



A HOUSE NEAR NEW YORK CITY BY RICHARD MEIER AND ASSOCIATES  
FOUR PROJECTS BY HARDY HOLZMAN PFEIFFER ASSOCIATES  
THE WORK OF THE 1972 GOLD MEDALIST PIETRO BELLUSCHI  
BUILDING TYPES STUDY: CHILD CARE CENTERS  
FULL CONTENTS ON PAGES 4 AND 5

# ARCHITECTURAL RECORD

AN ANNUAL PUBLICATION THREE DOLLARS PER COPY

# If granite is so hard to install, why didn't someone tell First Federal Savings and Loan, Detroit?

Sure. They'd heard the myth about granite posing costly installation problems. But they also knew you can't plan buildings on myths, so they went over the facts about Cold Spring granite with their architect. And they liked what they found: the natural beauty of Cold Spring's polished granite resists weather, stains and all types of traffic as no other building material can; it won't fade or deteriorate; it requires virtually no maintenance; it comes in a wide spectrum of colors; and . . . *it's economical to install, thanks to Cold Spring's development of new fabrication techniques that include improvements*

*like steel-backed granite panels.*

In fact, they liked the idea well enough to use granite inside as well. In heavy traffic, high wear areas like check writing tables, teller's counters, and the wall facing that encloses the elevators.

How expensive is granite? Talk to our Customer Service Department about that. Tell them what you want to do and they'll tell you how it can be done. Step by step. And likely as not you'll find that granite fits your plans well on a cost-in-place basis. Refer to Sweet's Catalog No. 4.1/Co. Or call us. (612) 685-3621.



Granite  
can color  
your thinking.

*subsidiaries:*

*Lake Placid Granite Company  
Jay, New York*

*Texas Granite Corporation  
Marble Falls, Texas*

*Raymond Granite Company  
Raymond, California*

*Cold Spring Granite (Canada) Ltd.  
Lac Du Bonnet, Manitoba*

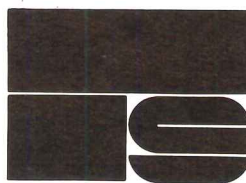
*over 20 producing quarries*

First Federal Savings & Loan,  
Main Office, Detroit, Michigan

Architect:  
Smith, Hinchman and Grylls

Contractor:  
Fuller Construction Co.

Granite:  
Dark Pearl



COLD SPRING GRANITE COMPANY / COLD SPRING, MINN.

For more data, circle 2 on inquiry card





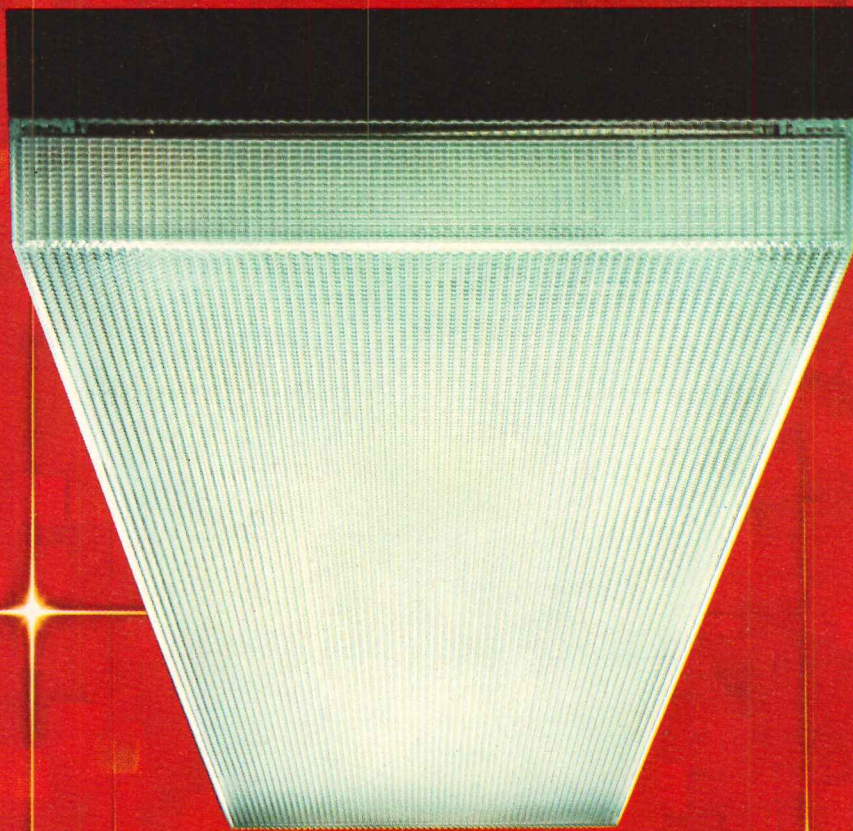
# See things in a remarkably different light with Keene Sechrist's new Celebrity fixtures.

