrounding countryside and downtown Greensboro.



Summit Green  
Greensboro, North Carolina

**Owner:**  
Green Valley Associates

**Architect:**  
Gwathmey Siegel &  
Associates—Thomas Phifer,  
associate-in-charge; Richard  
Holsor, associate; Philippe  
Berndt, Thomas Levering,  
project team

**Engineers:**  
Sedri & Russ (structural);  
Jones, Nall & Davis  
(mechanical)

**Consultants:**  
Jan Lorenc (signage); CHA  
Designs, Inc. (lighting)

**General contractor:**  
McDevitt & Street



# Out of Albuquerque

"You're a regionalist if you can't get a job out of state," quips Albuquerque-based Antoine Predock, who is quick to dissociate himself from the label by pointing to a group of recent commissions all comfortably outside New Mexico state lines (opposite through page 97). A transplanted Missourian who responded to the "lure of the West" 34 years ago, Predock has been identified with his adopted home—until recently, at least—not only as the geographic location of his built work but also as the formal and material source of his inspiration. Now, however, having successfully established his territory, Predock is eager to extend his reach. The eventual completion of the five projects shown here—all currently in late phases of design development or early stages of construction—will physically secure this wider stronghold, even though the architect's theories have already acquired an international reputation. A recent profile in *Time* magazine, for example, hailed Predock as the "first great New Age architect"—a local guru with a global perspective.

That unusual perspective is a result of Predock's diverse preoccupations. In a single bound, he is apt to leap from discussing his views on the sociological mission of architects ("Testing theoretical boundaries . . . as well as being a closet anthropologist" is only part of Predock's self-imposed mandate) to commenting on his own athletic prowess (he looks forward to skiing his Wyoming building). Although he has been a prolific sketcher since childhood (this month, the John Nichols Gallery in New York will mount a show of recent drawings and models), his insatiable urge to document his surroundings did not immediately suggest a career in the arts. In fact, Predock had no particular field in mind when he entered the University of New Mexico in the early 1960s; he enrolled in his first design course because he admired the professional commitment of the professor. Once seized by the prospect of becoming an architect, however, Predock attacked his new-found field of interest from many angles, supplementing requisite studios with painting classes and office apprenticeships. Awed by the architectural heroes of the day, especially Frank Lloyd Wright, whose "maniacal intensity thrilled and inspired me," Predock set out to emulate the master's attention to detail. Following a final year of schooling at Columbia University and a postgraduate traveling grant to Spain, Predock settled briefly in San Francisco where he absorbed the lessons of a diverse group of artists, including the choreographer Anna Halprin. Fascinated by her attempts at blurring distinctions between random and planned movements, Predock strove to create similarly "organic" compositions. After returning to Albuquerque, such methodologies continued to absorb Predock, who now attributes his own deliberate lack of a signature style to the models of indeterminacy set by Halprin and the composer John Cage. Beyond providing a forum for his own research, such extradisciplinary studies also helped Predock distance himself from the historicizing of many of his colleagues, a detachment he sums up in the assertion "I have always been more interested in Ray Bradbury than in Andrea Palladio."

Although Predock is often typecast as an architect of single-family houses, he has maintained a steady flow of commercial and institutional projects in his 21 years of practice. But it was only after returning from a one-year fellowship at the American Academy in Rome in 1985 that Predock devoted his energies to securing larger commissions, his medium being several major "do or die" competitions. In quick succession he won the Fine Arts Complex at Arizona State University (page 94), the University of

*Long-distance commuting can be a chore, but for Antoine Predock, of Albuquerque, projects outside New Mexico are a welcome opportunity to prove that he has outgrown the epithet of "regionalist."*

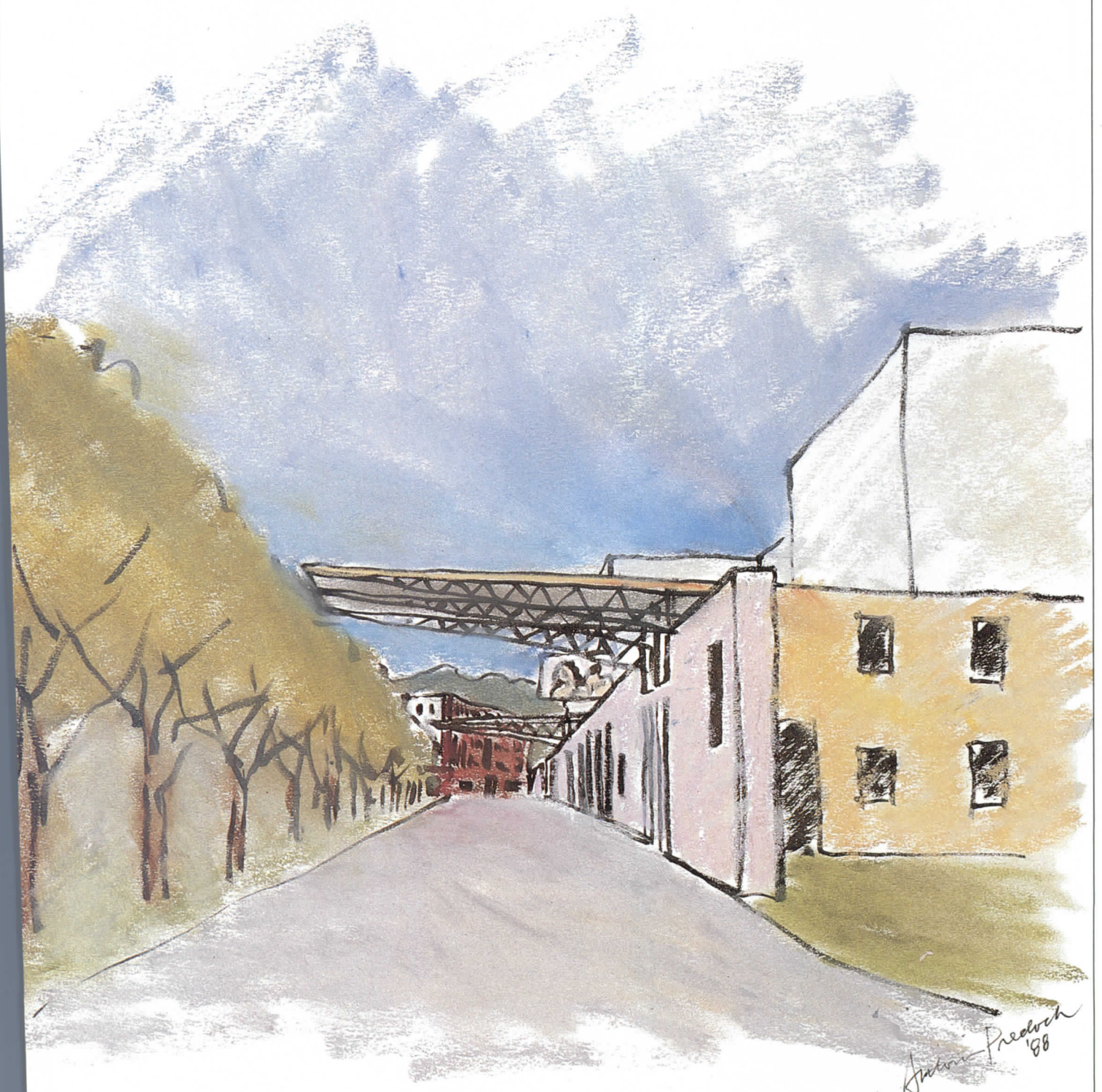
Wyoming American Heritage Center and Art Museum (pages 92-93), the Las Vegas Library and Children's Museum (not shown), and the Classroom/Laboratory/Administration Building at the California State Polytechnic University in Pomona (CLA; page 95). Predock's definition of architecture as "a surrogate land form" became more evident through the expanded scale of these projects, as did his ability to tailor his helter-skelter symbolic references to the specifics of a given location. His scrutiny of what he loosely refers to as "urban patterns" transcends the city grid to include geological formations and subcultural obsessions, providing him a vast thematic umbrella for his designs. In dismissing conventional notions of context in favor of more cosmic ones, Predock argues that "In the immense conceptual cross section, with geology at the bottom and UFOs at the top, the grid is a barely discernible event."

A scenographic assessment of place is Predock's prologue to choreographing a program. His design for the Forum Theater for the University of California in San Diego (pages 96-97), for example, relies on an almost literal assessment of the universal rituals of theatergoing overlaid with particular characteristics of the given site. Predock partially masked the main hall and adjacent practice studios with a 230-foot-long wall of mirrors intended to enhance any public spectacle. Embellished rituals also figure prominently at Pomona. There Predock devised a tripartite configuration by sorting out components of the program and identifying imagery-potent points of reference: a historic building, the flight pattern into nearby Los Angeles airport, student traffic through a rose garden. He then submitted his social musings to the pattern of archetypal forms by fitting the various pieces into a chamfered triangle set atop a mesa (for all his worldly references Predock still depends heavily on the motifs of his region). Several of the projects are different incarnations of the same metaphor. Like CLA, the ASU Fine Arts Complex and the American Heritage Center and Art Museum are meant to be conceptual gateways between the desert and academic enclaves. Configured like an abstract sphinx, ASU exhibits Predock's flair for the dramatic. According to his design, one of the dance theater's facades will be elongated by a fascia that can serve as a screen for outdoor film festivals. (Predock had hoped to further his drive-in theater imagery by mounting speakers in the parking lot, but the client objected.) Shielded by rows of topiary that contrast with the overgrown foliage of a nearby cemetery, the apparently hermetic Heritage Center conjures up the domain of some James Bond foe. The masonry dome will contain a maze of archives and reading rooms that form what Predock calls "a volcano of knowledge," whose crater will literally smoke with the exhaust of a central hearth. Programmatically his most prosaic scheme is a dormitory for the Los Angeles campus of the University of California (page 89-91), which Predock shaped into a pyramidal block to create an instant monument for the hillside.

A telling example of Predock's eagerness to capture and synthesize every possibly significant aspect of site and program is his purchase of a portable video camera before departing for his stint at the Academy, in hopes of replacing his pencil and sketch pad with more up-to-date equipment. Once in Rome, shooting from the hip like a 1980s cowboy, Predock recorded some 1,000 minutes of video—besides making 500 drawings and filling 70 rolls of slide film. The effort to bring every culturally relevant form of inspiration to bear on architecture continues and Predock cheerfully confesses, "Sometimes I don't know where to stop." *Karen D. Stein*



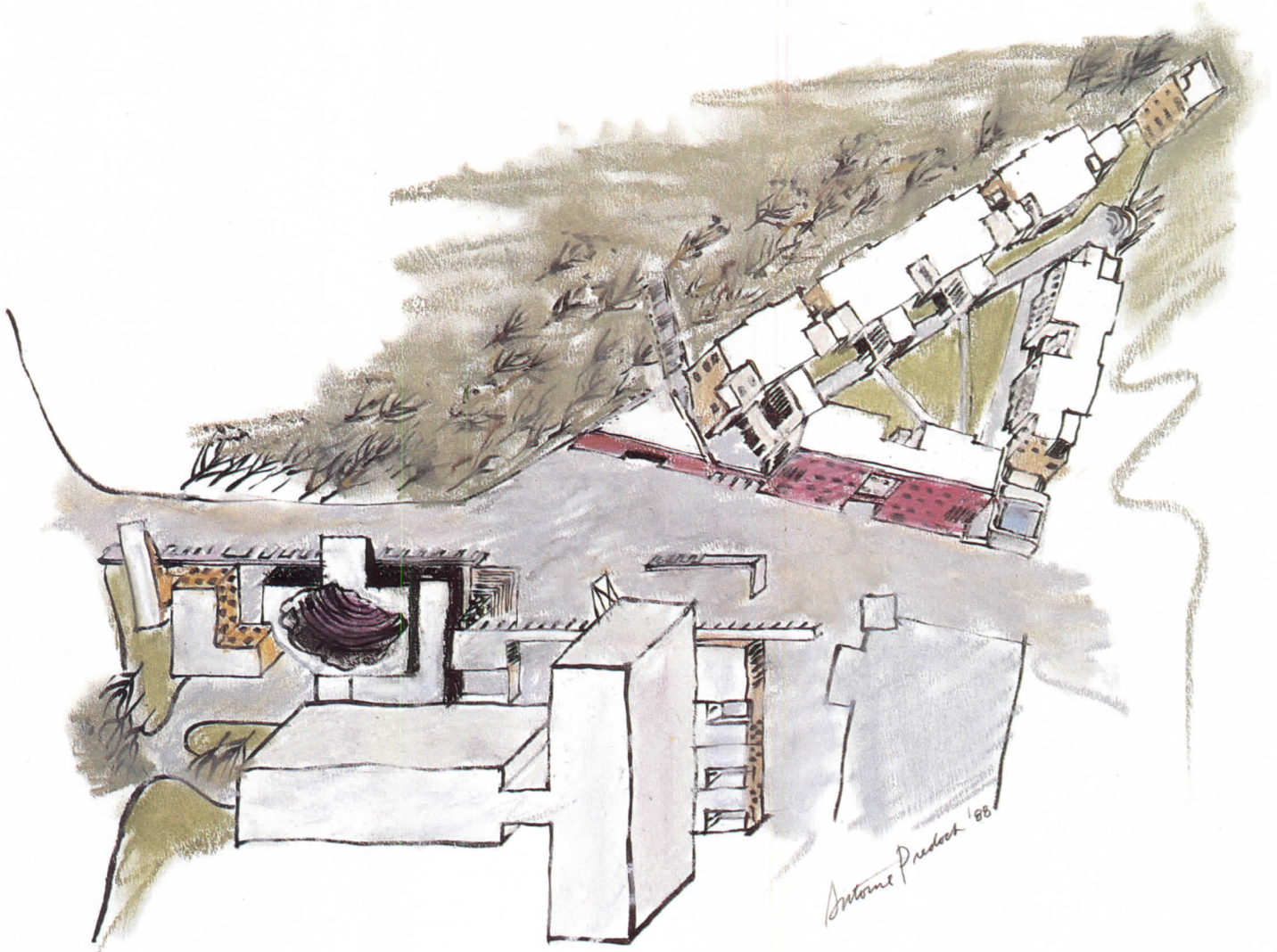
Five projects  
Antoine Predock, Architect



*Antoine Predock '88*



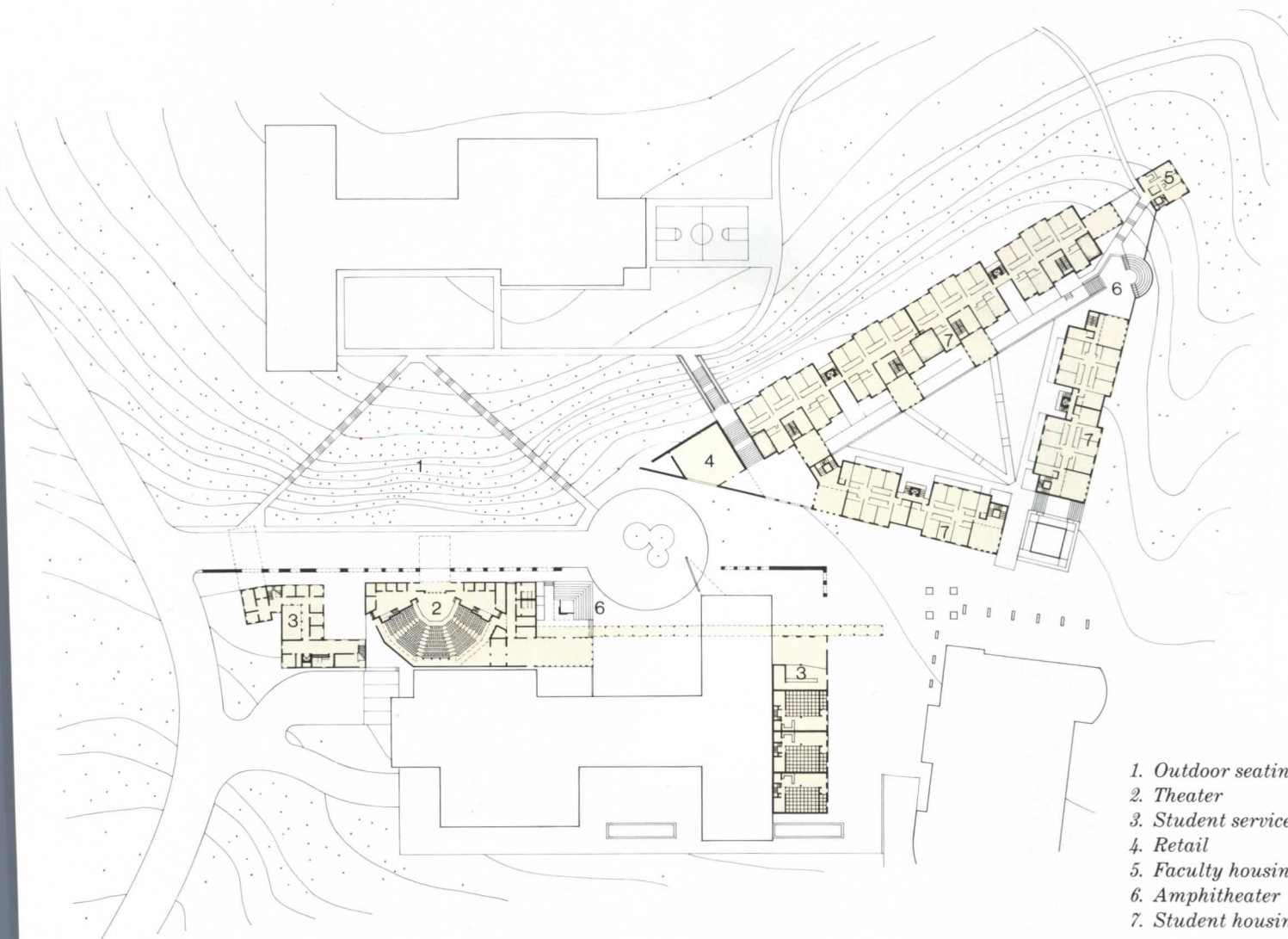
## Northwest Housing University of California, Los Angeles



Antoine Predock's office is one of three firms currently designing 400-bed dormitories for the northwest sector of the University of California's Los Angeles campus (the other firms are Esherick Homsey Dodge and Davis and Barton Myers Associates; Gensler and Associates is the coordinating architect). In addition to housing, Predock's commission comprises assorted "infill," including an auditorium and a variety of student service offices, to be appended to a 1960s building (plan opposite). Hoping to enhance a vehicular passageway and cul-de-sac, Predock fronted

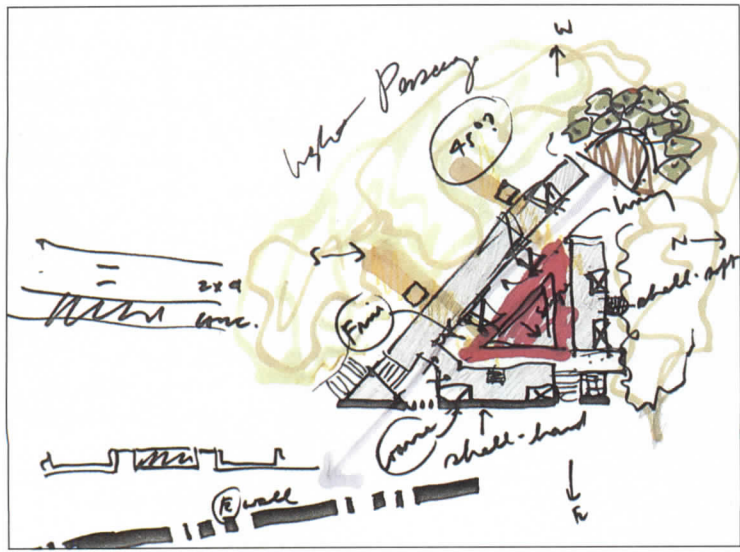
the existing building with a projecting canopy that will demarcate an outdoor gathering place (drawing previous page). He likewise exploited the contours of the site by setting his triangular dormitory into the hillside. The building has eight subsections, each with its own entrance; accommodations for 50 people; and a common double-height living room that faces the heavily trafficked stairwell. While the repetitive aspect of the individual suites could not be overcome by a modest budget, the 10-foot change in grade will afford each room a different view. *K. D. S.*





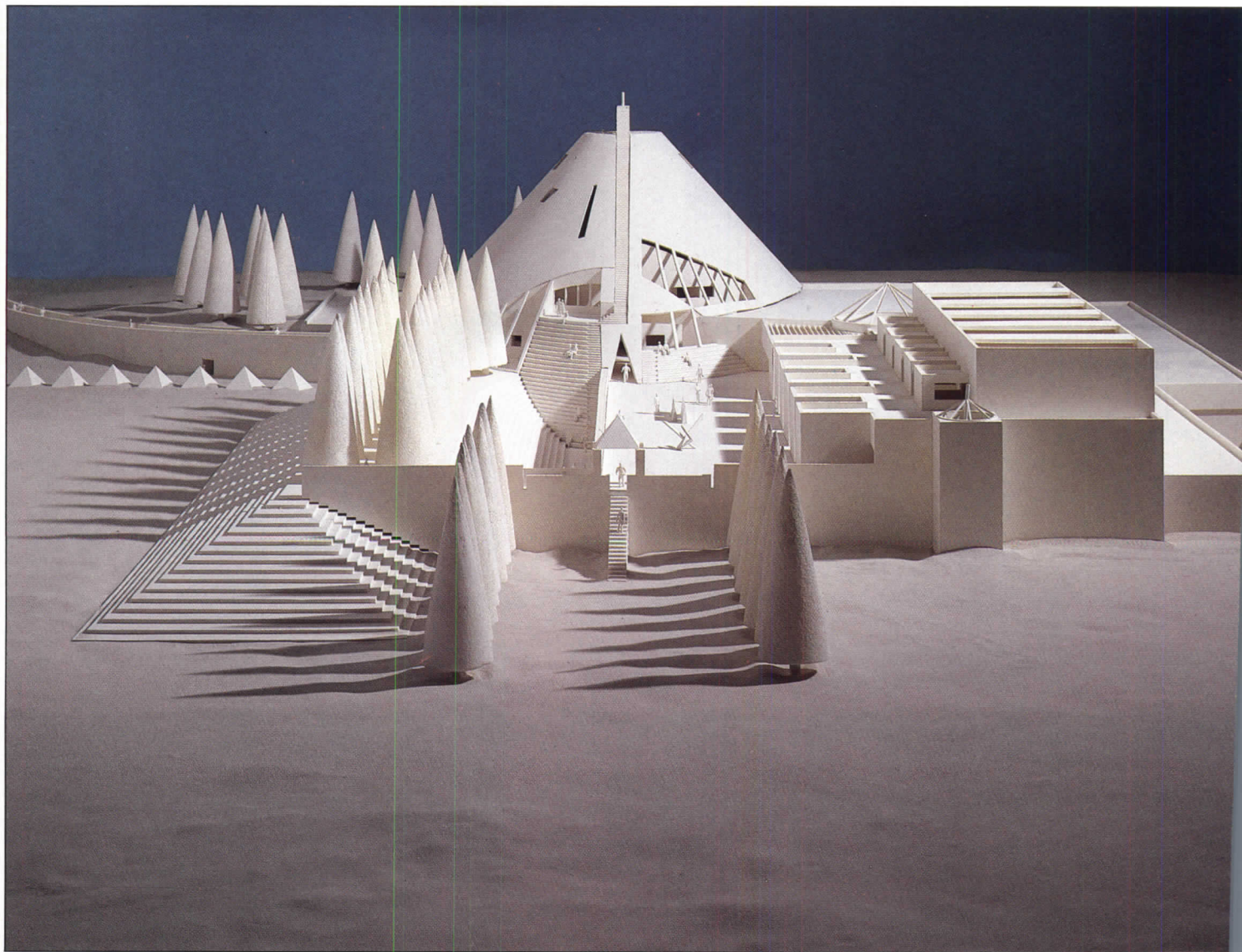
- 1. Outdoor seating
- 2. Theater
- 3. Student services
- 4. Retail
- 5. Faculty housing
- 6. Amphitheater
- 7. Student housing

Project team:  
 Antoine Predock and  
 Christopher Calott, with  
 Jensler and Associates,  
 Executive Architect





## University of Wyoming American Heritage Center and Art Museum



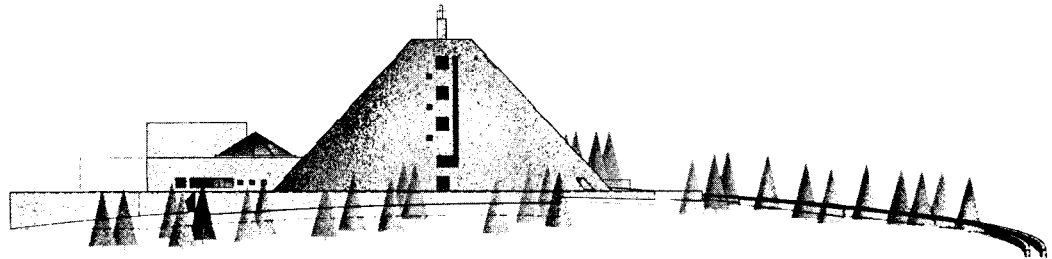
Like Native Americans and early settlers before him, Antoine Predock looked to the surrounding mountains to site his American Heritage Center and Art Museum on a parcel of land on the outskirts of Laramie, Wyoming. Predock aligned the focal point of the 125,000-square-foot research and exhibition facility with the east-west line between Medicine Bow Peak and Pilot's Knob summits, which he dubbed the "rendez-vous axis." Centered on this axis, which also parallels the city grid, Predock placed the domed American Heritage Center atop a "mesa" of manuscript and artifact

vaults, its cross-axis determined by the city stadium to the south. The inward-looking building will be constructed of concentric circles of brick laid on a concrete substrate, giving the exterior a serrated edge, while the more inviting wood-paneled interior, focused on a central wood-burning hearth, will recall a rustic retreat. A field of shaggy conifers and allées of sculpted topiary will funnel visiting scholars to a curved ramp that leads to the shared lobby of the Center and adjacent Art Museum. A sculpture garden will flank south-facing exhibition rooms. *K. D. S.*

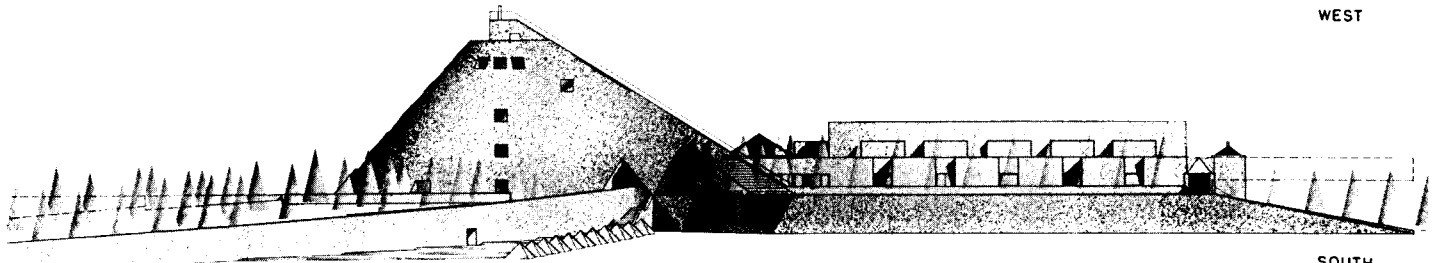


Although local building codes will most likely limit access to the stair climbing the domed Center, Predock included it in his scheme for symbolic reasons. Leading to an observation deck, it signals the complex's exploratory program.

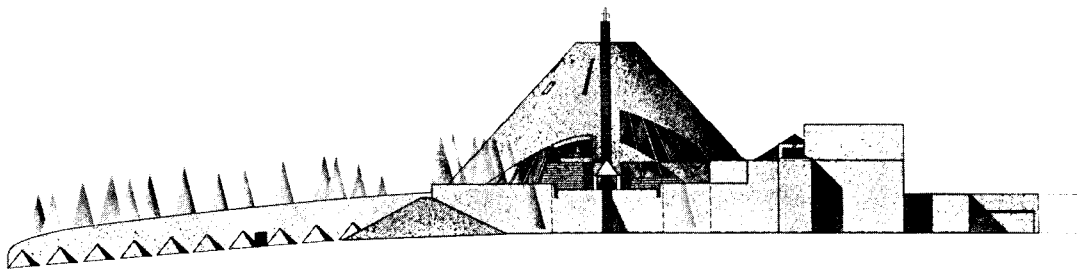
**Project team:**  
Antoine Predock, Geoffrey Beebe, Ronald Jacob, and Eileen Devereux



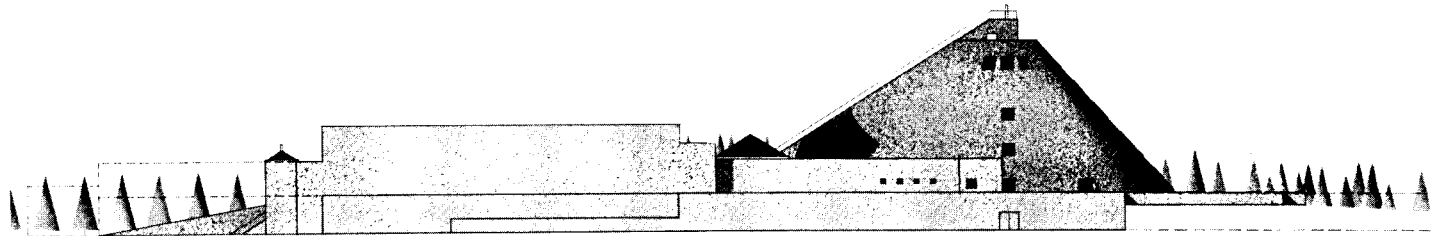
WEST



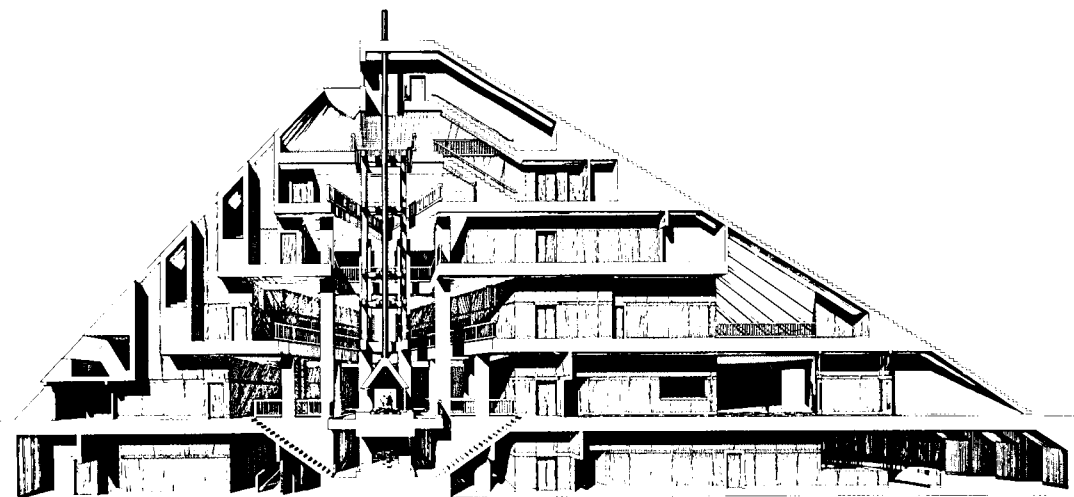
SOUTH



EAST

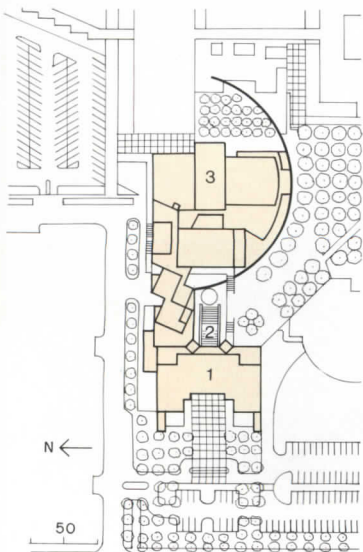


NORTH





# Fine Arts Complex Arizona State University



Antoine Predock conceived his Arizona State University Fine Arts Complex in Tempe as a “desert temple of the arts.” Inspired by early Egyptian monuments, he organized the various program elements to resemble, on entry, an abstract sphinx, with low, pawlike galleries flanking the stacked volumes of the more massive “body” of the complex’s art museum (1). The latter also includes subterranean exhibition spaces lit from above by glazed risers in a pyramidal bleacher (2). Within an inner courtyard, which will serve as a performance space, Predock overlapped the

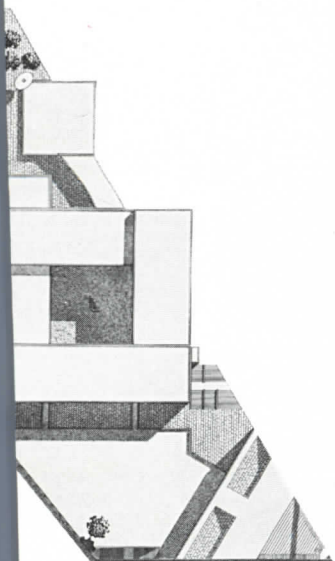
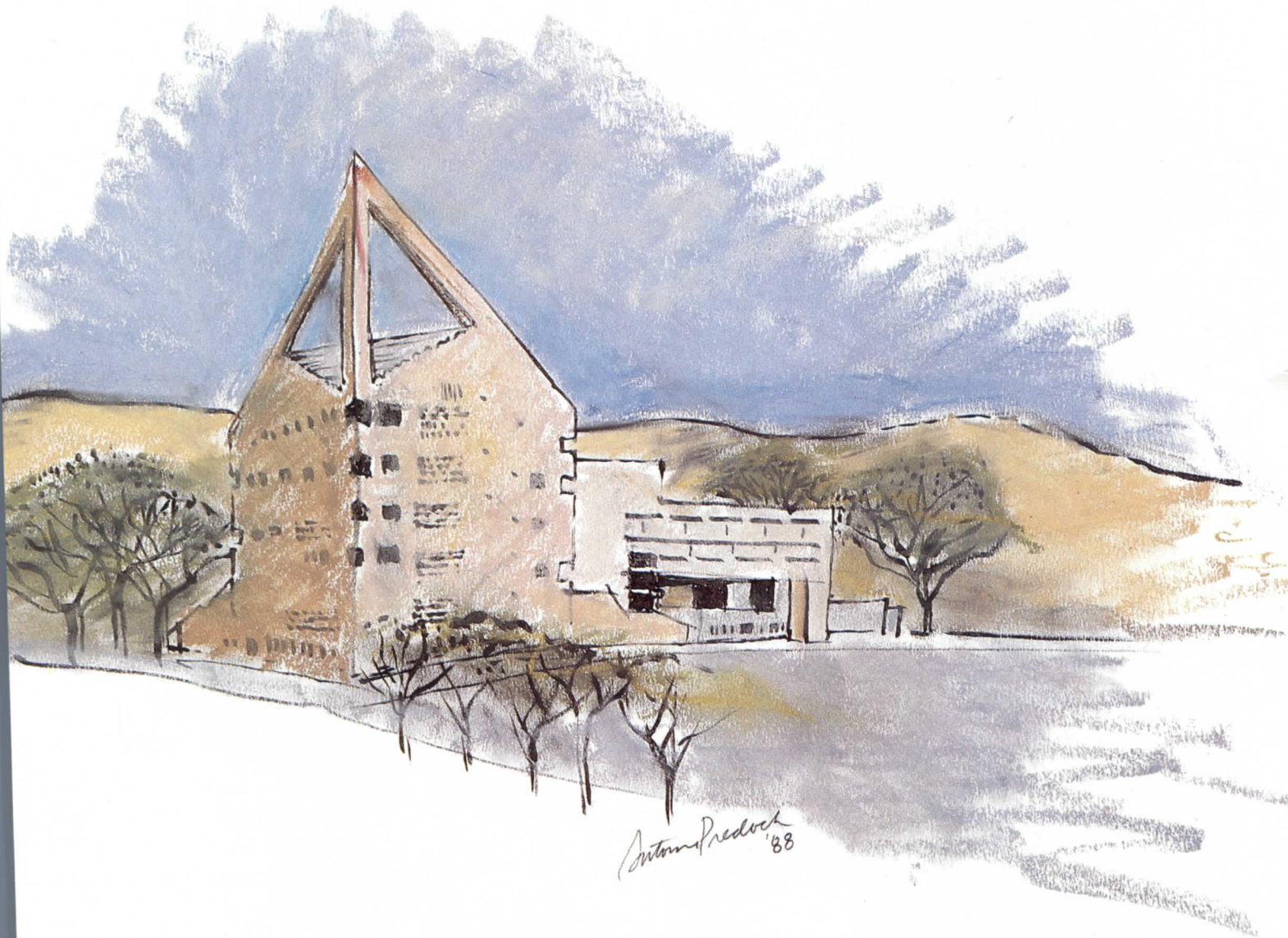
compendium of desert icons with allusions to a more site-specific theme: the frontier town. A villagelike assemblage, connected by a semicircular arcade, contains studios, classrooms, and the 500-seat dance theater. Predock extended one facade of the theater (3) like a Western false front, to compose a screen for alfresco film festivals. *K. D. S.*

**Project team:**

*Antoine Predock, Geoffrey Beebe, Jon Anderson, and Ronald Jacob*



# Multiuse Building California State Polytechnic University



The threefold composition of Antoine Predock's proposed building at California State Polytechnic University consists of a partially subterranean laboratory base; a hollow square block of classrooms, or "the motel," as Predock calls it; and an administrative office tower. Together, the disparate functions and shapes comprise a chamfered triangle, a form echoed in the sawtooth cut-out of the tower's "sky theater." Grassy rooftop terraces (where Predock hopes sheep will graze in acknowledgment of the region's agricultural origins) will straddle various zones. The

seemingly random fenestration of the tower actually indicates the varied sizes and functions of rooms contained within (for example, each matrix of tiny windows represents a secretarial pool). The "motel" will be on pilotis, enabling students to pass beneath the complex on their way to nearby campus haunts such as the barbecue pit. *K. D. S.*

**Project team:**

*Antoine Predock, Geoffrey Beebe, Jon Anderson, and Jon Bass with Gensler and Associates, Associate Architect*



## Mandell Weiss Forum Theater University of California, San Diego



The location for Antoine Predock's 32,000-square-foot Mandell Weiss Forum Theater is a plateau at the southwest corner of the University of California's San Diego campus, overlooking Louis Kahn's Salk Institute. Set in a gravel-covered clearing in a eucalyptus forest, the building is fronted by a 13-foot-high, 230-foot-long mirror intended to emphasize the dramatic spectacles of arriving theatergoers and of the site itself. After passing through a doorway cut through the glass wall and crossing what Predock refers to as the "threshold

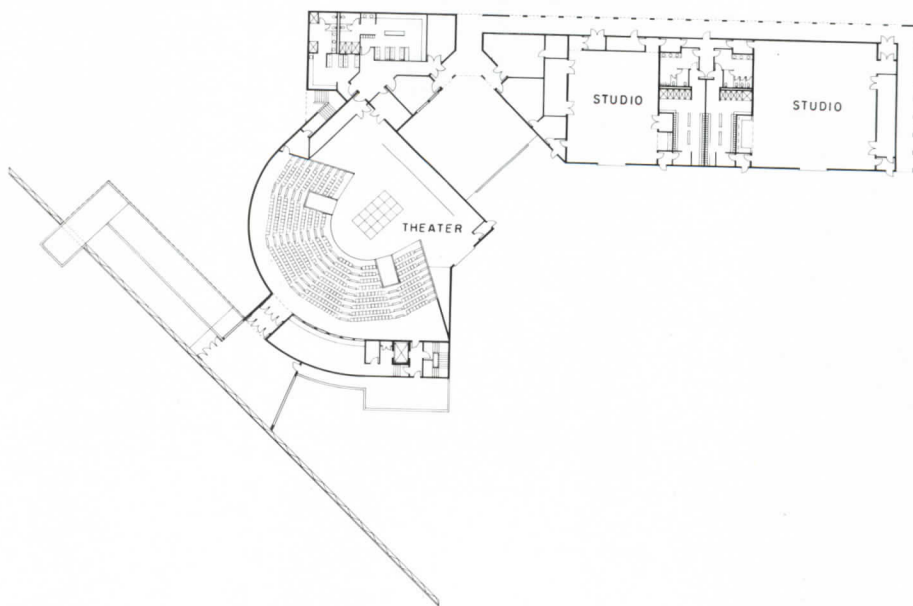
between dream and reality," visitors arrive in a semienclosed courtyard, which is intended for outdoor performances. A curved ramp leading into the 400-seat theater provides additional entertainment for spectators, who can look back toward the grove through the one-way mirror and observe late arrivals. On the second-floor of the theater, a balcony pierces the glass wall. Connected to the backstage is a horizontal slab containing a variety of rehearsal spaces, classrooms, and faculty offices joined by an arcade.  
*K. D. S.*



*Predock hopes to construct the Forum Theater's 13 1/2-foot-high, 230-foot-long mirror wall in such a manner that it will appear, on approach, to be a mullionless reflective plane. From the interior courtyard, however, the wall will be transparent.*

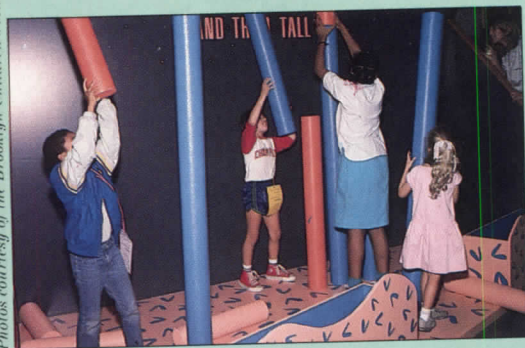
**Project team:**

*Antoine Predock and John Fleming with CLEO, Associate Architect*





*Children's museums must nourish prodigious amounts of physical and intellectual energy—a daunting assignment that the architects of these two exhibits clearly relished.*



Photos courtesy of the Brooklyn Children's Museum

*Children's museums do not offer ruminative contemplation but rather engage all the senses, muscles, and intellect. At the Brooklyn Children's Museum, the exhibition "Dr. Dimension and the Rulers of the Universe" encourages kids to measure time and distance with such deliberately wacky devices as retractable tongues of various lengths, egg timers and other gadgets, and lightweight columns of assorted heights (from top to bottom above). At the Mississippi Museum of Art (opposite), a girl watches the silhouette of a capering friend on a Tannenbaum screen, to which a computer transmits a delayed colored picture.*

## Hands on, heads up

How does one reach the mind of a child? Through the eye? The ear? Words? Numbers? The stride? The grasp? The poking finger? Color? Rhythm? Smell? Logic? The spirit?

All okay, but still not enough.

According to Linda Trobaugh, architect, art teacher, and designer of one of the children's exhibits shown here, the ideal design team for a children's museum comprises "the perfect educator, the perfect architect, and a lot of money." According to Lee Skolnick, architect, sometime teacher of grade-school pupils, and designer of the other exhibit here, only when you've finished designing do you realize all you *might* have done, and will do the next time.

The increasing number and growing popularity of children's museums seems more than just a fad. In part, the phenomenon may be demographic, the need of many working mothers for supervised after-school activity, or the need of numerous divorced fathers for children's indoor entertainment. In any case, the form occurs nationwide and encompasses an enormous range of size, from big, old institutions like those in Boston, Brooklyn, and Indianapolis, with their large, museumlike collections of valuable artifacts, to small, almost ad hoc facilities like those in Pawtucket, Rhode Island, located in a former mansion, and Oak Ridge, Tennessee, in an adapted school building. (An astonishing number of these institutions are instigated by local Junior Leagues, whose young women members perceive a genuine community need.) And the groups designed for vary, too—most children's museums serve young people up to the age of 12 (adolescents tend to lose interest), who generally arrive in large school groups but who may, at some museums, come in by ones and twos after school. At the same time, the very names Kidspace (Pasadena, California) and Please Touch (Philadelphia) suggest sensitivity to the needs of preschoolers.

And one must not forget the grown-ups who drift in on their own—after they've taken the children home. On its press release the Children's Museum of Indianapolis prints, almost as a motto, "... where children grow up and adults don't have to."

The design of children's museums requires more than ordinary architectural skills and more than art-display expertise. Though complex, both disciplines are far too simple. What's more, the most sophisticated knowledge of child development is not enough; either; the architect's three-dimensional thought processes are essential to these designs, which must allow for the active physical participation of youthful users.

A number of key words recur when insiders talk about children's museums, among them *hands-on* and *interaction*. The vocabulary reflects not only the educational philosophy of learning-by-doing but the indisputable fact that the museum use share an abundance—some might say a plethora—of physical energy. Educators of course welcome this energy, which they hope to put at the service of the mind. But it is the architect who is technically best equipped to channel it. Because so many people today concentrate on architectural style, they sometimes forget that a basic architectural skill is the accommodation of space to physical use. The architect is accustomed to arranging space as pre-ordained route, freeing the user's mind for more important concerns than ambulation and orientation.

Most wonderfully, though, these designers speak of the fun—the joy—of working with sizes and shapes and ideas that just don't arise in conventional commissions. *Grace Anderson*







# Playing around with art works

The Impressions Gallery, a children's exhibit within a larger conventional art museum, deliberately repeals the don't-touch rules that apply elsewhere. Architect Linda Trobaugh's design actively demonstrates the elements of art—color, line, shape, light, and texture—with stationary and moving examples.

The exhibit itself occupies pavilions colored and shaped according to the theories of Bauhaus master Johannes Itten, whose writings discuss the interaction of color, shape, and visual and emotional effects. Visitors here learn not only about artistic theory but also about the physical consequences of manipulating textures and light. (Did *you* know that if you stand in a red light you cast a green shadow?) In the purple Line pavilion, visitors shape string on plastic pegs to learn about both two and three dimensions, while in the green Texture pavilion clear plastic columns filled with assorted materials show the visual aspects of texture. The gallery also houses active exhibits with names like Tannenbaum's screen, Benham's wheel, and laser pinball.