There's new excitement overhead! Sechrist's revolutionary Celebrity concept lets you cast light in an entirely different way—softly, uniformly, unobtrusively—creating a whole new environment of light in prestige locations.

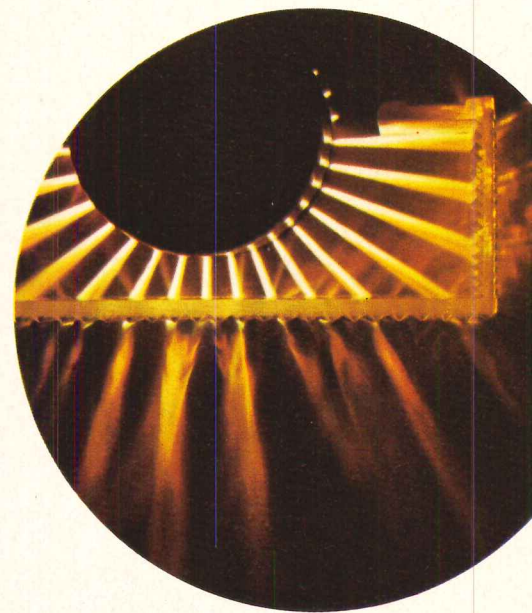
The secret is an optically unique lens that took over two years to perfect.

A one-piece injection-molded acrylic unit, it has rows of conical prisms that reflect and refract light to virtually cancel out lamp image and transmitting light equally from all lens surfaces. The result is a controlled glow over the entire illuminated area—free of distracting bright-and-dark contrasts.

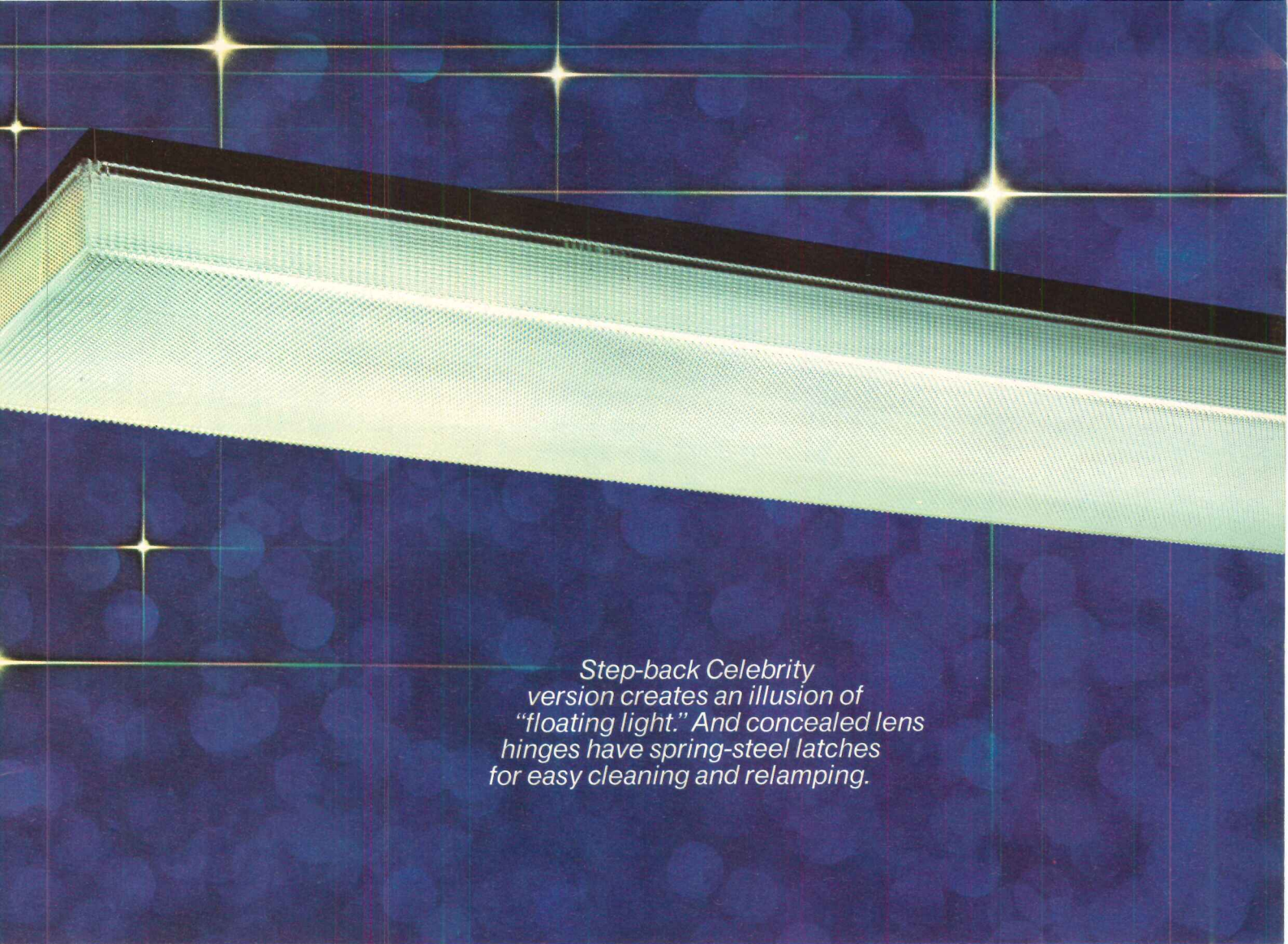
Three distinctively different Sechrist Celebrity fixtures are available to enhance your lighting.