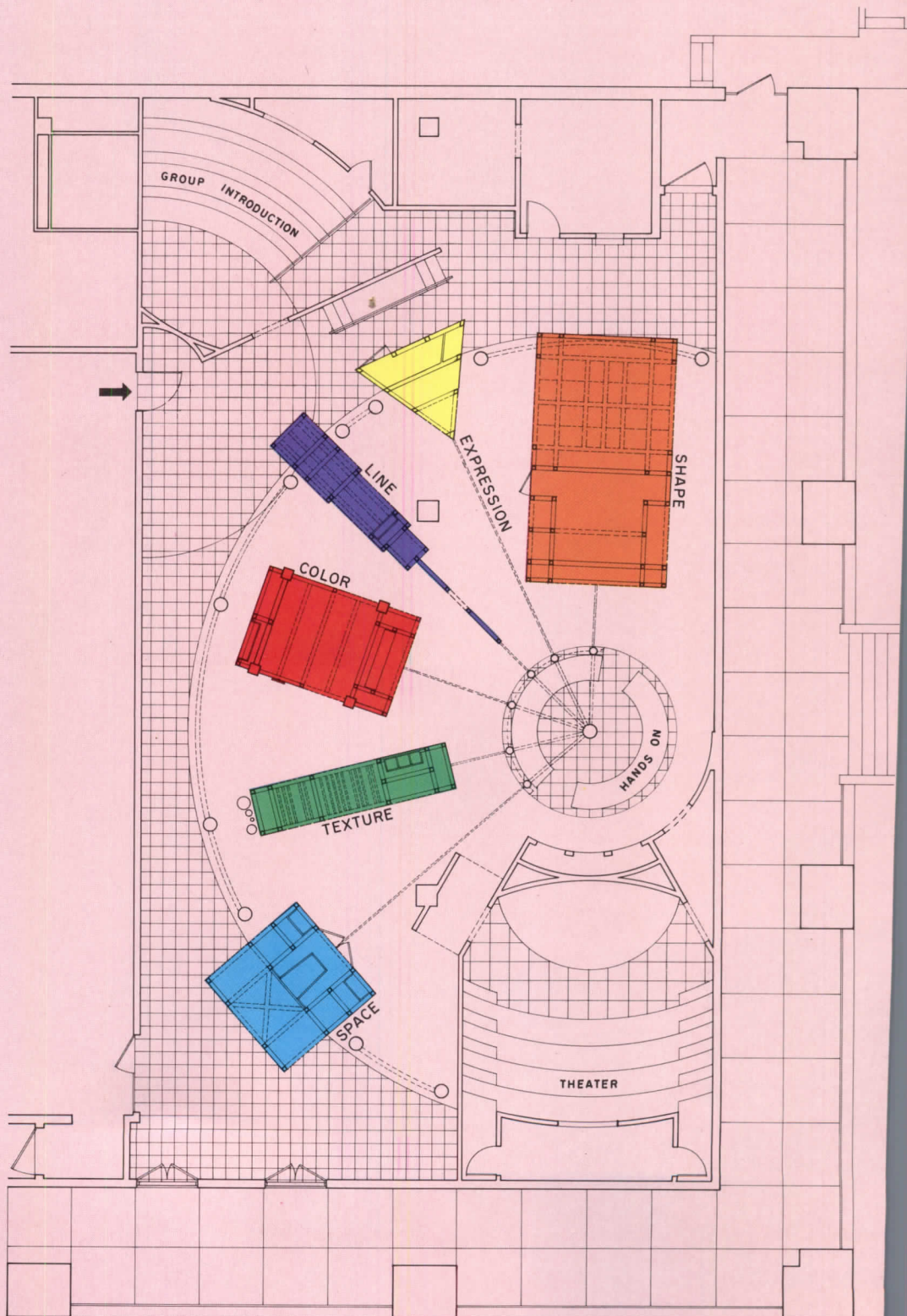
Pavilion axes, marked by colored neon tubes overhead, converge at a circular black hands-on work area. G. A.

*Impressions Gallery*  
Jackson, Mississippi

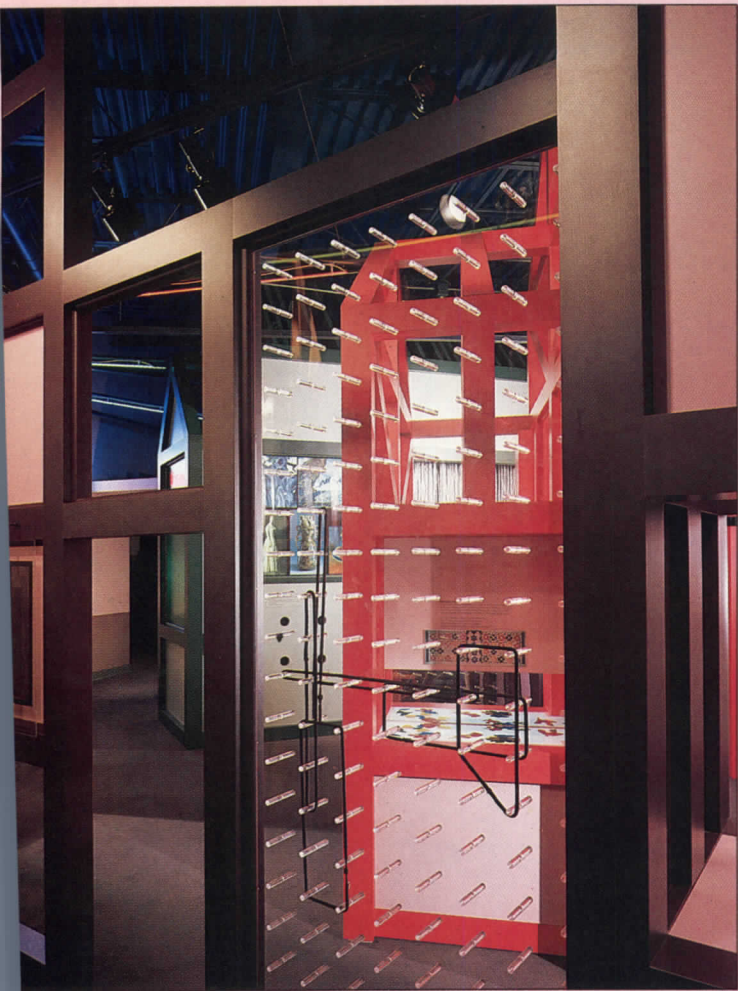
**Owner:**  
Mississippi Museum of Art,  
Jackson, Mississippi—Janice  
Andry, director of education

**Architect:**  
The Joint Venture Firm of  
Linda S. Trobaugh, Architect/  
Samuel Mockbee, Architect—  
Linda S. Trobaugh, principal-  
in-charge; Michael Barranco,  
Al Lawson, Jr., Marliene D.  
Taylor, assistants

**Contractors:**  
Dunn Construction Co., Inc.  
(general construction);  
Freeman Design Display  
Company (exhibit fabrication)









# The many faces of architecture

Perhaps no architect can truly gauge the manifold complexity of his art/craft until he tries to see it through the eyes of a child. But before designing this exhibit, Lee Skolnick spent seven years as a volunteer teacher of architecture (grades 2 through 7), and had ample opportunity to think of ways to convey at least part of what he knew.

At the Staten Island Children's Museum, the visitor to the Building Buildings exhibit first sees four columns at the Entrance (tree trunk, Ionic, I-beam, steel truss), and then enters a make-believe house with blueprint facade and breakaway interiors that show a balloon frame and plumbing. After learning in Where Do We Build that we don't build igloos in the desert, the viewer gets some tough lessons about the way Buildings Speak—models and silhouettes illustrating composition and visual rhythm, as well as such ornamental artifacts as a Wright window and a Chinese roof tile. Then, after passing The Colossus with models of wiring and hvac, the visitor learns How Buildings Stand Up, and is enticed to build and balance structures with hinged wood domes, arches, and buttresses (devised by Philadelphia's Franklin Institute). And after meetings with architects and the trades in "office" and "field," there is finally an encyclopedic burst of historical buildings and events. *G. A.*

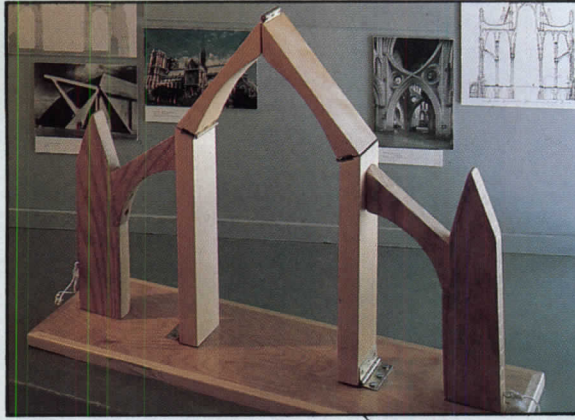
*"Building Buildings" Exhibit  
Snug Harbor, Staten Island  
Owner:*

*Staten Island Children's  
Museum, New York City*

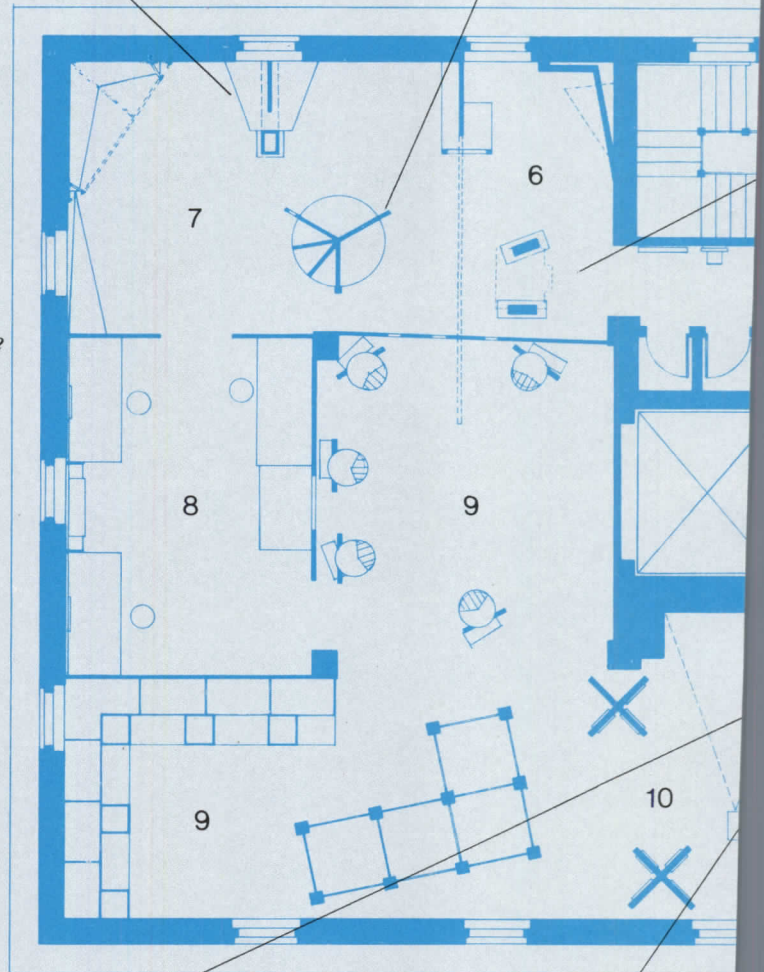
*Architect:*

*Lee H. Skolnick, Architecture  
+ Design—Lee H. Skolnick,  
project architect; Jessica  
Dobrin, design assistant;  
Robert Bunkin, exhibit  
coordinator; Jo Ann Secor,  
project director*

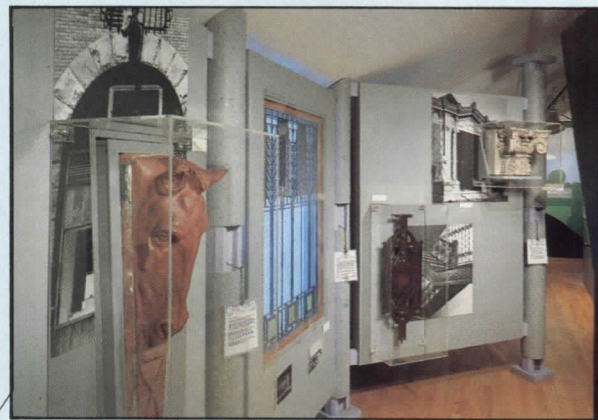
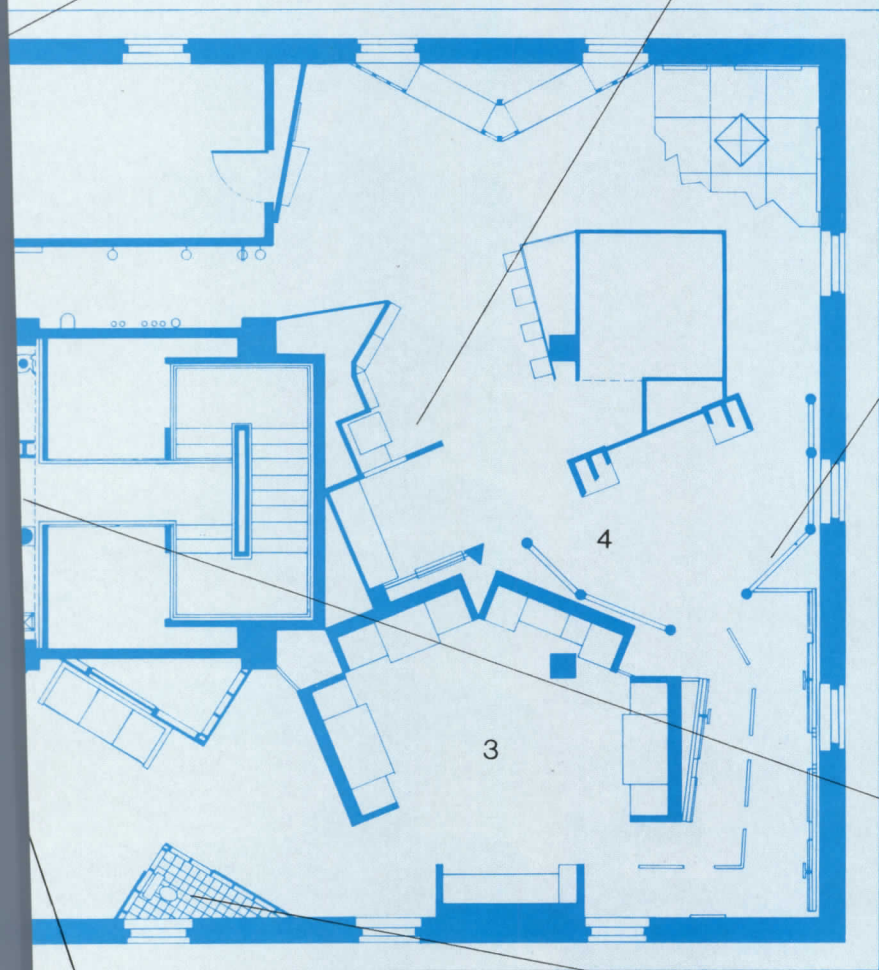
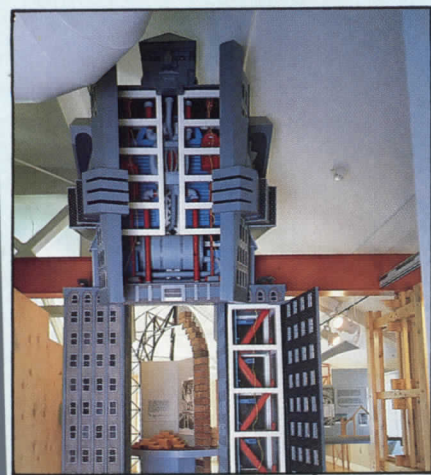
*Mick Hales photos except as noted*



1. Entrance with Columns
2. Orientation/The Unbuilt House
3. Where Do We Build?
4. How Do Buildings Speak To Us?
5. What Goes On Inside?
6. How Do Buildings Make Us Feel Comfortable?
7. How Do Buildings Stand Up?
8. Who Builds Buildings?
9. The Construction Site
10. Amazing Facts and Feats







Frey Clements





# Productive politesse

*Just yesterday the pundits were consigning not only our wheezing “smokestack” industries but most American manufacturing to the bin where the Model T and the vacuum tube gather dust and nostalgia, passing the country’s economic keys along to wave-of-the-future technology and a burgeoning service sector. Today, they watch an industrial machine fast churning its way toward full capacity. The resulting demand for capital expansion is reflected in spending forecasts that see manufacturing buildings, and related facilities for warehousing and distribution, as one of the few still-vital spots in a generally static or sagging construction economy.*

*The renewed drive for industrial growth is necessarily yoked to gains in productivity, which managers increasingly perceive as interdependent with factors more encompassing than efficiencies of physical operation alone. Those who have moved toward computer-integrated manufacture, for example, have made the unsettling discovery that highly computerized operations tend to demand of the people employed by them higher skills and/or better training than before. Attracting and holding an able workforce being crucial, plant managers are beginning to appreciate, as their home offices did before, the importance of a positive company “image” backed by a congenial work environment. Even on the more superficial level of public appearances, the image conveyed by quality (read good design), or its lack, is no frivolous consideration for land-hungry industrial enterprises that must compete with such other, traditionally higher, uses as farming and housing for favorable sites. Once the town bullies, the factory and its gang of related facilities are learning that politeness pays.*

Margaret Gaskie







Peterson



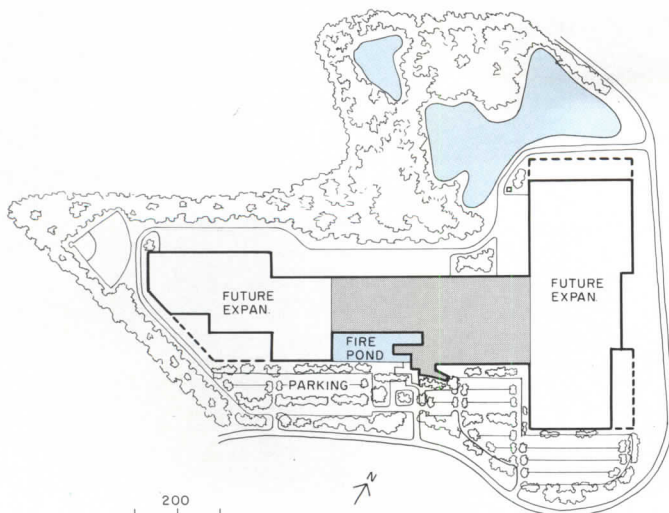
©Richard Mandelkorn



Talbots Distribution Center  
 Lakeville, Massachusetts  
 Symmes Maini & McKee  
 Associates, Inc.,  
 Architects and Engineers

## As handsome does

©Richard Mandelkorn photos



When Talbots, which markets upscale womenswear through both catalogs and shops, decided to move its distribution and fulfillment center to a semirural area 50 commuting miles from the existing facility, holding old workers and attracting new ones rose high on the corporate agenda. Accordingly, the brief given Symmes Maini & McKee Associates called not only for a suitably stylish public face and up-to-the-minute plant, but for a work climate notably more congenial than the industrial norm.

SMMA's initial charge was actually master planning for a projected 1.3 million enclosed square feet on the 88.5-acre site. But to meet a do-it-yesterday construction schedule, the A/E firm at the same time began rough studies for the 360,000-square-foot first-phase facility—reversing the more common practice of limiting the late-arriving architect to wrapping a pretty shell around a prefixed plan. Working with CAD, the designers settled on a rolled-section and bar-joint framing system with over-sized bays to maximize flexibility, and suggested a basic scheme for plant layout. "There's no mystery about these operations," says project architect Robert McNair. "The industrial experts are great at figuring out what comes in, what you do with it, and how you get it out, but they tend to forget about people." Agreeing, Talbots not only gave SMMA unusual design control, but upped the budget enough to include in the processing areas such amenities as natural lighting and (unheard of!) air conditioning. SMMA, in turn, set an example for architect-consultant collaboration by fine-tuning the plant's column spacing, configuration, and mechanical/electrical systems in close coordination with the industrial engineer responsible for the plant's highly sophisticated computerized conveyance systems.

The key layout determinant was the client's need for the ability to expand or rearrange both the retail distribution and catalog fulfillment operations according to demand. So the solution rejected conventional straight-line processing, with receiving at one end and shipping at the other, in favor of a central receiving area with distribution and fulfillment on either side and shipping at both ends. To maintain flexibility for space trade-offs despite the considerably higher bays required for fulfillment, ceiling heights are kept constant, and "waste" height in retail areas recovered through structurally independent mezzanine floors (bottom opposite). For the same reason, ceiling ducts were obviated by circulating conditioned air through vertical air rotation units.

Despite its generous overall height and L-shaped footprint, the plant's three-quarter-mile length gives its profile all the verve, McNair observes ruefully, of a pancake. The first step in leavening it was the attention-focusing entry element containing offices, meeting rooms, and employee dining facilities overlooking a reflecting pool. The themes of concrete-trimmed brick and broad expanses of glazing, with mullions in a bright red-and-white tattersall pattern, were then chorused over the full facade. Rising from a continuous brick base, white metal walls with accent lines at two levels are punctuated by pairs of familiarly proportioned colorfully framed windows, and accented with precast sills and coping, to temper the building's relentless expanse.

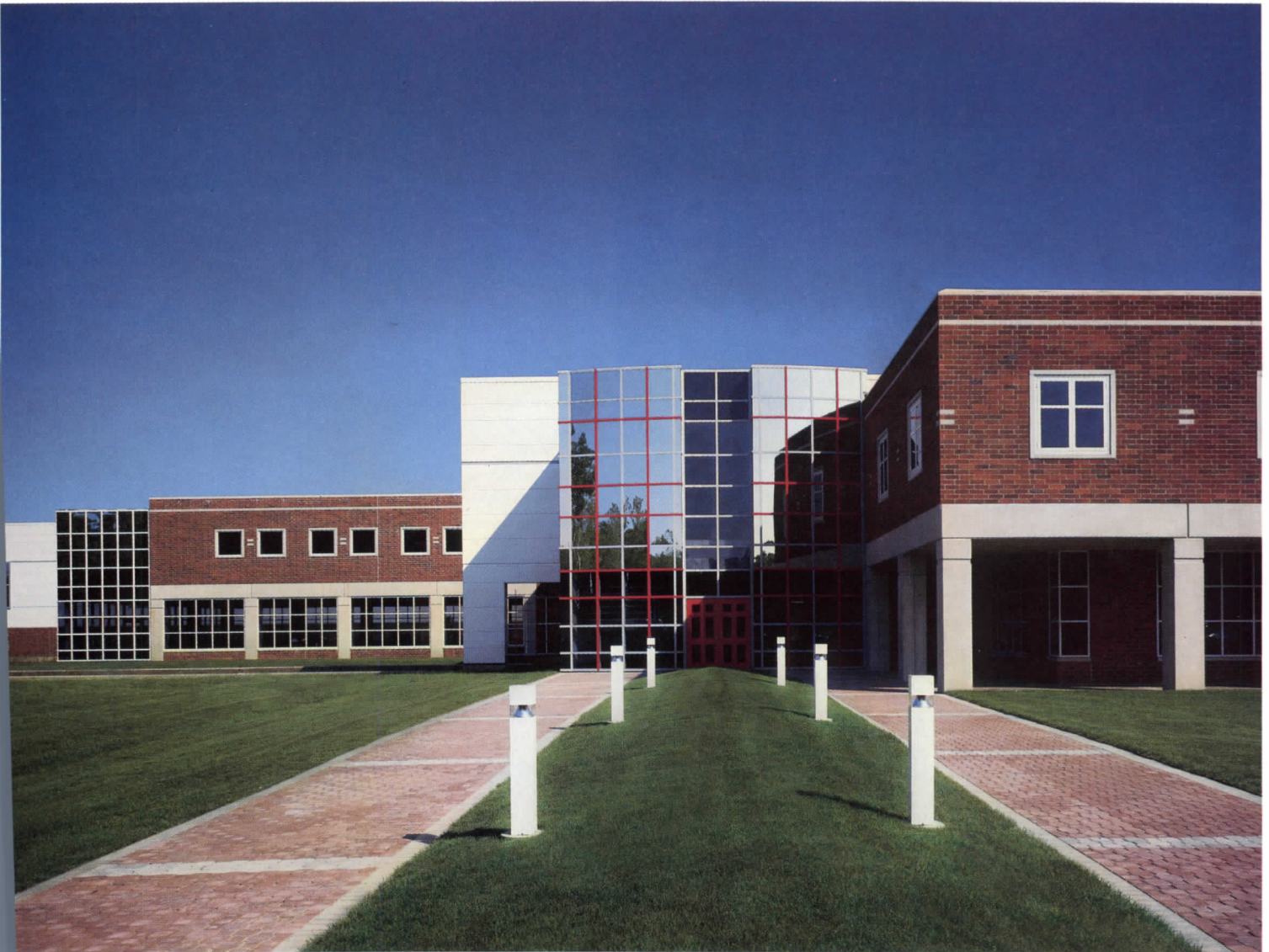
The 10- by 12-foot windows, with punched "attic" openings above, bring daylight deep into the plant, while offering glimpses of sky and weather almost as welcome to employees as the benign inner climate provided by the air conditioning. But then such courtesies are perhaps to be expected from a company that refers to its largely unskilled workers as "associates." *M. F. G.*



*Tying the large reflecting pool—an ingeniously transformed fire pond—to the employee dining room (opposite top), rather than the executive suite, mirrors the company culture as well as the surrounding scene. So, if only symbolically, does the employee*

*entrance (opposite center), appropriately placed at the head of a wedge-shaped court between the curving wing that houses top executives, and the plant itself. The devices used to animate the building's endless facades are prefigured in the administrative unit's sprightly*

*overlapping planes: brick faces brightened by precast-concrete arcades and trim, white metal panels with "spandrels" and "lintels" suggested by recessed accent lines, and variously sized sheets of glazing framed in alternating grids of "Talbots red" and white.*



*Talbots Distribution Center  
Lakeville, Massachusetts*

**Owner:**  
*Talbots*

**Architect and engineer:**  
*Symmes Maini & McKee  
Associates, Inc. — Michael K.  
Powers, principal-in-charge;  
Robert McNair, project  
architect; Reynold Boselli,  
project manager*

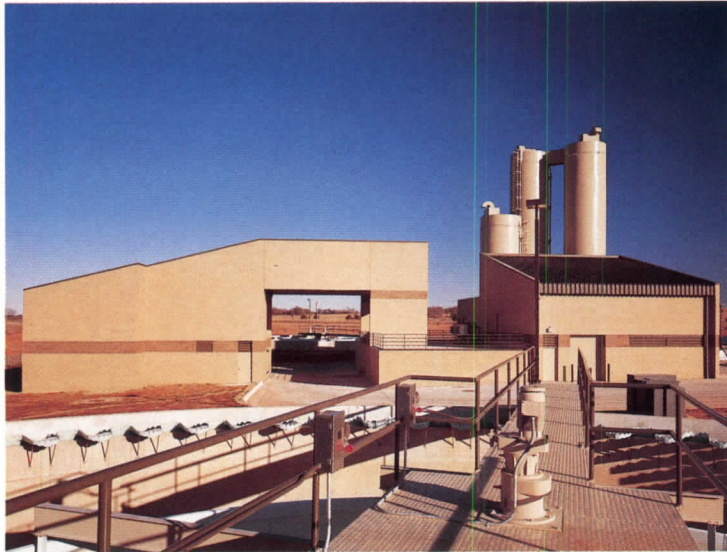
**Consultant:**  
*Joseph A. Sedlak Corporation  
(industrial engineering)*

**General contractor:**  
*Algonquin Builders*



City of Edmond  
Water Treatment Plant  
Arcadia, Oklahoma  
HTB Inc., Architects and  
Engineers

Jon B. Peterson photos



*Such inescapably industrial elements as chemical silos and flocculation tanks (top foreground), and the tidy maze of pipes below the filtration gallery (above), are softened by buildings with buff brick cladding and houseform shed roofs of standing-seam metal.*

## Hush! The neighbors . . .

Early in the century, when cities began to replace scattered individual wells powered by hand pumps with central systems for treating and distributing water, the water works, no less than a post office or bank, was considered a structure of high public importance—often prominently located, and cloaked in architectural fashion befitting its status as a civic institution. (The third-graders' tour of the local water plant is no come-lately custom.) As new sources were sought, and treatment methods became more sophisticated (and space-consuming), the water works moved farther from the heart of town, but the tradition of treating such plants as community commodities, as well as merely utilitarian necessities, continues.

Motives beyond tradition, however, prompted the careful design of recently completed treatment facilities for the city of Edmond, a fast-growing bedroom community in the lightly wooded rolling meadowlands on the "good"—i.e., verdant—side of Oklahoma City. Anticipating that continued expansion would outstrip the water supply it could draw from existing wells (rationing was, in fact, required before the new plant came on line), the city established an additional source by damming a nearby creek. The resulting reservoir, Lake Arcadia, and associated recreational offerings already in place, are expected to stimulate a surge of residential development, within which the water-treatment plant and its 40-acre site will be inescapably prominent. Moreover, the facility is a recognized technological showpiece for its use of ozonation to purify the water, a state-of-the-art process pioneered in Europe but until now virtually untried in this country. (Predictably, the plant's register of visitors reads like a who's who of prominent figures in the water utility industry.)

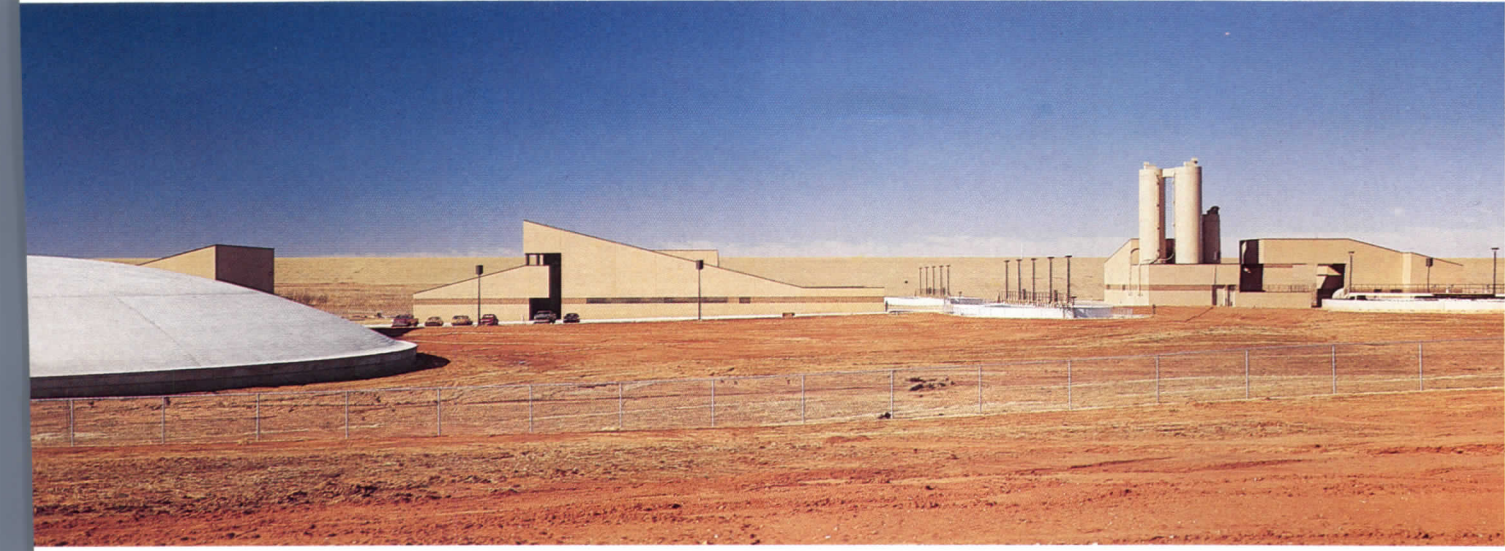
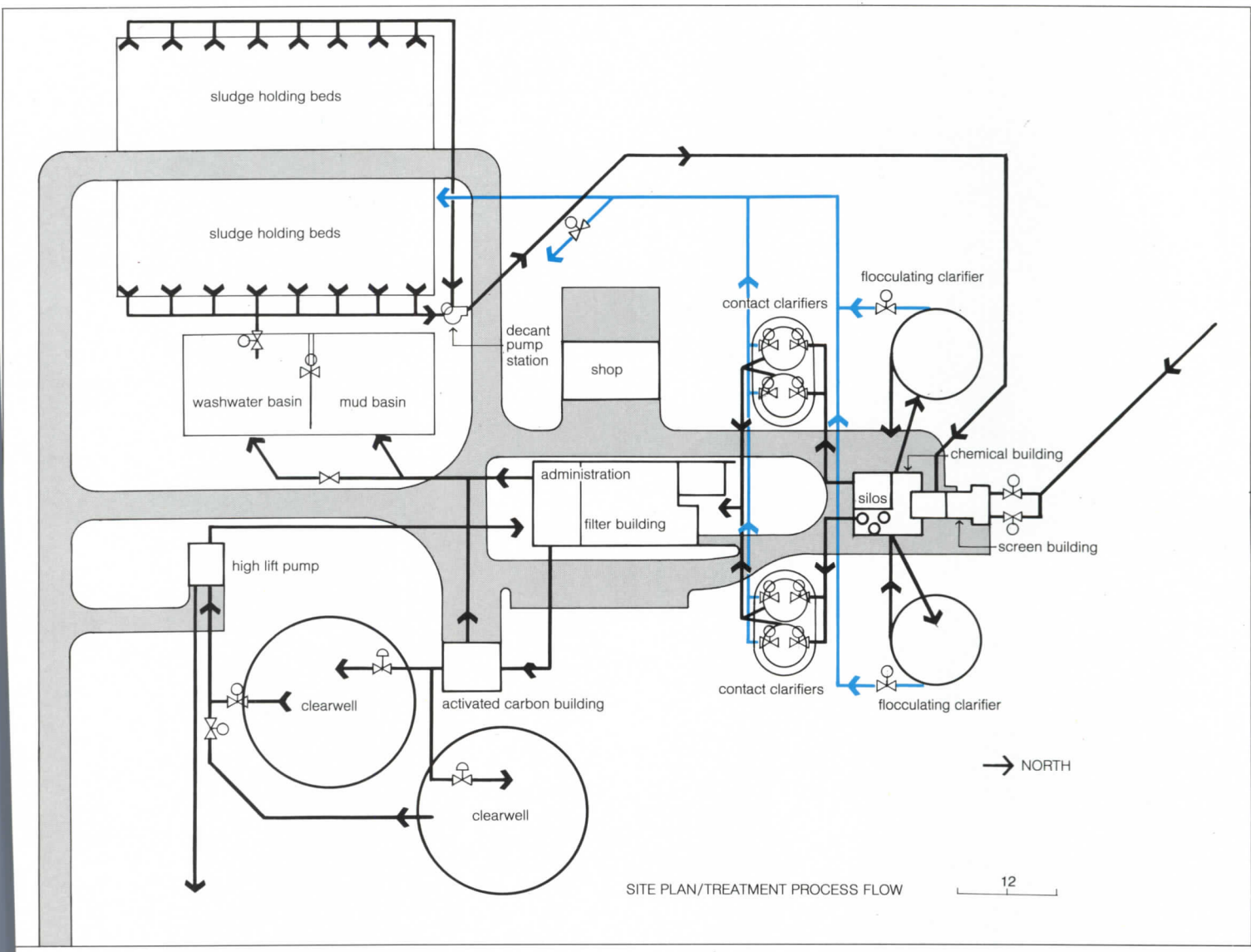
As is all too common—and despite HTB's responsibility for both architecture and engineering—project designer Edward Riley confronted the fait accompli of a site plan that stretches the plant across the face of the dam in an arrangement based almost solely on a straight-line process flow—as though the plant were exempt from the third dimension. Yet massing was particularly important in light of the client's insistence that the facility be compatible with the housing-to-come, despite such distinctly unhouseholdlike features as towering chemical silos and four-million-gallon water-storage domes. Rejecting a high-tech glorification of process, Riley aimed instead for "industrial politeness," deploying a strong geometry of outsize houseforms to link the plant's disparate components into a coherent profile. The buff brick, ubiquitous in the community's residential neighborhoods, contributes a subtler domestic note, reinforced by a brown-brick soldier-course that establishes a unifying one-story band across vari-sized elements, as well as an ordering frame for their assorted, irregularly dispersed openings.

In the main building (center left in photo opposite), which combines the filtration gallery and a smaller unit housing administrative spaces and laboratories, the overlap of facing sheds permits insertion of a tall clerestory to light the lobby between them. Unusually large in keeping with the anticipated flow of visitors, the lobby opposes rugged, angled, split-block walls against a slick black terrazzo floor that joins an arced podium rising to the gallery. The juncture is a portal of grid-framed glass penetrated by immense glass-block columns—a dramatic foil for the gallery itself, which reverts from the overplant's neighborly reticence to the spare purity and drama of a set from a Fritz Lang film. *M. F. G.*



Following its process flow (diagram below), the plant layout is basically linear. For visual variety as well as containment, however, the sloped shed roofs of the ancillary units—e.g., chemical-feed and ozone building, shops, and storage—all orient to the

central structure housing the filtration gallery and laboratory/administration wing. Such massive unenclosed facilities as two 4-million-gallon domed storage tanks (bottom photo, far left) and extensive sludge-holding beds flank the plant's core.

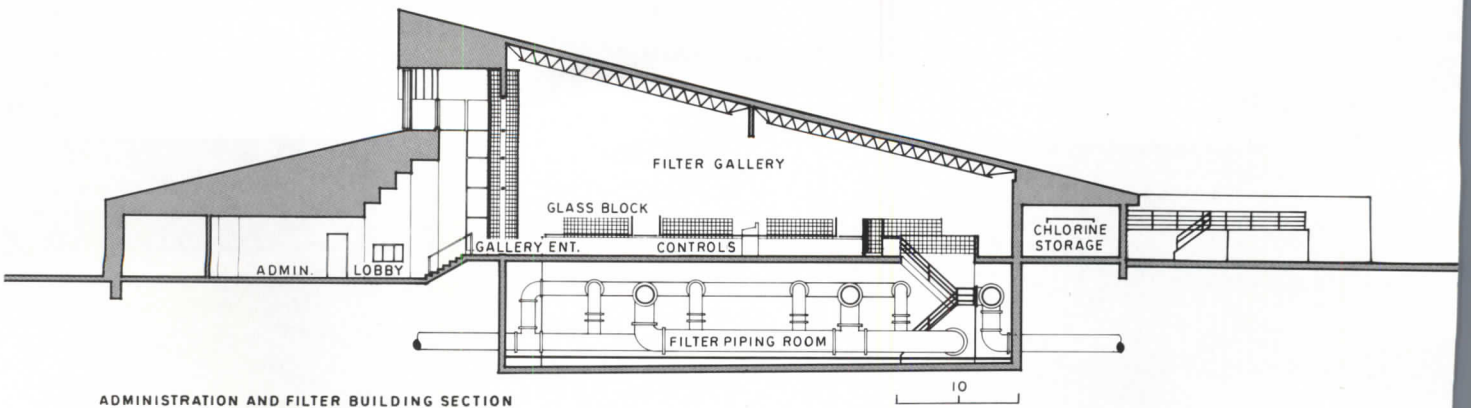
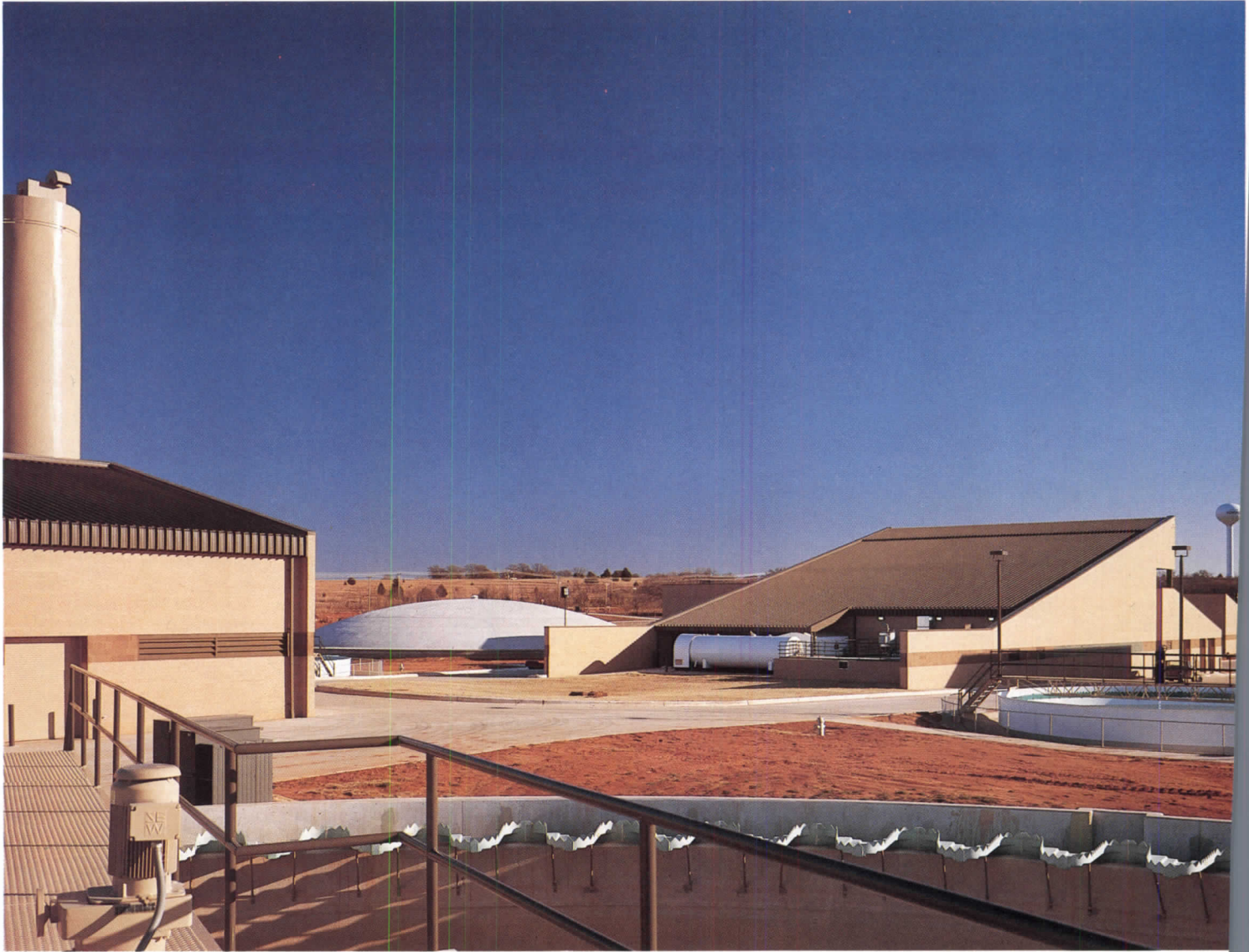




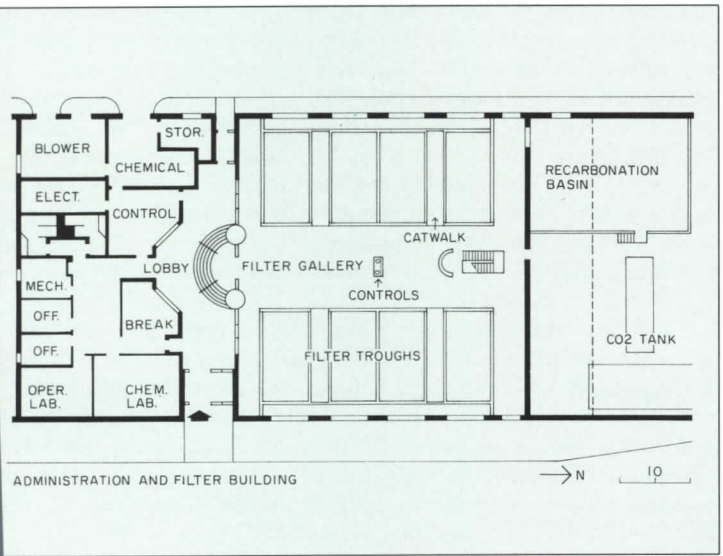
*When the raw red Oklahoma earth gives way to meadow, Edmond's domesticated plant, seen from the vantage of the main road, will (save for the beacons of its silos) retreat into its landscape. All the greater, then, the impact of the main building's lobby (opposite far*

*left), the ceremonial greeting area for visitors. Rough-hewn split-block walls against a gleaming black floor set off the grid-framed glazing of clerestory, side openings, and filtration gallery wall, while huge sparkling glass-block*

*columns link the lobby with the gallery proper, where rows of filtration beds lie between gleaming white floor and ceiling planes (opposite near left). Glass-block also fills the windows, and fences the stair to the pipe-filled undergallery with a backdrop for the central computer's "altar."*







City of Edmond  
 Water Treatment Plant  
 Arcadia, Oklahoma  
**Owner:**  
 City of Edmond  
**Architect and engineer:**  
 TB, Inc. — Larry J. Keller,  
 corporate director of design;  
 Edward J. Riley, project  
 designer; Bob Marx, project  
 manager; Paul Lewis and Essy  
 Almaghani, project team;  
 Mark Hughes, project engineer;

Jim Slade, project liaison; Rex  
 M. Ball, principal-in-charge;  
 Rick Garner, resident engineer  
**Consulting engineer:**  
 Collins & Soter (mechanical/  
 electrical)  
**General contractor:**  
 Lippert Brothers



Technical Center  
Franklin Township, New Jersey  
Beckhard Richlan/Brandt-  
Kubida, Joint Venture  
Architects

## Industrial rowhousing

©Otto Baitz photos

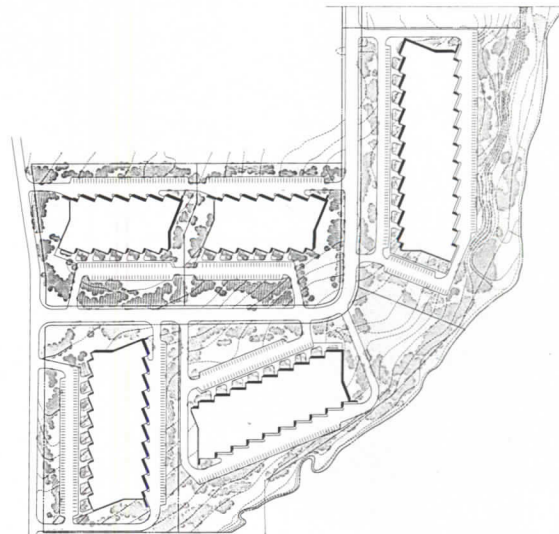


*The sawtooth configuration that makes trucking activity more efficient and less space-consuming also lends visual variety to the buildings' street facades by breaking their repetitive modules into clearly defined entities livened with deeply molded precast panels.*

"There was nothing arbitrary or frivolous about it." Designers Herbert Beckhard and Frank Richlan ascribe the sawtooth configuration and boldly modeled facades of the structures comprising the Franklin Township Technical Center not to indulgence in pure form but to rational evolution from specifics of program and site. In addition, though, the buildings hold promise of wider applicability as a protogeneric facility combining offices with warehouse and industrial space—a flexible mix with particular appeal for the small manufacturers and distributors often neglected by conventional industrial and office parks.

Like many areas no longer content to watch complacently while open farmlands (and the water supplies that often depend on them) vanish in a tide of development, the township has imposed stringent limits on the permissible extent of building and paving in relation to land left permeable. Since the division of the 40-acre site into five separate development parcels (site plan below) meant an extensive—and irreducible—network of access roads, achieving a profitable building volume hinged on minimizing such other impermeable surfaces as parking lots, drives, and walkways. The ratio of 20 percent office space to 80 percent industrial space, for example, was set by the relative amounts of parking each required. But the decisive ploy was offsetting the repeated 9,000-square-foot long-span modules in a sawtooth configuration. By allowing trailer truck movement to be handled with a one-way traffic system and minimal maneuvering space, the zig-zag plan cuts paved areas by a third, at the same time making loading-dock activity less conspicuous by tucking truck parking tight against the building. Carried through to the street elevations, the sawtooth configuration improves on the usual slab faced industrial box by shaping a well-defined individual entrance for each 50-foot-wide bay.