*The straight-sided version, like all Celebrity fixtures, is a trim 3¼ inches deep. It reveals an attractive housing with a fine baked enamel finish, matte black or white.*



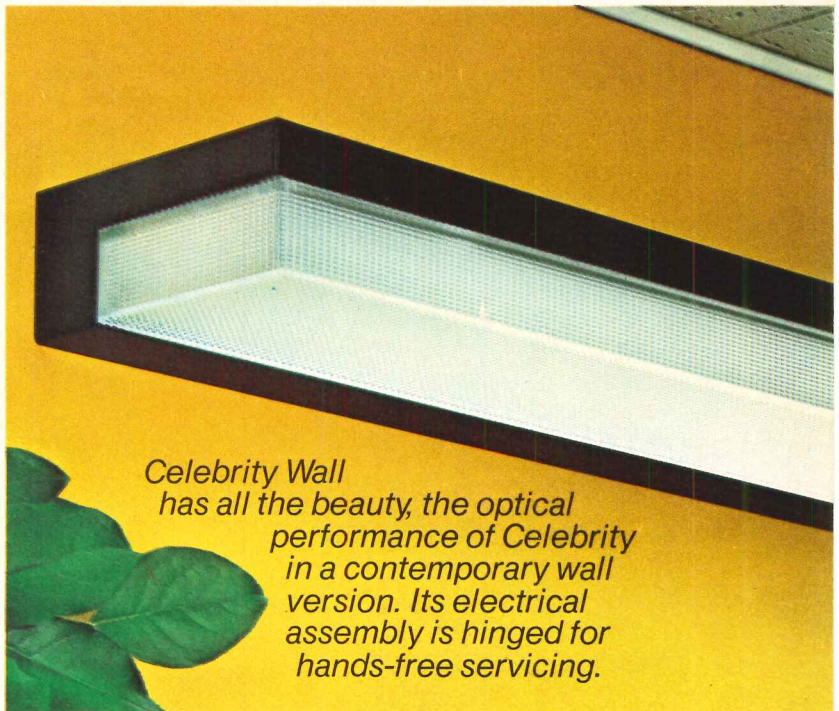
*Rows of identical prisms mirror brightness at critical viewing angles, transmit "controlled" illumination.*



*Step-back Celebrity version creates an illusion of "floating light." And concealed lens hinges have spring-steel latches for easy cleaning and relamping.*

all your fine interiors. In the dramatic step-back model, the housing is recessed behind the edges of the lens, creating an illusion of "floating light"—a luminous rectangle floating in space. The straight-sided Celebrity reveals its fine quality housing, boldly framing the radiant light source. Celebrity Wall is a handsomely cantilevered wall-mounted version designed to illuminate corridors, washrooms, stairwells and reception areas as never before.

But you've got to experience Celebrity to believe it—and realize how it can put your interiors in an entirely new light. Ask your Sechrist agent for a demonstration. And for all the performance details, write Keene Corporation, Sechrist Lighting, 4990 Acoma Street, Denver, Colorado 80216. Phone (303) 534-0141.

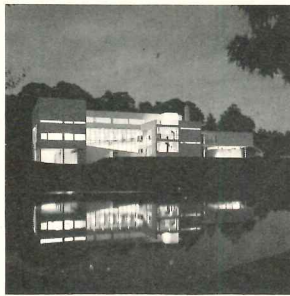


*Celebrity Wall has all the beauty, the optical performance of Celebrity in a contemporary wall version. Its electrical assembly is hinged for hands-free servicing.*

**KEENE**  
CORPORATION

**SECHRIST LIGHTING**

**We've just begun to grow.**



Cover: A house near New York City  
Architects: Richard Meier and Associates  
Photographer: Ezra Stoller © ESTO

EDITOR

WALTER F. WAGNER, JR., AIA

MANAGING EDITOR

HERBERT L. SMITH, JR., AIA

SENIOR EDITORS

ROBERT E. FISCHER  
WILLIAM B. FOXHALL  
MILDRED F. SCHMERTZ, AIA  
ELISABETH KENDALL THOMPSON, FAIA

WASHINGTON EDITOR

ERNEST MICKEL, Hon. AIA

ASSOCIATE EDITORS

BARCLAY F. GORDON  
ROBERT JENSEN, AIA  
JAMES D. MORGAN, AIA

ASSISTANT EDITOR

ANNETTE K. NETBURN

EDITORIAL ASSISTANTS

JANET BLOOM  
DANISE PICONE

DESIGN

ALEX H. STILLANO, Director  
ALBERTO BUCCHIANERI, Associate  
ANNA-MARIA EGGER, Assistant  
SIGMAN-WARD, Illustration  
JAN WHITE, Consultant

EDITORIAL CONSULTANTS

EDWARD LARRABEE BARNES, FAIA  
ROBERT F. HASTINGS, FAIA  
PAUL RUDOLPH, FAIA

INDUSTRY CONSULTANTS

GEORGE A. CHRISTIE, JR., Economics  
PERCIVAL PEREIRA, Building Costs

McGraw-Hill WORLD NEWS

WALTER A. STANBURY, Director  
20 domestic and  
international news bureaus

PUBLISHER

BLAKE HUGHES

SALES MANAGER

LOUIS F. KUTSCHER

CIRCULATION MANAGER

HUGH S. DONLAN

**THE RECORD REPORTS**

**9 Editorial**

Bicentennial Parks: a proposal for a proper birthday present

**35 News in brief**

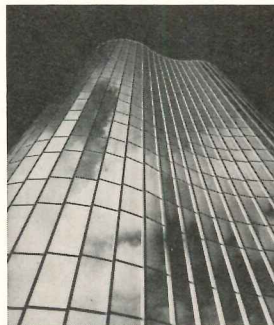
Short items of major national interest as well as award-winners and announcements.

**36 News reports**

A face lift in reverse for New York's Bowling Green Park, an experiment with recycling energy in St. Louis and a new home for the Liberty Bell are subjects in this month's news.

**46 Buildings in the news**

Including: a Barcelona office building (below) by Jose Antonio Coderch de Sememat; Caracas Concert Hall by Carlo Vannini; a Washington, D.C. high school by Brant and Bryant; the Greenport, New York Aquaseum by Knafo, Serra and Associates; Society of American Registered Architects 1971 Awards.



**ARCHITECTURAL BUSINESS**

**65 Marketing architectural services**

Focusing in some detail on key segments of the over-all plan of organization for architectural practice—outlined in general terms last month—Bradford Perkins continues his series with some practical pointers on architectural business development.

**74 Can the housing census measure quality?**

The 1970 housing census omits any notation as to quality other than unqualified implications of the degree of indoor plumbing and the number of rooms per unit. James Carlson makes a plea for better definition as a closer index of the real housing deficit in human terms.