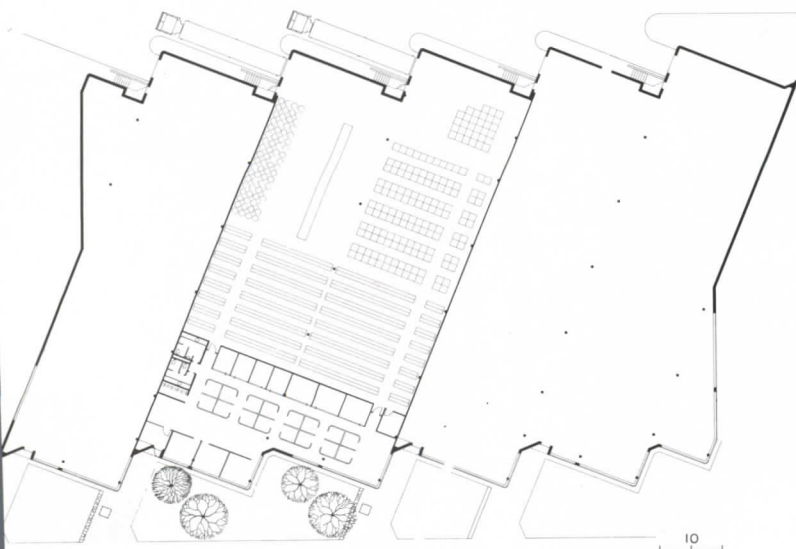
Similar esthetic advantage wrung from a pragmatic solution gives the precast-concrete facades their strong sculptural quality. Exaggerated for horizontal emphasis, the projecting ribs that stiffen the panels during handling double as an integrated decorative element, enhanced by their continuation around curve or chamfered corners. On site, the self-supporting units, cast with integral window openings to eliminate added sills and lintels, need only be stacked, fastened, and sealed. *M. F. G.*





*Technical Center  
Franklin Township, New Jersey*  
**Owner:**  
*C. L. D. Associates*  
**Joint venture architects:**  
*Beckhard Richlan/Brandt-  
Kubida—Herbert Beckhard,  
Frank Richlan, design; Steven  
Ting, associate; Louis Brandt,*

*production; Robert Strobi,  
Stephen Carrozza, project team*  
**Engineers:**  
*Paul Beck & Associates  
(structural); Design/Built  
(mechanical)*  
**Contractor:**  
*C. L. D. Associates*





# Rubber soul





Michelin House  
London  
Conran Roche and YRM  
Architects & Planners





*Once the London branch of a French tire company, historic Michelin House has been rejuvenated, expanded, and converted to new uses. A meticulous restoration preserved or recreated every eccentric detail.*

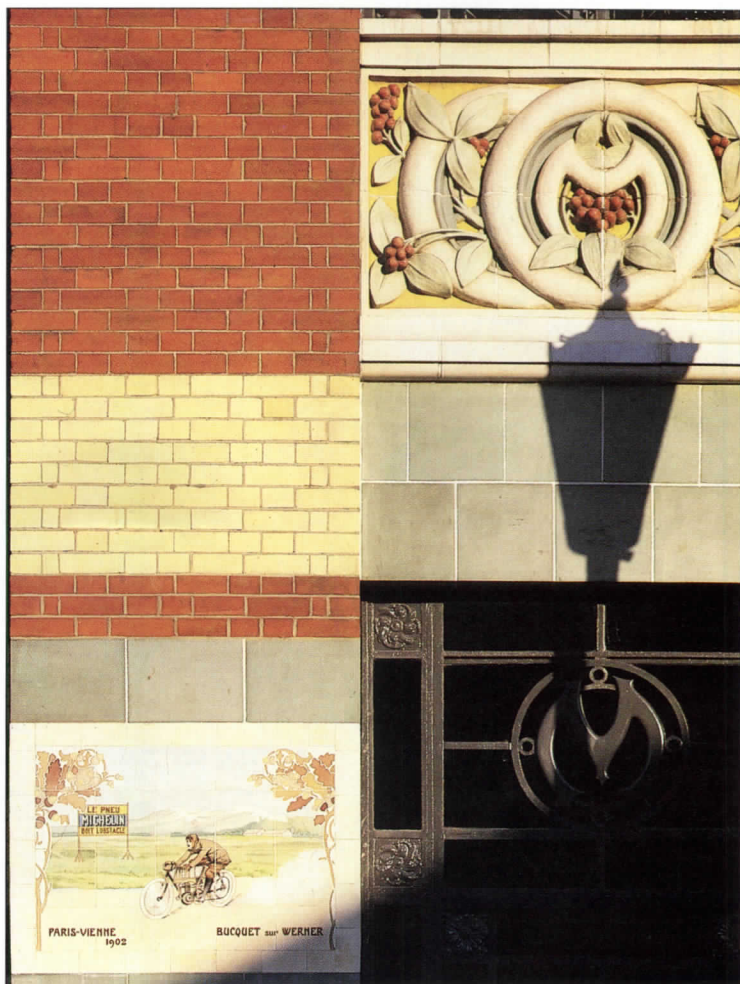


*A comparison of Michelin House as it appeared in 1911, complete with the company's promotion van (top), and today (above) reveals how accurately Conran Roche and YRM restored the exterior to its original tire-studded splendor. The present architects respectfully stepped back their metal-paneled addition behind the older structure, bridging a former loading dock with a screen of butt-jointed glass (page 114).*

Any traveler in search of haute cuisine and local lore will instantly recognize the corpulent fellow on the front of this London landmark. He is Bibendum, the merry cartoon character of stacked pneumatic tires who emblazons every Michelin tourist guide. Conceived in 1898 by Edouard and André Michelin as a logo for their tire distribution firm, the "Michelin man" quickly grew into an internationally recognized emblem of motoring and gastronomy. By 1911, the Michelin Tire Company had expanded its operations to include a headquarters in London, designed by the architect of its Paris offices, François Espinasse. One of the first reinforced-concrete structures built in Britain, Michelin House was exuberantly decorated with polychromatic brick, scenic tiles, stained-glass windows, and illuminated glass cupolas. A year after it opened, a three-story garage was constructed at the rear of the site, followed by a four-story addition a decade later. In 1985, the Michelin Company decided to move its Chelsea premises to a London suburb and sold the building to housewares and design magnate Terence Conran and publisher Paul Hamlyn, who commissioned the joint venture of Conran Roche (an architectural offshoot of the Conran organization) and YRM Architects & Planners to convert the historic complex for their own commercial enterprises. The architects increased the existing 90,000 square feet to 118,000 square feet by lacing a steel framework within the older structure to support four levels of office space and a curved penthouse, which projects above the original roofline. The original building, transformed into a showcase restaurant, serves as a frontispiece to a ground-floor Conran shop (inserted into a former loading dock) and upper-story offices, primarily used by Hamlyn's Octopus Publishing Company. Clad in buff-colored, powder-coated aluminum paneling to match the adjacent brick stringcourses, the sleek, stepped volumes of the new addition serve as a minimalist foil to the unabashed decoration of the Michelin building's facades.

Conran Roche and YRM restored the 1911 landmark to its former glory by painstakingly repairing and replacing all its original features after scholarly research. Exterior brickwork was repointed and lightly sandblasted to remove layers of silicone sealants, and faience tiles were consolidated with pigmented resins (opposite, bottom left). Although the 34 ceramic panels depicting victorious racing cars equipped with Michelin tires required few repairs (opposite, bottom right), the damaged tilework surrounding them demanded complete replication. The most complicated preservation task was the reconstruction of two glass cupolas and three stained-glass windows on the front facade (left and opposite, top), which had been removed during World War II and subsequently lost. Designed to resemble stacks of tires, the domes were reconstructed from double-curved sections of sandblasted glass and internally lit by sodium fixtures to simulate the yellow glow of gaslights. Cartoons for the stained-glass windows were redrawn from early black-and-white photographs and posters, and their color scheme derived from Espinasse's tilework for Michelin's Paris headquarters, which stands intact. Within the porte-cochère, which now serves as a generous entrance lobby, wrought-iron gates, chandeliers, and a mosaic floor spelling out the tire company's motto "Nunc est Bibendum" ("Now is the time to drink") were reinstated. Raising his glass to the shoppers, office workers, diners, and curious visitors who flock to the building, the Michelin man now happily toasts a four-star restoration. *Deborah K. Dietsch*





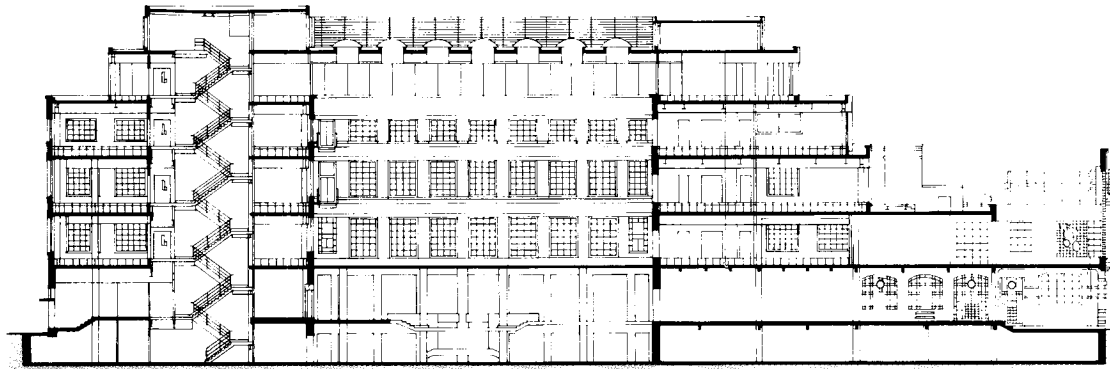


The 1911 Michelin building houses a lobby with refurbished pendant fixtures (opposite, bottom right), the Bibendum restaurant (opposite, top), and an oyster bar (opposite, bottom left). In the new addition, offices are arranged around an atrium.

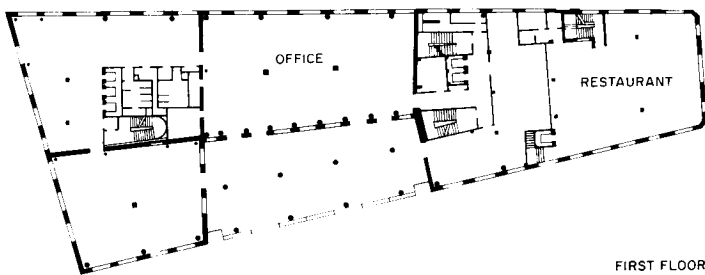
*Michelin House, London*  
**Architects:**  
 Conran Roche—Stuart Mosscrop, project director; YRM Architects & Planners—Brian Hardcastle, project director  
**Interior designers:**  
 Conran Design Group

(restaurants/shop); YRM Interiors (offices)  
**Engineers:**  
 Felix J. Samuely & Partners (structural); YRM Engineers (mechanical/electrical)  
**Cost estimator:**  
 Wakeman Trower Partnership

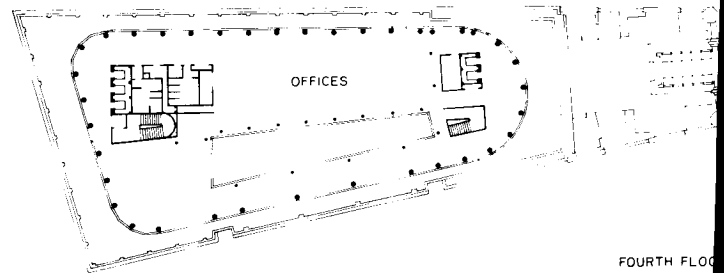
**General contractor:**  
 Bovis Construction Ltd.  
**Subcontractors:**  
 Art Tile Co., Cole Brand (tiles); Marriott & Price (mosaic); T. & W. Ide (cupolas); Godard & Gibbs (stained glass); Kensington Art Metal, Acmer Doors (metalwork)



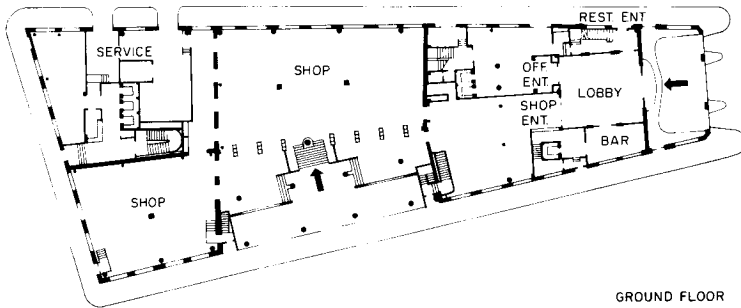
SECTION THROUGH ATRIUM



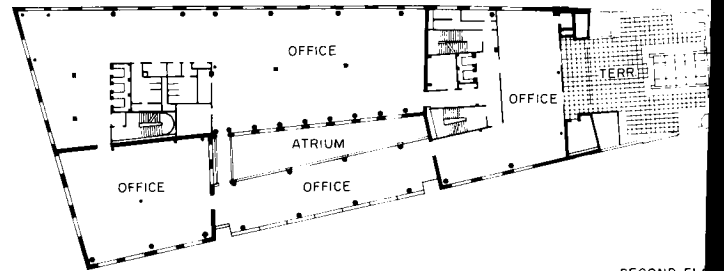
FIRST FLOOR



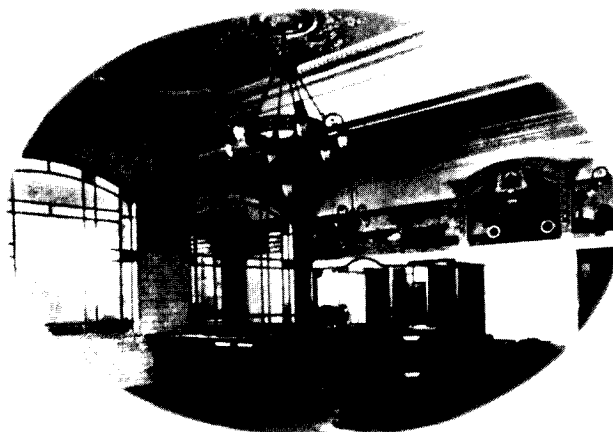
FOURTH FLOOR



GROUND FLOOR



SECOND FLOOR



The ground floor was originally a Michelin guide salesroom.



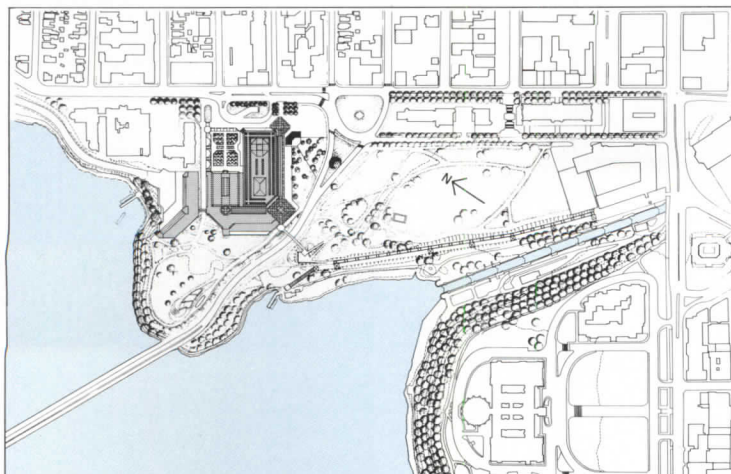




National Gallery of Canada  
Ottawa, Ontario  
Moshe Safdie, Design Architect  
Parkin/Safdie, Architects and  
Planners

# Collective significance

© Timothy Hursley photos



The collection of monuments near the escarpments of the Ottawa River (photo above) commands the skyline of Canada's capital as it is seen from the city of Hull on the opposite bank. Taken in turn (left to right in photo), the Ottawa buildings celebrate art, worship, language, and governance. The newcomer to this iconic ensemble is the building for art, the recently completed National Gallery of Canada by Moshe Safdie, whose crystalline Great Hall he designed as a tribute to the building for language, the Parliamentary Library, which is itself a Victorian reinterpretation of a polygonal Gothic chapter house. Safdie could not have selected a more prominent symbol to evoke. The library and adjoining Parliament Buildings are sufficiently eminent to have been engraved on the Canadian dollar bill. (Tim Hursley shot our photo from the same vantage point used by the engraver, but denies having taken a cue from the Royal Canadian Mint.)

It took nerve on Safdie's part to choose a great work so close by as his inspiration, thereby running the risk that his spunky upstart in concrete, steel, and glass would suffer invidious comparison with its august predecessor decked out in stone



*Moshe Safdie designed Ottawa's immense new showcase for art to be a monument among monuments on the skyline, with a network of noble spaces connecting relaxed and friendly galleries conceived as a series of small museums.*



gnacles and finials. Safdie has nerve to spare, however—and so, turned out, did his client, art historian Jean Sutherland Boggs, then head of the Canada Museums Construction Corporation Inc., a crown corporation specially created to recommend sites and architects and to supervise design and construction of the National Gallery as well as the National Museum of Man, now nearing completion.

"The relationship with the Parliament Buildings was the most political idea I had," admits Safdie, "and the one that Jean was most concerned about. When I first proposed it she was very intrigued, but worried that the politicians would find it unacceptable, an inappropriate affront to the Parliamentary Library. Even though the Great Hall is smaller and lower both in elevation and absolute height, and in effect takes second place, it still has an enormous presence on the skyline. Yet, when we presented the sketches to the Cabinet, the ministers fell in love with the idea, so we went ahead with it. Pierre Trudeau recalled later that, at the time, none of us realized that we had made an audacious move that would allow Ottawa to become one of the few

capitals in the world where an institution of culture shares symbolic prominence with government. And no capital that he or I could think of has art, almost equal to governance, as a symbolic element on the skyline."

The Great Hall is the National Gallery's principal public ceremonial space, located where the major galleries converge; in these functions, if not in shape or placement, it is akin to the classical domed rotunda at the cross axis of Karl Friedrich Schinkel's Altes Museum in Berlin, or the similarly centered and domed foyer of John Russell Pope's National Gallery of Art in Washington, D. C. Such spaces are analogous to plazas in a townscape, nodes intersected by avenues and streets. Safdie's singular gesture was to place the Great Hall on an outside corner of his building, projected into the small park overlooking the water toward the Parliament Buildings. Too far away from the edge of the downtown street system to serve as the entrance foyer, it is replicated in form but at smaller scale by the actual entrance pavilion, located at the corner where the building touches the city. Linking the two is a 278-foot-long granite ramp



*The gallery has two public faces. The more dramatic and fanciful (photo below) consists of two pavilions, connected by a 278-foot-long ramped colonnade, all constructed in concrete, steel, and glass. The principal entrance is located in the smaller pavilion.*

*Ceremonial, community, and festive functions, an important adjunct to today's museums and galleries, take place in the larger. Pavilions and colonnade overlook a public park and newly created plaza. The other public face (opposite bottom) presents the L-shaped*



within a 62-foot-high poured concrete colonnade.

Although there are short cuts to the galleries, Safdie hopes that visitors will elect to use the ramp, a walk of one minute or longer depending upon eagerness and energy. Offering views of the park and the Parliament Buildings along its route, the ramp still strikes some as a needlessly long and steep approach to the art. (The architect counters this criticism by pointing out that the leg of Bernini's colonnade in St. Peter's Square that leads to the steps of the Scala Regia and thence to the Vatican Museum within the Pontifical Palace, is also a long route to the art—and by coincidence, Safdie claims, has the same slope he devised for Ottawa.)

Behind this processional approach, the galleries form an L-shape enclosed by solid walls and penetrated by three skylit courts, so placed as to subdivide 132,700 square feet of exhibition space into smaller areas, rather like a sequence of compact museums. Safdie prefers galleries scaled to provide a sense of intimacy and simultaneously allow the visitor to comprehend the whole complex of which they are a part. He particularly likes,

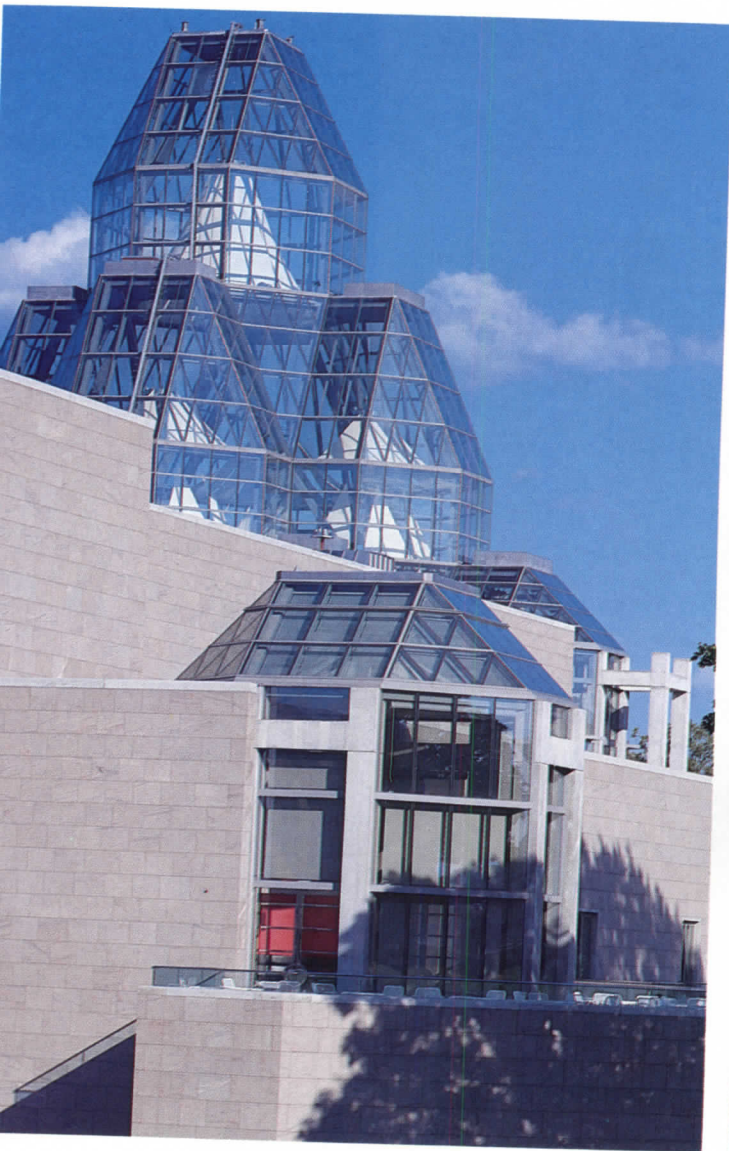
among other museums, New York City's Frick Collection, by Carrère and Hastings, and Fort Worth's Kimbell, by Louis Kahn. "The big museums," he asserts, "partly because they are built piecemeal like the Met, tend to be totally chaotic and disorienting. There are some exceptions like Washington's National Gallery which, though a big building has a clear sense of order, orientation, and circulation—a public series of spaces which really make it easy to find your way through. I was very much preoccupied with making an enormous building, with a gross area of 600,000 square feet, legible and friendly. I tried to achieve these qualities by establishing a series of public spaces that would serve as streets and squares with different buildings entered from them. I have ended up with *five* Fricks or Kimbells—all the same size. These read as buildings you enter go through, and come out again."

The National Gallery is Safdie's best built work, and its creation was a rich experience for him. Generously, though, he attributes his ultimate success with this project to his client, Jean Boggs. "Jean developed a good program—and it works. She



configuration of the galleries, which are sheathed in rose Tadoussac granite. To the right of the gallery, across a landscaped plaza, is the landmark Canadian War Museum. The honeycombed dome forms (below left and right), a gesture toward the

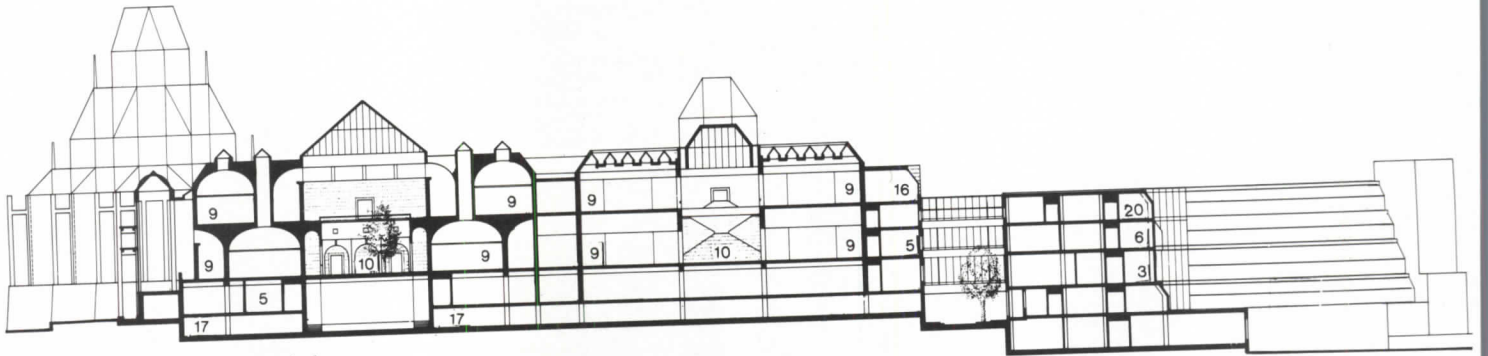
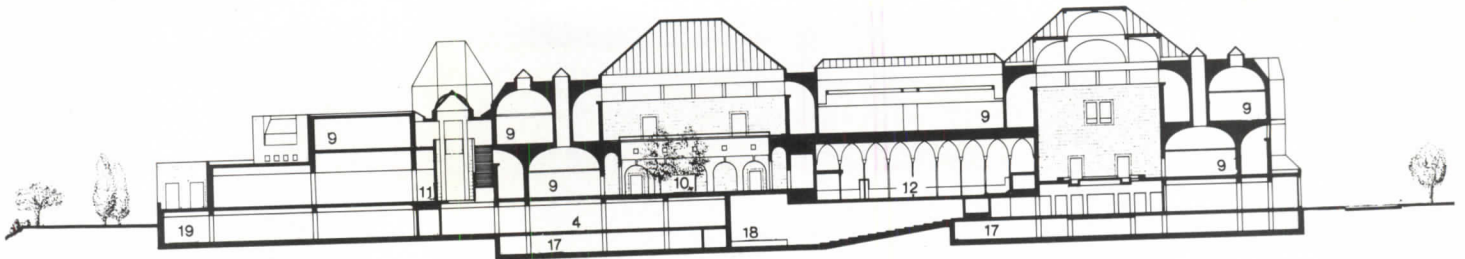
conical shape and spiky surfaces of the Victorian Gothic Parliamentary Library, have little to do with Gothic Revival, but are derived instead from the muqarnas vaults found in the early Islamic architecture of Iran, a long-time interest of Safdie's.



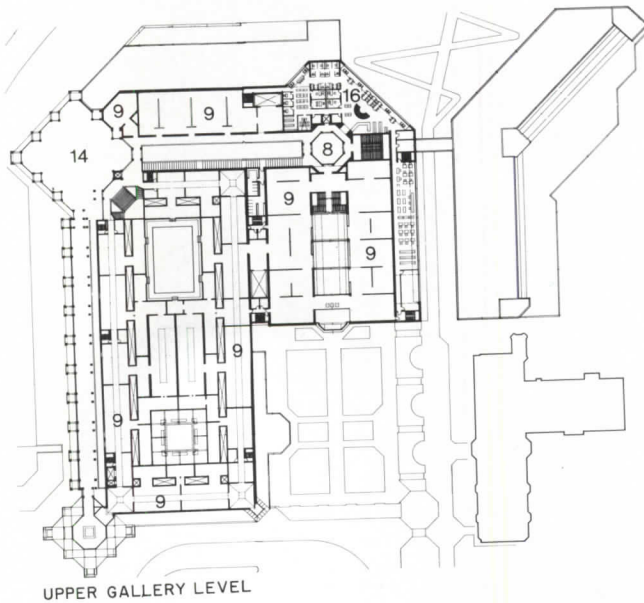
ew, for example, that too many museums put the curators in basement. So, in Ottawa, the curators have the right kind of ce in their own wing oriented toward the river. Too many seums mix food and art, but in Canada's new gallery patrons e spaces to party outside the exhibition areas. Even though construction was fast-tracked, we looked and relooked at rything together, and Jean kept the project from being nibbled y by cost cutters. I had only one big argument with her. I had wn the Great Hall stepped down to the river—the upper level to be circulation, the lower where parties and ceremonies ld happen—and she kept saying that a great room shouldn't epped. She overruled me and said it should be flat. Now I at the results and think she was right. It would have been complicated. The architect's search for perfection is supported client who is after it too.” grateful Canada would do well to honor this search and its tiful result. Perhaps the Royal Canadian Mint might issue a y engraved dollar bill that includes this remarkable new ment in the celebrated vista. *Mildred F. Schmertz*



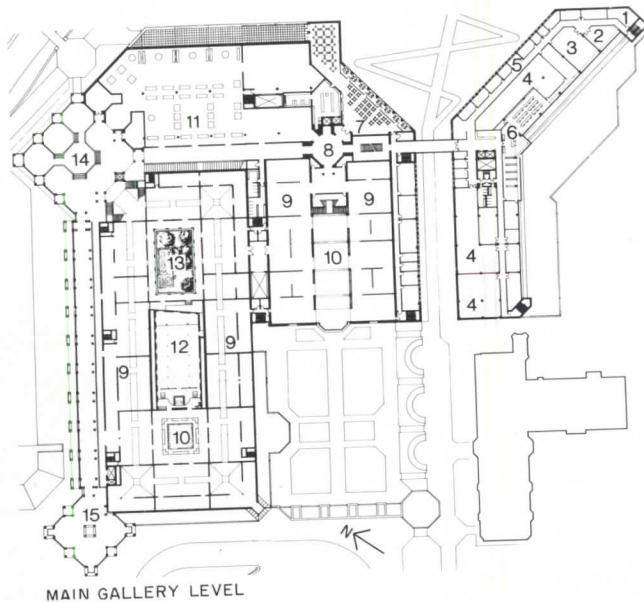




Major public and ceremonial spaces are on the museum's perimeter and consist of three interior plazas or nodes connected by multistory skylit passages (opposite). These spaces are not required to meet the standards of humidity and temperature control maintained within the gallery proper, the latter being enclosed by masonry walls with vapor barriers and every opening glazed. Exhibition rooms surround skylit courts, and rectangular slots in the upper gallery-level floor admit natural light to the main gallery level below. The curatorial wing connects with the gallery by means of a bridge spanning a path to the riverfront. The L-shape of the gallery defines a public garden to the south, a new setting for the old War Museum. Day and night, the Great Hall cupola identifies the gallery from vantage points within the city as well as from across the river in Quebec.



UPPER GALLERY LEVEL



MAIN GALLERY LEVEL

1. Photography studio
2. Workroom
3. Conservation studio
4. Art storage
5. Offices
6. Study
7. Restaurant
8. Rotunda
9. Galleries
10. Court
11. Special exhibitions
12. Chapel
13. Rest area
14. Great Hall
15. Entrance pavilion
16. Library
17. Parking
18. Auditorium
19. Library stacks
20. Administration









The Great Hall (top right and opposite) is 143 feet high at its interior peak. Fabric panels, operated by remote control, modulate light. Each vertical support of the Great Hall dome and the colonnade is a cluster of four poured-in-place concrete columns 30 feet high, tied together at the top with concrete beams. The steel frames above this concrete cornice are wrapped in an aluminum-and-glass "blanket," which is separated from the steel by thermal breaks in the form of gaskets. Safdie calls the system a blanket because it sustains appropriate indoor temperatures with 50-percent humidity, and without condensation, in Ottawa, the coldest capital in the world. Concrete columns aligned with the curtain wall are divided between inside and outside by neoprene inserts that also receive the glass, contributing another mode of thermal separation. The courts (bottom left and right), in deliberate contrast to the Great Hall and colonnade, are of a scale and character typical of smaller, more intimate museums.









National Gallery of Canada  
Ottawa, Ontario

**Architects:**

Moshe Safdie, design architect;  
Parkin/Safdie, architects and  
planners;  
Philip Matthews (Safdie office),  
Jack Mar (Parkin office),  
project managers;

Rainer Goeller, Gaston Korulis,  
project architects;

Kent Duffy, Michael Guran,  
Uri Shetrit, Steve Kersey, Gary  
Hoyt, Hazel Wong, Deborah  
Fennick, design team

**Consultants:**

Parkin/Halsall (structural);  
H. H. Angus & Associates, Ltd.

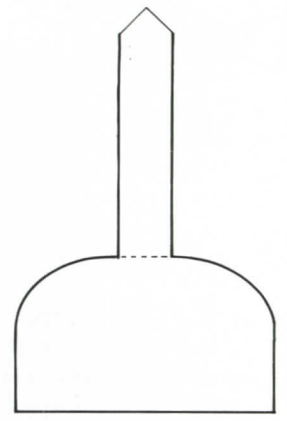
The curators found controlled daylight desirable in the rooms displaying traditional works (photos opposite). The curators of contemporary art, however, agreed only reluctantly to introduce even a limited degree of natural illumination to their collections (photos this page). As soon as he knew that the museum was to be two stories high, Safdie began working with lighting consultant Paul Marantz to research ways to bring controlled daylight through the upper gallery level downward to the main gallery level. Unlike conventional skylight and laylight combinations, which use more glass surface than the floor areas of the rooms they illuminate, Safdie's system limits skylights to a width of six feet, owing to Ottawa's cold climate. Safdie and Marantz keyed these openings to six-foot-wide shafts lined with mirrored acetate, extending from the skylights through the upper floors to the lower-floor ceilings. At first, Safdie recalls, the proposed two-story light-shaft system was greeted with skepticism. "The people with the slide rules accused us of wasting precious square feet of floor area in the pursuit of an idea that wouldn't work. They all warned that light wouldn't carry more than 25 feet down." Even after a model was built and successfully tested (opposite bottom right), the clients announced that they were not going to build a lighting system based on a model. Safdie and his consultants finally won their case by creating a full-size mockup with the mirrored acetate in place. "We refined all our details in that mockup," notes Safdie. "In fact, I don't know how to do that without a full-size mockup. It also helps us with the contractors: you can hold them to it. Just as important, though, it brings up the unforeseen."



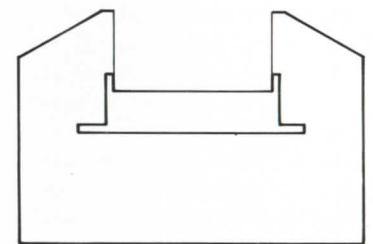


(mechanical);  
 The ECE Group, Ltd. (electrical  
 and audio-visual);  
 Jules Fisher & Paul Marantz,  
 Inc. (lighting);  
 Cornelia Hahn Oberlander  
 (landscape); Gary Banks  
 (specifications);  
 McRostie, Genest & Middlemiss

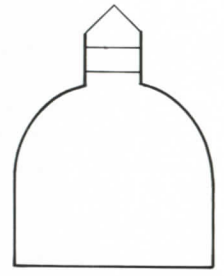
(geotechnical);  
 Valcoustics Canada Ltd.  
 (acoustical);  
 Tudhope Associates, Inc.  
 (graphics);  
 Rolf Jensen & Associates, Inc.  
 (fire protection)  
**Construction manager:**  
 Ellis-Don Ltd.



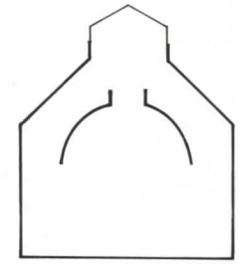
CANADIAN ART GALLERY



CONTEMPORARY ART GALLERY



EUROPEAN AND AMERICAN ART GALLERY



CANADIAN ART GALLERY





# A flexible approach to fire-code compliance

By Clifford S. Harvey

It is possible to design any building or other large project with nearly total control over your own creative process, and at the same time meet the intent of any nationally recognized building, fire, or life-safety codes. Sound too good to be true? In Boulder, Colorado, we have found that this seemingly unattainable goal can be met in virtually every case when designers, architects, developers, planners, building officials, and fire marshals get together and agree to abide by the Measurement of Building Fire Safety concept, which has been in active use in Boulder for eight years. The key to this cooperation is *equivalency*, a principle that the nationally recognized codes allow wherever it is accepted by authorities with local jurisdiction.

## The equivalency process

Codes were not originally written to be flexible. They established design conventions and expected buildings to be built in the manner specified. Today, however, all codes have an equivalency section which generally states that nothing in the code is intended to prevent the use of any system, device, or method equivalent or superior in quality, effectiveness, or safety to those prescribed by the code. The only stipulation is that technical documentation be submitted to the Authority Having Jurisdiction (AHJ) over that code, and that the AHJ approve of that alternative method.

Additionally, some codes say that requirements for existing buildings may be altered as long as the alteration will ensure as nearly equivalent safety to the

occupants as practical. Clearly, it is up to the AHJ to determine this, but architects and designers can assist the process by knowing how to make necessary evaluations of the alternative they are trying to get approved. For example, you might like to design a building with lots of plate glass walls in the corridors, whereas the code requires wire glass. Or perhaps you would want approval for a large, open atrium or flowing, open stairways which the code will not allow. Recognizing that the code has reasons for not allowing these configurations, you need only understand the *intent* of the code in these instances, and provide some alternative to ensure equivalency with that intent.

If, for example, you propose an automatic sprinkler system to control a fire where the code does not require one, instead of the rated walls or other enclosures required by the codes, your substitution should be allowed. Once you have gained a firm understanding of the various aspects of fire, its growth and control, it will be easy to determine what alternatives are indeed equivalent, and you will be able to present them to the AHJ in a precise, intelligent manner.

It is important to mention the negotiations that must go hand in hand with the use of the Measurement concept. Part of this interchange, perhaps the most important part, is educating your local code officials in the application of the Measurement concept after they have been exposed to its various elements. The utility of this concept is not "cut and dried"; it takes ongoing practice, and it must be fine-tuned on every project because

*Equivalency is the key to maintaining design freedom while complying with fire codes. Clifford S. Harvey explains how to demonstrate graphically the safety equivalence of a building with the Measurement of Building Safety concept he has developed.*

every project is different.

All building, fire, and life-safety codes have one specific goal in mind: limiting the spread of a fire in a building to some level where the fire department can fight it successfully. This critical level is usually expressed as some maximum square footage, or occupant load based on square footage. Stated differently, the fire has to be limited to a specific area. As long as the method used accomplishes this end, it can be considered equivalent to the prescriptive sections of the codes, and should be allowed.

Any fire will go out in one or more of only three ways. First, it might go out by itself, a probability that can be presented in graphic form using something called an "I-curve" (see page 131). Second, if the fire continues to grow and does not go out by itself, it might be extinguished by automatic means (automatic sprinklers). The probability of sprinkler-system fire control can also be presented graphically, in the form of an "A-curve" (page 132). Finally, if the fire has not gone out by itself, and the sprinkler system (if present) has not extinguished it, then manual attack (the fire department) enters the picture and adds its probability of success, plotted as the "M-curve" (page 133).

Because all three of these probabilities are working at the same time, they can be combined into a cumulative limit-of-flame spread, referred to as the "L-curve" (page 134). Remember that as long as the fire has a high probability of being terminated within certain allowable floor areas, it meets the criteria the codes have established. Applying the concept referred to above, one is able not only to graph the potential success of code requirements, but also to graph

any alternatives that the designer might find desirable. When comparing the two, if the alternative is at least as strong as the code requirement, the AHJ should have no reason not to accept it.

## Self extinguishment: the I-Value

All fires go out sooner or later. But we are really most concerned with terminating the fire shortly after ignition, or as soon as possible after "established burning." Established burning is generally considered to be a flame 10 in. high—once this level of burning has been reached, it is highly probable the fire will continue to grow. If the fire is not interrupted soon after established burning occurs, the fire will reach the ceiling and progress very rapidly throughout the room where it originated. When only the I-value is considered, this "ceiling phenomenon" will happen every time, regardless of the size of the room of origin.

The fire growth hazard in a room is the natural combustion characteristic of the fuel in the space. The ease with which a fire can develop or terminate within space depends on the type and arrangement of the fuel in the room, the air supply to and in the room, and the configuration of the space itself. Configuration takes into account ceiling height, room shape and volume, and how well the space is insulated.

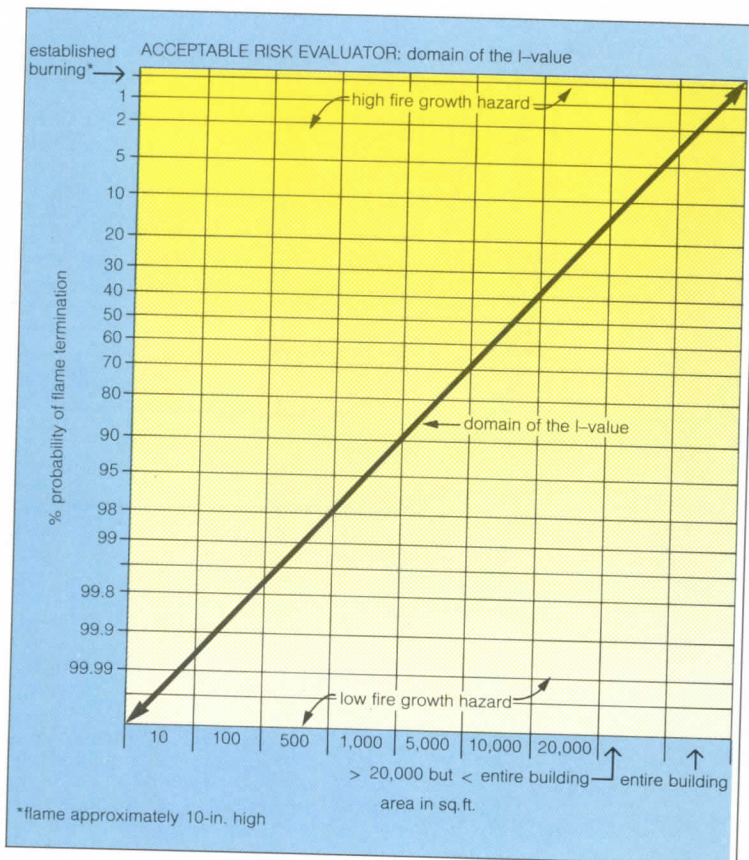
In order to create a strong I-value, the amount, type, and configuration of the fuel in the room must be carefully monitored. "Fuel packs"—anything that will burn—obviously must be kept away

*Clifford S. Harvey is the chief fire marshal for the city of Boulder, Colorado, and has been the principal of his own fire-protection and -prevention consulting firm.*



When a graph is created for the "domain of the I-value," which represents an I-value for any specific space, that domain might be found anywhere over the entire spectrum of the graph. When the area being evaluated has a high fire-growth hazard the I-value will be found at the

top of the graph, while a low-hazard area will be found toward the left side and bottom of the graph. Notice that the chart allows the user to illustrate a specific probability of success (flame termination) at some predetermined area, represented in square feet.



**Going out automatically — the A-curve**

If a fire has not already gone out on its own, and established burning (a 10-in. flame) has grown to a fire about 5 to 6 ft tall, the next thing that comes into action, assuming it is present, is the sprinkler system in the room. As noted above, that system's probability of success can be shown as an "A-curve." Before we discuss A-curves, however, it is important to understand some basics about sprinkler systems in general.

Sprinkler systems are designed to stop a fire from reaching the ceiling of a space. Although this was probably an unconscious effort on the part of the designers, it is a fact, and one that has a *very* positive effect on the life-safety levels of the building.

Sprinkler systems have an inherent reluctance to go off at all. In a room with a normal ceiling height, say 8 to 10 ft, a sprinkler system will activate when a fire in that space is about 5 to 6 ft tall. A smaller fire would present an opportunity for the occupant of the room to extinguish the fire himself.

Automatic sprinkler systems are the most effective method of controlling fire. They are over 90-percent effective at controlling or extinguishing the fire before the fire department arrives—and those statistics are even better (somewhere over 95 percent) in countries such as Australia where all sprinkler discharges are required by law to be reported.

More importantly, there has never been a multiple loss of life caused by fire in a building provided with a complete sprinkler system that was properly designed, properly

from other fuel packs, so that when one ignites the others will not.

The lower the ceiling, the higher the probability that a small fire will grow into a big one. Once a fire begins to spread out across a ceiling, all the other fuel packs will be preheated and, very quickly, begin to burn on their own. If the room of fire origin is tightly built and well insulated, and the doors and windows are tightly shut during the fire event, the fire may run out of oxygen before it gets very large. The fire will therefore probably not advance to a dangerous level, and can ensure a high probability of flame termination, and provide a high I-value.

Fire growth potential is designed into the room, either consciously or unconsciously. Paying attention to a few basic principles can reduce that hazard within any room. For example, small fires self-terminate more readily and easily than do large fires. When designing a space, attempt to select materials that encourage small, slow fire development and spread, and arrange possible fuel in a pattern that will also serve as a retardant.

Wherever you can, interrupt the continuity of fuel in the space. This can be accomplished by using noncombustible elements, such as metal cabinets, separate combustible furnishings. Or, simply provide some space between the fuel packs. Any fire in the space of origin will then have a greater tendency to stay small, and will be more likely to self-terminate. In any event, avoid large fuel packs, as they act as continuous fuel, allowing fire to spread by direct flame contact alone. Seek out energy-absorbing materials when deciding on exterior finishes and furnishings.

(Remember that furnishings also include any goods the occupants put into the room.) This might mean specifying concrete or decorative brick walls, or gypsum-board walls, instead of wood or nonrated paneling. It might also mean metal furniture rather than wood or (worse yet, *much* worse) plastic. If it becomes necessary to use energy-generating materials for esthetics or livability, be certain to place them in such a way that it will be as difficult as possible for a fire in one to spread to the next. Probably the two most significant factors affecting fire spread are the wall coverings and the ceilings. You should avoid any combustible material in both parts of the enclosure if you are to obtain anything close to an effective I-curve.

Do not despair if, by this time, you are convinced that the I-curve is impossible to generate with any degree of lasting integrity. There are so many

variables to generating an accurate I-curve that such a graph will, at best, represent only a very rough estimate. You will see later on that other curves must be strengthened to compensate for the relative impossibility of ensuring an acceptable I-curve.

The uninitiated continually tell me that their building is "noncombustible," and therefore will not burn. This statement, taken alone, is true. Most large buildings today are built of materials that are indeed noncombustible, and few of these buildings will collapse during the fire. It is the contents that burn. A fire some years back in São Paulo, Brazil, demonstrated this quite clearly. Everything in the 32-story building was destroyed, even though the structure itself remained intact. Cleaned out and refurbished, the building stands today.



When the A-value is charted, nothing happens for the first 10 to 100 sq ft. This is because a sprinkler head takes a certain amount of time to open, and during that time there is no probability of success. Notice also however, that when the sprinkler system does react,

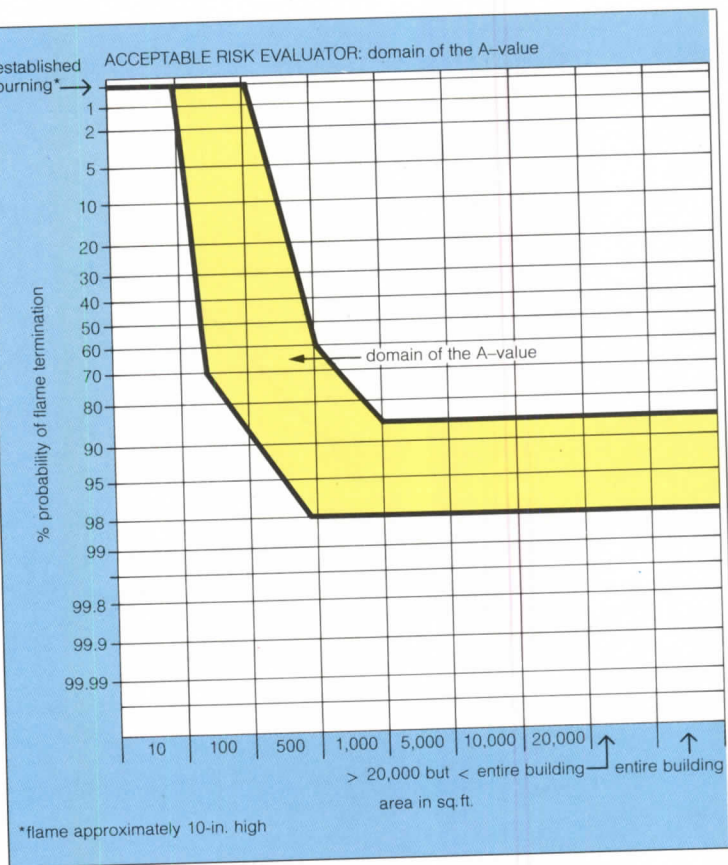
that reaction results in an extremely high probability of flame termination, at or below the 500-sq-ft level.

installed, and in service at the time the fire occurred. There is no other form of fire "protection" that can boast a record nearly as good as that, especially when the allowance for flexibility of design is also considered.

Since automatic extinguishment can be accomplished most efficiently within the room of fire origin, sprinklers have proven extremely effective in controlling the fire in compartmentalized buildings. In much larger, unseparated spaces, the sprinkler system is imperative in keeping a fire from becoming completely unmanageable by the fire department. For these reasons, and others discussed below, the use of voluntarily installed sprinkler systems and trade-offs is becoming increasingly acceptable for proper building protection.

In order to create a strong A-curve, a sprinkler system must do several things. The system must be geared specifically to the space it is protecting, to ensure that water will, in fact, reach and discharge from the sprinkler heads. Equally important, the system must be designed for the hazard it is to protect. A sprinkler system originally designed to protect a low-hazard space will have a very low probability of success if that space now stores flammable liquids or other highly flammable material. The architect needs to consider this variable not only when a building is first being designed and built, but also when major renovation takes place for a new tenant.

Even with convincing statistics relative to the success of sprinkler systems, some designers are reluctant to install them. Their concerns usually focus on appearance, fear of water damage, and anxiety over



accidental operation of the system.

The appearance of sprinkler heads has improved substantially over the past few years, mostly in an attempt to overcome designers' esthetic reservations. Fear of water damage almost always arises from a misunderstanding of how a sprinkler system actually works; in fact, only the head or heads nearest the fire actually discharge water. When one compares the water discharged from one or two heads, to the water discharged by fire department hose lines, the former is clearly less damaging. Unnecessary discharge of a system head "just going off" happens so rarely that its discussion is unwarranted; that sort of discharge usually results from a weeping head, which can be recognized by building maintenance staff and quickly repaired.

In our experience, when the

cost of a sprinkler system is coupled with the cost savings from trade-offs which are allowed in sprinklered buildings, it can actually result in a net saving in the total cost of the building. Also, many times insurance companies will quote lower premiums for sprinklered buildings than for nonsprinklered buildings, resulting in a substantial cost saving over the life of the building.

When sprinkler systems do fail, it is usually due to a control valve being closed, or a change in the configuration of the space served or in the type of fuel being protected. The former problem can be addressed simply by chaining the valves open and having both tamper and flow switches monitored by an approved central receiving station; and the latter by always being aware of what the system was designed to protect.

### Additional benefits of sprinkler systems

A sprinkler system is by far the strongest component of the building's entire fire-safety system, and sprinklers' proven success has made them generally accepted in lieu of many code requirements, allowing the designer much greater flexibility.

Sprinkler systems are also less easily compromised than most building code requirements. Once a sprinkler system has been properly designed, installed, and inspected, and once steps are taken to ensure that the system will always be in service, it really doesn't matter whether provisions of the building code are met. An A-curve is much stronger than even the most stringent building code for building occupant safety. The fact that it takes about two seconds of unconscious effort to prop open a required fire door with a wedge, thereby eliminating the function that door was intended to perform, illustrates my point. The larger the building, the lower the probability that it meets the building code, even immediately after it has received its final inspection. Even small plumbing access holes left open in a rated wall destroy that rating, which therefore allows a false sense of security. Sprinkler systems, on the other hand, are usually out of sight and out of mind, and are hence much less easily disabled.

### The role of the fire department the M-Curve

The fire department's effect on the fire (the M-curve or value, page 133) is the last factor to consider when generating the L-curve. Having been a member of the fire service for 20 years, recognize perhaps more than most how hard the firefighters of this country work to do their jobs as well as is

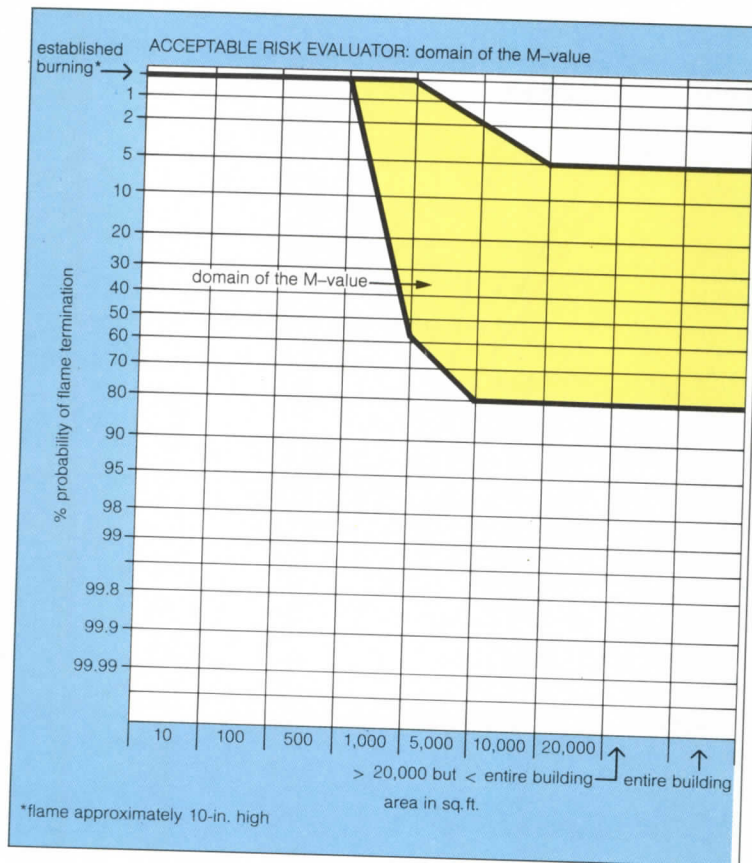


*When the M-value is applied in graphic form, a relatively long delay precedes any effective action by the fire department. This is because it takes a fair amount of time, under the best of conditions, before the proper extinguishing agent (usually water) is applied, therefore*

*beginning the effect of the manual attack. A comparison of this chart to the one on page 131 shows that the M-value really represents a medium-to-high fire growth hazard; i.e., of limited fire-suppression value, especially for the costs involved.*

humanly possible. That is the key to the strength of the M-value: firefighters are only human, and they are able to do only so much to extinguish a fire. I don't make many friends in the fire service by saying this, but this method of flame termination is by far the least effective. When one considers all the aspects of the manual suppression effort which must work in order for it to succeed, it is a small wonder that departments around the country do as well as they do. The best fire department in the world, regardless of its level of dedication, is capable of extinguishing a maximum of about 5,000 sq ft of structure fire. As you read this, you may be thinking of a large fire reported on the nightly news, a blaze that the fire department seemed to put out, and that far exceeded 5,000 sq ft. Not true. The actual event saw the fire department protecting a barrier series of barriers long enough for the fire to consume most of the fuel contained within, after which the fire department wet down the remaining fuel with the sources it had. It therefore looked as though the firefighters extinguished the fire, when they really only helped it go out by itself. All manual suppression does is hold the fire to some size dictated by construction or configuration.

In evaluating this human aspect of fire control, one must consider three crucial phases. First, someone must notify the fire department. For this to happen, the fire must be detected in some manner, a decision must be made to contact the fire department, and then called upon, and department personnel must receive the



message accurately when they are notified. Think of all that can go wrong with just this one small subsystem of manual firefighting! There may be no one around to discover the fire. If there is, he may decide to try and fight the fire instead of first reporting it. He may decide to report it, only to find that the phones are down, or he cannot find one. He may get a line to the fire department, only to find he is too excited to give an accurate description of what is wrong and where it is.

Assuming the fire department has been notified adequately enough to respond to the fire, there are variable probabilities of success associated with getting to the scene of the fire: time of day (for traffic purposes), day of the week, weather conditions, etc. The "response time" of the fire department and its status as a volunteer or paid force both affect the M-value. Finally, given that the squad arrives at

the fire, it still has to lay out hose lines, find the room (or rooms) of fire involvement, stretch those hose lines to those rooms, and apply the proper amount of water to extinguish the fire.

When evaluating the entire fire-protection system of a community, it is interesting to note that the very subsystem that we have seen to be the weakest is also, by far, the most expensive to provide and maintain. To keep personnel and equipment available for even small communities costs millions of dollars each year, whether or not they ever fight a fire. It is becoming clear that the costs of providing manual fire protection to a community cannot be allowed to increase year after year. In fact, many communities have actually had to reduce the amount of funding they allow their fire departments, but they have not increased other areas of fire protection to make up for

that reduction. This means that those communities believe they still have the same levels of fire protection when, in fact, they do not. This fact alone should be enough to convince local governments to allow alternatives to the codes. With the recognition that: 1) the I-value is fragile and generally impossible to predict for any period of time; 2) the M-value is, due to its large number of subsystems, very weak and of limited value; 3) strict adherence to the adopted building code is unlikely; and, 4) the A-value, when present, is by far the strongest of all, the authority having jurisdiction who is seriously concerned with overall fire and life safety has no real choice but to determine how best to protect his community through equivalency utilizing the A-value.

### Putting it all together—the L-curve

We have discussed the three elements of a building (or any space) evaluation. These three elements—the I-, A-, and M-values—all work together to give some measurable probability of successful flame termination. Given that a fire has some small probability of going out by itself, and that automatic sprinklers are attacking the fire, and manual suppression is attacking the same fire, all these strengths and weaknesses can be combined mathematically to create a graph that shows the cumulative limit of flame spread, an L-curve (page 134).

Keep in mind that the requirements of an adopted building code can also be graphed to show its acceptable levels of flame spread. The building code graph can be compared to your L-curve and, as long as the L-curve, which is generated by alternatives, is equal to or greater in safety



When the I-, A-, and M-values are combined, and the L-curve is generated, the L-curve is always more effective than the other three, because more than one of the values is working to make the fire go out. This specific L-curve reads as follows: Given established burning, this

fire has a 70-percent chance of being extinguished at about 300 sq ft in size. Should it not be extinguished at that point, it has about a 99-percent chance of being extinguished at just under 500 sq ft, and so on. Conclusion: this is a relatively safe space.

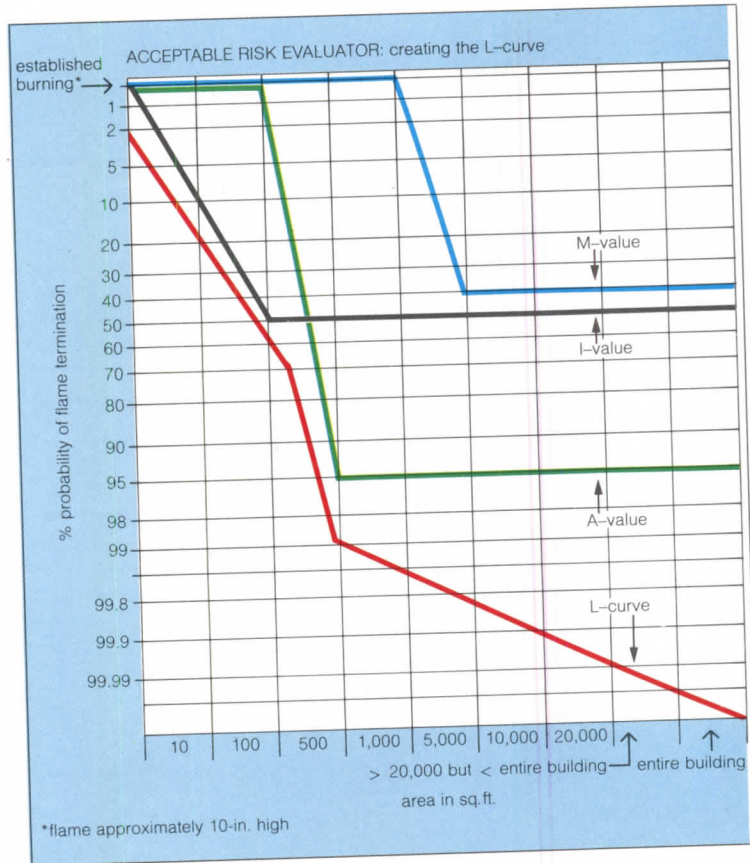
than the "code-generated" graph, that requested alternative is at least equivalent to the code, and should be allowed.

In theory, adoption of this philosophy would permit virtually unlimited flexibility in the design process, and would allow architects and owners to determine their own equivalency. All they would have to show the authorities would be the graphs created by the adopted code and the graphs generated by evaluating the various alternatives. As long as the alternatives were at least as strong as the code, the authorities could give an approval.

The process works, and has been used in my jurisdiction and other communities around this area to create a harmonious working relationship between the city and the developers, as well as slowly building a city that is actually safer than the nationally recognized, locally adopted codes would require. Further, the projects built using this concept are usually less expensive than those built strictly to code.

#### Considering trade-offs with equivalency: the key to L-curve success

With all the codes architects are asked to meet, it is increasingly difficult to meet them all. It is clearly in everyone's best interest to begin looking at all new and existing buildings as systems, and to address their use and protection using a systems approach. In essence, what you create by doing this is a city where not one building meets all the codes, but every building meets the intent of all those codes. No building would meet the same identical requirements of any other building in that city, but all would meet the intent! I believe that, regardless of whether or



not your AHJ buys into this concept at this time, the evaluation process described in this article will be put into place throughout this country anyway, because we as a society simply cannot afford to continue paying the costs of building strictly to code.

What sorts of trade-offs are allowed when a person agrees to provide a sprinkler system that is not required by code? Certainly the most widely accepted trade-off is a reduction in rated separations. Most jurisdictions will allow at least one hour of required separation to be eliminated, while others allow even more. Where a one-hour rated wall is required, that wall may be traded off, and be nonrated. Wire glass no longer becomes necessary, and plate glass may be substituted. Other trade-offs include lifting requirements that stairways and other vertical openings be enclosed, sometimes within any

five floor levels. Reductions in the severity of interior finish requirements are already seen written into the codes, when buildings are sprinklered throughout. Openings on property lines, where none are allowed, are also seen more often these days. Some jurisdictions even allow conduit to be eliminated in certain occupancies and sizes of buildings, when the building is provided throughout with a complete sprinkler system. This one alone goes a long way toward paying for the sprinkler system.

What is, or might be, allowed to be traded off in a building that is also required to be sprinklered? Those who have seen the L-curve concept work still allow many of those trade-offs, even though the system is required. They do so because the sprinkler system will, statistically, limit the size of the fire to a manageable range. By providing a well-designed,

properly installed and monitored system, those other requirements are simply not necessary, even though they are written into the code. This is what I mean when I urge cities to begin looking at all building projects as systems, instead of structures that must be built to minimally acceptable national standards. By evaluating the relative strengths and weaknesses of all code requirements (that is, assigning each some sort of relative numerical value), authorities could require projected buildings to meet some total numerical value. Clearly the value would be heavily dependent on a strong A-value but, given that, all the other values would be easy to meet, even with greatly increased design flexibility allowances.

#### What the future must hold: development review teams and beyond

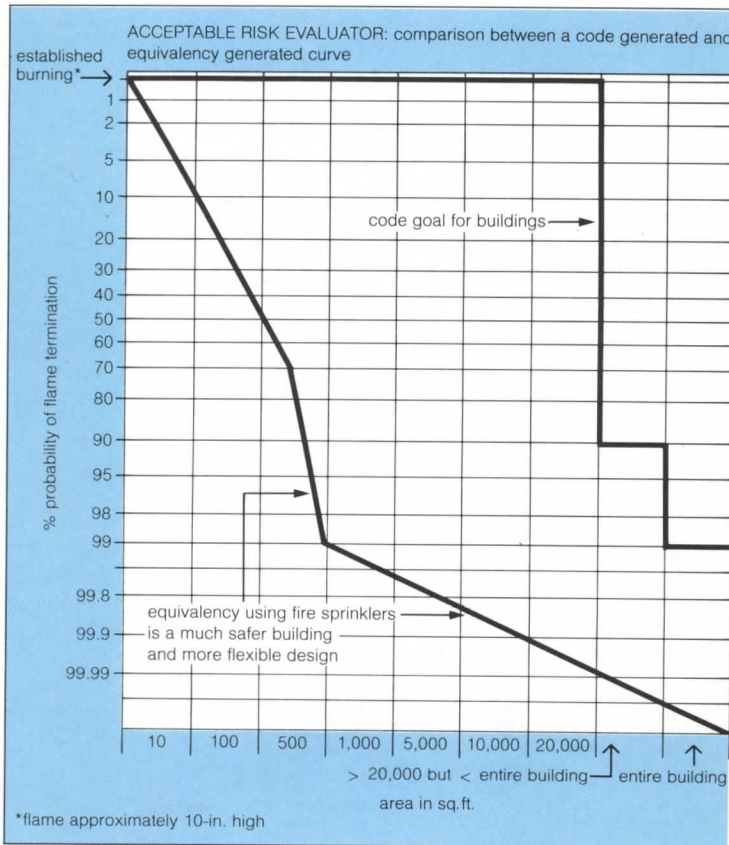
How can you begin to implement a review process such as this? The most important first step would be to include a member of your local fire department on your design team for specific projects, and get his input from the very beginning. Clearly that person should be at a level where his input can be counted on for acceptance. This person's contribution can be invaluable at this early stage, not only in pointing out concerns that the fire department might have, but also in suggesting alternatives within the design which may be more attractive to you, the designer.

Approximately every two weeks, sit down as a team with that member of the fire department, and be sure to include a responsible member of the building department as well, preferably the chief building official. Discuss your coming projects with them. With this



The code-generated curve allows an unseparated area of as much as 20,000-sq-ft before an area separation wall needs to be built. The long vertical line represents that barrier. The curve indicates that, if the building is built to code, no probability of success is

necessary prior to the first 20,000 sq ft—a dismal approach. The other curve represents not only a much safer building, but one that can reflect much greater flexibility in the design process.



simple process, you will be amazed at how much more cooperation you receive from them in the overall acceptance of your project. And if alternatives are discussed and agreed to at this early stage of development, think how many thousands of dollars might be saved.

See if the following sounds familiar. Most communities afford their architects and developers almost no time for consultation and review until the initial set of building plans is submitted. At that time, each department gets to go over those plans, and make any necessary comments, suggestions, additions, deletions, or changes. Many creative design features have been erased, replaced with code requirements and restrictions. The architect isn't happy and the members of the city organization who reviewed his plans aren't happy either, because they had to spend time changing plans to meet their specific codes, codes they feel the designer should already know! How can this interchange be friendlier, less adversarial, and more productive? One possibility follows.

About five years ago, the city of Boulder noticed a marked lack of coordination not only between architects and developers and the various city departments, but also among the city departments themselves. A committee was formed of representatives from various city departments with a say in developments proposed in Boulder. It was called the Development Review Committee (DRC), and its success was given priority by both the city manager and the city council. The DRC meets every week to facilitate scheduling. Representatives from over a dozen city departments attend. The fire, building, water and waste water utilities, transportation, real estate and

open space, city attorney, parks and recreation, public service, telephone and cable TV utilities, and the planning departments all send representatives. After a two-week period within which to review individual or series of plans, the entire team sits down to discuss each one. It is at this point that inconsistencies in the various codes surface and are ironed out.

The planning director or his designee often takes the position of devil's advocate, attempting to weed out supposed code requirements that might actually be nothing more than desires of a specific department, instead of genuine code requirements.

When this elimination is completed, any remaining conflicts are taken to the city manager for review and determination of policy. This is all done before the applicant has seen any response, so the city can present a clear, concise plan for approaching the specific project. The applicant is then given a specific period of time in which to respond to the concerns expressed in the city's report, and to make necessary changes. When that has been done, the proposed design is sent to the planning board for review and, ultimately, it is hoped, approval.

#### A final thought

I believe the next logical step in revising code policies is for cities to adopt a minimum value for acceptance, rather than minimum codes that need to be met. The decision process for such a

review would have to start with assigning values to the concerns of both the fire and building departments. The applicant for a project would answer a series of questions—every possible answer having had a value assigned to it by the community's governing body. The system would be constructed numerically to weed out those projects that do not meet the intent of the code through some form of equivalency, but would still allow the virtually unlimited flexibility I have referred to above. At some time in the future, all departments would supply their input through their own lists of questions, all of which had been assigned values.

I believe that the L-curve concept is the beginning of a total review process, and that sometime, perhaps even within the next 10 years, a computer program allowing even greater sophistication will become a reality. Boulder has already generated such a program where fire department issues are concerned, and we feel comfortable with its operation. There is no reason why the same sort of program could not be developed with other city departments in mind, and make the construction of any community a safe, flexible, and enjoyable process.





## Before you look at another insulated door, just look at one of the places Tri-Core has insulated

The Eagle River, Alaska, Municipal Building has to work in extremes that can range fifty degrees on either side of freezing.

That's why you see Raynor Tri-Core doors on it. Every Raynor Tri-Core comes with a unique, three-inch thick insulated core of polystyrene that retains its insulating properties over time. A patented mechanically interlocked thermal break for maximum thermal

performance. And perimeter seals to reduce air infiltration. It's as close as you can come to keeping weather just like Spring on the inside. No matter what the weather is like on the outside.

For free design manual, call 1-800-545-0455 or look in the Yellow Pages under "Doors".

**RAYNOR GARAGE DOORS**



Seattle, Washington, D.C.

Telephone 617 492-4000  
Telex 951650

# Make it or break it

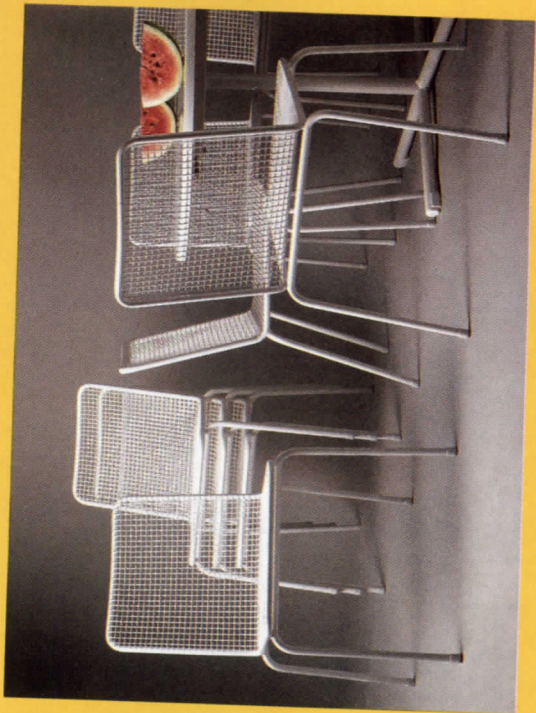
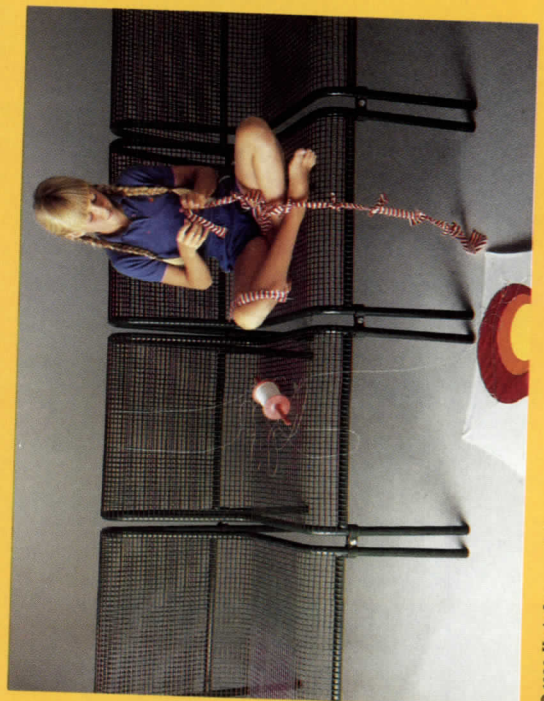
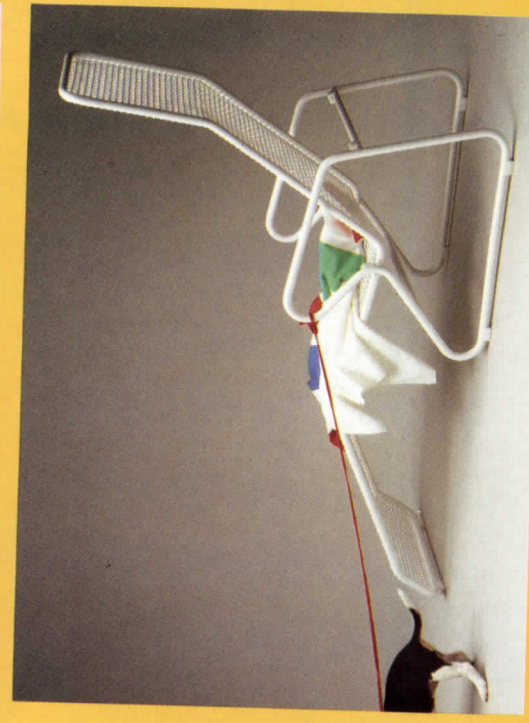
When it comes to outdoor seating, a lot of different manufacturers make it. And a lot of use usually breaks it. However, that's not the case with Kroin Garden and Park Furniture.

This collection of chairs, tables, bench seating and lounges is built to last. Through weather and heavy traffic abuse, it holds up and stands up to any extreme. Because no one makes seating with the kind of heavy tubular steel and fused

synthetic coating that we do. And it's appropriate for just about any site you can think of; from indoor malls, to outdoor plazas, to hotels and restaurants.

So, remember Kroin Garden and Park Furniture. It's the outdoor seating that could make or break the success of your next site.

*Circle 6 on information card.*

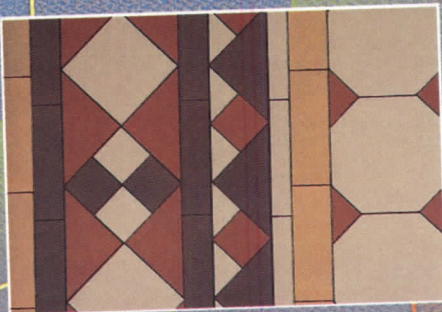
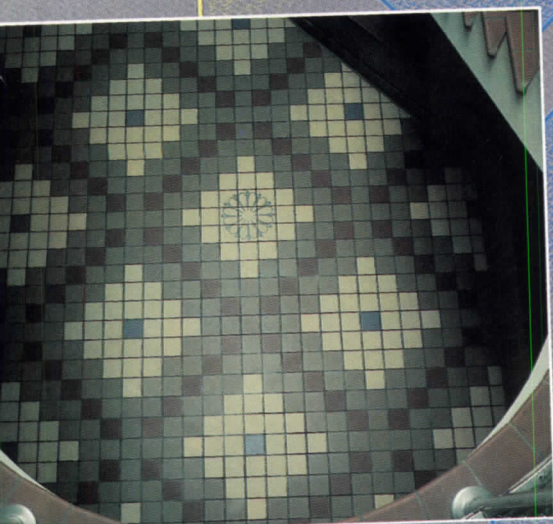




# SUMMITVILLE QUARRY. DON'T WASTE YOUR MIND ON ANYTHING LESS.



LAVINCHY



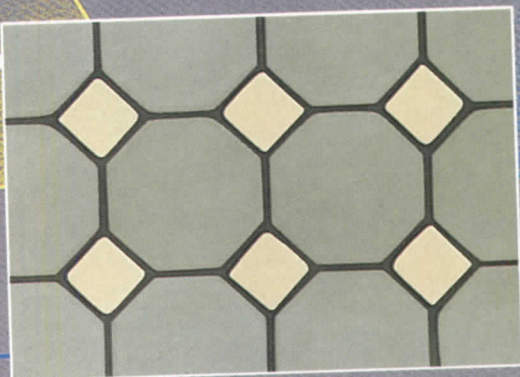
4"X8"X 1/2"

FLORENTINE

VIKING

OCT. WITH DOT

FLEMISH



Summitville Quarry.  
Don't waste your mind on  
anything less.

Our Quarry has earned its  
reputation for the way it performs,  
for the way it's made. For the quality  
that goes into every Quarry Tile.

When we talk about Summitville  
quality, we mean reliability, service, ease  
of maintenance, consistency, and durability.

Summitville Quarry quality gives a sense of  
freedom, a sureness and trust, so you can experi-  
ment and explore different color combinations and  
patterns with confidence. Knowing each one resists oil,  
acid and detergent stains.

You can be free with Summitville Quarry, because it doesn't  
restrict your design possibilities. It doesn't have the limitations of  
lesser quality quarry tiles. Our 11 standard colors,  
9 shapes and all the trim you need gives your  
imagination the broadest palette of choices available.



Summitville Quarry is really the tool that will let you build  
a floor of beauty, grace and certainty.

Find out the complete Summitville Story from your nearest  
Summitville Distributor.

See how Summitville Quarry can improve the outlook of your  
floor plan. On any level.



**Summitville**

Summitville Tiles Inc. • Summitville, Ohio 43962



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

Developer:  
Lincoln Developers, Inc. Raleigh, N.C.  
Architect:  
Glick/Boehm & Assoc. Charleston, S.C.

Engineer:  
T. G. Padgett & Assoc. Charleston, S.C.  
Structural Fabricator:  
Palmetto Steel Co. Charleston, S.C.

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

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

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

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

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



#### NEW 60th ANNIVERSARY issue.

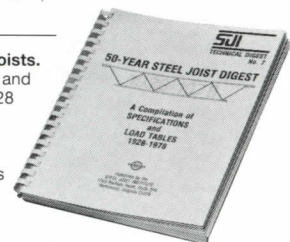
64 pages of facts and figures with new instructions for designating and specifying the new K-Series joists. \$8.50 (\$9.50 outside U.S.).

No. of copies \_\_\_\_\_

#### 50 years of Steel Joists.

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

No. of copies \_\_\_\_\_



Total enclosed \_\_\_\_\_ (Remittance with order, please)



Managing Director  
**Steel Joist Institute**  
Chamber A  
1205 48th Avenue North  
Myrtle Beach, SC 29577

Name \_\_\_\_\_

Firm \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

Circle 58 on inquiry card



## New products: Frit glass— more than decorative

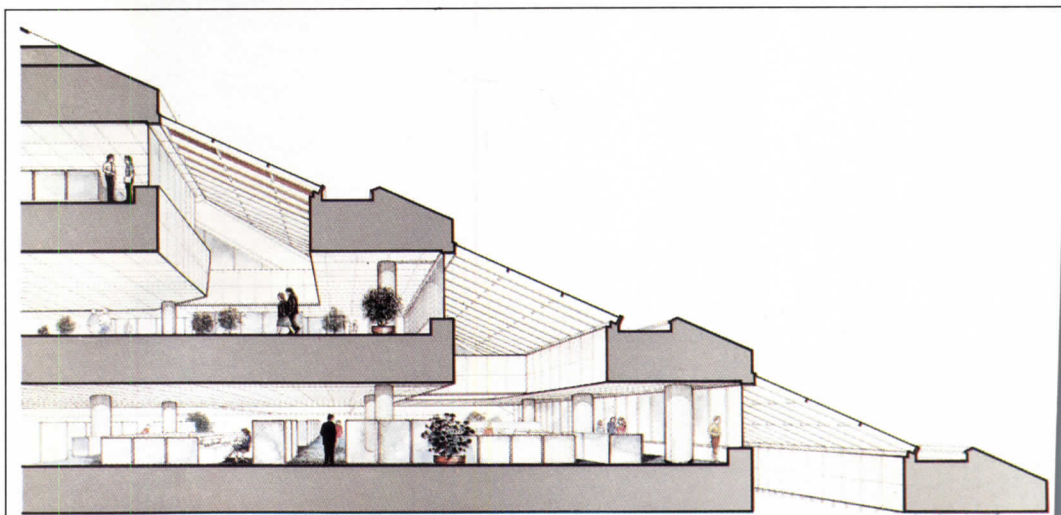
Ceramic-enamel coated frit glass is made by applying a pigmented ground-glass powder to a sheet of float glass. One can flood-coat the powdered frit to produce a solid color, or screen-print it in a standard or custom pattern, such as dots, stripes, or holes. The "painted" glass is then placed in an oven and heated until the glass almost softens. Once the powder melts, it becomes permanently fused to the glass surface. The sheet is then carefully cooled to heat-strengthen the glass. Frit-coated glass must be made in the size to be installed; it cannot be cut after heat strengthening.

Both the pattern and the color of the frit act to control daylight, glare, and heat transmission through the glass, without affecting the quality of the light. Patterned glass is, therefore, particularly suitable for the sloped glazing of atriums, skylights, and other overhead structures.

Light frit colors, such as white, peach, or pastels, are translucent, and more effective in diffusing and even amplifying usable daylight, according to Peter McQuillin, product manager for commercial products of PPG Industries' Glass Group. Dark colored or black frit is better at reducing glare, and cannot be read as easily from the interior, producing a clearer view out. Of course, the total amount of frit, and its spacing in relation to the clear areas, also affects the amount of light transmitted.

For example, architects Murphy/Jahn used frit glass extensively for the United Airlines Terminal at O'Hare International Airport, in Chicago. There, a white frit applied in a grid pattern diffuses daylight from the west-facing vaulted concourse, and creates a sense of enclosure at night when the frit reflects light from interior sources [RECORD, November 1987, pages 148-154].

The WBDC Group of Grand Rapids, architects for the Steelcase Corporate Development Center in Gaines Township,



Michigan, had to work with a fast-track program that included a number of seemingly contradictory requirements: a light-filled and airy space that would take maximum advantage of the views of the surrounding Michigan countryside, as well as a comfortable, low-glare environment for the designers working at light-sensitive CAD workstation CRT screens. The building itself, a 7-story, 500-ft-sq-pyramid, has 31 skylights with a total of 50,000 sq ft of glass (1). The interior is a series of setback mezzanines, with each ascending level containing open-plan drafting stations lit directly by overhead

*A colored ceramic coating—frit—is used on two surfaces of skylight glazing to create glass that is decorative, diffuses daylight to reduce glare, and directs the sun's rays into the interior in a precisely controlled pattern.*

sloped skylights. (elevation, 2). And the client did not want any mechanical screening devices used to control sunlight, or obscure the clean lines of the building from the outside. (Months before occupancy, the dramatic shape of the Center has already made it a landmark for airplane passengers into and out of the nearby Grand Rapids airport.) Consequently, Donald J. Koster, AIA, designer of the building for WBDC, had to focus on glass detailing. His elegant solution: horizontal lines of ceramic frit (Patternlite Glass from PPG Industries) alternating on two surfaces of the inboard, laminated glass light.

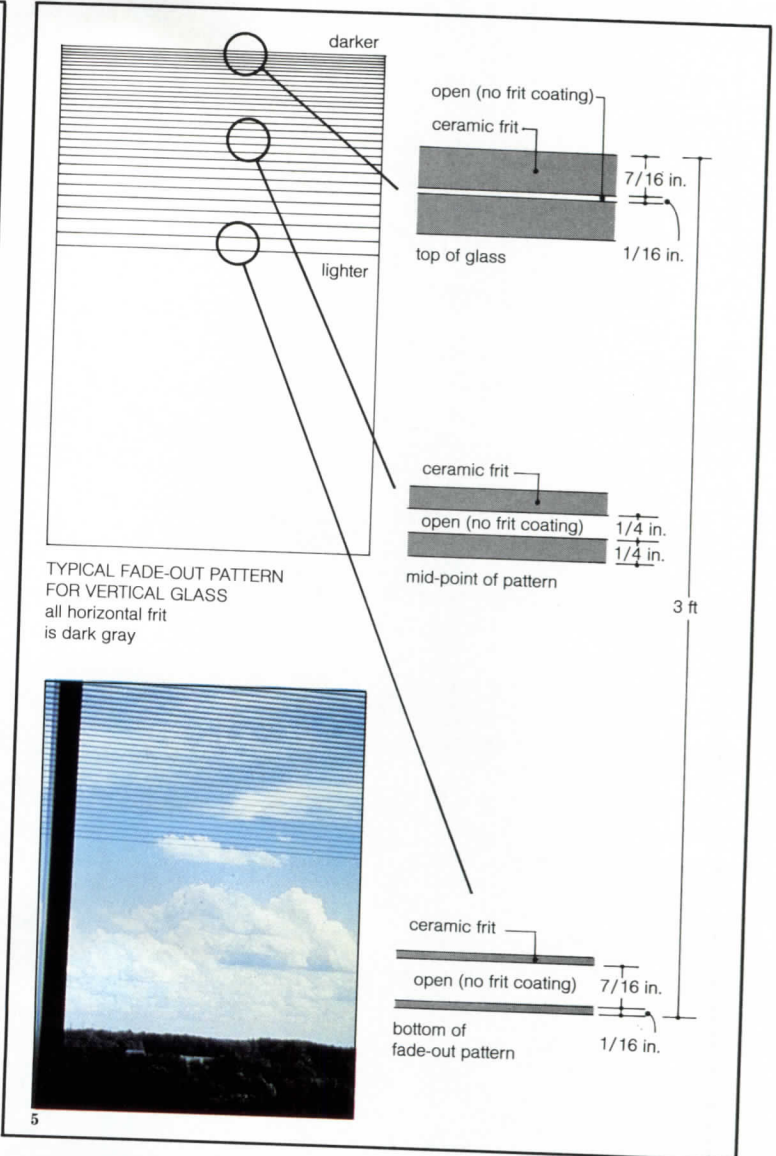
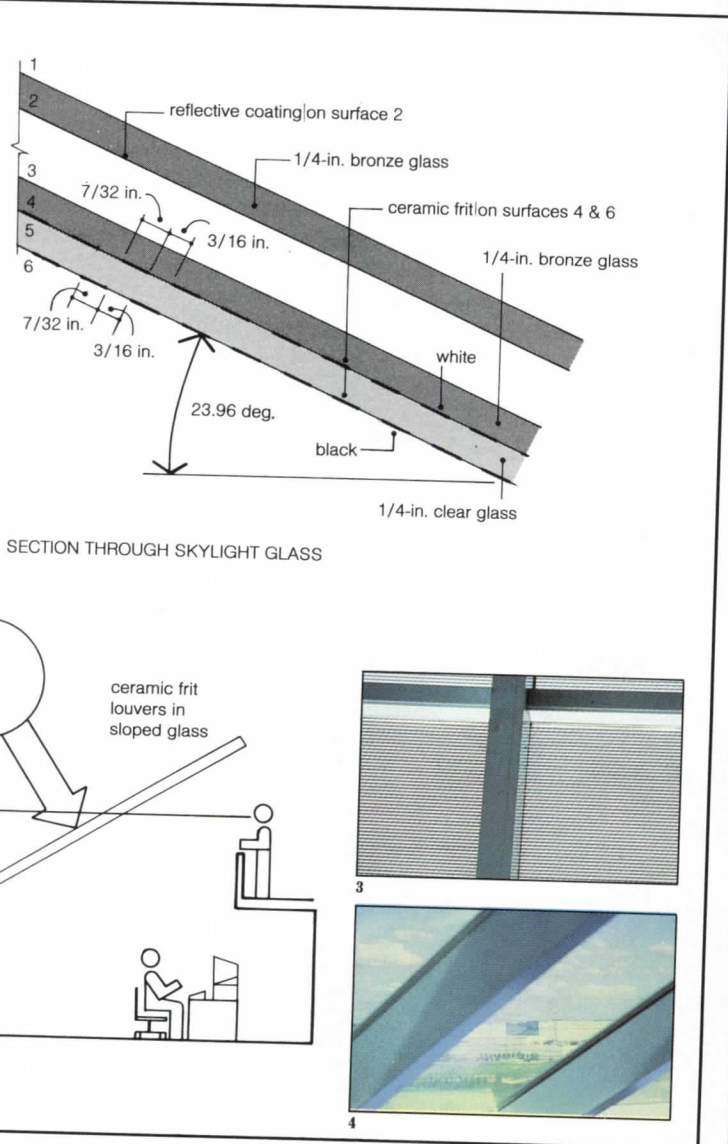
Koster started with a hand-made mockup, using masking tape on small glass panes placed at the 23.96-deg angle of the skylights. Analysis of solar azimuths throughout the year on the southern-facing half of the building determined that the frit louvers should be positioned to most effectively against the most severe sun load: overhead on the 21st of June. At that time, direct rays of the sun are completely blocked by the 7/32-in.-wide line of frit. The width of the frit line was the most important factor determining the shading effect, with the bending of light through the glass taken into account. T



Black frit on surface 6 is staggered with white frit on surface 4, each 7/16-in.-wide line separated by a 3/16-in. clear space. The frit-glass lights (one bronze-tinted, one clear) are then laminated into a 9/16-in.-thick sandwich.

Dark gray frit was used as an integral solar shade to screen low-angle sunlight on the clear glass of the vertical windows surrounding the terraces.

For more information, circle item numbers on Reader Service Card



...d-crafted mockup was then...  
...one in paint, and tracked...  
...ough CAD studies to confirm...  
...degree of sun control possible...  
...various combinations of lines...  
...spaces. After the frit solution...  
...approved by Steelcase, PPG...  
...up full-scale production...  
...ples of the glass, with...  
...icular attention to the precise...  
...l alignment of the frit to...  
...ent a moiré effect.  
...the building is sited 15 deg...  
...ue north, the lower angles of...  
...arly morning and evening...  
...ould be difficult to block...  
...ely. Therefore, the white frit...  
...on the top horizontal tier of...  
...skylight were replaced by a

white laminating interlayer between the two panes of the inboard glass light. A copper-toned reflective coating was specified on the inboard surface of the single-pane exterior light for additional energy savings, and a uniform exterior appearance.

The precisely spaced lines act as fixed louvers, letting people standing directly opposite (and about 25 ft away from) the sloped skylight see out clearly (photo 4), while appearing as a light-diffusing surface to workers seated below (photo 3). There is still some "view" through the glass for the CAD-based Steelcase designers, as passing clouds,

birds—and airplanes—are seen from below. The low-glare, diffuse light through the skylights does not read as a monolithic, luminous ceiling.

The dual-surface frit is obviously most useful for solar control on sloped glass of over 15 deg, where the different viewing angles can exploit the looking-through-the-slot effect of lines placed on two surfaces. But the Steelcase building makes extensive use of vertical glass as well, especially surrounding inset terraces on three levels of each side. There, the Patternlite frit on the upper portion of each window acts as a shading overhang. Dark

gray frit is used in horizontal lines 7/16 in. wide at the top, separated by a 1/16-in. space, with the frit lines getting narrower and the spaces getting wider as the pattern fades out in the bottommost patterned section. (Photo, 5, shows a view through the sun-shaded vertical glass).

An extra benefit of Patternlite frit on sloped glazing: it hides the dirt. *Joan F. Blatterman*

PPG Industries, Inc., Pittsburgh. Circle 300 on reader service card More products on page 143



# New... SuperProject Software What The Experts Have To Say:

“Just Released for OS/2—  
SuperProject Expert/2”

**Aerospace:** “SuperProject is the best. Earned Value Reporting and Work Breakdown Summarization give me complete project control and the graphics make impressive presentations.” Barry Feeley, Technical Manager, Ford Aerospace.

**Construction:** “The familiar SuperCalc® and 1-2-3 menu system makes it really easy to learn and use. It handles multiple projects, networking and flexible

report writing. The multiple resource calendars and histograms manage resources very efficiently.” Ted Ritter, CEO, O’Connor Construction Co.

**Data Processing:** “The Outliner allows me to quickly sketch critical schedules from the top down. Expert is way ahead of the pack.” D.W. Nesper, Regional Consulting Manager, Wang Labs.

The SuperProject® Family—Plus, Expert and Expert/2—is the most advanced PC project management software available. The smallest to the largest and most complex projects imaginable are easily handled thanks to its virtual memory management skills.

Newly released SuperProject Expert/2 running under OS/2, gives you true multitasking. For example, this enables you to enter data in the foreground while outputting a report in the background.

And only Computer Associates gives you PC and mainframe project management. Develop your project planning on a PC and then upload to a mainframe with CA-PLANLINKS™. You can then consolidate that project with others via CA-TELLAPLAN™ and take advantage of its resource pooling and presentation graphics.



## The SuperProject Series

FEATURES	SUPERPROJECT		
	PLUS	EXPERT	EXPERT/2
PERT, Gantt Diagram w/CPM	Yes	Yes	Yes
Outline/Work Breakdown Chart	Yes	Yes	Yes
Resource Histogram	Yes	Yes	Yes
Resource Leveling	Yes	Yes	Yes
Tasks Per Project (Max)	1,560	1,560	Unlimited
Mainframe Link	Yes	Yes	Yes
Calendars	Yes	Yes	Yes
Export/Import (Partial or All)	Yes <sup>1</sup>	Yes	Yes
Multi-Project Resource Pooling		Yes	Yes
Built-In Graphics Output		Yes	Yes
Networking		Yes	Yes <sup>2</sup>
Plotter Support		Yes	Yes
Multitasking			Yes

<sup>1</sup>Exporting only <sup>2</sup>When LAN Mgr. is available

For your free demo diskette or more information, call 800-533-2070 (Ad 57310 ).

In Canada: 1-800-663-6904

Computer Associates  
1240 McKay Drive, San Jose, CA 95131

© 1988 Computer Associates International, Inc.

**COMPUTER ASSOCIATES™**  
Software superior by design.

- World's leading independent software company.
- Broad range of integrated business and data processing software for mainframe, mid-range and micro computers.
- Worldwide service and support network of more than 70 offices.

Accounting • Spreadsheets • RDBMS • Graphics • Project Management • Resource & Operations Management

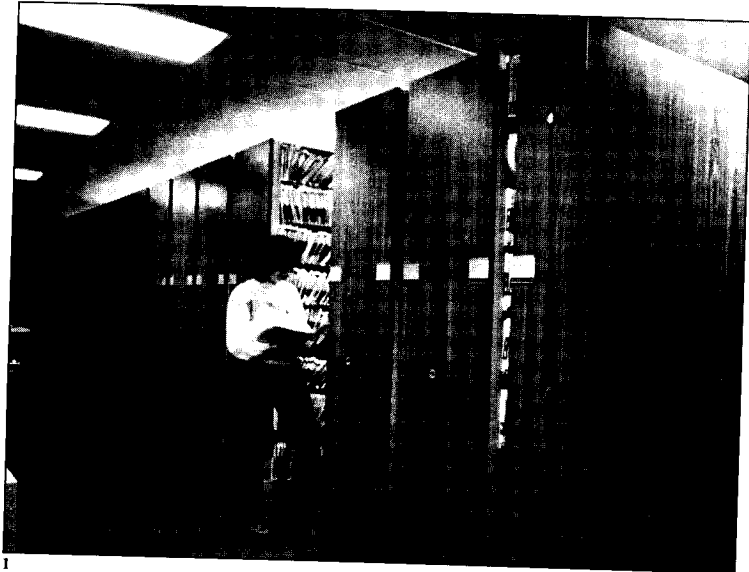
Circle 59 on inquiry card



**New products** *continued*

*For more information,  
circle item numbers on  
Reader Service Card*

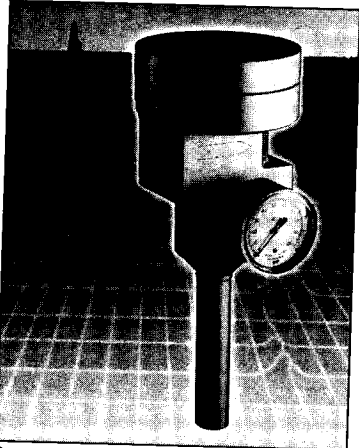
**1. High-density filing systems**  
Spacesaver has introduced a line of high-density mobile storage/filing systems said to provide maximum performance at minimum cost. The S/2-MA hand-crank-operated file, shown here installed in a Colorado hospital, contains three years of active medical files in the same space used to hold only six month's data in standard units. Offered in carriage lengths up to 21 ft, the file's supporting T-rails fit flush with the floor to prevent tripping, and have tongue-and-groove splices to distribute wheel point loads to the floor evenly. Spacesaver Corp., Fort Atkinson, Wis.



**4. Wood/laminate office**  
The freestanding Stratum Desk System uses bridges, display shelves, and cabinets, such as this credenza-mounted unit, to provide the flexibility and vertical storage space of panel-hung components. GF Office Furniture, Youngstown, Ohio. *Circle 304 on reader service card*

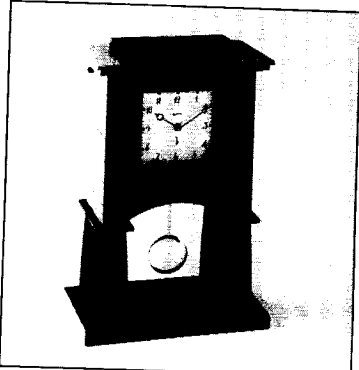
*Circle 301 on reader service card*

**2. Seismic-activated gas shut-off**  
The Quake Master valve, in sizes for both residential and commercial natural gas and LP service, is said to minimize the potential for fire and explosion from broken and leaking gas lines due to major earthquakes. Installed where the gas line enters the structure, the gravity-operated valve is just sensitive enough to activate at the judder of a major earthquake. When a machined stainless steel ball is tripped inside the valve, popping into the line to completely block the incoming gas supply. Once the hazard has passed, a reset plunger or key is threaded into the valve body which pushes the seated ball from the valve and repositions it on the valve race. The seismic valve exceeds UL, Los Angeles, and California State Architect standards for this type of device. Quake Master, Anaheim, Calif. *Circle 302 on reader service card*



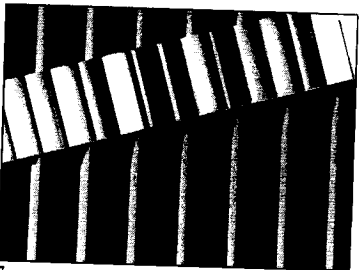
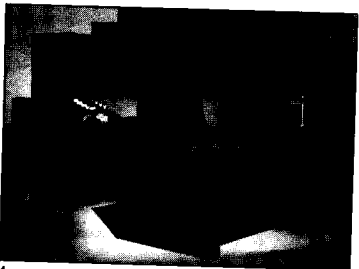
**5. Computerized shade control**  
PC-based software can position motorized roll-type window shades, awnings, louvers, and blinds in response to real-time solar angles and intensity. Automatic adjustment of these sun-control devices is said to reduce glare and heat gain, and improve the building's esthetics. Tait Solar Co., Tempe, Ariz. *Circle 305 on reader service card*

**3. Contract chair**  
Made of solid beech or ash, John Boos's Atlantis Chair may be ordered in a number of natural wood finishes, as well as white, black, or black paint. John Boos, Waukegan, Ill. *Circle 303 on reader service card*



**6. Classical clock**  
Architect Michael Graves describes the design of his mantel clock, made of ebonized wood and maple veneer by Alessi, as incorporating proportional divisions which can be seen as both allegorical and miniaturized versions of a larger architecture: the clock as cabinet, the clock as architecture, and finally, the clock as clock. The Markuse Corp., Woburn, Mass. *Circle 306 on reader service card*

*Circle 303 on reader service card*



**7. Surfacing materials**  
A new laminate profile intended for larger spaces and trim, Large Half Rounds from the Contours Collection include laminates in gray and black, a natural unfinished wood suitable for staining, and Pewter, a matte-finish metallic. Nevamar Corp., Odenton, Md. *Circle 307 on reader service card*  
*More products on page 157*



# *It only looks like a pen plotter.*

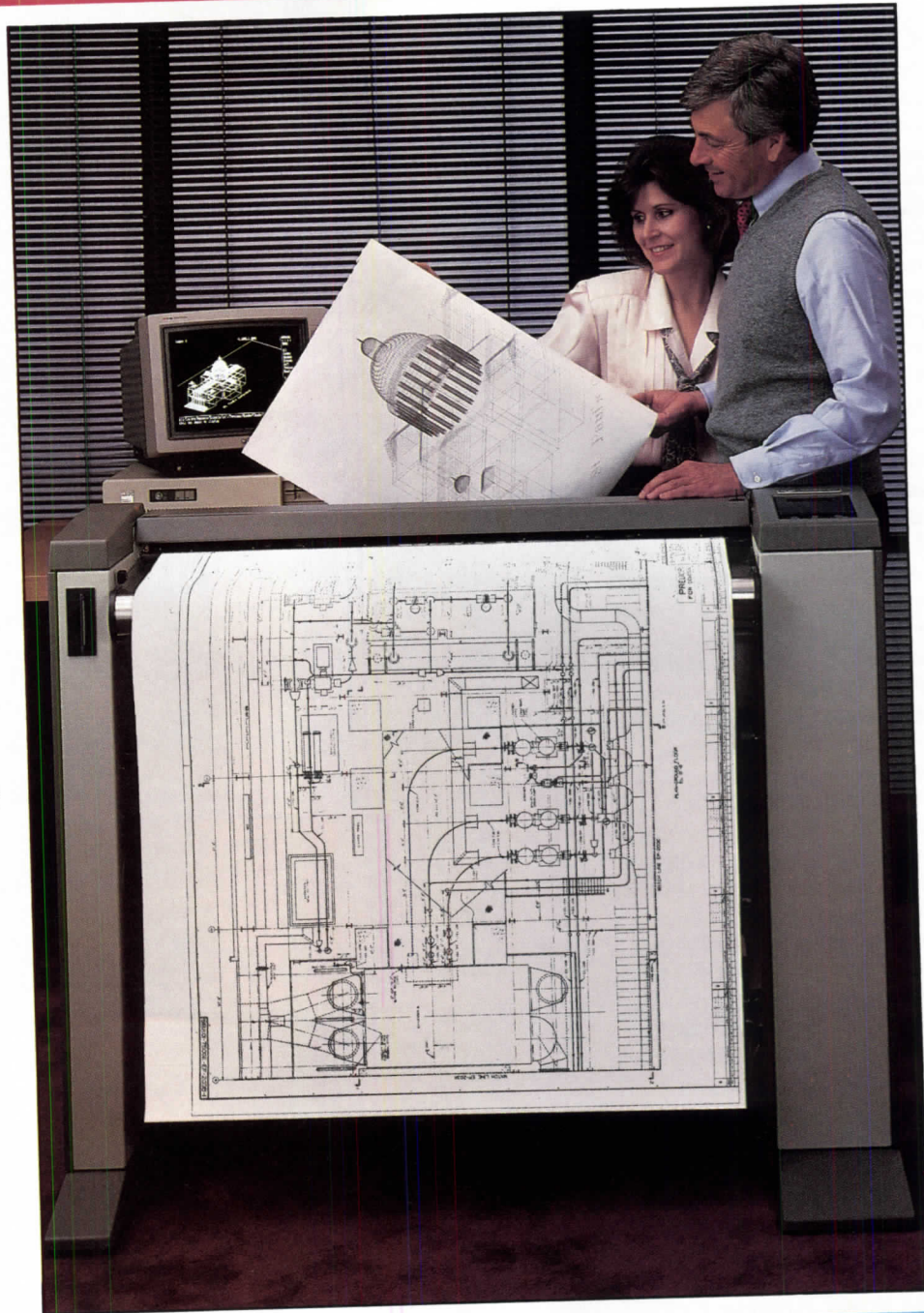
But look again. It emulates pen plotters, reading popular 906/907 and HPGL data formats. It comes in pen plotter widths – 24 and 36 inches. And you can use it with your favorite CAD packages, such as AutoCAD, VersaCAD, or MICRO CADAM.

But the Versatec 8500 series is like no pen plotter made. It is more reliable, because it plots with electrons, not pens. It's faster, plotting D or E size drawings in less than a minute. It can plot an unlimited number of vectors, variable line widths (to 1/2 inch wide), dashed lines, or text without reducing speed.

A built-in rasterizer and full-page buffer enable fast output at a constant rate for outstanding quality. Plot an original in fifty seconds. Make copies without retransmitting data. And plot over one hundred drawings without changing paper.

So fast you can share one plotter among several users. So quiet you can run this plotter at your desk. So reliable you can plot unattended at remote sites. This is the revolutionary new 8500 series of electrostatic plotters. Prices start at under \$20,000.

Circle our readers' service number or call toll-free 800/538-6477\* for a free product application brochure.



\*In California, call toll-free 800/341-6060

HPGL is a trademark of Hewlett-Packard. 906/907 is a trademark of CalComp. AutoCAD is a trademark of Autodesk. MICRO CADAM is a trademark of CADAM Inc. VersaCAD is a trademark of Versacad Corporation. Versatec is a trademark of Versatec, Inc. Xerox is a trademark of Xerox Corporation.

Plot data courtesy of Autodesk.

**VERSATEC**  
A XEROX COMPANY

Circle 60 on inquiry card



# Software reviews for architects

By Steven S. Ross

## VersaCAD/ Macintosh 1.11

A 2- to 2.5-D CADD program with bill-of-materials processing for the Macintosh. It offers full file compatibility with VersaCAD for MS-DOS and UNIX systems, and with DXF and IGES files produced by other software. The current version is not as versatile as VersaCAD 5.3 for MS-DOS computers, but improvements are promised. And the choice of a Macintosh program, HyperCard, to carry add-on programs assures that many third parties will find it easy to create and offer such enhancements. Version 2.0, released as we went to press, enhances 3-D capabilities.

**Vendor:** VersaCAD Corp., 2124 Main St., Huntington Beach, Calif. 92648. 714-960-7720.

**Price:** \$1,995. Deeply discounted site licenses available.

**Equipment required:** Apple Macintosh Plus or SE with 1 megabyte of memory, or Macintosh II (highly recommended) with 2 megabytes of hard disk. HyperCard software available free with new Macintosh computers).

Processor, standard in the Macintosh II, highly recommended. Macintosh Finder 5 or later. Works with Macintosh Multifinder (4 megabytes of random-access memory recommended). Supports digitizers, but only in mouse mode, not with absolute digitizer coordinates. Supports a wide range of printers and plotters; can "plot" on a LaserWriter or ImageWriter.

### Summary

**Manual:** Terrific. The separate (and well-done) tutorial manual, while not aimed at architects, encourages users to explore most of

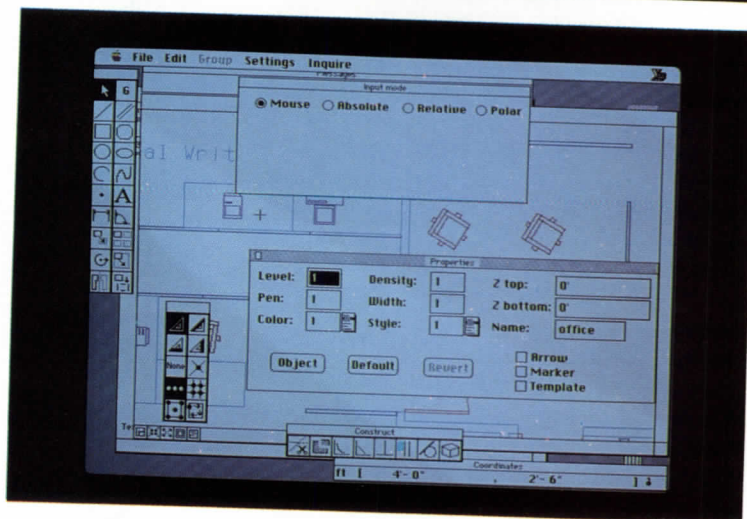
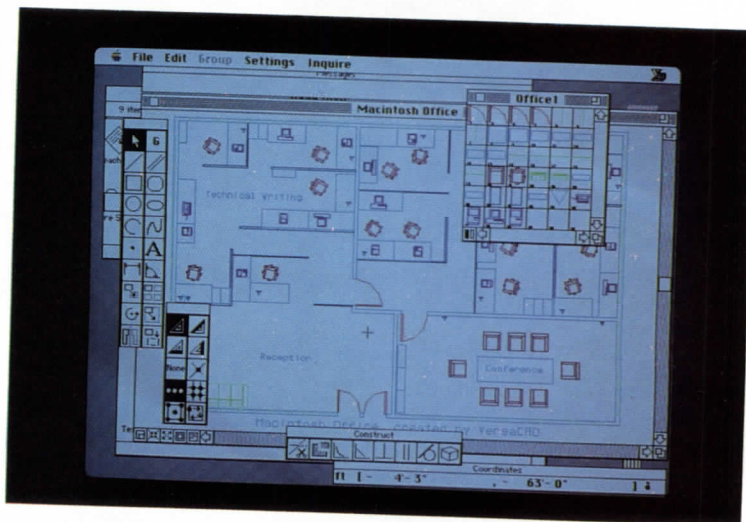
Ross is a prominent computer consultant and a regular contributor to RECORD.

the drawing tools.

**Ease of use:** Remarkable. Makes excellent use of the Macintosh interface (the software is completely rewritten for the Mac; it is not a DOS adaptation). This version is the first to allow on-screen viewing of symbols from a symbol library (earlier versions, released through the spring of 1988, showed only index numbers on-screen). The standard Macintosh mouse works better than expected; palettes of drawing "tools" can be moved to convenient positions on the screen for easy mouse access. Sometimes, objects are initially drawn in pale yellow, difficult to see on a Macintosh II color monitor. This configuration can be changed. Seasoned Macintosh users may find the technique for defining multipoint objects (click on the point, move the mouse, click at new location) unusual. The norm for the Mac is click-drag-click. The VersaCAD method allows users to redefine settings in the middle of a move—a useful feature.

**Error-trapping:** Good. The Macintosh is a tough taskmaster for software developers, generally leading to more unintentional freezes or crashes than would be expected on an MS-DOS computer. This is especially so when using the new Multifinder on the Macintosh II (the Multifinder allows more than one program to be running at once). VersaCAD proved to be way above average in its stability, however. We were able to crash the system by intentionally doing stupid things such as continually offsetting and placing a plane in an isometric image, over and over. Restarting the Mac from the initial SETTINGS menu generally worked in such cases. VersaCAD, like its DOS cousin, saves changes to a temporary workfile on disk as each is entered on-screen.

Most of the reviews published about VersaCAD for the



Choose the desired symbol from the VersaCAD library with the Mac mouse (right in top photo).

Some of the settings can remain active while other work is being done (bottom).

Macintosh since it was released (without HyperCard interface) in February 1988 compare it—favorably—to other Macintosh CADD software. But the true comparison is with mainframe and MS-DOS alternatives. This is especially so because the Macintosh II with color monitor, 4 megabytes of random-access memory, and a 40-megabyte hard disk can cost \$8,000 or more. That's more than twice the price of an MS-DOS or PC-DOS computer based on the 80286 chip—a computer offering about the same on-screen resolution and redrawing speed. VersaCAD helps by selling its Mac version

at about \$1,000 less than most full-featured DOS CADD software.

VersaCAD/Macintosh, nevertheless, offers enough in the way of features, flexibility, and future promise to make it a worthy competitor indeed—in both the DOS and the Macintosh worlds. The VersaCAD/Macintosh package actually contains two full versions: one for the Macintosh Plus and SE without coprocessor chip, and one for the Mac II and earlier Macs with coprocessor. Running the Plus/SE version may be necessary in a pinch, to show off

*Continued on page 147*



# To keep your roof from coming apart, go to pieces.

We'd like to assume something for a minute. You put a roof over your head so you can stay dry. And warm. (Or cool, for those of you in more tropical climates.)

Now, if a roof is going to do all this, it has to be put together with all the right pieces. In all the right places. By all the right people.

## Introducing the Stevens Hi-Tuff Plus™ Total Roofing System.

Hi-Tuff Plus is a fully-integrated roofing system.

We started with the membrane itself. (45 mils of white scrim-reinforced Hypalon\*.)

We included the most popular insulations. (100% UL labeled.) The fasteners. (Stainless steel and ceramic coated.) And the roof-edge fascia.

(In a variety of metals and colors.)

**And that's not all, folks.**

Once we got all the right pieces together, we made sure only the best applicators would be allowed

to put them together. So we picked our most experienced contractors and made them authorized Hi-Tuff Plus

applicators. They, in turn, make sure your roof meets our inspectors tough standards. For at least 15 years.

**We'll back it into the 21st century.**

O.K., so a 15-year warranty's nothing new in the roofing business. What is new is what it covers.

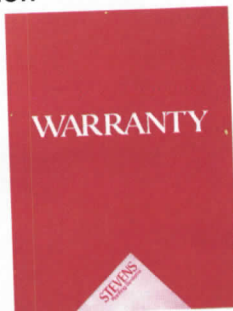
Our warranty doesn't just cover the membrane. It covers the insulation. The fasteners and plates. The adhesives. The fascia. And the workmanship. In short, every part of the system. Even against winds up to 70 m.p.h.

And if, within 15 years, your roof leaks, we'll fix it. Period. Our Sweets brochure can tell you more. Ask for it at 1-800-848-4400, ext. 163.

All insulation is UL labeled.

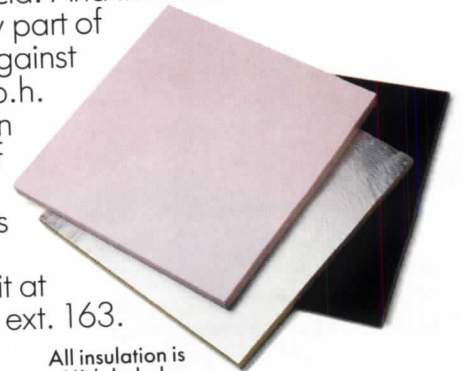


Corrosion-resistant fasteners. What goes down won't come up.



Our 15-year, 70 m.p.h. warranty covers all system components.

Our color-coordinated fascia has the edge in fighting high winds.



**STEVENS**  
Roofing Systems

© 1988 JPS Elastomerics Corp., Roofing Systems Division, 395 Pleasant Street, Northampton, MA 01060

\*Hypalon is a registered trademark of Du Pont.

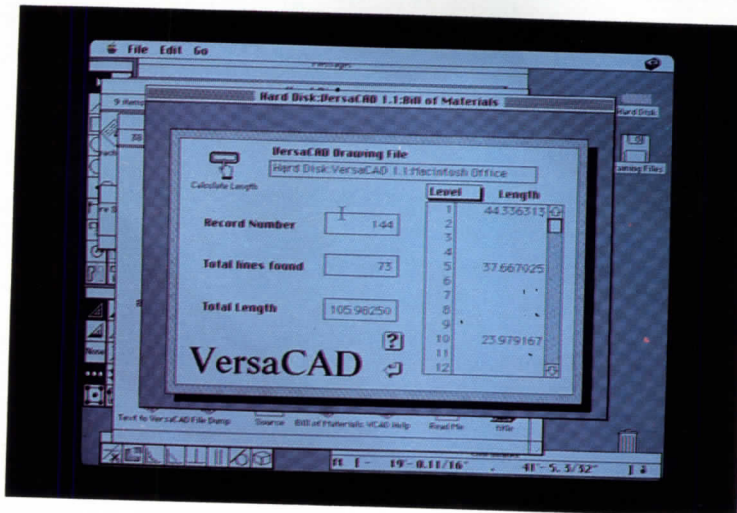
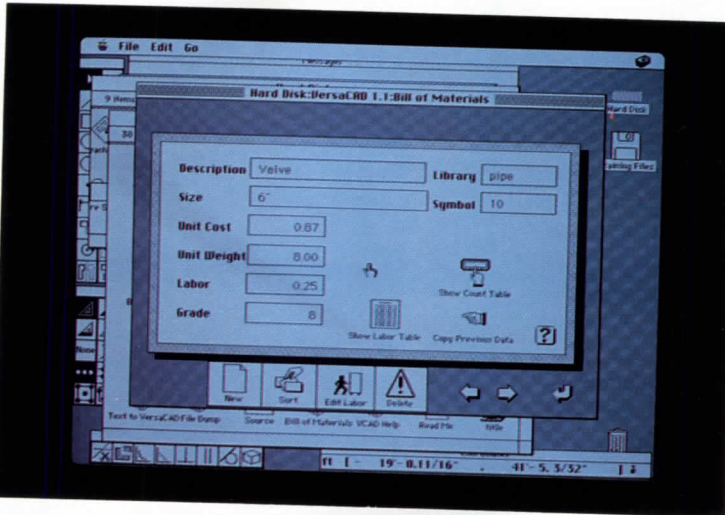
Circle 61 on inquiry card



*The "construct palette" in VersaCAD's Mac version can create parallel lines, cap them in various ways (great for walls), trim unwanted lines, and create lines tangent to existing ones.*

a design at a remote site or to do some quick work at home, but no CADD software can be seriously considered a professional tool on these smaller computers. For that you need the color, speed, and extra memory of the Mac II or upgraded SE. The Macintosh II also allows easy use of the new Apple Multifinder. That, in turn, allows users to keep the HyperCard program running at the same time as VersaCAD. And that, finally, allows users to access HyperCard "stacks" containing such goodies as a bill-of-materials processor, superb help files, and other add-ons sure to come.

Installation is easy. Create a new empty "folder," then copy all the relevant files (Mac II or Plus/SE versions) into it. The folder is roughly equivalent to a DOS subdirectory. But there is one difference. In DOS, there is a "pathmand" that allows subdirectories to be linked. In the Macintosh world, users have to "open" several folders and activate software within them. One cannot activate a folder from another folder. Thus, when VersaCAD is first activated, it goes looking for HyperCard only in the VersaCAD folder, and fills the user to put a copy of HyperCard there—even if it already exists in another folder on a hard disk. The help stack works well, although it is not context-sensitive. That is, the help software does not "sense" what is being done on-screen, then give the right "help" automatically, as does, say, Lotus 1-2-3. Instead, type in a keyword and have the software search the stack for relevant information. Or move through the stack by choosing topics in succession of menus that continually narrow the focus until homing in on what is sought. At the beginning, the successive menus are best. As the program and its terminology are learned, key words would probably be faster.



*Editing descriptions in the bill-of-materials processor is intuitive, due to HyperCard (top). The BOM*

*processor can calculate length of walls, wiring, etc. even if items were not in the library (bottom).*

In operation, VersaCAD has all the standard drawing tools, and then some. The "tool palette," which is always on-screen when a drawing is started, offers Bezier and spline curves and a "multiline" option that can draw up to 255 parallel lines at once. The "construct palette," which can be switched on and off (with the settings menu), allows the user to create parallel lines, cap them in various ways (great for walls), trim unwanted lines (necessary when one wants to draw lines parallel to an existing one that's snapped to an object), insert fillets and chamfers, and create

lines tangent to existing ones. Items and groups can be copied, rotated, mirrored, or exploded. The break-up even works with symbols pulled from a library of common objects created by the user.

The construct palette also allows users to break an existing object apart. A quasi 3-D isometric image can be pulled together using the palette's "isometric" tool, modified while an isometric, then "un-isoed" with the modifications still intact. The "constraints palette," which can also be switched on and off, allows users to snap new elements to a grid, spaces

between the grid lines, grid intersections, objects, and so forth. Double-clicking on a palette tool generally opens a dialogue box that allows setting up defaults for each tool. Dialogue boxes often open up when a menu choice is selected as well. Some of the dialogue boxes can be kept open for switching between options. That leads to the downside of not requiring users to wade through a rigid hierarchical menu system to perform a function: moving to the keyboard to change settings or write text in a dialogue box, a user can end up typing what VersaCAD interprets as an entirely different command. One quickly learns to check that a box is active, or simply to click the mouse over the field in the box to be changed.

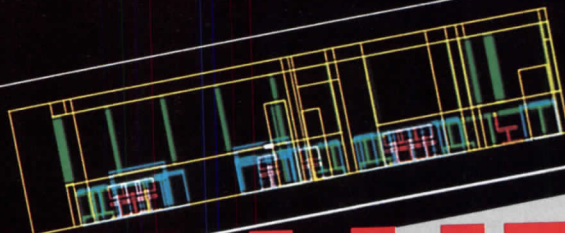
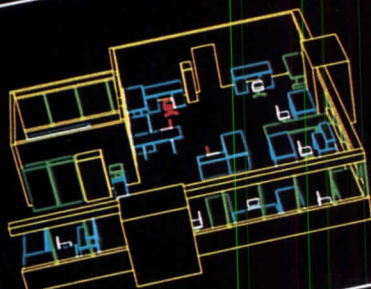
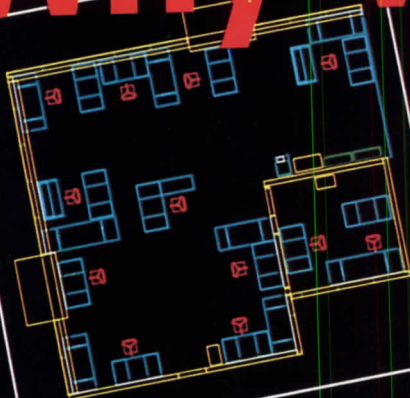
VersaCAD (like most microcomputer CADD software) is a layer-based system, with 250 separate layers available for, say, putting nonbearing walls on one layer, structural elements on another, electrical systems on another, and so forth.

What is seen on-screen is not necessarily what can get printed or plotted—again, necessary because of the wide range of printers and plotters that can be used with VersaCAD. The on-screen font is a clean Leroy-ish, Hershey-ish character set. There's only one line width on screen as well. The Apple LaserWriter, a Postscript printer, can produce an almost unlimited variety of fonts, however. As with DOS VersaCAD, there's an "undo" option (on the Mac, it is in the Edit menu), and a "crunch" option. Crunch removes all the deletions made on-screen from the file itself. This saves disk space but, of course, no longer can a deletion be undone.

The bill-of-materials processor benefits from the flexibility built into HyperCard (a free-form database program), but suffers



# Why VersaCAD?



Multiple 3D viewports let you work in up to 16 views at once. Programmable template available for automated architectural design.

# VALUE.

**1. Everything you need.** VersaCAD® DESIGN integrates 2D drafting, true 3D with color shading on any screen, bill of materials and universal translators. No need to buy extra-cost add-ons.

**2. Aggressive pricing.** VersaCAD value includes affordable site licenses that grow with your company. Quantity discounts. Low-cost upgrades. They stretch your design power, not your budget.

**3. Total support.** The industry's most respected technical support staff is just a phone call away. You can always get direct help from the experts, no matter what your question.

**4. Fast productivity.** VersaCAD is consistently ranked the easiest to learn of the full-scale CAD systems. And our CAD programming language works just like BASIC. So you can do it yourself.

**5. Use all your computers.** VersaCAD runs on MS-DOS, Macintosh and UNIX platforms, with complete drawing transfer. Plus proven 2D/3D IGES and DXF translators, all built into the system.

And every VersaCAD system is backed by the strength of Prime Computer, Inc., one of the two largest CAD companies in the world.

Find out why 60,000 users have committed to VersaCAD value. See your authorized dealer today, or call Customer Service at (714) 960-7720.

**VERSACAD®**  
*Design*  
The Total Design Solution

"Top Value Rating"  
— Infoworld

Versacad Corporation, 2124 Main Street, Huntington Beach, CA 92648  
A Company of Prime Computer, Inc.



from HyperCard's current lack of good ways to ensure absolute file integrity. That is, it is easy to inadvertently change "cards" in a HyperCard "stack."

The VersaCAD manual contains good advice in this regard. The BOM works by counting the number of symbols used in a drawing. Thus, the symbols have to be predrawn and entered into a library first. There are any number of libraries, and up to 1,000 symbols per library. Users of the BOM associate a description (including labor costs) with each symbol. The BOM processor then counts the symbols, associates the correct descriptions, and adds everything up. Even the total length of objects, such as piping and shelving, or the lines that make up wall plans can be calculated. The output reports are easy to customize.

But beware, not everything on a drawing is normally a symbol.

Version 2.0 supports 3-D visualization—not designing in 3-D but taking an existing 2-D drawing and extruding it for presentation and visualization purposes. A floor plan, for instance, can be extruded upward along the Z-axis to visualize walls. Once in 3-D, the display can show isometric, perspective, wire frame, and hidden line views with up to four views on-screen at once.

The capabilities come from Macaca Software's HOOPS routines. Version 2.0, like VersaCAD 5.3 for the DOS world, has light-source shading with up to 256 colors on the Mac.

Users can't really change Macaca, however, while in 3-D. True 3-D design capabilities, if they're really needed, can be had if VersaCAD is run in conjunction with Visual Information's Dimensions software. Visual's Interpreter/VersaCAD—

link between the programs—promised for this fall at \$295.

## Draw it again, Sam . . . , 2.04

An easy-to-use painting and drawing program for the Macintosh. It allows pixel-based art (like those created by a "paint" program) and objects (like those created by CADD software) in the same drawing. This software supports up to 10 drawing layers and eight "QuickDraw" colors. Zooms and screen redraws are very fast.

*Equipment required:* Macintosh 512 Enhanced, Plus, SE, or II with one 3.5-inch drive. Supports color monitor for the Macintosh II. Supports the usual Macintosh printers, such as the ImageWriter dot-matrix and LaserWriter laser printer. Works with MultiFinder.

*Vendor:* Aba Software, Inc., P. O. Box 850, Frazer, Pa. 19355. 800-234-0230.

*Price:* \$150 (Version 2.1, due soon, will cost \$195).

### Summary

*Manual:* Good. Well-organized, clearly written, and indexed. As with many Macintosh manuals, installation is so easy that it is not mentioned at all. Simply start up the Macintosh with the Draw it again, Sam . . . disk in the drive. With a hard disk, start with the 3.5-inch drive empty, get the initial Macintosh screen, and slip Sam in. The Sam disk's menu should appear on-screen.

*Ease of use:* Excellent. Despite some minor quirks, such as the inability to precisely specify values for zooming in and out (image magnification doubles or halves each time a zoom option is selected), users can start creating Sam drawings approximately 30 seconds after loading the disk.

*Error-trapping:* Good. The software warns about leaving without saving drawings. There's the standard undo-last-command feature. Contrary to user expectations for the Mac, what

you see is not always what you get. On a standard Postscript printer (and most laser printers for the Mac are), drawing layers obscure one another. The less expensive (and much, much less fast) dot-matrix ImageWriter does, however, produce the printed image that's expected. We managed to crash the program by selecting too many fill patterns for one object, then zooming in the maximum five times (for 32 times original image magnification).

What can Draw it again, Sam . . . do for you? Well, now that you've made the plunge and bought an expensive Macintosh II CADD system for the office, you may want to do some musing at home, too, on an older and cheaper Mac. Or you've discovered that the super-capable CADD program won't produce nice shading—only cross-hatching that can be plotted, but that doesn't suit the style demands of a rendering.

If so, Sam may be for you. The best thing about Sam (and other inexpensive programs that use the Apple Macintosh QuickDraw routines) is speed. Those lines go up on the screen as fast as you can move your mouse. Sam also uses the wide variety of fill patterns available with QuickDraw. There's the ability to try a pattern, then almost instantly change it (by moving to the menu at the bottom of the screen, clicking the pattern display, then selecting a different pattern). Everything happens faster than with similar "paint" programs for IBM-compatible computers.

Sam has some features that seem to have been added with architects in mind, too—building unlimited numbers of "libraries" with up to 250 images in each, for instance, or creating a drawing pixel-by-pixel (that is, as a "painted" or "bit-mapped" image), then converting it to "objects" that are easily stored. In short, Sam combines most of

the features of a "paint" program like MacPaint, and a "draw" program like MacDraw or MacDraft. And one can work on 10 layers at once—numerous office layouts can be overlaid onto the office plan itself, for instance.

Sam has its own file structure, and can also save images in the PICT format that is to the Macintosh world what DXF is to DOS. You can save each layer in a multilayer drawing separately. That's useful, because changing to the PICT format collapses all the layers into one. Current CADD software for the Macintosh can usually throw off a PICT file for Sam to chew on, but can't always receive one in return. MacDraw and MacPaint exchange files freely back and forth with Sam, however.

The QuickDraw fill patterns are a bit quirky. Fill a wall with a brick-like pattern, for instance, then zoom in. The wall is magnified but the bricks are not! Thus, some experimenting is necessary to get an acceptable rendering.



# PLOT FASTER, LONGER, EASIER!

The JDL 850 GL+ Plotter/Printer makes plotting more productive in every way

## Plot faster than pen plotters –

The 850 GL+ combines a one megabyte plot buffer with new high speed parallel plotting to produce plot output speeds up to five times faster than a pen plotter. Quick check plots save time and increase your system productivity. And the unrivaled plot speed comes with no loss in quality. You get D and E-size readability at C-size. Mini check sets are easier to handle and save on media costs too.

## Plot as long as you like –

The 850's new long axis, "free size", plotting lets you plot up to 78 inches long. Or, with the new plot-append feature create unlimited length plots. Ideal for mapping, project management or any design that requires an extra-long plot.

Automatic cut sheet feed and roll feed mean reliable, unattended, continuous plot production. Plot over lunch, plot all night long or plot remote on your network.

## Plot easier than ever –

The 850 GL+ can be automatically configured to run with many popular CAD and graphics packages. The new,

- ▶ Compatible with PCs, Macintosh, workstations, mainframes and LANs
- ▶ HP-GL compatibility: 7585, 7580, 7550, 7475
- ▶ High speed plot file transmission over serial or parallel ports
- ▶ Standard 1.0 MB or optional 2.5 MB plot spool buffer
- ▶ Long axis, "free size", plotting
- ▶ Continuous, unattended plotting with automatic cut sheet and roll feed
- ▶ AutoShade™ compatible

simplified menu provides for quick set-up and flexible image control, including enlargement and reduction and a multiple copy selection. The 850's proven technology gives you color hardcopy in 14 colors with crisp consistent lines, without the bother of pens and special media, or the worry of running out of ink or



constant pen maintenance. You can plot for weeks without so much as a thought to anything more than changing the paper.

## Plus added value – 3D rendering and text printing

The 850 GL+ doesn't limit your design or business potential. Full color, 3D rendering compatible with AutoShade™, VersaCAD Design™, CADkey™ and others, it can produce over 2000 colors, the only low cost C-size plotter capable of true shaded output.

For your business needs the 850 GL+ quietly delivers letter quality text at 144 cps and draft printing at 360 cps for bills of material, estimating, word processing and spreadsheets. No need to spend money on a separate printer.

*Find out why more design professionals are specifying the 850 GL+ as their workstation plotter/printer of choice. Call us for specs, plot samples or a demo.*

**See us at COMDEX Booth 2826**



2649 Townsgate Road, Suite 600  
Westlake Village, CA 91361

WEST: (805) 495-3451 • EAST: (704) 541-6352

DataCAD drawing courtesy of the Gleason Partnership. HP-GL, AutoShade, VersaCAD, CADkey and Macintosh, are registered trademarks of Hewlett-Packard Co., Autodesk, Inc., VersaCAD Corp., Micro Control Systems, Inc. and Apple Computer Corp. Nationwide service by **BRUNING**





*Project:* Grand Hilton Hotel  
*Owner:* The Sausman Hotel Group  
*Architect:* John Nichols & Associates

*General Contractor:* Hardin Construction Co.  
*Roofing Contractor:* Roth Bros. of Florida  
*Color:* Terra Cotta

## **Terra Cotta PAC-CLAD**

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

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

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

**PAC** Petersen  
Aluminum  
Corporation

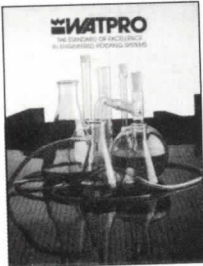
955 Estes Avenue • Elk Grove Village, IL 60007 • 1-312-228-7150  
1-800-PAC-CLAD • FAX: 1-312-956-7968

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

Circle 64 on inquiry card



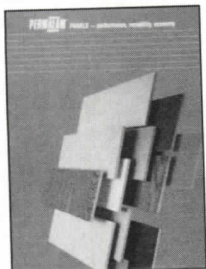
For more information,  
circle item numbers on  
Reader Service Card



### Engineered roof system

A brochure explains how roof design must consider each building's specific environment, including roof traffic, wind, temperature, and atmospheric contaminants. WatPro Roofing Systems, Manasquan, N. J.

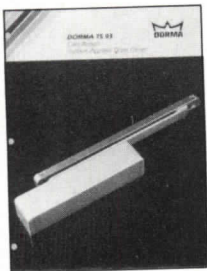
Circle 400 on reader service card



### Laminated paneling

An 8-page brochure explains the performance benefits, application versatility, and cost economies claimed for Permalam decorative panels, offered in fire-rated and standard forms. American Laminators Assn., Seattle.

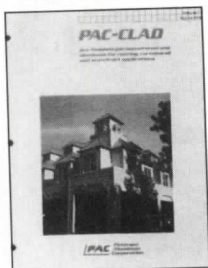
Circle 401 on reader service card



### Hydraulic door closer

A bulletin describes how the TS 93 surface-mounted closer's cam and roller mechanism makes door opening easier, with a low-profile housing that blends well with its surroundings. Dorma Door Controls, Inc., Reamstown, Pa.

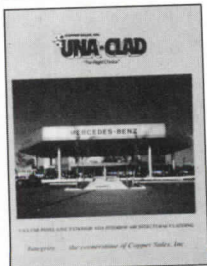
Circle 402 on reader service card



### Pre-finished metal roofing

A 16-page architectural catalog shows how PAC-CLAD roofs and fascias work in a variety of building applications; detail drawings and finish options are included. Petersen Aluminum Corp., Elk Grove Village, Ill.

Circle 403 on reader service card



### Interior/exterior cladding

Flexible Una-Fab honeycomb core panels are described as providing exceptional flatness, flexibility in edge depth, shape, and design, and custom-painted and anodized finishes. Copper Sales, Inc., Minneapolis.

Circle 404 on reader service card



### CCTV security system

A design kit helps the architect select a functional security management/CCTV system, including security hardware, data signals, power needs, and mounting options. Javelin Electronics, Torrance, Calif.

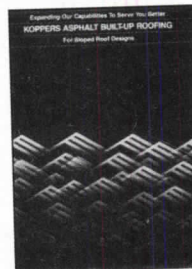
Circle 405 on reader service card



### Lighting/energy management

The PC-based INCOM system is said to be a cost-effective means of controlling both the consumption and peak-demand components of electric power usage. Westinghouse Electric Corp., Pittsburgh.

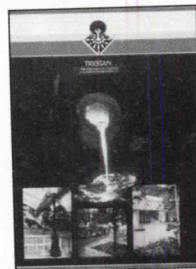
Circle 406 on reader service card



### Built-up sloped roofing systems

Technical brochures introduce aggregate- and smooth-surface asphalt systems designed for roofs with a slope of up to 6 in. per ft. Drawings of each roof type are included. Koppers Co., Inc., Pittsburgh.

Circle 407 on reader service card



### Site furnishings

A 4-page brochure highlights cast-iron tree grates, tree guards, wood and cast-iron benches, receptacles, and bicycle racks—all part of a complete line of site-improvement products. Trystan, Ayr, Ont.

Circle 408 on reader service card



### Outdoor lighting

Technical literature on Infrared luminaires includes full fixture specifications, photometrics, and mounting options. EMCO Environmental Lighting, Milan, Ill.

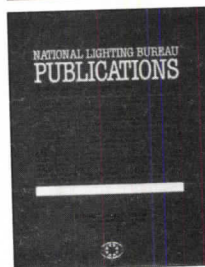
Circle 409 on reader service card



### Standing-seam metal roofs

A booklet presents a life-cycle cost and energy analysis done on 8 types of roof assemblies, and explains how standing-seam metal roofs can lower such costs. American Iron & Steel Institute, Washington, D. C.

Circle 410 on reader service card



### Lighting publications

A directory lists brochures that explain what a lighting system does and describes techniques to enhance the value of correct design. National Lighting Bureau, Washington, D. C.

Circle 411 on reader service card  
More literature on page 154





***GE Plastics***

---

There's  
a New  
Global Leader  
in ABS  
Resins...





It's Also the World's Leading S

With the recent acquisition of Borg-Warner Chemicals, GE Plastics can now supply worldwide markets with the broadest line of ABS resins in the industry. Combined with our total resources in high-performance engineering polymers, this expansion forms a global product offering that is unmatched in its scope and versatility—a product range totally supported by the technologies which made these ABS resins and engineering polymers the world leaders in sales.

## GE Plastics

Now designers and manufacturers all over the world have one source for a wider choice of products and properties to fit specific application needs—products that provide a new dimension of design possibilities and manufacturing efficiencies. LEXAN® resin, NORYL® resin, VALOX® resin, XENOY® thermoplastic alloys, CYCOLAC® ABS,

® LEXAN, NORYL, VALOX, XENOY, CYCOLAC, PREVEX, ULTEM and GELOY are registered trademarks of General Electric Company or affiliates.

™ SUPEC is a trademark of General Electric Company.





# Source of Engineering Polymers.

PREVEX<sup>®</sup> polymer, ULTEM<sup>®</sup>, SUPEC<sup>™</sup> and GELOY<sup>®</sup> resins, and many more.

With a network of technical, R&D and manufacturing facilities and sales offices spanning the globe, GE Plastics customers get fast response, dependable supply and delivery, and hands-on support from the industry's largest technical staff and market development team.

GE Plastics: creating more options, more opportunities—all over the world.

For information on LEXAN, NORYL, VALOX, ULTEM, SUPEC and GELOY resins and XENOY thermoplastic alloys, call (800) 845-0600.

For information on CYCOLAC ABS and alloys and PREVEX polymer, call (800) 624-2611 (In Canada, call 416/372-6801).



***GE Plastics***

---



For information on LEXAN,  
NORYL, VALOX, ULTEM, SUPEC and  
GELOY resins and XENOY thermo-  
plastic alloys, call (800) 845-0600.

For information on CYCOLAC ABS  
and alloys and PREVEX polymer, call  
(800) 624-2611 (In Canada, call  
416/372-6801).



***GE Plastics***

---



# HEAVY-DUTY DOESN'T HAVE TO MEAN HEAVY-HANDED.



Style. Commercial faucet manufacturers don't usually talk about it. And no wonder. Most heavy-duty commercial faucets are real light-weights when it comes to design.

But Delta HDF™ is different. The **Delta HDF** line withstands the demands of commercial and institutional usage, without looking institutional. Take the sleek, continental styling of our widespread, two-handle lever models, for example.

And the good looks are backed up by a reputation for reliability and durability. In fact, **Delta HDF** faucet standards always surpass those established by the plumbing industry. Our designs undergo a punishing series of tests, in the industry's most sophisticated testing labo-

ratory. Life-cycle testing regularly exceeds a million cycles—the equivalent to a twenty-year life span in lavatory usage. And we insist that our faucets stringently adhere to energy conservation codes.

The result: **Delta HDF** faucets perform—beautifully.

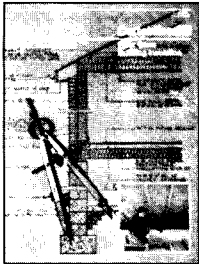
Which is important. Whether your application demands a commercial quality faucet, or you simply appreciate the value of a product that not only works better but looks better doing it.

**DELTA**  **HDF**  
HEAVY-DUTY COMMERCIAL FAUCETS

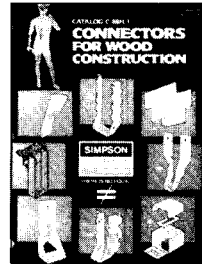
©1987 MASCO CORPORATION OF INDIANA

Circle 66 on inquiry card





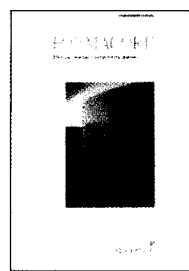
**Thermal/acoustic insulation**  
Fiberglass insulation products for residential and commercial buildings are covered in an architectural catalog. Fire and sound ratings for typical wall assemblies are given. CertainTeed Corp., Valley Forge, Pa.  
*Circle 412 on reader service card*



**Wood construction connectors**  
A 48-page timber connector catalog features 16 new products, including a field-slope-and-skew-adjustable hanger and a nonwelded truss hip/jack connector. Simpson Strong-Tie Co., Inc., San Leandro, Calif.  
*Circle 418 on reader service card*



**Cedar shingles**  
Decorative uses of cedar shingles and panels, such as chimneys, side-wall accents, entryways, window treatments, gable ends, and interiors, are shown in a brochure. Shakertown Corp., Winlock, Wash.  
*Circle 413 on reader service card*



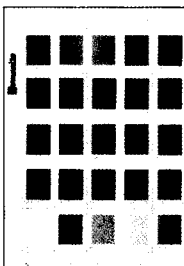
**Aluminum panels**  
A color brochure provides design and product data for the Formacore noncombustible laminated composite panel. Span/load figures are listed on a structural capacity chart. H. H. Robertson Co., Pittsburgh.  
*Circle 419 on reader service card*



**Spanish stone**  
Marbles, granites, and other stones from quarries in Spain and elsewhere are highlighted in an 8-page brochure, illustrated with close-up color photos of individual stones. Ingemar Corp., Dallas.  
*Circle 414 on reader service card*



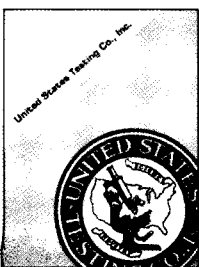
**Life-safety insulations**  
A 15-page catalog covers a full line of Thermafiber insulation products, said to provide effective fire and sound protection in commercial and residential high-rise construction. USG Interiors, Inc., Chicago.  
*Circle 420 on reader service card*



**Colored concrete paving**  
A color chart provides samples of 25 standard colors available in imprinted concrete paving, including 13 new colors ranging from dark tones to pastels. Bomanite Corp., Palo Alto, Calif.  
*Circle 415 on reader service card*



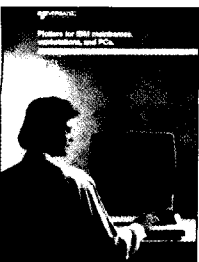
**Glass-fiber nonwoven sheets**  
A brochure explains building and construction uses for glass-fiber nonwovens, such as a flame barrier used in UL-listed roofing systems and liners that prevent degrading of ductwork insulation. Lydall, Inc., Troy, N. Y.  
*Circle 421 on reader service card*



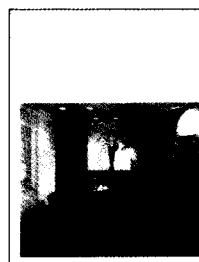
**Materials testing**  
A publications guide describes 27 booklets from an independent laboratory, covering topics such as materials evaluation, textile flammability, and paints and coatings testing. United States Testing Co., Hoboken, N. J.  
*Circle 416 on reader service card*



**Firestop systems**  
Two brochures, "Questions and answers about fire barrier systems" and "Fire barrier penetration sealing systems," supply UL and other code data on a line of penetration firestop. 3M Electrical Products, St. Paul.  
*Circle 422 on reader service card*



**Plotter/computer connections**  
An 8-page brochure explains how to connect Versatec plotters to IBM computers of all sizes from mainframe to micro, including on-line, off-line, and LAN processing applications. Versatec, A Xerox Co., Santa Clara, Calif.  
*Circle 417 on reader service card*



**Compact fluorescent fixtures**  
Recessed and wall-mounted fixtures specifically designed make the best use of the PL compact fluorescent lamp are illustrated in a 38-page technical catalog. Marco/Marvin Electric, Los Angeles.  
*Circle 423 on reader service card*



High-performance new Donn® access floor from USG Interiors.

# Best Drive the New "Quatro"...

The SolidFeel™ II access floor system, with Quatro Strength, will drive your business toward increased productivity. Check these features:

**Car-on-the-Floor...** Unique 4-in-1 support structure significantly increases rolling load capacity. *Great in high traffic areas!*

**Quiet and Comfortable...** Advanced cementitious fill and increased welds provide quiet comfort and solid feel underfoot. Superior cornering with fully drawn corners.

**Independent Suspension...** New FreeStanding understructure allows quick, easy changes in wiring and furniture layouts. Optional Cornerloc® understructure.

**Road Capabilities...** Stronger bottom pan provides improved resistance to concentrated loads—files, desks—in non-traffic areas.

**Crash Tested...** Higher compression fill, coupled with a hardened steel top sheet and welded construction, provides superior impact load resistance.

**Amazingly Affordable...** Our exclusive DesignAid™ cost analysis *proves* access floors can be your most cost-effective wire management system.

**Don't lock yourself into a wire management system that won't grow with your business. Ask USG Interiors for a "test drive" in the new high-performance SolidFeel II system...the only one with Quatro Strength.**

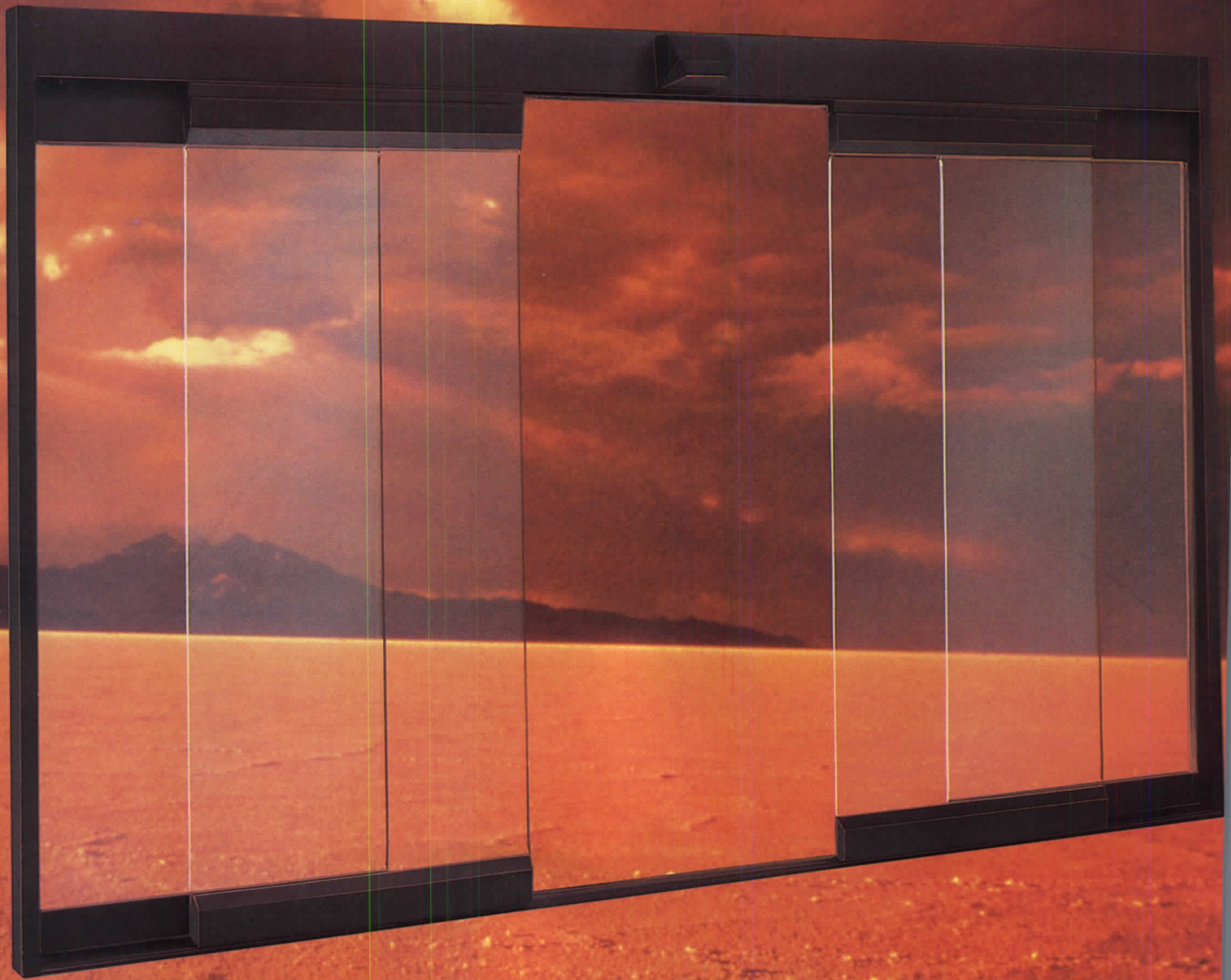
View from every angle.

**USG Interiors, Inc.**



Circle 67 on inquiry card





Introducing

# The Unbroken View

New Astro-Glass<sup>®</sup> Automatic Sliding Door Package From Dor-O-Matic

The Astro-Glass<sup>®</sup> automatic sliding door package is unique in what it includes. And what it doesn't. First, the package comes **complete** with 1/2" clear tempered glass in doors and sidelights. Yet the ensemble of glass doors and sidelights has **no vertical stiles** to intrude on the panoramic view! All Astro-Glass packages come complete with safety reversing and two horizontal safety beams.

To meet exit code requirements, the two sliding glass doors can be opened to 90° in an emergency from any position in their cycle thus complying with N.F.P.A. #101.

A manual lock in the bottom door rails is available for night security.

For information, call toll free 1-800-543-4635 or write for our new Astro-Glass Package Brochure.



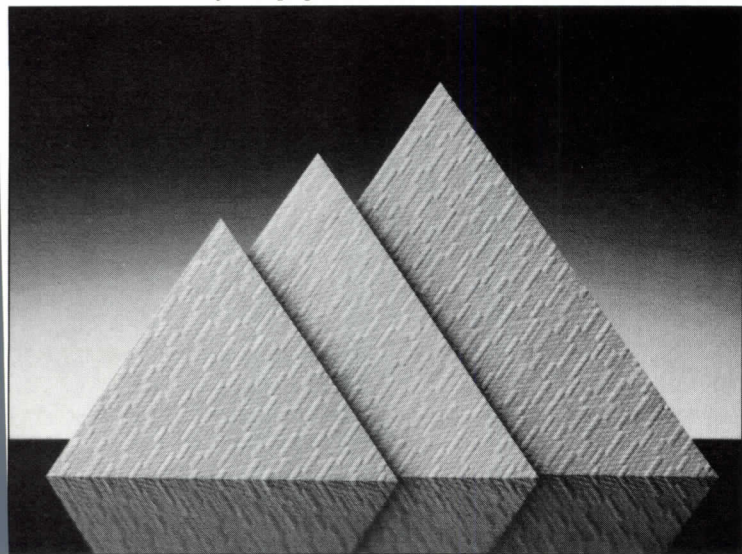
**DOR-O-MATIC<sup>®</sup>**

INVISIBLE DOR-MAN<sup>®</sup>

Circle 68 on inquiry card

7350 West Wilson Avenue  
Chicago, Illinois 60656-4786  
Attn: Sales Mgr.-Auto Division  
(312) 867-7400 • Telex 317607  
Fax (312) 867-0291



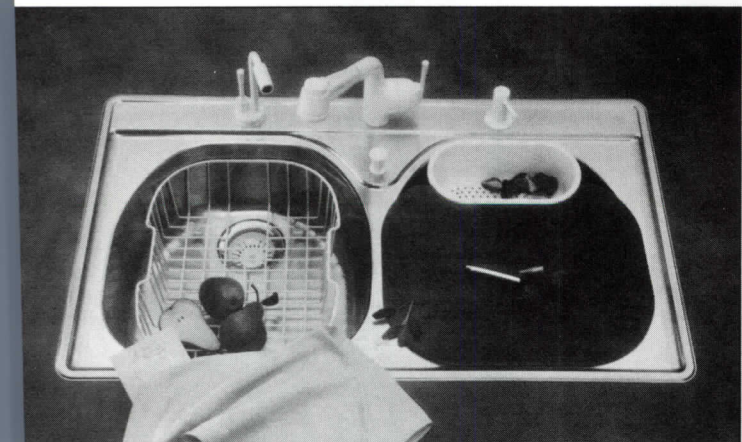


**Vinyl-covered wall panel**

Mirage is a new texture in the Durason line of vinyl-surfaced gypsum wall panels. The prefinished wall treatment, offered in tan-gray, plum-beige, and soft gray tones, has a

pattern of embossed diagonals and crossing filaments that seem to shimmer as viewing angles change. Gold Bond Building Products, Charlotte, N. C.

Circle 308 on reader service card



**Stainless-steel sink**

The Nobel kitchen sink features a curved bowl shape, said to provide the largest capacity within a given overall dimension: a 38- by 22-in. unit will fit a 36-in. sink cabinet. Both

single- and double-bowl sinks are included in the line. Franke, Inc., Hatfield, Pa.

Circle 309 on reader service card

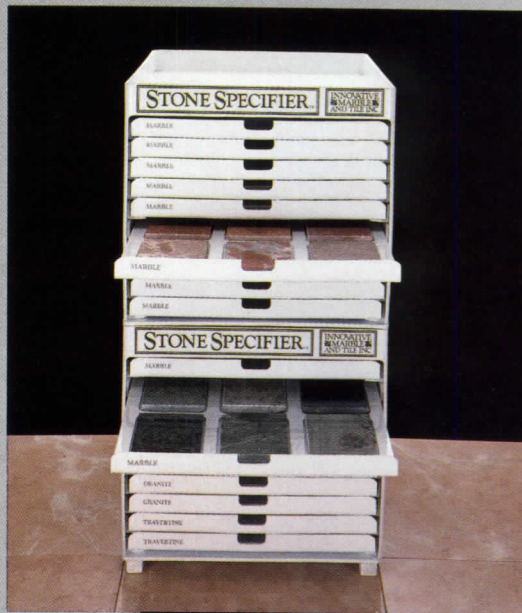


**Roof fastener**

Made of Zytel hard nylon, the Rawlplug fastener is said to install quickly in lightweight roof decks with excellent holding power and backout torque. The steel plate used for insulation or single-ply membrane has a one-way ratchet that allows the locking tabs of the fastener to rotate clockwise only. The Rawlplug Co., Inc., New Rochelle, N. Y.

Circle 310 on reader service card  
More products on page 158

# Innovative Marble and Tile, inc.



The Stone Specifier®



ONE BOCA PLACE, BOCA RATON, FLORIDA ARCHITECTS: SMALLWOOD, REYNOLDS, STEWART, STEWART AND ASSOCIATES, INC.

**Produces results.**

To find out more about Innovative Marble and Tile and our patented stone specifier program, or to sample our library featuring the largest selection of marble, granite and man-made dimensional stone, quarried worldwide, contact our New York headquarters.



**New York**  
470 Smith Street  
Farmingdale, NY 11735  
(516) 752-0318  
Fax# (516) 752-0411  
1-800-62 STONE

**California**  
8436 West Third Street  
Los Angeles, Calif. 90048  
(213) 653-5533  
Fax# (213) 653-6072  
1-800-62 STONE

W.U. Telex. 880145 INNOVATIVE

Circle 69 on inquiry card





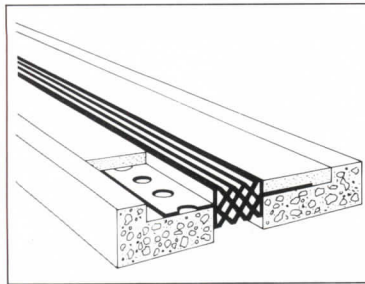
**Economy wood windows**

A new narrow-frame wood line that includes single-hung, slider, and round-top windows, NorthStar windows are said to be easy to install and priced

competitively. The low-maintenance, factory-applied exterior finish comes in white, beige, earth-tone, or bronze.

WENCO, Mount Vernon, Ohio.

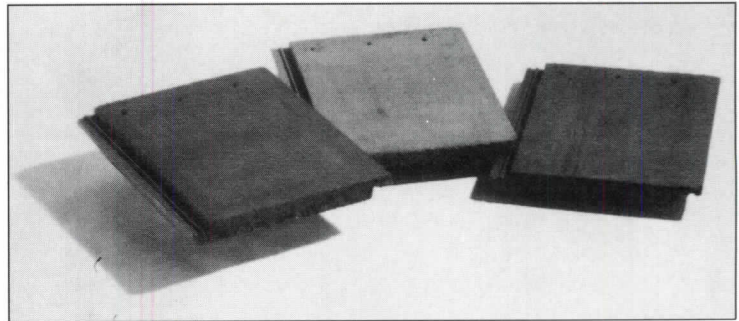
Circle 311 on reader service card



**Deck expansion joint**

For traffic-bearing decks, the Thermo-Flex Polycerete joint has perforated flanges capable of being permanently embedded in nosing mortar and a flexible standard web compression seal. Emseal Joint Systems, Ltd., Stamford, Conn.

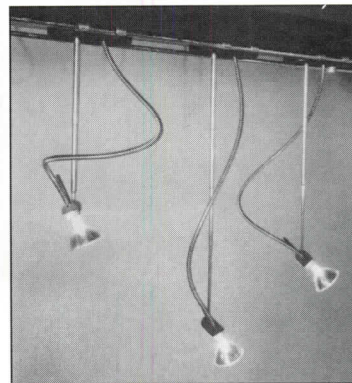
Circle 312 on reader service card



**Concrete roof tiles**

Monarch roof tiles are made of integrally colored concrete, in blended shades of red, gray, and brown. Tiles within each color range are randomly sorted at the factory to eliminate color

shading problems on the installed roof. Available in the Western states, Monarch concrete tiles carry a 50-year performance warranty. Marley Roof Tile Corp., Hollister, Calif. Circle 313 on reader service card



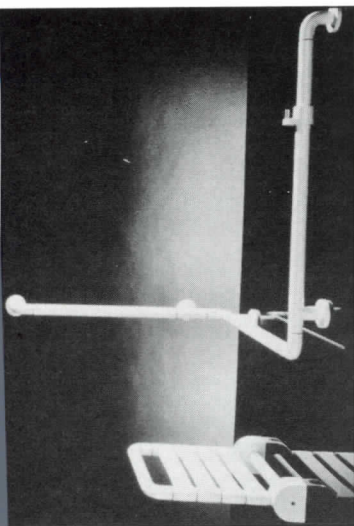
**Low-voltage track lighting**

The Light Rayl system consists of field-cutttable rails that carry 12-volt current from a remote transformer to MR-16 lamps set on telescoping arms. Each light can be adjusted to within 18 in. of the ceiling, can be moved to any point on the rail, and can be rotated over 360 deg. Geo International, New York City. Circle 314 on reader service card

*Get a grip on your filing problems.*

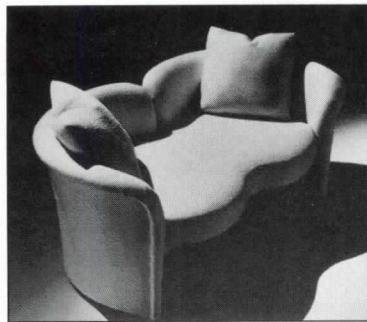






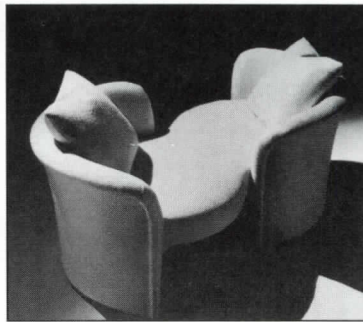
**Folding shower seat**

Part of this German maker's new "support program" for the elderly and handicapped, a fold-up shower seat made of steel-reinforced tubular nylon comes in 12 colors, which coordinate with textured-nylon grab bars. Formbau, Inc., Addison, Ill.  
*Circle 315 on reader service card*



**Loveseat/settee**

Furniture designer Randy Culler describes his new upholstered piece for Thayer Coggin Institutional as an updated version of the Victorian settee. Appropriately called "Tete-a-

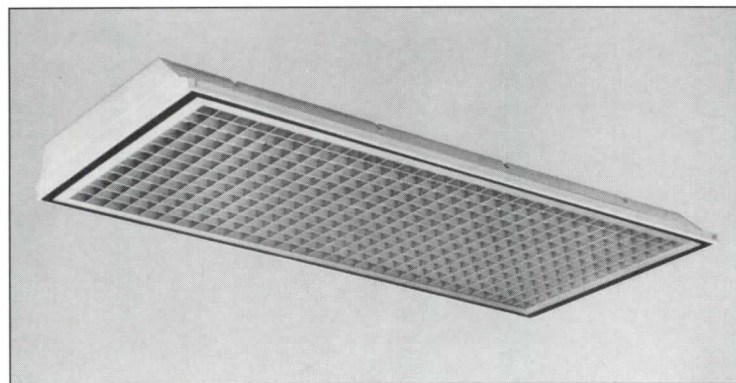


Tete", the wood-framed sofa back can be slid easily from a closed, sofa position to a double-sided, loveseat configuration. RCR Development Corp., High Point, N. C.  
*Circle 316 on reader service card*



**Electronic sensor faucet**

Built for high-volume commercial use in transportation, restaurant, and health-care facilities, the Hands Free faucet has an infrared-activated solenoid valve that dispenses a flow of preset-temperature water as needed. Central Brass Mfg. Co., Cleveland.  
*Circle 317 on reader service card*



**Low-brightness fluorescent**

Described as an especially shallow luminaire ideal for minimal-depth plenums, the Designer VDT-CF-15 specular aluminum louver is said to eliminate glare in VDT environments, while delivering 66 fc at 1.4W psf. It is available in static, heat-transfer, and supply/return models. Day-Brite Lighting Co., Tupelo, Miss.  
*Circle 318 on reader service card*

*More products on page 160*

*We've got a handle on how to make your filing faster and neater. In 40% less space. Wrinkle free. For a FREE catalog, give us a call. 1-800-854-6868\*.*

**PLAN  HOLD**

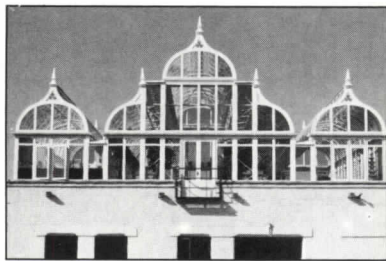
*The Originator of Vertical Plan Filing*

*Circle 70 on inquiry card*

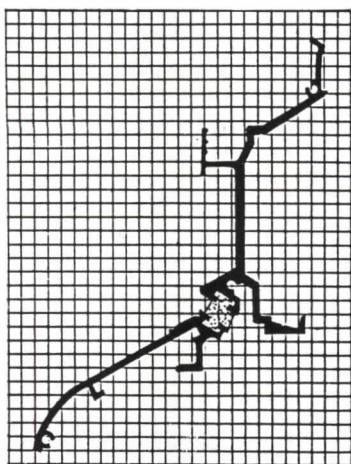
*\*In California: 1-800-432-7486 • 17421 Von Karman Avenue, Irvine, CA 92714 • Fax No: 714-474-8076*







In 1986 we created this fantasy in glass and aluminum



©Machin Designs (USA) Inc. 1988

**We also designed extrusion MD6**

One of fifteen new extrusions created in 1986 used in Machin Conservatories. Fifteen out of 2000 different components each designed with the enthusiasm, innovation and refinement that distinguish the extraordinary from the commonplace and take our architecture into the next century.

Every day we are exploring and developing new technologies and principles with the same uncompromising commitment to excellence and the continuity of an outstanding style.

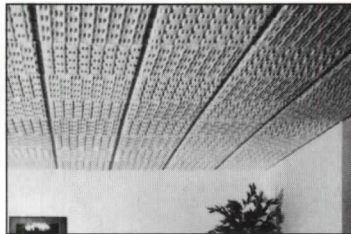
**Whether you want to build a fantasy or a future (or both) there are over 2000 ways we can help you.**

For Brochure send \$10 to:  
**MACHIN DESIGNS (USA), INC.**  
 Dept. AR10-88  
 557 Danbury Road, Wilton, Connecticut 06897  
 (203) 834-9566

SEE SWEET'S FILE # 13123/MAC

**Circle 71 on inquiry card**

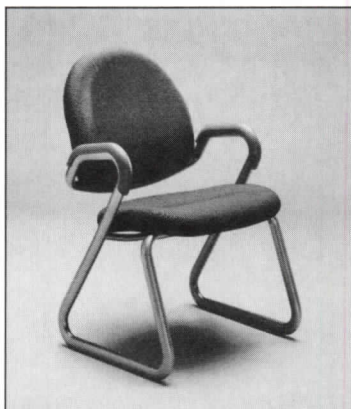
Continued from page 159



**Acoustic ceiling**

The Sonex acoustical ceiling, made of flame-resistant melamine resin foam that meets all Class 1 codes, is available in a new alternating anechoic-wedge design. Ceiling tiles in white, beige, or gray come in a 24- by 24-in. size that fits all standard and fine-line suspension grids. Illbruck, Minneapolis.

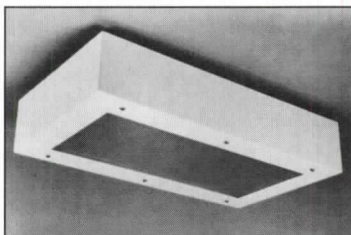
Circle 319 on reader service card



**High-back sled-base**

Peter Buhk has designed a pull-up version of his 100 Series seating, with 9 finish options for its aluminum frame. The chair comes in high- and low-back styles. Allsteel Inc., Aurora, Ill.

Circle 320 on reader service card



**Maximum-security light**

The optical design and low-glare lens of the Maxim task light provide a 20-fc light level with only two fluorescent lamps. The compact fixture comes in ceiling- (shown), wall-, or corner-mount models; all components are durable enough for close-custody detention units. Holophane Div., Manville, Newark, Ohio.

Circle 321 on reader service card  
 More products on page 163

**Architect John Minden on sound control with laminated glass.**

**W**e knew this site had a severe traffic noise problem. But we wanted this to be a quality development. So did our client.

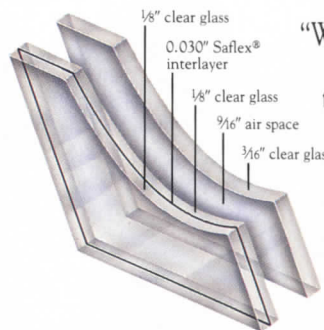
“We considered a triple glazing system. But

it just didn't have enough sound control. Our glazier recommended laminated glass, so



I called Monsanto to get more information.

“They sent me their Acoustical Glazing Design Guide, and the software to go with it. That helped me get the configuration I wanted.



“We're happy with the results. It's a nice development. With apartments

that are very leasable... and that makes our clients happy.

“In fact, the only complaint I've heard so far is that the installers can't hear each other through the windows.”

John Minden, AIA  
 GMS Architectural Group  
 Bellevue, Washington



Architect's rendering of Victorian Apartments in Seattle, Washington.

Circle 72 on inquiry card





## Laminated glass. Because Victorian Apartments wanted high style, not high decibels.

**I**t's an increasingly common problem. A site so noisy you're not sure you can make it habitable. Let alone marketable. So you're stuck, between the need for sound control on one hand and the need for good architecture on the other.

The solution: windows of laminated architectural glass with Saflex<sup>®</sup> plastic interlayer, like these being installed in the Victorian Apartments.

Laminated glass lets you put in the windows you want, and keep out the sounds you don't. All at a cost that makes sense.

Find out more. Send in the coupon and we'll send you a free copy of our Acoustical Glazing Design Guide, plus IBM<sup>®</sup> PC-

compatible software to help you with the

specifications. For more information

technical assistance, call

800-325-4330.

IBM is a trademark of International Business Machine Corporation.  
Saflex is a trademark of Monsanto Company 1988. ©Trademark of Monsanto Company.

8-100



Yes, please send me free information on laminated glass for sound control.

Send the Acoustical Glazing Design Guide.  Send the computer disk.

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE (\_\_\_\_\_) \_\_\_\_\_

Send to: Monsanto Company, 800 North Lindbergh Blvd.,  
Dept. 204, St. Louis, MO 63167

AR10-88

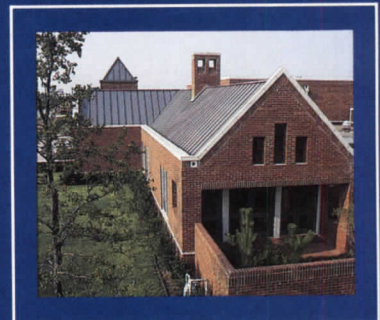
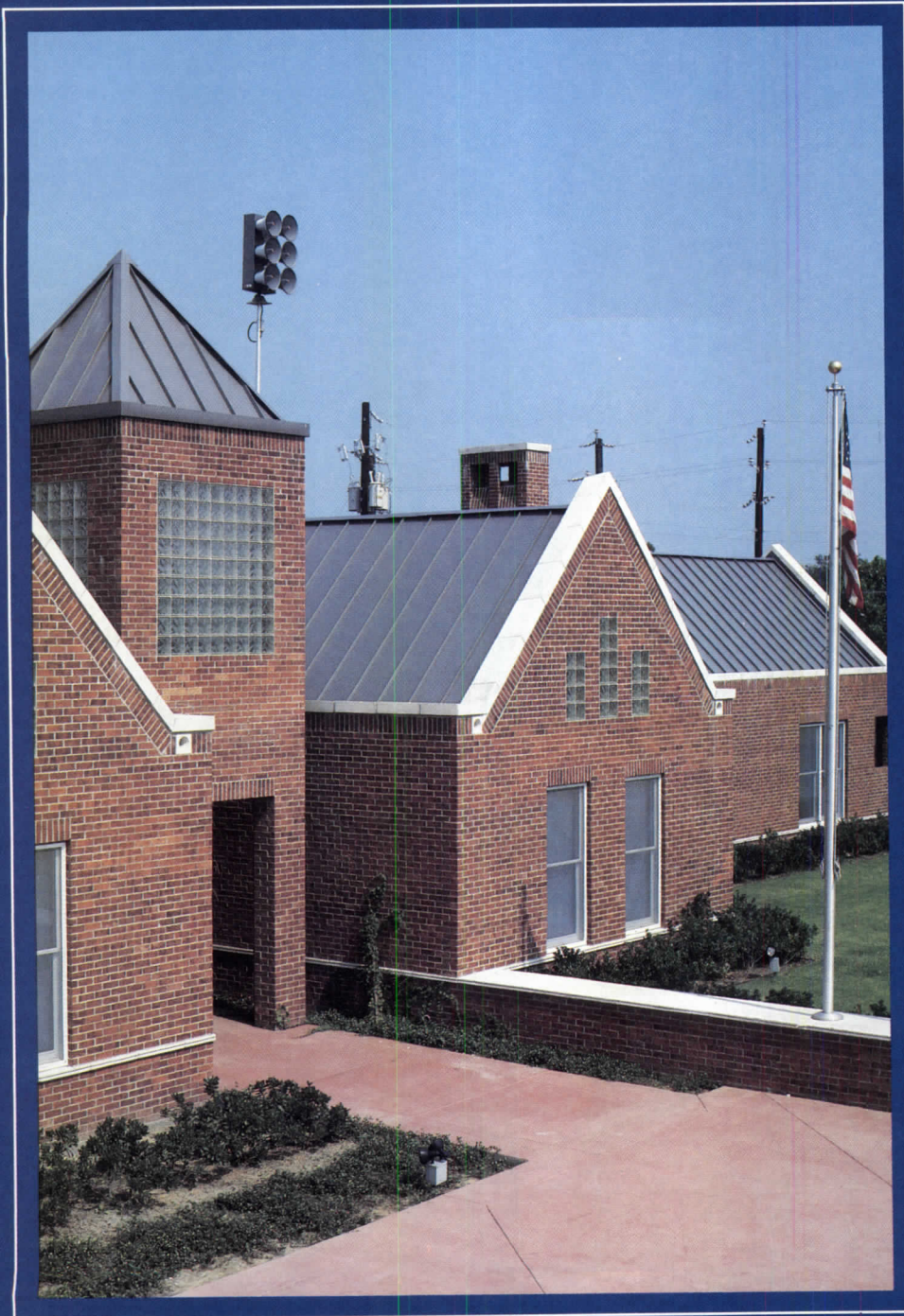
Laminated glass. Making a clear difference.

**Monsanto**  
**S A F L E X**<sup>®</sup>  
P L A S T I C I N T E R L A Y E R

Circle 72 on inquiry card



# WHY DOES THIS FIRE STATION LOOK GREAT?



Metal! With metal, you have the choice of colors and shapes that work with your design.

When you specify an MBCI roof system, we want you to be satisfied. We will work with your design team to insure the proper product selection for your project.

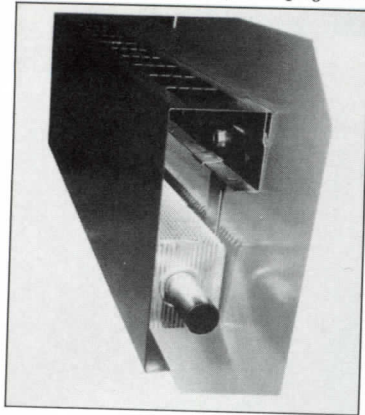
For a copy of the MBCI design manual, call or write the nearest MBCI plant. Metal is our only business and we want you satisfied.



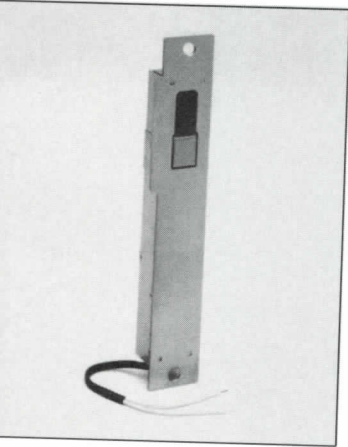
Houston 713/445-8555  
Lubbock 806/747-4291  
Oklahoma City 405/672-7676  
San Antonio 512/661-2409  
Dallas 214/988-3300  
Atlanta 404/948-7568  
Tampa 813/752-3474  
Richmond 804/526-3375  
Indianapolis 317/398-4400

**Architect:** Dillard Architects, Inc., Dallas, Texas  
**Project:** Fire Station #2, Coppell, Texas

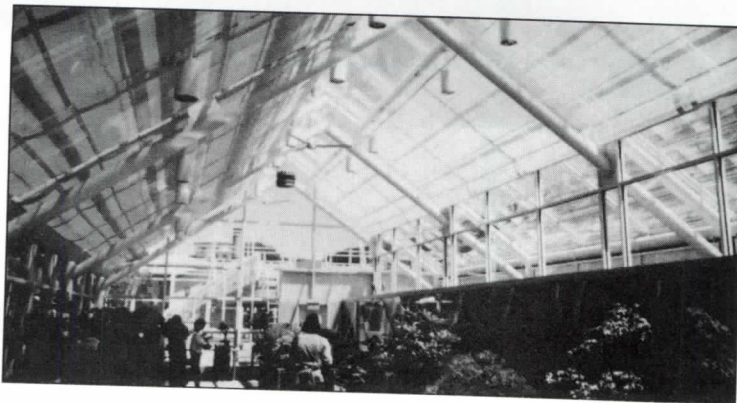




**Low-profile heat enclosures**  
The Thinvector perimeter heating enclosure consists of 3/4-in. copper tubing and 2- by 3 1/4-in. aluminum fins in a low-profile, wall-mounted steel fixture. The enclosure is available with eight different baked enamel finishes. Dunham-Bush, Inc., Commercial Products Division, Harrisonburg, Va.  
*Circle 322 reader service card*

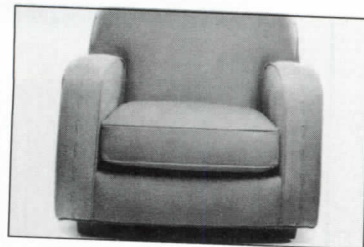


**Access control**  
The manufacturer has introduced the Series 8800 Slim Operator, a smaller version of its electronic-access control system. The controller is available in 1 1/4-, 1 1/2-, and 1 3/4-in. sizes for installation on hollow metal or wood door frames. Architectural Control Systems, Inc., St. Louis  
*Circle 323 on reader service card*



**Shade for a greenhouse**  
Sol-R-Veil, Inc., which makes screens, and Somfy Systems, Inc., which make controls for automated windows, jointly

produced a shading system for the Brooklyn Botanical Garden's new greenhouse. Somfy Systems, Inc., Edison, N. J.  
*Circle 324 on reader service card*



**Easy chairs**  
The Salon Series, designed by Gary Lee, comprises three upholstered club chairs, including one detailed with embossing and woven stitching. Niedermaier Contract Furniture, Chicago.  
*Circle 325 on reader service card*  
*More products on page 165*

Rockford Business Center  
Emerson Fehr, Architects & Planners

OUR 33rd YEAR!  
And STILL THE LEADER

Since 1955 **Kalwall**® THE DAYLIGHTING EXPERIENCE!

The Most Highly Insulating Light Transmitting, Light Diffusing System. For Walls, Window-Walls, Window Replacement.

Kalwall Corporation, P.O. Box 237, Manchester, NH 03105.  
Phone 800-258-9777 or 603-627-3861.  
Kalwall: A High-Tech Building Systems Company.

Circle 74 on inquiry card





## WHAT'S BEHIND THE DOOR?

To visitors and customers, a Stanley Magic-Door system is a welcome convenience. After all, busy people appreciate the hands-free operation of automated entrances. And they see their presence as a sign of a successful and thriving business.

To you, an architect, owner, or manager, that same system is your best assurance of the quietest, most dependable, trouble-free entrance you can buy.

What makes our door systems so reliable? While other manufacturers may promise dependable operation, none can match Stanley for design, manufacturing and service innovations. Innovations *proven*, both in the

lab and in the field, to increase the ownership convenience of automated entrances.

Stanley Magic-Door employs new computer-aided design and manufacturing techniques. New, state-of-the-art computerized testing and quality control. We've made exciting, cost- and time-saving advances in micro-processor circuitry as well as field-programming. And we have a new, centralized training center. All these innovations give Stanley Magic-Door systems reliability you can count on. Day after day, year in and year out.

Choose Stanley Magic-Door for automated swinging or sliding entrance systems, operators, controls

and accessories. For custom colors, bronze or aluminum finishes. For standard entrances or interior applications, or systems custom-designed to fit your style. Whatever your requirements in automated door systems, up to Stanley Magic-Door. And get behind the leader.

See our Sweet's catalog 08720/STA or for more information, call 1-800-232-3663 (in Connecticut, 203) 677-2861).

# STANLEY<sup>®</sup>

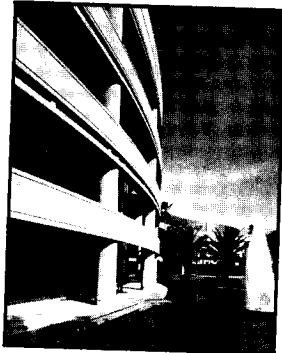
The People Who Help You Do Things Right

Stanley Magic-Door<sup>®</sup> Division of  
The Stanley Works, Farmington, CT

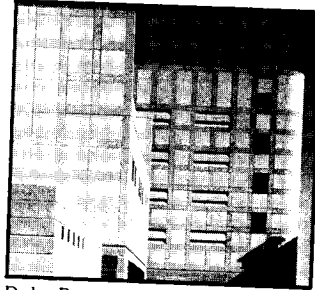


# THE BEST

## The APA Awards for Design & Manufacturing Excellence



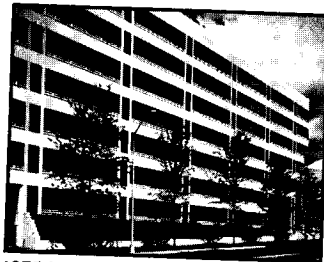
One Boca Place  
Boca Raton, Florida  
Smallwood, Reynolds,  
Stewart, Stewart & Associates



Duke Power College  
Street Center  
Charlotte, North Carolina  
J.N. Pease & Associates



Hyatt on Capitol Square  
Columbus, Ohio  
Patrick & Associates



1275 Peachtree at the Circle  
Atlanta, Georgia  
Thompson, Ventulett, Stainback  
& Associates



Park Plaza Condominiums  
Wilmington, Delaware  
Salkin Group, Inc.



Carter Presidential Library  
Atlanta, Georgia  
Jova, Daniels & Busby Architects

## CALL FOR ENTRIES

Each year a jury of your peers selects **THE BEST** designs utilizing architectural precast concrete. They look for designs that display a highly animated use of precast which gives life and vitality to the building surface. Other considerations include good control of medium, consistent color and textural control, and a design that exploits the potential of architectural precast.

Those that are selected as **THE BEST** will be announced in the April issue of this magazine. They will also be featured in other prestigious magazines as part of the APA promotion of **Quality with Architectural Precast Concrete**.

The 1989 search for **THE BEST** is now open to all design professionals submitting designs utilizing Architectural Precast Concrete produced by an APA member and completed since January 1, 1987. Entries must be received by January 31, 1989. For an entry kit, call or write APA, or circle #76 on the readership service card.



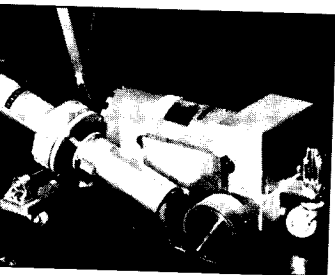
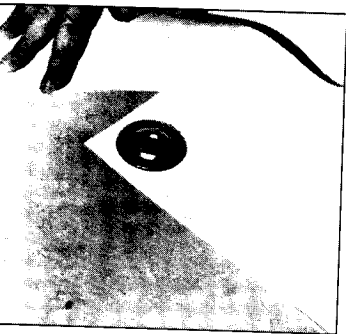
Architectural Precast Association  
825 East 64th Street  
Indianapolis, IN 46220  
317/251-1214

**APA-THE ASSOCIATION OF PROFESSIONALS**



### Water-based fire caulk

Developed to be used with this maker's Ceramic Fiber to seal penetrations in fire-barrier walls and floors according to UL System 176, cementlike Fire Seal 5000 comes ready-mixed, and can be poured, gunned, or troweled. The sealant is nontoxic and cleans up with water. Protective Treatments, Inc., Dayton, Ohio.  
Circle 326 on reader service card



### PDM roof membrane

The single-ply Synergy Sunset membrane is described by its developer as the most oil- and chemical-resistant roofing membrane available. The material, a co-extrusion of Santoprene rubber with a polypropylene backing, is completely heat-weldable (bottom to top), and needs no adhesives, fasteners, or lap sealants. Its elongation of over 500 percent allows it to conform to roof contours and resist tears at the covered penetrations. Synergy Methods, Inc., Danielson, Conn.

Circle 327 on reader service card



# Russwin products are the talk of the industry.

*"Russwin is my first choice when I want both the security and beauty today's market demands."*

Arvil Thompson  
Director of Physical Plant  
Berry College  
Mt. Berry, GA

*"When I need a problem solved, I turn to Russwin's distributor network. They really come through!"*

Gary Bertish  
Lowe Development Corp.  
Los Angeles, CA

*"Only Russwin offers product attributes that have the customer in mind. Easy installation, little or no maintenance."*

Ralph Murphy  
Kilroy Industries  
Los Angeles, CA

*"Only Russwin offers me a specifying guide. It makes my job a lot easier."*

William F. Kiel, CSI, CCS  
Chicago, IL

And for good reason. In fact, for many good reasons. More and more architects, contractors and builders across the country are turning to Russwin for beautiful, well engineered door hardware.

Whether it's the time-tested Uniloc, the state-of-the-art Security Bolt, or the rugged, new 3400 Series Cylindrical Lock, we supply you with the products and the tools—our one-of-a-kind Specifying Manual—to make your job go more smoothly.

After all, the only way to be the talk of the industry is to listen to your needs. We'd like to hear yours. Call at 1-203-225-7411 or write to Emhart Russwin, Russwin Division, 225 Episcopal Road, Berlin, Connecticut 06037-0503. And let's talk. 

**RUSSWIN**

**EMHARTRUSSWIN**



## Manufacturer sources

For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified

Pages 82-87

### Summit Green

Gwathmey Siegel & Associates Architects

Aluminum-framed curtain wall, storefront windows, and entrance: Vistawall Architectural Products.

Reflective, clear, and white spandrel glazing: Ballenger Glass.

Ceramic tile: Gail International Corp. Panel system: David Allen Co.

Glass block: Pittsburgh Corning Corp. (Vue; Decora).

Porcelain enamel panels: Miller Clatterton. Membrane EPDM roofing: Carlisle SynTec Systems.

Exterior luminaires: Stonco Lighting.

Pages 106-107

Falbots Distribution Center Symmes Maini & McKee Associates, Inc., Architects

Metal cladding panels: E. G. Smith Foamwall). Curtainwall/

storefronts: PPG Industries, Inc.

reflective glazing: Libbey-Owens-Ford Co. (MirrorPane). Pavers:

deal Concrete Block. Metal

entrance doors: custom by owner, fabricated by Centco. Bollard

lighting: Hubbell Lighting Div. (Magnaform II). Pond fountain:

Waterbanc Barebo Inc. (Rocket). and liner: Staff Industries.

Page 107—(bottom) High-bay lighting: Sylvania Lighting

products. Conveyor/pick system: Organ. Mezzanine systems:

Perlake. Trusses/web joists: Nam Steel Corp. Paints: Devco Reynolds Co.

Pages 108-111

City of Edmond Water Treatment Plant

B, Inc. Architects Engineers Planners

roofing: Zip-Rib, Inc.

sources continued on page 176

# What is a Best Western?



The right place at the right price.

Make reservations at any Best Western, see your travel agent, or call toll-free

**1-800-528-1234**



"World's largest chain of independently owned and operated hotels, motor inns and resorts"

## Need Research That Utilizes Computer-Assisted Telephone Data Gathering?

Want to gather information rapidly using state-of-the-art computer-assisted telephone interviewing? Need fast access to tabulated results? Require integrated graphics with sophisticated analysis? Are you seeking real-time information?

## Call *RESEARCHNET* at McGraw-Hill Research

ResearchNet is the leading edge approach to research that integrates study design, computer-assisted telephone interviewing, on-line tabulation, and report analysis capabilities as well as real-time data gathering. ResearchNet links together McGraw-Hill Research project teams, interviewers' terminals, respondent input, and *you*—to produce timely, accurate and meaningful study results.

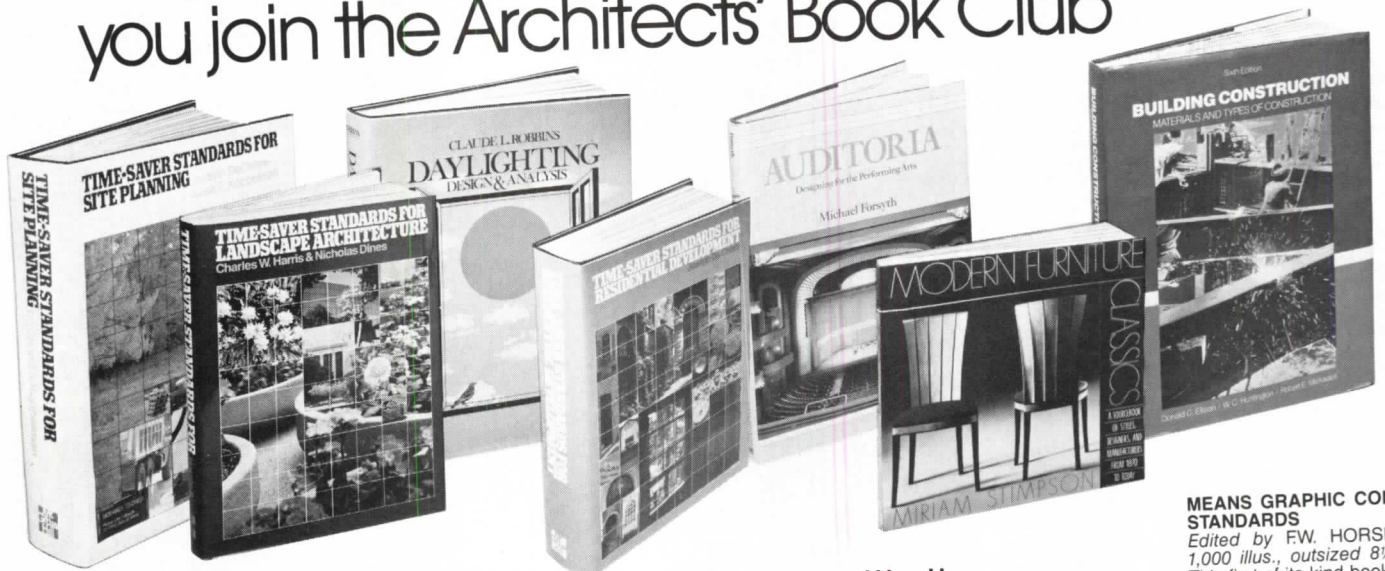
For a quote or proposal call Sheryl R. Fox (609) 426-5946 (Information Data Gathering) or Joseph T. Collins (212) 512-3264 (Full-Service Research) or write David P. Forsyth at McGraw-Hill Research, 1221 Avenue of the Americas, NY, NY 10020



If it's a marketing research problem, we probably pioneered the solution.



Take any book for only \$2.89  
(values up to \$92.50!)  
as a premium with your first selection when  
you join the Architects' Book Club®



Keep well informed and creatively sharp with the newest and best information in your field...with books from a wide range of publishers!

**TIME-SAVER STANDARDS FOR RESIDENTIAL DEVELOPMENT**

By J. DeCHIARA. 992 pp., 1,300 illus., outsized 8½ x 11 format. Save research time and make speedier decisions with this vast collection of the basic data, criteria, and standards you need to develop preliminary designs for residential planning. Covers community facilities, apartment building amenities, as well as rehabilitation, conversions, and historic preservations.

162/174 Pub. Pr., \$88.50 Club Pr., \$65.50

**CAD DRAWING, DESIGN, AND DATA MANAGEMENT**

By E.L. KENNEDY. 176 pp., 120 illus. Step by easy step, this straightforward guide shows you how to implement computer-aided drawing and make it pay off big in your firm.

583757-9 Pub. Pr., \$29.95 Club Pr., \$23.50

**MASONRY DESIGN AND DETAILING For Architects, Engineers, and Builders**

By C. BEALL. 2nd Ed., 491 pp., 323 illus., outsized 8-1/2 x 11 format. An ideal on-the-job design and detailing tool for professionals, this updated Second Edition assembles and correlates the latest industry information available on brick, stone, concrete, and glass masonry in one convenient, easy-to-use volume.

042/233 Pub. Pr., \$49.50 Club Pr., \$34.50

**STRUCTURAL DETAILS FOR STEEL, CONCRETE, AND MASONRY CONSTRUCTION**

By M. NEWMAN. 595 total pp., 376 total illus., outsized 8½ x 11 format, spiral-bound, softbound. This handy three-volume set of workbooks for preparing and checking structural drawings covers the steel, concrete, and masonry structural details used most frequently in the design and construction of buildings. All are carefully drawn to scale and fully explained so you can select the best for your design purposes.

583888-5 Pub. Pr., \$48.95 Club Pr., \$34.95

**TIME-SAVER STANDARDS FOR LANDSCAPE ARCHITECTURE**

By C.W. HARRIS and N.T. DINES. 864 pp., 1,138 illus., outsized 8½ x 11 format. The professional's sourcebook of design and construction data for effectively and responsibly modifying the landscape. Whether you need advice on the best utilization of existing natural systems or proven site-specific and equipment-specific design and construction techniques, this easy-to-use reference has it all.

267/251 Pub. Pr., \$89.50 Club Pr., \$67.50

**THE PROFESSIONAL HANDBOOK OF ARCHITECTURAL WORKING DRAWINGS**

By O.A. WAKITA and R.M. LINDE. 530 pp., more than 700 illus., outsized 8½ x 11 format. Promising to become the standard reference for every professional who must take a design concept and evolve it into final construction documents, this comprehensive handbook covers architectural drafting from beginning to end — attitudes, equipment, skills, concepts, techniques, and more. With numerous illustrations and practical case studies.

583211-9 Pub. Pr., \$49.95 Club Pr., \$37.25

**MEANS GRAPHIC CONSTRUCTION STANDARDS**

Edited by F.W. HORSLEY. 1,000 illus., outsized 8½ x 11. This first-of-its-kind book gives ability to analyze and select assemblies visually. You'll find assemblies here — all graphically detailed through clear illustrations.

583786-2 Pub. Pr., \$87.95

**DESIGN COMMUNICATION Using Promotional Material for Professionals**

By E. BURDEN. 224 pp., 100 illus. This indispensable sourcebook covers successful marketing, promotion, and presentation strategies providing you the information you need to develop promotional print material. Includes instant access to proven special pieces, fliers, newsletters, self-mailers, campaign pieces, charts, and posters.

089/329 Pub. Pr., \$39.95

**PHOTOGRAPHING BUILDINGS AND OUTDOOR**

By N. McGRATH. 176 pp., 220 photographs, 20 b & w photos, outsized 8¼ x 11 format. In this practical how-to guide, a professional photographer gives you step-by-step guidance and practical advice on creating the most artistic photographs of buildings imaginable — indoors and out.

583912-1 Pub. Pr., \$32.50

**BUILDING CONSTRUCTION Materials and Types of Construction**

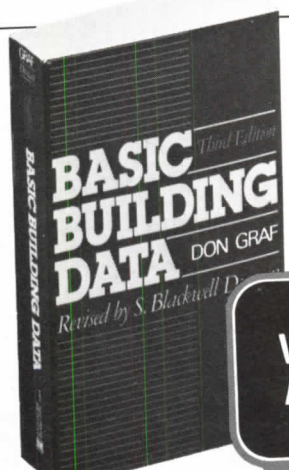
By D.C. ELLISON, W.C. TON, and R.E. MICKADEL. 434 pp., 336 illus., outsized format. Now updated and revised, the Sixth Edition of the arc is the standard reference on construction materials and technology. The latest information on construction materials, methods, and systems is organized in Construction Institute (CSI) format for easy use.

583904-0 Pub. Pr., \$49.95

**MODERN FURNITURE Sourcebook of Styles, and Manufacturers for Today**

By M. STIMPSON. 208 pp., outsized 9¼ x 9¼ format. From the strong and grow classic modern furniture, and informative book will select the optimum design for your clients.

583902-4 Pub. Pr., \$32.50



**BASIC BUILDING DATA**  
Third Edition  
By DON GRAF;  
revised by S. BLACKWELL DUNCAN

730 pages, fully illustrated,  
compact 4¾ x 7¼ format, softbound

**A \$23.95**  
**Value — Yours**  
**ABSOLUTELY**  
**FREE**

For over 40 years, this "goes-everywhere, answers-everything" book has been the authoritative source of accurate, up-to-date construction information. Now fully revised and expanded to include state-of-the-art discussions of the new plastics, advances in floor finishes, the latest building code standards, and modern lumber terminology, you'll find this peerless volume more valuable than ever.

583335-2Pub. Pr., \$23.95Club Pr., \$17.95



# ARCHITECTS' BOOK CLUB®

## MEMBERSHIP ORDER CARD

Please enroll me as a member and send me the two books indicated, plus the *Basic Building Data*. I am to receive one book for just \$2.89, the other at the discounted member's price, plus local tax, shipping and handling charges. I agree to purchase a minimum of two additional books during my first year of membership as outlined under the Club plan described in this ad. I understand that a shipping and handling charge is added to all shipments.

Your FREE Handbook

583335-2

Write Code No. of the  
\$2.89 selection here

Write Code No. of the  
First selection here

Signature \_\_\_\_\_

Name \_\_\_\_\_

Address/Apt.# \_\_\_\_\_

City, State, Zip \_\_\_\_\_

This order subject to acceptance by McGraw-Hill. All prices subject to change without notice. Offer good only to new members. Foreign member acceptance subject to special conditions.

# ARCHITECTS' BOOK CLUB®

## MEMBERSHIP ORDER CARD

Please enroll me as a member and send me the two books indicated, plus the *Basic Building Data*. I am to receive one book for just \$2.89, the other at the discounted member's price, plus local tax, shipping and handling charges. I agree to purchase a minimum of two additional books during my first year of membership as outlined under the Club plan described in this ad. I understand that a shipping and handling charge is added to all shipments.

Your FREE Handbook

583335-2

Write Code No. of the  
\$2.89 selection here

Write Code No. of the  
First selection here

Signature \_\_\_\_\_

Name \_\_\_\_\_

Address/Apt.# \_\_\_\_\_

City, State, Zip \_\_\_\_\_

This order subject to acceptance by McGraw-Hill. All prices subject to change without notice. Offer good only to new members. Foreign member acceptance subject to special conditions.





NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

# BUSINESS REPLY MAIL

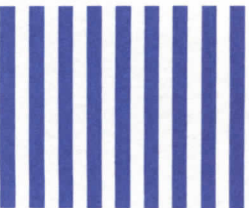
FIRST CLASS MAIL PERMIT NO. 42 HIGHTSTOWN, NJ

POSTAGE WILL BE PAID BY ADDRESSEE

**McGraw-Hill Book Clubs**

**P.O. Box 582**

**Hightstown, NJ 08520-9959**



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

# BUSINESS REPLY MAIL

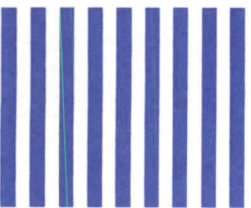
FIRST CLASS MAIL PERMIT NO. 42 HIGHTSTOWN, NJ

POSTAGE WILL BE PAID BY ADDRESSEE

**McGraw-Hill Book Clubs**

**P.O. Box 582**

**Hightstown, NJ 08520-9959**







### ENCYCLOPEDIA OF 20TH-CENTURY ARCHITECTURE

Editor, V.M. LAMPUGNANI. 475 illus. Prepared with the aid of more than 60 experts from three continents, this lavishly illustrated reference work covers 20th-century architecture on a worldwide scale. Its more than 350 entries include biographies of influential architects and firms as well as descriptions of major styles — from Art Nouveau to Modernism — and recent buildings.

Pub. Pr., \$24.95 Club Pr., \$18.75

### TIME-SAVER STANDARDS FOR SITE DESIGN

Edited by J. DeCHIARA and L.E. KOPPEL. 864 pp., 1,037 illus., outsized format. Your complete, fully updated source of basic design criteria, construction details for good site and land development. All major preliminary site analysis, environmental considerations, and social factors to the design of all facilities — follows the accepted process sequence.

Pub. Pr., \$79.00 Club Pr., \$59.00

## HERE'S HOW THE CLUB WORKS TO SERVE YOU:

### WANT INFORMATION... WE MAKE IT EASY TO GET!

In our rapidly changing world, those who perform best are those who are best informed. Designed exclusively for the practicing engineer, the Architects' Book Club gives you with information that is relevant, reliable, and specific enough to meet your needs. Each Club bulletin comes your way 12 times a year and offers you more than 20 books to choose from—the best and newest books from all over the world!

### AVAILABLE SERVICE... WE'RE HERE TO HELP!

If you want information about a book or have a question about your purchase, our qualified staff is here to help. Just call us toll-free or write to our Customer Service. We also make sure you get only the books you want. All you need to do is tell us your choice on the Reply Card and return it to us by the deadline. If you want the Main Selection, simply do nothing — it will be sent automatically. (A small shipping and handling charge is added to each purchase.)

### CONVENIENCE... WE DO THE WORK!

The benefit of timely information, Club membership offers many other advantages. For example, you get a wide choice of books that simply cannot be found at any bookstore — anywhere. And all your books are conveniently shipped right to your door. You also get the luxury of 10 full days to decide if you want the Main Selection. If you should ever receive a Main Selection that is late because the Club bulletin came late, we'll take responsibility. Just let us know and we'll credit at our expense.

### POTENTIAL SAVINGS... AND A BONUS PROGRAM TOO!

With our goal to provide you with the best information at the greatest savings, you will enjoy substantial discounts — up to 40% — on every book you buy. Plus, you're automatically eligible for our Bonus Book Plan which gives you savings up to 70% on an even wider selection of professional interest books.

### MEMBERSHIP TERMS... IT'S WORTHWHILE TO BELONG!

Your obligation is to purchase 2 more books — at handsome discounts — over the next 12 months, after which you enjoy the benefits of membership with no further obligation. Either you or the Club may cancel membership anytime.

### DAYLIGHTING: Design and Analysis

By CLAUDE L. ROBBINS. 964 pp., 356 illus., outsized 8 1/2 x 11 format. Based on the latest research and most advanced technologies, this outstanding book provides both the data and the methods you need to exploit the design advantages of using natural light as a primary source of illumination. Presents a thorough analysis of all major daylighting concepts, including sidelighting... roof and top lighting... angled, beam, and indirect lighting... and atriums.

583740-4 Pub. Pr., \$84.95 Club Pr., \$59.95

### AUDITORIA: Designing for the Performing Arts

By M. FORSYTH. 220 pp., 325 illus. Whether you design major concert halls or elementary school multiple-use halls, this guide offers more than forty imaginative solutions to a variety of situations.

584611-X Pub. Pr., \$49.95 Club Pr., \$38.95

### AMERICAN VERNACULAR: Regional Influences in Architecture and Interior Design

By J. KEMP. 256 pp., 225 photos, 10 1/4 x 10 1/4 format. Illustrates over fifty regional styles, and shows how contemporary architects have reinterpreted many of them to create comfortable yet spirited homes.

584581-4 Pub. Pr., \$40.00 Club Pr., \$31.95

### TIME-SAVER STANDARDS FOR BUILDING TYPES

Edited by J. DeCHIARA and J.H. CALLENDER. 2nd Ed., 1,277 pp., 1,500 illus., outsized 8 1/2 x 11 format. This huge volume is still the architectural profession's one-of-a-kind prime source of technical data for a wide range of design problems encountered in all kinds of building types.

162/654 Pub. Pr., \$88.50 Club Pr., \$65.50

## Be sure to consider these important titles as well...

**INTELLIGENT DRAWINGS: CAD and Information Systems in the Design Office**, by T.G. Schilling & P.M. Schilling. 553/173 Pub. Pr., \$37.50 Club Pr., \$27.50

**TRANSITION TO CADD: A Practical Guide For Architects, Engineers and Designers**, by G. Gerlach. 230/722 Pub. Pr., \$34.95 Club Pr., \$26.95

**ARCHITECTURAL RECORD HOUSES FOR 1988**, by Architectural Record Magazine. 024/545 Pub. Pr., \$12.95 Club Pr., \$9.95

**MECHANICAL AND ELECTRICAL EQUIPMENT FOR BUILDINGS, 7th ed.**, by B. Stein, J.S. Reynolds & W. J. McGuinness. 583667-X Pub. Pr., \$49.95 Club Pr., \$38.75

**DICTIONARY OF ARCHITECTURE AND CONSTRUCTION**, by C.M. Harris. 268/193 Pub. Pr., \$19.50 Club Pr., \$14.95

**DESIGNING THE INTERIOR LANDSCAPE**, by R.L. Austin. 583327-1 Pub. Pr., \$36.95 Club Pr., \$24.45

### DESIGN OF WOOD STRUCTURES

By D.E. BREYER. 2nd Ed., 704 pp., 432 illus. This revised and updated Second Edition of step-by-step design procedures for wood-framed structures puts at your fingertips the latest relevant code requirements, along with comprehensive coverage of every aspect of wood framing — from the analysis of vertical and lateral design loads to connection design.

076/758 Pub. Pr., \$54.50 Club Pr., \$39.50

### TIME-SAVER STANDARDS FOR ARCHITECTURAL DESIGN DATA

J.H. CALLENDER, Editor in Chief. 6th Ed., 1,184 pp., 1,300 illus., outsized 8 1/2 x 11 format. Save yourself untold hours and days on every project with this giant time-saver classic. This updated edition includes new technical data, new standards, new illustrations, and such new topics as energy conservation, solar energy, design loads, insulation, daylighting, HVAC, sound systems, and modular coordination.

096/635 Pub. Pr., \$88.50 Club Pr., \$61.50

**INTERIOR DESIGN ILLUSTRATED**, by F.D.K. Ching. 584545-8 Pub. Pr., \$22.95 Club Pr., \$17.95

**TECHNIQUES OF STAIRCASE CONSTRUCTION**, by W. Mannes. 583709-9 Pub. Pr., \$34.95 Club Pr., \$24.50

**THE PROFESSIONAL PRACTICE OF ARCHITECTURAL DETAILING**, by O.A. Wakita & R.M. Linde. 583853-2 Pub. Pr., \$49.95 Club Pr., \$36.95

**ARCHITECTURAL COLOR: A Design Guide to Using Color on Buildings**, by T. Porter. 583828-1 Pub. Pr., \$19.95 Club Pr., \$15.50

**SUPERINSULATED DESIGN AND CONSTRUCTION: A Guide for Building Energy-Efficient Homes**, by T. Lenchek, J. Raabe & C. Matlock. 583799-4 Pub. Pr., \$34.95 Club Pr., \$25.50

**ARCHITECTURE: Drafting and Design, 5e.** by D.E. Hepler & P.I. Wallach. 283/184 Pub. Pr., \$31.40 Club Pr., \$23.95

Mail this coupon today or — for even faster service — call toll-free 1-800-2-MCGRAW



McGraw-Hill Book Clubs  
Architects' Book Club®  
P.O. Box 582, Hightstown, NJ 08520-9959

Please enroll me as a member and send me the two books indicated, plus the BASIC BUILDING DATA sourcebook. I am to receive one book for just \$2.89, the other at the discounted member's price, plus local tax, shipping and handling charges. I agree to purchase a minimum of two additional books during my first year of membership as outlined under the Club plan described in this ad. A shipping and handling charge is added to all shipments.

Your FREE Handbook	Write Code No. of the \$2.89 selection here	Write Code No. of the First Selection here
583335-2		

Signature \_\_\_\_\_

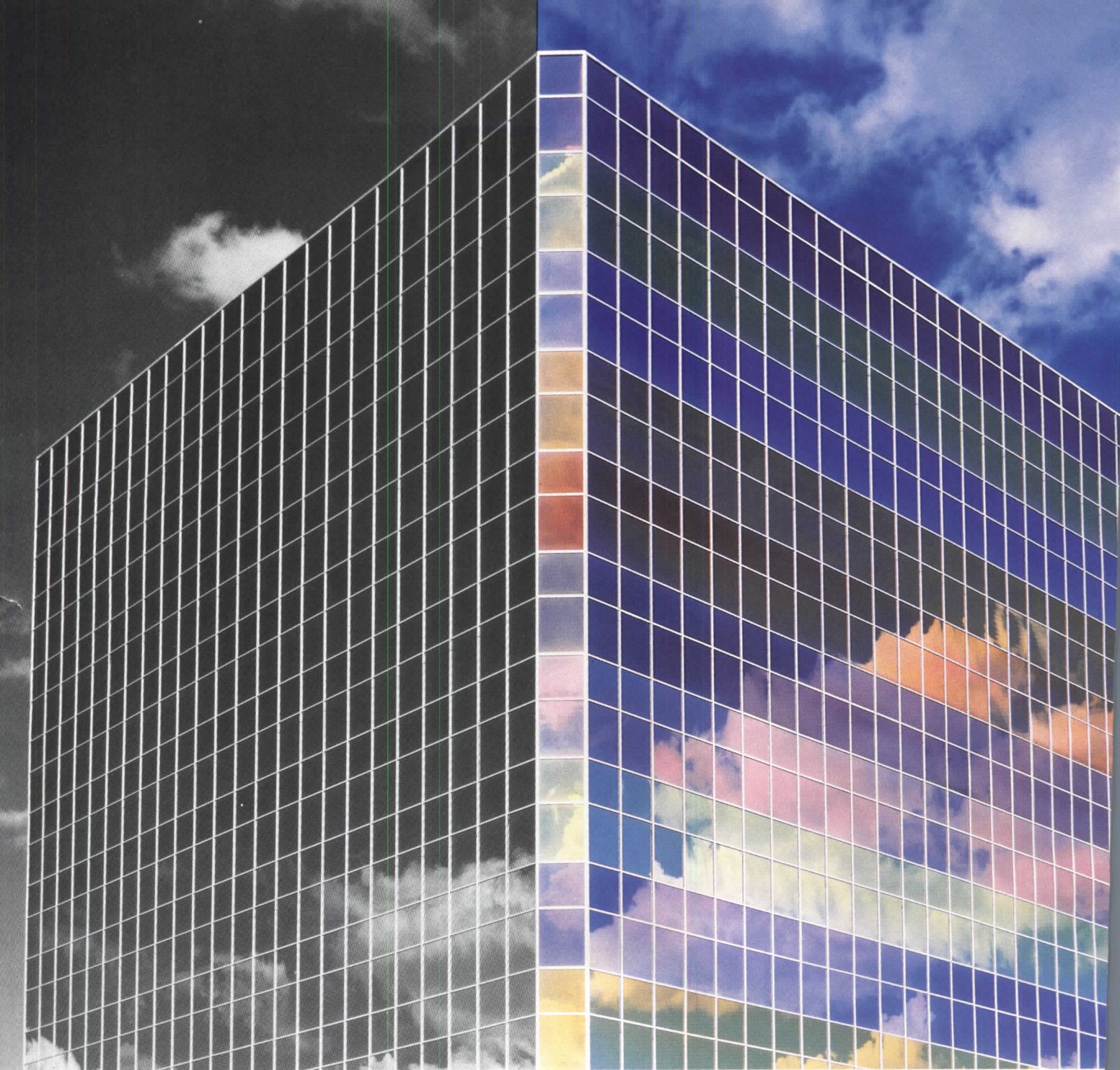
Name \_\_\_\_\_

Address/Apt. # \_\_\_\_\_

City, State, Zip \_\_\_\_\_

This order subject to acceptance by McGraw-Hill. All prices subject to change without notice. Offer good only to new members.





# Before your specs are down in black and white let us show you coatings of a different color.

When you need a high performance glazing but you also want an exclusive hue to set your project apart, specify an Interpane glass coating.

Each of our unique multi-function coatings, for example, combines an attractive color and low-emissivity characteristics into one, single-surface coating. The process is based on our advanced European technology. We call these products IPASOL PLUS. You'll call them amazingly flexible. An IPASOL PLUS coating can help retain cooled or heated inside air while promoting

the desired solar control. The net result is a very favorable Energy Balance.

Interpane's total line of proven coatings offers you high or low light transmission and reflectance, superior shading, neutral appearance, the finest in Low-E glass, and a rainbow of colors—from a readily available rich blue to a 24K gold.

To reflect your unique sense of architecture, specify an Interpane coating. For more information contact us at 2 Interpane Lane, Deerfield, WI 53531. Or phone 608 764-5461. You'll receive a colorful response.



**Glass that works.**

Circle 79 on inquiry card



# A FEW REASONS WHY A 350 TUFFLINE ENTRANCE LIVES UP TO ITS NAME.

A  $\frac{3}{16}$ " minimum wall thickness in door and frame

High performance welded door corner joinery

Security interlocks at door jambs

Rugged 2" deep stile sections

Heavy duty standard hardware designed for high abuse areas

Thru bolt and direct hardware attachment where applicable

Heavy duty frame to complete the entrance package

Katy O.

Joe S.

James W.

Rocco D'

Betsy G.

Sam S.

Ken T.

Julie L.

## AND A FEW REASONS WHY IT HAS TO.

**350 Tuffline.** Educational tool for the 80's. And beyond. For new and replacement doors at schools, college campuses, and in other high traffic and abuse-prone installations. Tuffline entrances are all their name says they are. Tested in the educational market,

Tuffline is offered as single-acting entrances in both singles and pairs to 8' heights. With durable butts, pivots, closers and panics to resist vulnerability and increase security when school's out. And design options such as Paneline® to customize without compromise.

Tuffline. At the head of the class.

**Kawneer**

For technical specifications contact:  
Kawneer Company, Inc. Department C,  
Technology Park-Atlanta,  
555 Guthridge Court, Norcross, GA 30092

Circle 80 on inquiry card



## CONSULTANT ARCHITECTS, ENGINEERS, CONSTRUCTION MANAGERS

The Division of Design and Construction Management (DDCM) of the NYC Department of General Services (DGS) requests applications from qualified consulting architects, landscape architects, engineers, construction managers, surveyors, value engineers, cost estimators, and asbestos investigators who are interested in performing services for this Municipal Government Agency. The Agency is aiming for excellent quality in developing studies and performing design work and construction management services for the Public Buildings of New York City.

Consultants are invited to submit a Federal Form 254 and an illustrated brochure describing their professional experience. They are to include resumes of key personnel, and three client references with contact persons and telephone numbers. Qualified respondents will be called in for an interview to determine areas of expertise and placement on appropriate categorized list(s). Also noted on these lists will be the firms qualified and certified as Small Business Enterprises (SBEs).

All information will be kept on file and referred to as consultants are considered for specific projects. Forms submitted within the past year are in the consultant data bank; resubmission is not required unless updating is desired.

DDCM administers the following types of projects: Libraries, museums, community centers, police stations, firehouses, correctional facilities, courts, laboratories, theaters, zoos, conservatories, broadcasting facilities, and municipal buildings. It also implements special programs such as historic preservation and restoration, Local Law 10, asbestos abatement, transitional housing for the homeless, access for the handicapped, and energy conservation.

Please address all correspondence to:

Consultant Liaison  
**NYC DEPARTMENT OF  
 GENERAL SERVICES**  
 Division of Design  
 and Construction  
 Management  
 Bureau of Building Design  
 1 Centre Street, 15th Fl.  
 New York, N.Y. 10007

An Equal Opportunity Employer

HELPING TO BUILD THE  
 FUTURE OF NEW YORK CITY



### PROJECT ARCHITECT

Opportunity to grow with an established Salem Oregon firm. Bach. of Arch., G.P.A. 3.00 min. Self-starter, non-smoker. Professional appearance. Ten years experience buildings to 5M. Positive mental attitude. Salem - 60 minutes from ocean, 90 minutes from skiing. Clean air, cool summers, mild winters, low humidity — excellent liveability.

Send resume, work experience, salary history and references to Warren Carkin, 595 Leslie St. S.E., Salem, Oregon 97301.

### Senior Project Architect

Firm seeking NCARB certified Architect with 10 years' experience. Excellent design and management skills required.

**Excellent compensation and  
benefits package.**

**Please forward your resume  
in confidence to John A. Missell.**

**HARRIMAN  
ASSOCIATES**

ARCHITECTS • ENGINEERS

292 COURT STREET • AUBURN, MAINE 04210 •  
207-784-5728

An equal opportunity employer m/f

**Michael Latas & Associates, Executive Search** and Professional Recruiting Consultants. Specialists in the architectural and engineering fields. Operating nationally. Inquiries held in the strictest of confidence. 1311 Lindbergh Plaza Center, St. Louis, Missouri 63132; (314) 993-6500.

**Architect wanted for feasibility studies; programming; site planning; schematic design; code analysis and design development for various building types including commercial, educational, institutional, residential and health care for new buildings, renovations and relocations; space planning; material and color selection for the types of projects listed above; conduct meetings with clients; and make presentations; Requires Bachelor's degree in Architecture and four years experience; \$12.79/hr. \$19.18/hr. overtime; 40 hours per week. Send resume to 7310 Woodward Ave., Room 400, Detroit, MI 48202. Ref. #43588 "Employer Paid Ad".**

**The Aquarium and Science Park Of The Beaches, Inc.**, a non-profit organization, is requesting letters of interest from an experienced team of planning, architectural and engineering consultants to provide a feasibility study for a Major Aquarium to be located in Beach County, Florida. For a copy of the request for qualifications, interested parties should write to: Technical Committee, 2000 Beach Lakes Boulevard, 8th Floor, West Palm Beach, FL 33409.

**Architect — Design, drafting and creative responsibilities on architectural projects. Prepare final architectural blueprints, including technical and engineering specifications for large projects. Bachelor degree in Architecture required. 40 hrs/wk, \$16,000/yr. Send resume to 7310 Woodward Ave., Rm. 415, Detroit, MI 48202. Ref. #49688. Employer paid ad.**

**University of Maine Position: Architect** time professional appointment. Bachelor's degree in Architecture or Architectural Engineering. Working knowledge of structural and mechanical systems is preferred. Minimum two years experience as an Architectural Designer. Salary \$30,000-\$34,000. Send letter of application and resume to Merton Wheelwright, Associate Director of Operations, Office of Facilities Management, University of Maine, Campus Center, Orono, ME 04469. (Tel: 207-581-2650) Job description will be mailed upon request. Review of applications will begin on October 31, 1988. The University of Maine is an Equal Opportunity Employer.

**Designer/Exhibits. Established midwest** Manufacturer is seeking experienced designer. Applicants must possess organizational skills, innovative concepts & able to present complete design presentations. Send resume to: Hamilton Displays, Inc., PO Box 646, Indianapolis, IN 46206. No Telephone Calls.



# Stay Competitive in the 80's.

## Subscribe now to ARCHITECTURAL RECORD and save!

ARCHITECTURAL RECORD is your best information center for finding out what's new and innovative in architecture.

Enter your subscription to ARCHITECTURAL RECORD and you can add your own personal reference library that will grow more useful and valuable every month.

Order your subscription with this handy order card. Mail it today!

SAVE UP TO \$39

**YES.** Please send me ARCHITECTURAL RECORD for the period indicated.

Please check the terms you wish:

- 12 months (14 issues) \$39
- 24 months (28 issues) \$59 **A better buy with \$19 savings!**
- 36 months (42 issues) \$78 **Your best buy with \$39 savings!**

Please answer all questions:

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_ Type of firm \_\_\_\_\_

Mailing address \_\_\_\_\_

City/State \_\_\_\_\_ Zip \_\_\_\_\_

This is a:

- Business or  Home Address
- New or  Renewal subscription  Payment enclosed  Bill me
- American Express  VISA  MasterCard... Interbank # \_\_\_\_\_
- Account # \_\_\_\_\_ Date card expires \_\_\_\_\_

Signature \_\_\_\_\_

Allow 4-12 weeks for shipment of first issue. Rates good only in U.S., Possessions, and Canada.

ARCHITECTURAL RECORD

P.O. Box 2023, Mahopac, N.Y. 10541

Please check appropriate boxes:

Architect Registered in state(s) of \_\_\_\_\_

- Engineer
- Owner/principal
- Designer
- Interior Designer
- Draftsman
- Corp. Officer

Student/School

Signature \_\_\_\_\_

38C11D

SAVE UP TO \$39

**YES.** Please send me ARCHITECTURAL RECORD for the period indicated.

Please check the terms you wish:

- 12 months (14 issues) \$39
- 24 months (28 issues) \$59 **A better buy with \$19 savings!**
- 36 months (42 issues) \$78 **Your best buy with \$39 savings!**

Please answer all questions:

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_ Type of firm \_\_\_\_\_

Mailing address \_\_\_\_\_

City/State \_\_\_\_\_ Zip \_\_\_\_\_

This is a:

- Business or  Home Address
- New or  Renewal subscription  Payment enclosed  Bill me
- American Express  VISA  MasterCard... Interbank # \_\_\_\_\_
- Account # \_\_\_\_\_ Date card expires \_\_\_\_\_

Signature \_\_\_\_\_

Allow 4-12 weeks for shipment of first issue. Rates good only in U.S., Possessions, and Canada.

ARCHITECTURAL RECORD

P.O. Box 2023, Mahopac, N.Y. 10541

Please check appropriate boxes:

Architect Registered in state(s) of \_\_\_\_\_

- Engineer
- Owner/principal
- Designer
- Interior Designer
- Draftsman
- Corp. Officer

Student/School

Signature \_\_\_\_\_

38C12D

SAVE UP TO \$39

**YES.** Please send me ARCHITECTURAL RECORD for the period indicated.

Please check the terms you wish:

- 12 months (14 issues) \$39
- 24 months (28 issues) \$59 **A better buy with \$19 savings!**
- 36 months (42 issues) \$78 **Your best buy with \$39 savings!**

Please answer all questions:

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_ Type of firm \_\_\_\_\_

Mailing address \_\_\_\_\_

City/State \_\_\_\_\_ Zip \_\_\_\_\_

This is a:

- Business or  Home Address
- New or  Renewal subscription  Payment enclosed  Bill me
- American Express  VISA  MasterCard... Interbank # \_\_\_\_\_
- Account # \_\_\_\_\_ Date card expires \_\_\_\_\_

Signature \_\_\_\_\_

Allow 4-12 weeks for shipment of first issue. Rates good only in U.S., Possessions, and Canada.

ARCHITECTURAL RECORD

P.O. Box 2023, Mahopac, N.Y. 10541

Please check appropriate boxes:

Architect Registered in state(s) of \_\_\_\_\_

- Engineer
- Owner/principal
- Designer
- Interior Designer
- Draftsman
- Corp. Officer

Student/School

Signature \_\_\_\_\_

38C13D





**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 153 NEW YORK, NY

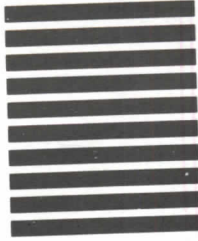
Postage will be paid by

**ARCHITECTURAL RECORD**

Subscription Department  
P.O. Box 2023  
Mahopac, New York 10541-9961



No Postage  
Necessary  
If Mailed  
in the  
United States



Please detach card along perforation.



**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 153 NEW YORK, NY

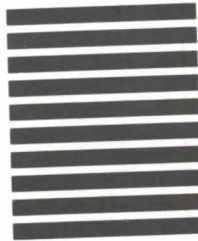
Postage will be paid by

**ARCHITECTURAL RECORD**

Subscription Department  
P.O. Box 2023  
Mahopac, New York 10541-9961



No Postage  
Necessary  
If Mailed  
in the  
United States



Please detach card along perforation.



**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO. 153 NEW YORK, NY

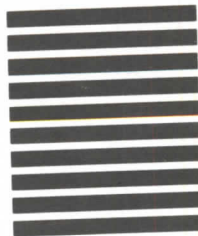
Postage will be paid by

**ARCHITECTURAL RECORD**

Subscription Department  
P.O. Box 2023  
Mahopac, New York 10541-9961



No Postage  
Necessary  
If Mailed  
in the  
United States



Please detach card along perforation.



**MAIL  
YOUR  
SUBSCRIPTION  
ORDER  
CARD  
TODAY  
AND  
SAVE!**



## POSITIONS VACANT

**Architects — \$25,000-85,000 Group One** Architect Executive Architectural Recruiters. Key positions nationwide at all levels with Regional National firms. Experience in research/development, health care, commercial, criminal justice, educational, institutional, industrial and multi-family projects. Confidential. No Fee. Inside salary requirements. 4917 Ehrlich Road, Suite 103, Tampa, FL 33624, (813) 969-0544.

**Architectural Designer. Hours: 40 hours per week.** 9:00 a.m. to 5:00 p.m. Salary: \$21,828.00. Duties: Design and revision of architectural plans for commercial and residential projects, including building site inspection and progress location; responsible for some subcontract-budgeting and cost estimation. Duties to be performed without supervision. Education: Must have a B.A. in Architecture. Experience: Must have 1 year experience in the job offered. Special Requirements: Must be able to perform architectural drafting and drawing. Send resumes to: Illinois Department of Employment Security, 401 South State Street — 3 South, Chicago, Illinois 60605, Attention: Joan Haight, Reference #8389-H, An Employer Paid Ad.

**Architect — Util knowl of urban design, develop** architect concepts for design & construction of interiors/exterior for comm'l & residential projects. Prepare working & perspective drawings as well as construction documents. Coordinate all designs, plans & specifications requiring metric system. Must know architectural design of interiors & exteriors; must know metric system. Bach-Architecture; 2 yrs exp or 2 yrs exp in architectural position. \$28,000/yr. 40 hr. Interested persons should apply to Job Service, P.O. Box 82, Winston-Salem, N.C. 27102, or their nearest Job Service Office. Refer D. #NC 8905638.

**Architect/Project Manager. Progressive young** architectural firm is one of the fastest growing firms in the U.S. Devoted to quality design, service, and profitable business practices. Qualified personnel to fill growing work. Resume, references, salary requirements to: Bra/McGahey Associates in Architecture, 1000 W. Ashley Circle, Ft. Myers, FL 33907.

**Professional Models: Premier Computerized** CAM Architectural Model Making firm is looking for a qualified manager. Background in architecture or engineering helpful. CAD experience helpful. Will train. Strong career opportunity. Good salary. Send resumes to 3XM Incorporated, 18 S. Strawberry St., Philadelphia, PA 19106 Attention: Grant Lussier.

**Architect. Architectural and Engineering firm** in Northern New England, offering position in commercial and institutional architectural projects. Professional registration and minimum 5 years experience required. Excellent salary and opportunities in a growing firm. Send resume in confidence to Brian A. Ames, Director, AMES Corporation, One Merchants Row, Bangor, ME 04401. EOE.

## POSITIONS VACANT

**University Architect — Auburn University, Auburn, Alabama.** Auburn University is seeking applicants for the position of University Architect. Under general direction, participates in campus planning through the development of physical facilities plan; develops campus standards and purposes of same for adoption; coordinates the development of building programs for proposed construction; participates in project development through budget preparation, bid review and contract negotiation; participates in the identification of prospective architectural firms; supervises office staff; and perform other duties as directed. Candidates must possess a degree in Architecture; have at least five years experience as an architect, preferably with an educational institution; and be a registered architect. This position reports to the Assistant Vice President for Facilities. Auburn University is Alabama's largest university, with a student enrollment of over 19,000. Salary is competitive and fringe benefits are excellent. Applicants should send a current resume and statement of interest to: Ms. Mary Prather, Personnel Specialist, University Personnel Services, Auburn University, AL 36849, Auburn University is an equal opportunity, affirmative action employer. Minorities and women are encouraged to apply.

**Employment Opportunity. Electrical, Architectural Drafter needed.** A building specialist and graphics firm in Nashville, Tennessee is seeking to employ qualified drafter with 1 year experience and a B.S. degree in Engineering. Will be responsible for drafting electrical equipment working drawings and wiring diagrams used by construction crews and repairmen who erect, install, and repair electrical equipment and wiring in communications centers, powerplants, industrial establishments, commercial or domestic buildings, or electrical distribution systems, performing duties as a drafter. Delineates designs and details, using drawing instruments. Confirms compliance with building codes and detailing plans according to structural materials. The working conditions are nice and friendly. The position is permanent. Salary is \$9.00 per hour for a 40 hour week. Applicants apply to and send resume to: Job Service of Tennessee, C1-114 Cordell Hull Building, Nashville, Tennessee 37219. Attn: Ms. Jo Lyell. Ad paid for by an Equal Opportunity Employer.

**Architects — Award - winning established,** midwest firm seeks graduate architects with 3-5 years experience for a variety of challenging assignments. Unlimited growth opportunity for motivated, talented professionals. Diversified, stable client base includes projects of varying size and complexity requiring skills in design and management. Abundant cultural and recreational opportunity in low cost of living area. Resume to: Levin Porter Associates, Inc., 24 North Jefferson St., Dayton, OH 45402.

### TO ANSWER BOX NUMBER ADS

*Address separate envelopes  
(smaller than 11" x 5")  
for each reply to:*

*Box Number (As indicated)  
Classified Advertising Center  
Architectural Record  
Post Office Box 900  
NY 10108*

## BUSINESS OPPORTUNITIES

**Architect/Studio Owner. Practice architecture** in studio setting using Techline, a sophisticated system of furniture and cabinetry. The designers and manufacturers of Techline are adding new Techline Studios to those already established. Studio owners use Techline in the design of residential, medical and other institutional interiors. At least one Studio partner must be in the design profession. Successful applicants must have management skills, enjoy client contact and a hands-on operation. We are an established architectural and building firm. Our goal is to develop mutually beneficial relationships with creative and ambitious individuals. Contact Marshall Erdman, Chairman, Marshall Erdman and Associates, 5117 University Avenue, Madison, WI 53705. (608) 238-0211.

## SEND YOUR AD COPY FAST VIA TELECOPIER

If you have a telecopier, just call the number below to see if your equipment is compatible. If you don't have a telecopier, call and we'll help you locate the nearest one. It could even be in your own firm or building.

To enable you to get your classified advertising typewritten copy into this section at the last possible minute, we've installed a XEROX 295 TELECOPIER (which also receives copy from other makes) in our New York home office.

NOTE: The Xerox 295 cannot accept photos or art, but as always, there is no charge for typesetting and layout service.

## CALL McGRAW-HILL (212) 512-6800



**FOR SALE**

**Pew Upholstery**

For more information, call: 1-800-537-1530  
In Ohio, 1-800-472-2722

**SAUDER®**

**TREE STAMPS**

Treeline's crafted rubber stamps combine quality of hand drawn trees and people with speed and convenience of stamps. Write for free catalog.

**TREELINE**

Box 4679, Charlottesville, VA 22905

**BOOKS FOR SALE**

**FEEES FOR ARCHITECTS!**

MELTON ARCHITECT'S SERVICES is a book of more than 200 pages that shows you the way to determine the minimum cost of Architect's Basic Service for more than 75 different types of buildings. It is 5½" x 8½" in size and has a beautiful leatherette back with wire roll binding and heavy weight pages for long life.

**PREPAID \$29.95**

Send to T. L. MELTON CO., P.O. BOX 2644 ATLANTA, GA 30301

**SPECIAL SERVICES**



**COMPLETE PREPARATION FOR THE REGISTRATION EXAMS**

Architectural License Seminars (213) 208-7112  
Box 64188 Los Angeles California 90064

**OFFICIAL PROPOSAL**

**New York City Health and Hospitals Corporation  
Request for Proposals for Management Consulting Services in Connection with Public Sector Architecture/Engineering Design Organizations**

The New York City Health and Hospitals Corporation, a public benefit corporation operating municipal hospitals, ambulatory health centers and long term care facilities, is seeking proposals from management consulting firms experienced in the analysis of large architecture/engineering design organizations.

Requests for Proposals may be picked up in person or requested by contacting:

Mr. John Barry  
Assistant Director — Capital Budget & Contract Control

New York City Health & Hospitals Corporation  
346 Broadway, Room 522  
New York, NY 10013  
(212) 566-8859

A Proposer's conference will be held on Tuesday, October 25, 1988 at the NYC Health & Hospitals Corporation, 125 Worth Street, 5th Floor Board Room, Room 520 at 1:00 p.m. All questions about the RFP will be entertained at that time.

All responses to the RFP are due at the above address by 5:00 p.m. on Thursday, November 10, 1988.

August 16, 1988

**SPECIAL SERVICES**

**Cost Estimating, Quantity Surveys, Computer Applications, Corp, DOD, GSA, VA. Construction Cost Systems, Chicago, (312) 858-5441; Tampa — (813) 887-5600.**

Sources continued from page 16

Louvers: Penn Ventilator Co., Inc.  
Brick: Acme Brick. Split-face block: Thurman. Entrance: Kawneer Co., Inc. Door pulls: Baldwin Mfg. Co. Glass block: Weck. Pendant luminaires: Sterner Lighting Systems, Inc. Recessed downlights: Capri Lighting. Terrazzo: Southwest Terrazzo Contractors. Paint: PPG Industries, Inc. Long-span joists: Vulcraft Div., Nucor Corp.

**Pages 112-113**

Franklin Township Technical Center  
Beckhard Richlan/Brandt-Kubida, joint venture architects  
Precast concrete panels: Beavertown. Windows and doors: Kawneer Co., Inc. Wall-mount lighting: Trimblehouse Corp. Pavers: Merritt Brick Co.

**Pages 120-129**

National Gallery of Canada  
Moshe Safdie-Design Architect Parkin/Safdie Architects and Planners.  
**Pages 120-123**—Atrium framing: Ford Motor Co., Glass Div.; IBG Co. Tinted glass: Ford Motor Co., Glass Div. Laminate interlayer: Monsanto Co. (Saflex). Stone cladding on facade: Tadoussac Granite. Architectural precast coping: Schokbeton Quebec, Inc. Stainless-steel entrance: C. J. Rus Inc. Pavers: Ottawa Precast.  
**Page 126**—Fabric sun baffles: Mecho Shade Co. Pendant lighting: Metallumen, Inc. Stone paving: Granicore. Recessed lighting: Lightolier.  
**Page 128**—Railings: Mometal, Inc. Track lighting: Metallumen, Inc. Cast-gypsum vaulted ceiling: Formglass. Paint: Pratt & Lambert, Inc. Light diffusing screens at skylight: General Electric Plastics (Lexan). Wall covering: Stretch Wall Canada. Fabric: Scalamandre.

**HIRE 1990 & 1991 GRADUATING ENGINEERS —NEXT SUMMER!—**

First, it's in our industry's best interest to hold and encourage its life-blood by providing career-conscious undergraduate engineering students with meaningful summer job experience in their future profession.

Second, since there'll always be more anxious applicants than openings, you'll be able to select the cream of the crop, then evaluate them under "game-conditions" with an eye towards hiring them after they graduate.

By filling out and returning the coupon below, your organization will be included in summer job listings to be featured in the January 1989 issue of McGraw-Hill's GRADUATING ENGINEER.

This edition will be distributed to 83,000 engineering students on over 300 campuses by Deans and engineering department heads.

Please supply the name of the person students should contact, and a phone number for our checking purposes only.

PLEASE PRINT OR TYPE

**Free summer job listing**

MAIL TO: ARCHITECTURAL RECORD/POST OFFICE BOX 900/NEW YORK/NY 10108

NAME/TITLE of individual to be contacted \_\_\_\_\_ Your Signature \_\_\_\_\_

NAME OF ORGANIZATION \_\_\_\_\_ Telephone (our use only) \_\_\_\_\_

ADDRESS: Mailing address of your personnel office \_\_\_\_\_

TYPE AND NUMBER OF STUDENTS SOUGHT: Architect \_\_\_\_\_ Illustrator \_\_\_\_\_

Mechanical or Civil Engineer/Computer Science/Draftsperson/Model Builder \_\_\_\_\_

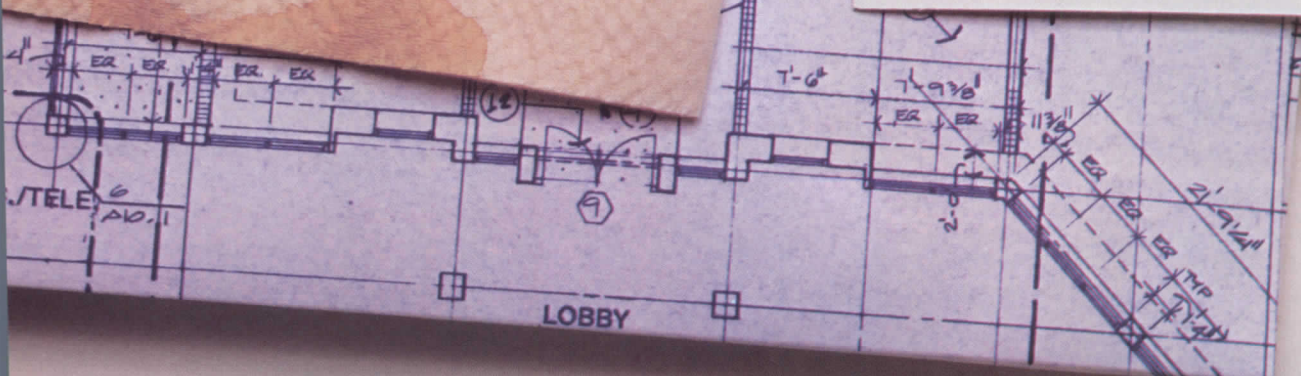
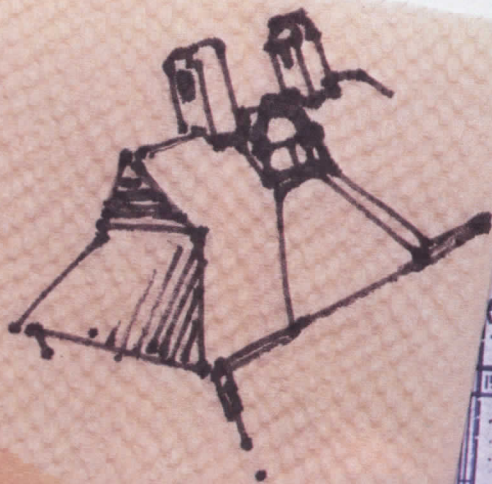


Note: Last date coupons can be accepted for this year's summer job listings is November 20, 1988



# From concept

# to beautiful finish.



## ECI Metal Roofing Systems bring your ideas to life.

When crisp, clean lines are needed to show your roof design at its best, only ECI's broad line of metal panels can give you the choice you want. When your plan calls for just the right color to highlight a contour, ECI long-lasting metal finishes can stand up to the job. When you ask texture, style and shapes to blend into a new form, ECI architectural panels have the answers.

ECI metal roofing systems are a beautiful way to show your

designs at their best. And ECI is ready to help you break new ground in design—from planning to engineering to a network of builders that will make the installation go smoothly.

If you're ready to reach new heights in roof design, write for our free design manual for metal roofing systems. It's all you need to know to get started and all you need to know for your designs to stand the test of time.



BUILDING COMPONENTS, INC.

Quality, American Style.

Offices and plants: Houston, TX/Amarillo, TX/Jemison, AL/Lodi, CA/Tualatin, OR/Lakeland, FL/Williamsburg, MO. See the Yellow Pages under "roofing" for the ECI Authorized Builder in your area.

Circle 81 on inquiry card

- Please send me a free copy of the ECI design manual for metal roofing systems.
- Please have a representative call me.

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

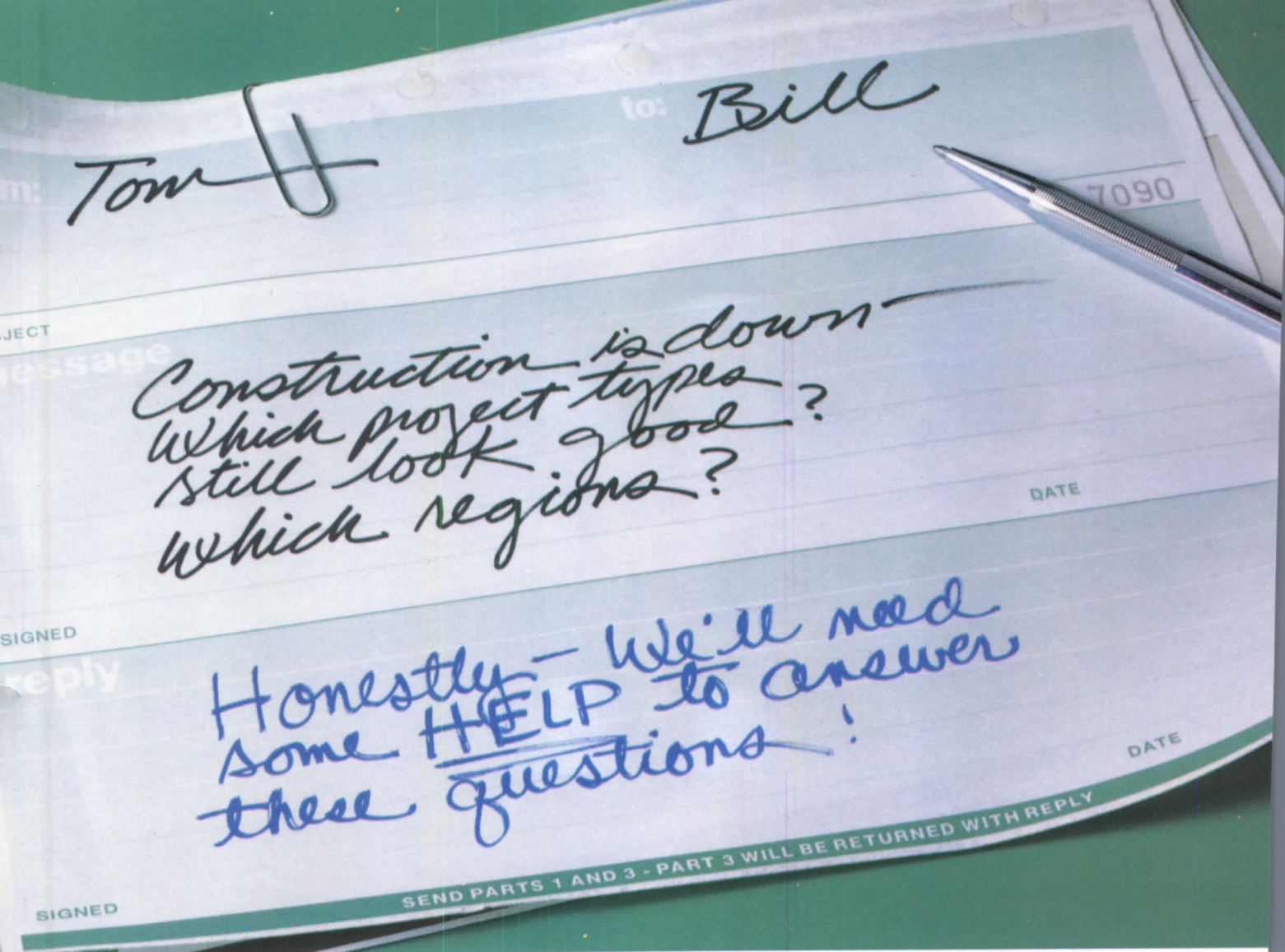
Phone: ( ) \_\_\_\_\_

Mail to: ECI Building Components, Inc.  
P.O. Drawer C  
Stafford (Houston), Texas 77477,  
713/499-5611

Telex: 910-880-4435

Fax: (713) 499-0809





to: *Bill*  
*Tom*

Construction is down  
Which project types  
still look good?  
Which regions?

Honestly - We'll need  
some HELP to answer  
these questions!

# F.W. Dodge, the Right Information at the Right Time

IF YOUR MARKET IS CONSTRUCTION  
F.W. DODGE CAN SHOW YOU A  
SIMPLER, SHORTER ROUTE TO SUCCESS.

Setting sales quotas. Writing marketing plans.  
Establishing sales forecasts. Building action plans.  
Determining market share. Analyzing territory performance.  
Finding areas of opportunity. Let F.W. Dodge deliver the  
information you need to make your job easier, more  
productive and more profitable.  
Help is just a phone call away.

**1-800-541-9913**



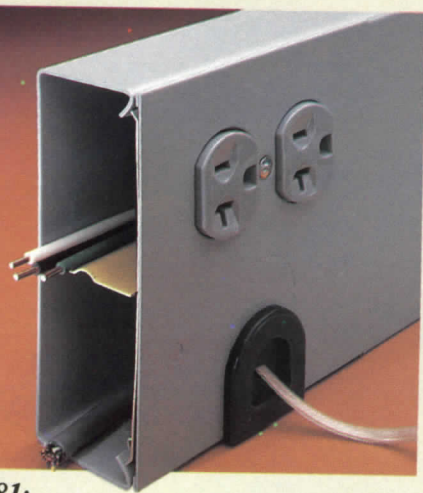
**FW Dodge**

McGraw-Hill Information Services Company

1221 Avenue of the Americas    Circle 82 on inquiry card  
New York, New York 10020



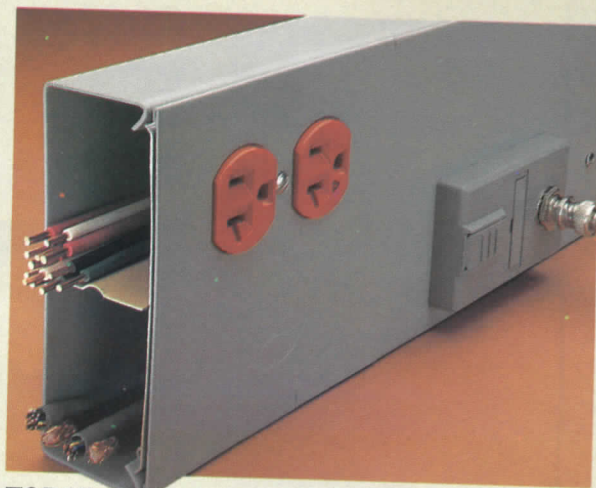




**1981:**  
 Newly installed Wiremold®  
 1000 raceway with divider  
 carries power circuits and a sin-  
 telephone cable.



**1985:**  
 a dedicated/isolated  
 ground circuit is added to the  
 same raceway; telephone ser-  
 vice is doubled.



**TODAY:**  
 now a cabling network adapter  
 interfaces with a computer system and  
 other tele/data equipment. Wiremold race-  
 way still has room to grow!

# The wiring system you can't outgrow.

and your power, telephone  
 data wiring as needed with  
 Wiremold perimeter raceway  
 system. Now, you can get at your  
 wiring whenever you want to. All  
 you do is remove the Wiremold  
 raceway covers and lay in the addi-  
 tional wiring and fittings: electrical  
 wires in one compartment, low  
 voltage data and phone cables in the  
 other. That's the distinct advantage  
 of Wiremold perimeter raceway has  
 over conventional wiring systems.  
 Wiremold raceway system  
 lets you be ready to grow. Maybe  
 you'll change your office layout. Or  
 you'll add new factory equipment.  
 Maybe you'll bring in more sophis-  
 ticated telecommunications  
 equipment. Or add additional  
 cables. There's capacity for  
 more and more. So  
 your wiring's

updated quickly and efficiently.  
 Large capacity Wiremold perim-  
 eter raceway comes in a range  
 of sizes and finishes. Available in  
 baked enamel finish, satin anodized  
 aluminum or plastic, they can be  
 used as is or painted to match or  
 contrast. Available, too, are all the  
 interconnecting fittings you need to  
 extend and expand your raceway  
 system, one that can grow as your  
 business needs grow.

If you're renovating or retrofitting  
 a building, Wiremold raceway  
 reduces the high cost of labor and  
 general disorder involved in break-  
 ing through walls—not just today  
 but in the future. Designing a new  
 building? It makes good sense to  
 design in, from the beginning, a  
 Wiremold perimeter  
 raceway system—so  
 you're prepared  
 for future

expansion of your wiring needs.  
 To view a specially-prepared video  
 about Wiremold perimeter race-  
 way systems, call 1-800-621-0049  
 (In Connecticut 1-800-992-2277).



Installed at desktop level, the Wiremold perime-  
 ter raceway in this office handles both standard  
 power and low voltage communications wiring.

For a fact-filled  
 color brochure,  
 write today to The  
 Wiremold Company,  
 Electrical Division,  
 60 Woodlawn Street,  
 West Hartford,  
 CT 06110-0639.

FREE  
 LITERATURE



Removable covers make  
 it easy to quickly access and  
 update power wiring, telephone and  
 data network cables.

**WM** Wiremold®

Circle 83 on inquiry card



# Armstone™ Honed Finish Floor Tiles



Designer: Schafer Associates, Inc.  
Project: Carson Pirie Scott,  
North Riverside, IL



## Beauty That Doesn't Wear Out.

Foot traffic won't dull the beauty of this Armstone™ cast marble Honed Finish floor. A finish as deep as the tile is thick means the original elegant gloss will be constantly renewed. Maintenance is easy.

A palette of 31 colors in Polished and Honed Finishes amplifies color and design choices.

Available in 12," 24¼" and selected 48" squares.

For more information on Armstone™ Honed or Polished Finish tiles and wall panels contact your distributor or ArmStar.



by **ArmStar**

An affiliate of Armstrong World Industries and Shell Oil Company • P.O. Box 820, 307 Industrial Park Blvd. • Lenoir City, TN 37771 • (615) 986-4040

Circle 84 on inquiry card



**"CodeCONTROL  
enforces  
consistency  
as well as  
thoroughness..."**

*John Sorce is Senior Director of Architecture for Reynolds Smith & Hills, a Jacksonville, FL architectural, engineering and planning firm with over 1600 employees. Founded in 1941, Reynolds Smith & Hills has recently become one of the Hunter Companies.*

Reynolds Smith & Hills is a charter subscriber to CodeCONTROL, an information service which provides building regulatory information. CodeCONTROL provides building, mechanical, energy, plumbing, fire prevention, handicapped accessibility and Life Safety<sup>®</sup> code information specific to each subscriber's project and location.

Subscribers can request applicable code information by completing a checklist description of their project through PC software or through a manual checklist.

John Sorce describes CodeCONTROL:

"All architects and engineers think differently. Before we implemented CodeCONTROL, architects and engineers would perform their own code searches, and even



with a checklist, each was a little different. CodeCONTROL enforces consistency as well as thoroughness for each project."

"Quality Assurance is a major part of Reynolds Smith & Hills' operation. We have a Vice President of Quality Management whose charter is to develop, update and implement quality assurance and control procedures. One part of our quality assurance program is on going quality training in procedures such as code searches and quality checking. CodeCONTROL fits in perfectly."

"CodeCONTROL provides a road map for each project. We request a Global Report early on. From the beginning we know what kind of requirements are involved. The Global Report gives us all the applicable code information for the specific project."

**CODEWORKS**  
CORPORATION

Codeworks Corporation, 1225 Nineteenth Street, N.W., Suite 750  
Washington, D.C. 20036 (202) 778-6300 (800) 634-2633





National Museum of Modern Art/Maki and Associates, Architects



When Deborah Dietsch  
talks design,  
architects get design ideas.



Trained in architecture and preservation, editor/writer Deborah Dietsch has contributed to a number of design magazines and was former Special Features Editor of Interiors. She is now part of the largest, most experienced, most professional editorial team in the field.

It's the team that delivers more interiors editorial to architects—more pages, more photographs—than any other architectural magazine.

You read Architectural Record because of editors like Deborah Dietsch. Advertisers use Architectural Record because of readers like you.

Architectural Record, it all begins with an editor.



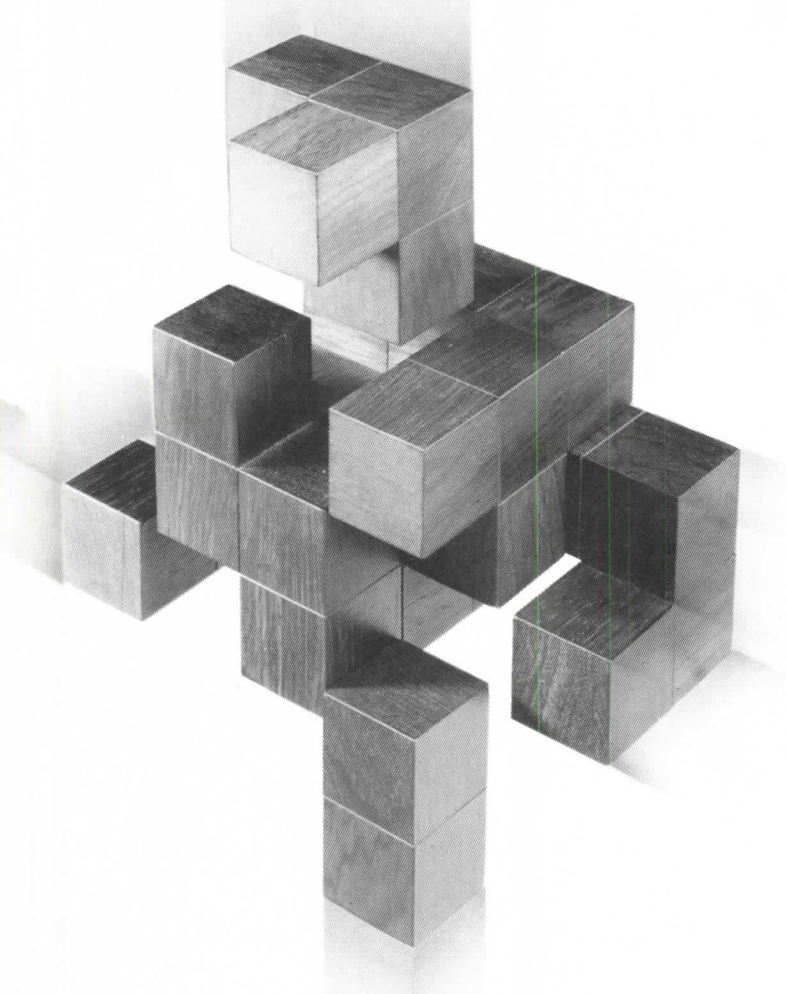
© Paul Warchol





# Solve all your wood problems with Malaysian hardwoods.

Malaysian hardwoods have earned a worldwide reputation for their versatility, quality and durability. Over 100 commercial species offer a tremendous range in physical, mechanical and working properties. Whatever your needs, Malaysian hardwoods have the fitting solution. Here's how:



## Versatility

Used in varied applications – as structural building components to flooring, panelling, superior joinery and furniture. Malaysian hardwoods like the popular Merantis, Keruing, Kempas, Kapur and Merbau have found ready markets in Europe, Australia, Taiwan, Japan, USA and West Asia...and new woods like the Rubberwood, Kembang Semangkok (Samrong), Mengkulang, Sepetir, Nyatoh and Balau are already making successful inroads into world export.

## Attractiveness

Beautiful. Warm. Rich. With a wide range of colour, texture, density.

## Durability

Resilient too. Specially kiln-dried and treated for long life reliability and low maintenance.

## Quality Control

Guided by the Malaysian Grading Rules, stringent checks and tests ensure maximum defect-free wood.

## Reliability

Malaysian exporters are capable of prompt and reliable service backed by skilled and experienced manufacturers.

## The experienced back-up of MTIB

The Malaysian Timber Industry Board (MTIB) provides advisory services on marketing, utilization, quality control and shipping. We furnish overseas clients with essential and specialized information on timber-based industries in Malaysia and we also co-ordinate the activities of more than 1,000 organizations involved in the manufacture and export of timber products in Malaysia.

**Whatever your needs, contact us.  
We can help you select the right wood for your specific requirement.**



**THE MALAYSIAN TIMBER INDUSTRY BOARD**  
(Ministry of Primary Industries)  
5th Floor, Bangunan Sateras, • Jalan Ampang • P.O. Box 10887  
50728 Kuala Lumpur • Malaysia • Tel: 03-2486233 (12 lines)  
Telex: Maltim MA 30993 • Cable: MASKAYU, KL



## Last-O-Coat®

The coating that keeps masonry buildings dry now carries a 10-year standard warranty based on over 30 years of on-the-job performance.

For more details, CALL TOLL FREE

**1 800 321-3444.**

In Canada, Call 216-650-4070 collect.

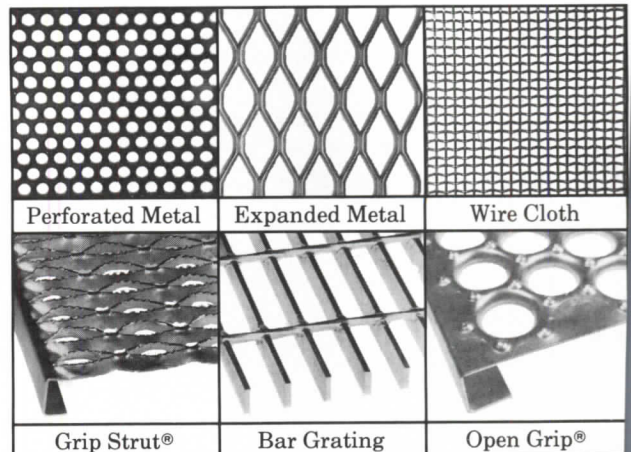


**THE FLOOD COMPANY**  
Hudson, Ohio 44236

©1988 The Flood Company

764-014

Circle 89 on inquiry card



## SHOPPING FOR METAL WITH "HOLES"?

Then Call the 'Hole Store'®!

NATIONAL SERVICE CENTERS  
Complete Stocks - Fast Shipment



National Toll Free: **800-237-3820**

**McNICHOLS CO.**

P.O. Box 30300 / Tampa, FL. 33630-3300  
FAX: 813-879-4979 Telex: 52706



Cleveland • Chicago • Dallas • Atlanta • Newark • Boston • Tampa

Circle 90 on inquiry card

Circle 88 on inquiry card



Use in your car,  
or go portable and  
carry it with you.

# Transportable Cellular Phone

## Radio Shack's CT-201 puts the whole world in your hand!

**A Full-Featured Mobile Phone for Only \$999.** Now you can make and take calls from your car, truck or van. You can stay in touch while going to and from work, on a service call or making a delivery. You'll be able to confirm meetings and appointments in advance to avoid wasted trips, as well as receive important messages from home, office and customers.

**The CT-201 Can Go Where You Go!** Just snap on the Portable Adapter Pack and you can easily use the CT-201 away from your vehicle. Carry it with you to make calls at a job site, in a rental car, aboard a pleasure boat—wherever there's cellular service. The 3-watt output is five times the power of many other portables for maximum range and clear sound. The CT-201 also features the 832-channel capacity now being used in some cellular cities.



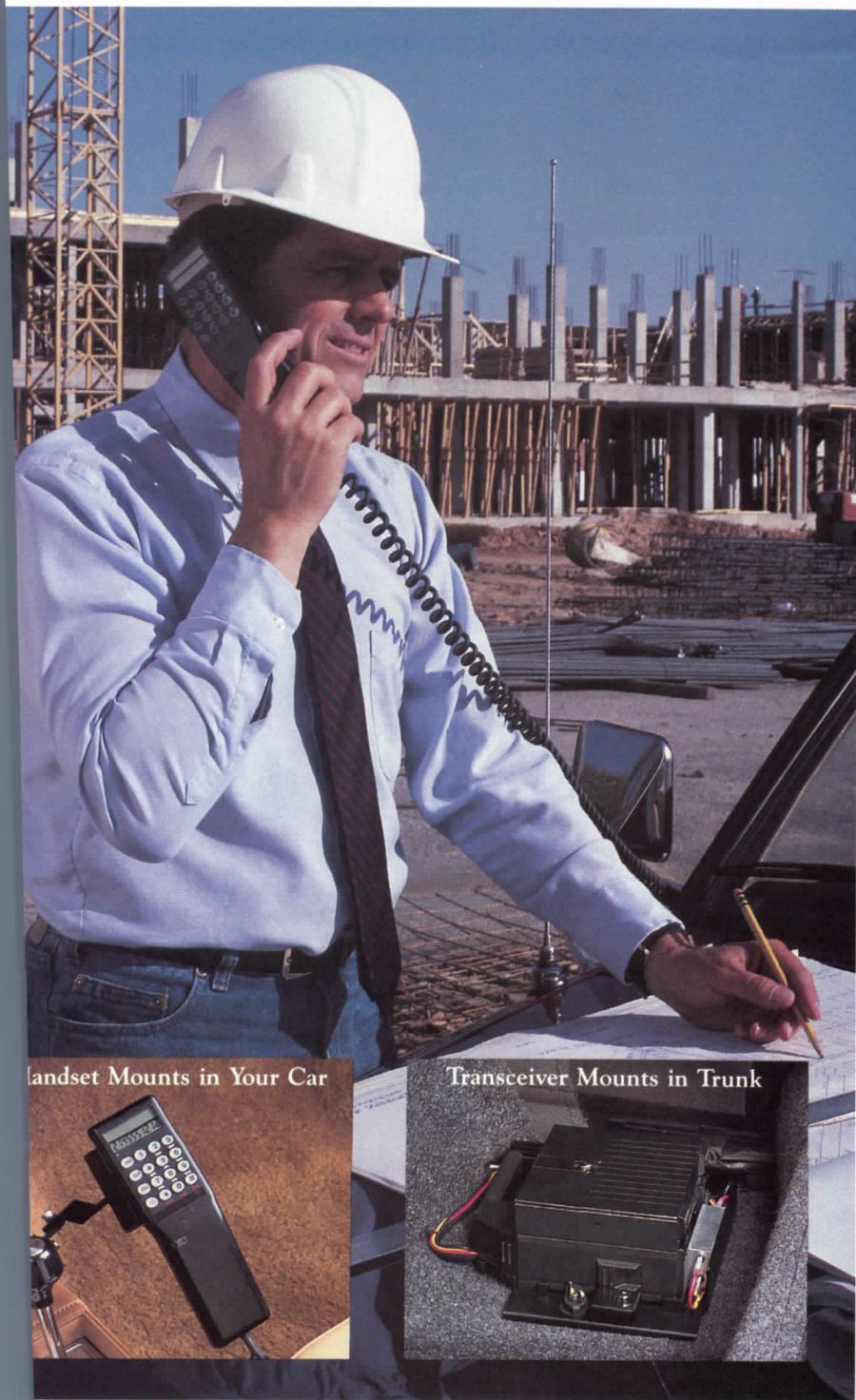
**Turn the CT-201 into a Portable for Only \$159.80.** You'll get the Portable Adapter Pack (17-203), which includes a portable antenna, DC power adapter/charger with auto lighter plug and shoulder strap; two rechargeable batteries (23-181); and an AC Charger (17-202).

**You Can Be Sure of Quality Service and Support.** Radio Shack handles the start-up paperwork, obtains your personal cellular telephone number and programs your phone right in the store. The CT-201 is backed by a One-Year Limited Warranty, which covers both parts and labor. Service is available at 7,000 participating Radio Shack stores and dealers nationwide.

**Come In Today for a No-Cost, No-Obligation Demonstration.** Whether for business, family or personal use, the CT-201 (17-1005) is an excellent investment at only \$999\*, or \$50 per month\*\*.

**Radio Shack®**  
**The Technology Store™**

A DIVISION OF TANDY CORPORATION



Handset Mounts in Your Car



Transceiver Mounts in Trunk



\*Antenna and portable adapter extra. \*\*Radio Shack revolving credit. Payment required depending upon account balance. Prices apply at participating Radio Shack stores and dealers.

Circle 91 on inquiry card



# COLORFUSION.™

## Ceramic-On-Steel Melds High-Tech With High Style.

Only AllianceWall makes COLORFUSION™ a unique breed of ceramic-on-steel panels as beautiful as they are functional. By a new, proprietary process, we can fuse a limitless range of colors, patterns or graphics into the wall surface.

AllianceWall's COLORFUSION panels are virtually indestructible. They won't chip, crack, mar or fade, and they are scratch-, heat- and chemical-resistant.

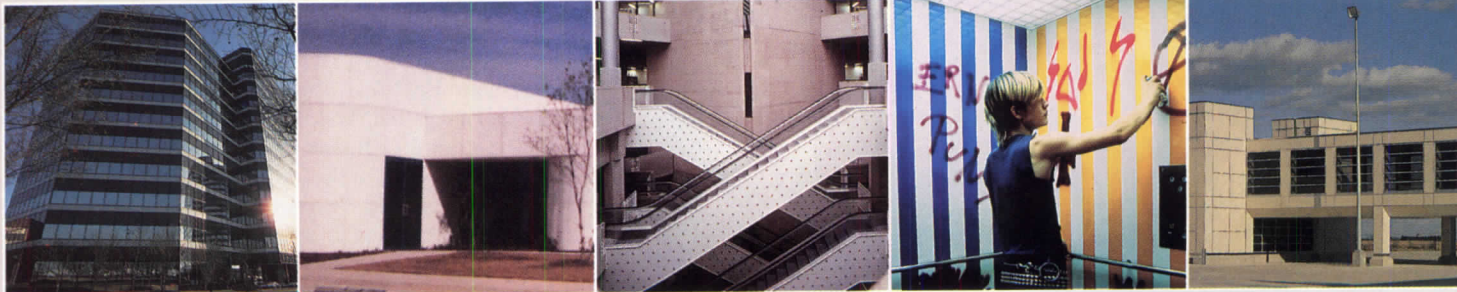
They're easier and less expensive to install than conventional wall surface materials. And they're maintenance-free.

Nice to know that ceramic-on-steel now gives you endless design possibilities. And that it will keep your design intact...a long way into the future. Write or call for more information on American-made COLORFUSION panels.

Ask about our other new metallic, matte and graphic surfaces.

AllianceWall Corporation • Box 920488 • Norcross, Georgia 30092 • (404) 447-5043 • TWX 810-766-0436 • FAX 404-446-5951

 ALLIANCEWALL®



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

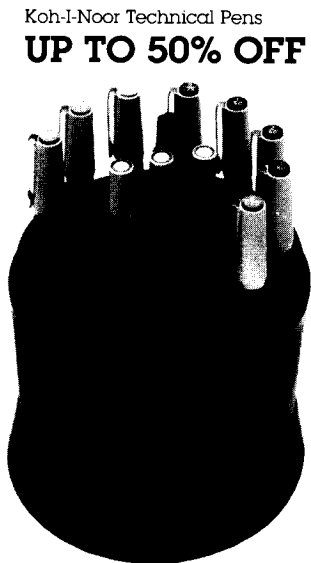


# Big Savings. No Waiting.

Dataprint gives you 20-50% off brand name drafting, print and plotter supplies — with same day shipment.



Drafting Equipment  
**UP TO 45% OFF**



Koh-I-Noor Technical Pens  
**UP TO 50% OFF**



Lettering Machines  
**UP TO 40% OFF**



Flat Files  
**25% OFF**



Plotter Supplies  
**UP TO 35% OFF**



Leads & Leadholders  
**20-45% OFF**

same day credit approval  
huge in-stock selection  
satisfaction guaranteed

SEE CATALOG  
**1-800-227-6191**

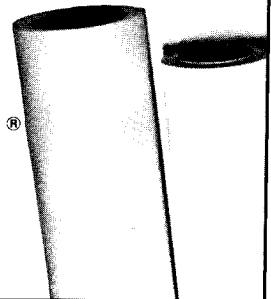
VISA  
MASTER-CARD

**DATAPRINT®**

Drafting, Print and Plotter Supplies  
Main Office: 700 S. Claremont St.  
San Mateo, CA 94402  
Sales Centers located throughout the U.S.

Circle 93 on inquiry card

Drafting Media  
**20-40% OFF**



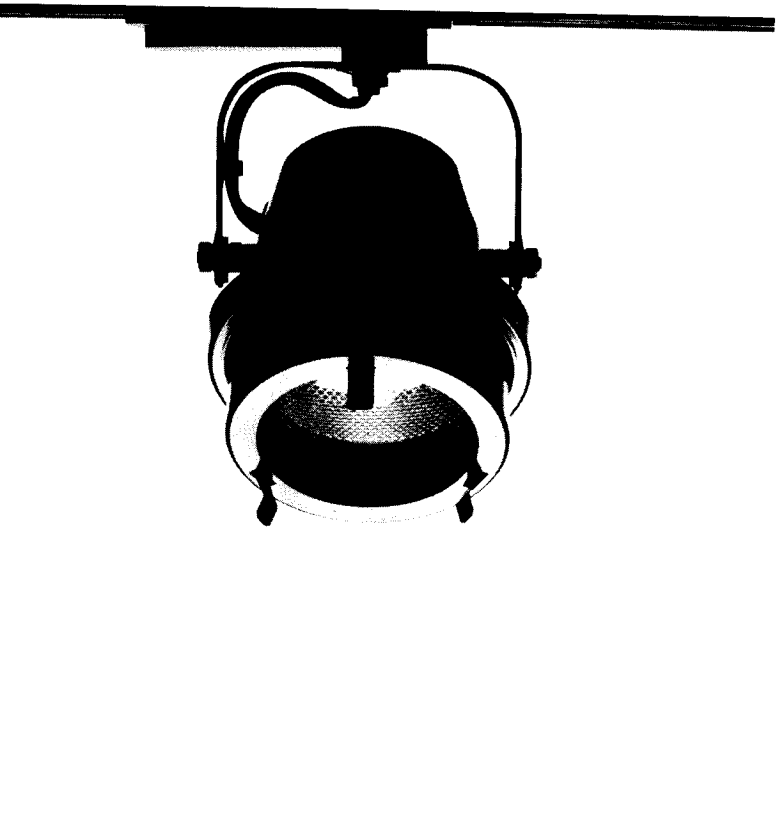
## Grate Designs for Great Designers

Every designer and planner knows a quality tree grate must be more than a thing of beauty. It must also be defect-free to handle weather and wear. Versatile to accommodate an endless variety of proposed design configurations. And changes! Expandable when required, to allow trees to grow after installation. Our quality tree grates are all these things...and more! Write for the full story and FREE tree grate catalog.

**NEENAH** FOUNDRY COMPANY

Box 729, Neenah, WI 54957  
If you can't wait, call! 414/725-7000  
Quality castings produced entirely in the U.S.A.

Circle 94 on inquiry card



### THE SORCERER'S APPRENTICE

Only two-thirds the size of our popular Merlin design, it possesses the same magical properties. Screw in a 50 watt PAR 30 lamp, and... presto! Out comes 75 watts of high intensity light. For an information kit, write on your letterhead to: Lighting Services Inc., Industrial Park Rt. 9W, Stony Point, NY 10980-1996 (914) 942-2800

Circle 95 on inquiry card





# Advertising index

## A

AllianceWall Corp., **186**; *92* [G]  
(404) 447-5043  
Aluma Shield Industries, **62**; *44* [G]  
(904) 255-5391  
American Gas Association, **49**; *37*  
American Glass Light Co., Inc.,  
**32Ec**; *26*  
(212) 213-1200  
American Standard, **20-21**; *14*  
(800) 821-7700  
Andersen Corp., **50-51**; *38* [G-L]  
(800) 635-7500  
Architect's Book Club, **168 to 171**  
(800) 2-MCGRAW  
Architectural Precast Assn., **165**; *76*  
(317) 251-1214  
Armstar, **180**; *84* [G-D]  
(615) 986-4040  
Armstrong World Industries, Inc.,  
**Cov. II-1**; *1, 2-3*; *2* [G-E-D]  
(800) 233-3823

## B

BASF Corp.- Fibers Div., **60-61**; *43*  
[G-E-L-D]  
(704) 667-7713  
Best Western International, **167**  
(800) 528-1234  
Besteel Industries, **32Sa**; *28*  
(800) BESTEEL  
Big Show, The, **32Ed**  
(305) 477-0303  
Bilco Co., **64**; *46* [G-E-L]  
(203) 934-6363  
Bradley Corp., **34**; *30* [G-E-I]  
(414) 251-6000

## C

CNA Insurance, **38**; *32*  
(312) 565-2424  
Codeworks Corporation, **181**; *85*  
(202) 778-6300  
Commonwealth Aluminum, **56**; *41*  
(800) 556-1234  
Computer Associates, Inc., **142**; *59*  
(800) 533-2070  
Construction Fasteners, Inc., **189**; *96*  
(215) 376-5751

## D

Dataprint Corp., **187**; *93*  
(800) 227-6191  
Delta HDF, **153**; *66*  
Dodge, F.W., Div., McGraw-Hill  
Information Systems Co., **178**; *82*  
(800) 541-9913  
Dor-O-Matic, Div. of Republic  
Industries, Inc., **156**; *68* [G]  
(800) 543-4635  
Dover Elevator Systems, Inc.,  
**42-43**; [G-I]  
(601) 393-2110

Dow Corning Corp., **48**; *35* [G-E-I-D]  
(800) 346-9882  
DuPont Co.- Hypalon, **16**; *11* [G]  
(800) 441-7111  
DuPont Co.- Textile Fibers, **30-31**;  
*20* [G-D]  
(800) 448-9835  
Duro-Last Roofing, Inc., **52**; *39* [G-E]  
(800) 248-0280

## E

ECI Building Components, Inc., **177**;  
*81* [G]  
(713) 499-5611  
Elkay Mfg., Inc., **5**; *3* [G-E-I]  
(312) 986-8484  
Expoconsul International, Inc., **32Eb**,  
2 page advertising supplement  
included with Eastern copies only  
(800) 873-EXPO

## F

Flood Co., **184**; *89* [G-L]  
(800) 321-3444  
Follansbee Steel Corp., **24-25**; *16* [G]  
(800) 624-6906  
Formica Corp., **80**; *55*  
(800) 524-0159

## G

General Electric - C&I Lamps,  
**18-19**; *13* [G-E-I-D]  
(800) 523-5520  
General Electric - Plastics, **152A to**  
**152D**; *65*  
Georgia-Pacific, **72**; *50, 51* [G-I-L-D]  
(800) 225-6119  
Glen Raven Mills, Inc., **10-11**; *7* [G]  
(919) 227-6211

## H

Haworth, Inc., **70**; *49*  
(800) 344-2600  
Haws Drinking Faucet Co., **65**; *47*  
[G-E-I]  
(415) 525-5801  
Helios Industries, Inc., **58**; *42* [G]  
(415) 887-4800  
Homasote Co., **26**; *17* [G]  
(609) 883-3300  
HWH Corp., **32Ee**; *27*  
(215) 661-2000

## I

Innovative Marble and Tile, Inc.,  
**157**; *69* [G-D]  
(516) 752-0318  
International Granite & Marble Co.,  
Inc., **32Ea**; *24* [G]  
(201) 869-5200  
Interpane Coatings, **172**; *79* [G-E]  
(608) 764-5461

For detailed data, prefiled catalogs of the manufacturers listed below are available in your 1988 Sweet's Catalog File as follows:

## J

Japan Digital Laboratory Co., Ltd.  
(JDL), **150**; *63*  
(805) 495-3451

## K

Kalwall Corp., **163**; *74* [G]  
(603) 627-3861  
Kawneer Co., Inc., **173**; *80* [G]  
Kohler Co., **6**; *4* [E]  
Kroin, Inc., **137**; *6* [G]  
(617) 492-4000  
Krueger, **8-9**; *5* [G]

## L

Landscape Forms, **32**; *21* [G]  
(616) 381-0396  
Lighting Services, Inc., **187**; *95*,  
**189**; *97*

## M

Machin Designs (U.S.A.), Inc., **160**;  
*71* [G-L]  
(203) 834-9566  
Malaysian Timber Industry Board,  
**184**; *88*  
Marble Institute of America, **63**; *45*  
(313) 476-5558  
Marvin Windows, **28-29**; *19* [G]  
(800) 328-0268  
MBCI, **162**; *73*  
McNichols Co., **184**; *90* [E-I]  
(800) 237-3820  
Mitsubishi Chemical Industries  
America, Inc., **Cov. III**; *99* [G-D]  
(800) 422-7270  
Monsanto Chemical Co.- Saflex Sound  
Control, **160-161**; *72* [G-E]  
(800) 325-4330

## N

Neenah Foundry Co., **187**; *94* [G-E]  
(414) 725-7000  
Norco Windows, Inc., **78-79**; *54* [G]  
(715) 585-6311

## P

Pella Rolscreen Co., **14-15**; *10*  
[G-L-D]  
(512) 628-1000  
Petersen Aluminum Corp., **151**; *64* [G]  
Pflow Industries, Inc., **190**; *98*  
(414) 462-8810  
Philips CPMS, **48B-48C**; *36*

**(G) General Building & Renovation**  
**(E) Engineering & Retrofit**  
**(I) Industrial Construction & Renovation**  
**(L) Homebuilding & Remodeling**  
**(D) Contract Interiors**

Pittsburgh Corning Corp., **32**; *22*  
[G-E-I]  
(800) 992-5769  
Plan Hold Corp., **158-159**; *70*  
(800) 854-6868

## R

Radio Shack, **185**; *91*  
Raynor Garage Doors, **136**; *56* [G]  
(800) 545-0455  
Red Cedar Shingle & Handsplit  
Shake  
Bureau, **32**; *23*  
Robertson Bldg. Products Group,  
H.H.  
Robertson Co., **74**; *52* [G-E-I]  
(412) 928-7500  
Rohm & Haas, **76-77**; *53* [G]  
Russwin Div., Emhart Hardware  
Group,  
**166**; *77* [G]  
(203) 225-7411

## S

Sargent & Co., **17**; *12* [G]  
(203) 562-2151  
Sloan Valve Co.- Plumbing Div., **27**;  
*18* [G-E-I]  
Soleil Shutters, Inc., **33**; *29*  
(212) 430-7823  
Stanley Magic-Door, Div. of The  
Stanley Works, **164**; *75* [G]  
(800) 232-3663  
Steel Joist Institute, **139**; *58*  
Stevens Elastomers Div. of J.P.  
Stevens & Co., **146**; *61* [G-I]  
(800) 848-4400  
Sto-Industries, Inc., **12-13**; *8, 9* [G]  
(800) 851-5533  
Stow & Davis, **22-23**; *15*  
Summitville Tiles, Inc., **138**; *57* [G]

## U

United Technologies, **68-69**; *48* [G]  
USG Industries, Inc.- Interior  
Durock, **36**; *31* [G-L]  
USG Industries, Inc.- Exterior  
Durock, **40**; *33* [G-L]  
USG Interiors, Inc., **155**; *67*, **Cov.**  
**IV**; *100* [G-E-L-D]

## V

VersaCAD Corporation, **148**; *62*  
(714) 960-7720  
Versatec, a Xerox Company, **144**; *66*  
(800) 538-6477

## W

Weather Shield Mfg., Inc., **44-45**; *3*  
(715) 748-2100  
Wilsonart, **54**; *40*  
(800) 433-3222  
Wiremold Co., Inc., **179**; *83*  
(203) 233-6251



## Sales offices

### Main Office

McGraw-Hill, Inc.  
1221 Avenue of the Americas  
New York, New York 10020

Director of Business and  
Production  
*Joseph R. Wunk (212) 512-2793*

Publisher  
*Ted Meredith (212) 512-4685*

Director of Marketing  
*Camille Padula (212) 512-2858*

Associate Publisher  
*Roscoe C. Smith III (212) 512-2841*

Classified Advertising  
*(212) 512-2556*

### District Offices

**Atlanta**  
1170 Ashford-Dunwoody Road  
Atlanta, Georgia 30319  
*Gregory Bowerman (404) 252-0626*

**Los Angeles**  
Media Sales Associates  
23232 Peralta Drive  
Laguna Hills, Calif. 92653  
*William W. Hague (714) 859-4448*  
*Richard Ayer*

**Boston**  
77 Boylston St.  
Boston, Massachusetts 02116  
*Louis F. Kutscher (203) 968-7113*

**New York**  
1221 Avenue of the Americas  
New York, New York 10020  
*Laura Viscusi (212) 512-3603*

**Chicago**  
45 N. Michigan Ave.  
Chicago, Illinois 60611  
*Anthony Arnone, (312) 751-3765*  
*Thomas P. Kavooras, Jr.,*  
*(312) 751-3705*

**Philadelphia**  
1234 Market St.  
Philadelphia, Pennsylvania 19107  
*Frank Rose (215) 496-4966 PA*  
*(203) 968-7112 CT*

**Cleveland**  
Public Square  
Cleveland, Ohio 44113  
*George Gortz (216) 781-7000*

**Pittsburgh**  
6 Gateway Center, Suite 215  
Pittsburgh, Pennsylvania 15222  
*George Gortz (412) 227-3640*

**Denver**  
100 S. Alton Ct. Suite 111  
Englewood, Colorado 80112  
*John J. Hernan (303) 740-4630*

**San Francisco**  
Media Sales Associates  
*William W. Hague (415) 345-0522*  
*Richard Ayer*

**Houston**  
100 W. Tidwell, Suite 500  
Houston, Texas 77040  
*Claywood Seegar (713) 462-0757*

**Stamford**  
777 Long Ridge Road  
Stamford, Connecticut 06902  
*Louis F. Kutscher, (203) 968-7113*  
*Frank Rose, (203) 968-7112*

Executive President Market  
Development  
Federal Government  
John R. D'Armiento  
1000 K Street NW  
Washington, D.C. 20006  
(202) 463-1725

Cost Information Systems  
McGraw-Hill Information  
Systems Co.  
Percival E. Pereira  
P.O. Box 28  
Princeton, N.J. 08540  
Toll Free 800/527-5295  
N.J. (609) 426-7300

### Overseas Offices

**Munich/Main**  
Postfach 19  
Munich/Main, Germany

**Tokyo**  
2-5, 3-chrome  
Kasumigaseki, Chiyoda-ku  
Tokyo, Japan

**London**  
100 Vest St.  
London S14ES, England

**Rome**  
Via Sacchetti No. 1  
Rome, Italy

**South America**  
Empresa Internacional de  
Comunicacoes Ltda.  
Rua da Consolacao, 222  
Conjunto 103  
01302 Sao Paulo, S.P. Brasil

**Paris**  
100 Boulevard St-Honoré  
Paris, France

**DEKFAST**

# OMEGA™

The industry's first  
bi-metallic stainless  
fastener designed to  
be the last one your  
roofing system will  
ever need.  
**25-YEAR WARRANTY**

**CONSTRUCTION  
FASTENERS, INC.**  
DEKFAST PRODUCT GROUP  
Spring Street and Van Reed Road  
P.O. Box 6326, Wyomissing, PA 19610  
215/376-5751 Fax: 376-8551

FOR ROOFING APPLICATIONS  
**The rust is history.**

Circle 96 on inquiry card

**THE MUSEUM LIGHT**  
A favorite of museum lighting directors across the country,  
this compact low-voltage spotlight has a built-in dimmer to let you cast  
just the right amount of light on the subject.  
For an information kit, write on your letterhead to:  
Lighting Services Inc, Industrial Park Rt. 9W,  
Stony Point, NY 10980-1996 (914) 942-2800

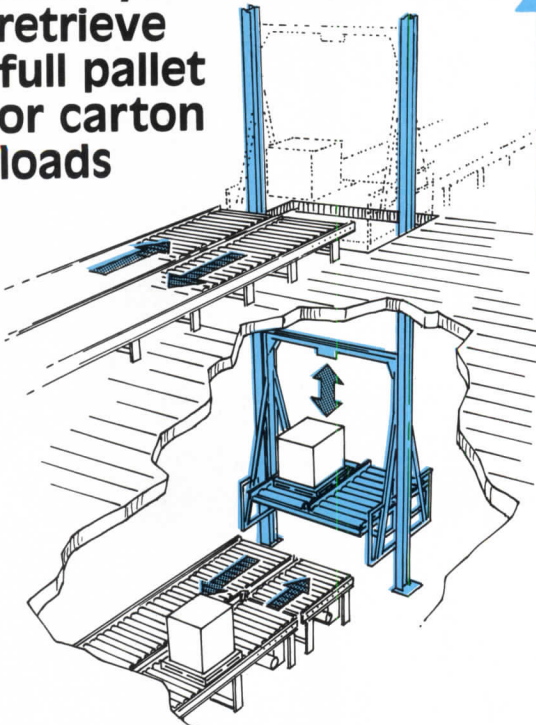
Circle 97 on inquiry card

**LSI**  
LIGHTING IS  
EVERYTHING



# Pflow Vertical Material Handling Systems FULLY AUTOMATIC

...let you store, deliver,  
retrieve  
full pallet  
or carton  
loads



- Complete turnkey installation
- Vertical travel to 100 feet
- Serve any number of levels
- Multiple loading/unloading stations
- Gravity or live roller feed or discharge
- Programmable controllers or relay logic controls

We have a system to fit your needs. Get the complete story. Ask for Pflow's Conveyor Systems Planning Package.

Contact:

22-67R

## Pflow

PFLOW INDUSTRIES, INC.

5045 North 35th Street • Milwaukee, WI 53209  
Telephone (414) 462-8810

Circle 98 on inquiry card

# Use your STAC number!

XXXXXXXXXX5-DIGIT 69699  
6400 009876543-2 FEB90 S07  
TERRY DOE, TD & ASSOCIATES  
128 MAIN STREET  
ANYTOWN IL 69699

**N**eed product information fast? Your Architectural Record Subscription Telephone Access Card number can help speed information to you about any product or service (advertised or new products/manufacturers literature items) described in this issue.

Architectural Record's exclusive STAC number system enables you to and key your "more information" requests directly into our computer touch-tone telephone. Your personal STAC number is conveniently above your name on the mailing address label for each issue. **IMPORTANT:** Your STAC number starts *after* the first four numbers and is separated from them by a space. If your STAC number starts with one or more zeros, ignore them, as well as the hyphen. (For example, the STAC number on the address label is 98765432.)

Soon after your call, advertisers can access your requests by phone from a computer, and start speeding information to you. So when you need information fast, free help is as close as your STAC number. And STAC service is available to you 24 hours a day, seven days a week.

### BEFORE YOU DIAL:

1. Write your STAC number in the boxes in Step 4 below. Do not add leading zeros.
2. Write the Reader Service numbers for those items about which you want more information in the boxes in Step 6. Do not add leading zeros.

### CALL STAC:

3. Using a standard touch-tone telephone, call 413/442-2668, and follow the computer-generated instructions.

### ENTER YOUR STAC NUMBER AND ISSUE NUMBER:

4. When the recording says, "Enter your subscriber number..." enter your STAC number by pushing the numbers and symbols (# or \*) on your telephone keypad. Ignore blank boxes. Enter:

#  #

5. When the recording says, "Enter magazine code and issue code..." enter these numbers and symbols:

2  5  #  1  0  8  #  #

### ENTER YOUR INQUIRIES:

6. When the recording says, "Enter (next) inquiry number..." enter the first Inquiry Selection

Number, including symbols, from your list below. Leave blank boxes. Wait for the prompt before entering each digit number (maximum numbers).

1.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
2.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
3.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
4.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
5.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
6.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
7.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
8.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
9.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
10.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
11.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
12.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
13.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
14.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
15.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
16.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#
17.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#

### END STAC SESSION:

7. When you have entered Inquiry Selection Number, the recording prompt "next inquiry number," call by entering:

\*  \*  9  1  #  #

If you are a subscriber and need assistance, call 212/512-3442. If you are not a subscriber, fill out the subscription card in this issue, or call Architectural Record Subscription Services at 914/628-0821.





# ALPOLIC

**The Lightweight, Rigid, Bendable  
Composite Material.**

ALPOLIC combines beauty with superior flatness and easy workability. Used for exterior sheathing, display panels, sign boards, and other applications, it resists weather and corrosion. Used for interior applications such as displays, it will enhance the beauty of your designs.

ALPOLIC is available in silver, light bronze, dark bronze, gold and black anodized and painted in a range of colors.

## A-LOOK EX T-LOOK EX

**The Lightweight, Flexible, Unbreakable  
Mirror For Exterior Use And Where  
Humidity Is High.**

Indoors and Outdoors, A-LOOK EX supplies the reflective beauty of a mirror. You can bend it, cut it and hang it. It's ideal for store fronts, eaves, entrance signs and signs as well as for any variety of indoor applications including spas, bathrooms and other areas subject to humidity. The fluoride resin surface of A-LOOK EX provides outstanding weatherability and resistance to humidity.

**MITSUBISHI KASEI AMERICA INC. (MKA)**

Corporate Court, South Plainfield, NJ 07080  
Phone: 201-757-6900/800-422-7270/FAX: 201-757-6690

Circle 99 on inquiry card





# Minimum texture. Maximum acoustics.

Ceiling solution:  
**ACOUSTONE® Frost  
Panels and DONN®  
FINELINE™ Grids.**

At last, the elegant answer to sound control. Lightly textured FROST panels with FINELINE Grid have an STC range of 45 to 55. That's an appearance/performance package you couldn't get before.

Have a ceiling that gives you less. And more. Contact: USG Interiors, Inc., 101 South Wacker Drive, Chicago, IL 60606-4385 Dept. AR1088

Interiors from every angle.

**USG Interiors, Inc.**



© 1988 USG Interiors, Inc.  
Trademarks owned by USG Interiors, Inc.: ACOUSTONE, DONN.

Circle 100 on inquiry card