**78 Indexes and indicators**

Building cost increase rate slows



ARCHITECTURAL RECORD (combined with AMERICAN ARCHITECT, ARCHITECTURE and WESTERN ARCHITECT AND ENGINEER) April 1972, Vol. 151, No. 4. Title (R) by McGraw-Hill, Inc. All rights reserved. Copyright not claimed on four color illustrations on pages 98, 99, 100, 101, 102, 110, 112, 113, 114, 115, 116, 117, 130 and 140. Indexed in Reader's Guide to Periodical Literature, Art Index, Applied Science and Technology Index, Engineering Index, and The Architectural Index. Published monthly except May when semi-monthly, by McGraw-Hill, Inc. Quotations on reprints of articles available. Every possible effort will be made to return material submitted for possible publication.

EXECUTIVE, EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: 330 West 42nd Street, New York 10036. Other Editorial Offices: 425 Battery Street, San Francisco, Cal. 94111; 1249 National Press Building, Washington, D.C. 20004. PUBLICATION OFFICE: 1500 Eton Place, N.E., Washington, D.C. 20002; second postage paid at Washington, D.C. OFFICERS OF McGRAW-HILL PUBLICATIONS COMPANY: John R. Emery, president; J. Elton Tuohig, senior president—services; David J. McGrath, group vice president; vice presidents: Ralph Blackburn, circulation; R. Callahan, editorial; John B. Hoglund, content; David G. Jensen, manufacturing; Jerome D. Luntz, advertising & development; Joseph C. Page, marketing

**FEATURES**

**House near New York City  
by Richard Meier and Associates**

Latest in a series of interesting houses by Meier, this large residence—eleven bedrooms—combines straightforward wood detailing with glass to achieve remarkable transparency and sculptural richness.

**College of Education at Houston**

For an imaginative client at an important university, Wilson, Morris, Crain & Anderson have designed a structure that encourages innovation in searching for new teaching ideas and techniques.

**Designing the learning environment:  
four projects by  
Hardy Holzman Pfeiffer Associates**

Three of the projects included in this portfolio—a school, a training center for firemen and a children's museum are obviously instructional facilities, but the fourth project—an industrial medical clinic is not usually considered as such. So profound is this firm's interest in communication and learning, however, that it rubs off on everything they do and thus even the clinic becomes a school for its patients.

**Pietro Belluschi:  
The 1972 Gold Medalist**

A look at the work of this year's AIA Gold Medalist Pietro Belluschi over the 50-year span of his practice.



Art Hupy

**BUILDING TYPES STUDY 433**

**127 Child care centers**

Child care centers serve many social and community purposes, but their most important job is to be places where young children grow and learn. This study discusses some generally-agreed-upon criteria for day-care center design.

**130 Five child care centers  
in New York City by Frank Williams**

Belmont Day Care Center (page 130), Daughters of African Descent Day Care Center (page 131), Marcus Garvey Day Care Center (page 132), Anthony Avenue Day Care Center (page 133), 140th Street Center (page 134).

**135 Park Slope North, Brooklyn, N. Y.  
Beyer Blinder Belle, architects.**

**135 Henry Street Child Care Center, N.Y.C.,  
Welton Becket and Associates,  
architects.**

**136 Charlestown Playhouse, Charlestown, Pa.,  
Oskar Stonorov, architect.**

**137 Dulwichwood Nursery School, London.,  
Stillman and Eastwich-Field, FRIBA,  
architects.**

**138 Early Learning Center, Stamford.,  
Egon Ali-Oglu, architect.**

**139 Modular Child Care Centers, Denver,  
A-B-R Partnership, architects.**

**140 Planning Ideas**

**ARCHITECTURAL ENGINEERING**

**143 A system's disciplines become clear  
as an architect works with it  
for two high-rise dormitories**

A factory precast system replaced a conventional steel-framed building when the system was offered at the same cost, and the architect determined there could be added functional advantages and reduced time from design through construction.



Jim Dallas

**151 Product Reports**

**197 Office Literature**

**198 Personal Business**

**207 Update**

**208 Classified Advertising**

**212 Advertising Index**

**215 Reader Service Inquiry Card**

A. Wilhelmy, finance.  
**EDITORIAL OFFICERS:** Shelton Fisher, president;  
 H. Allen, president—publications and business  
 group; John J. Cooke, senior vice president  
 secretary; Ralph S. Webb, treasurer.  
**SCRIPTIONS:** Subscriptions solicited only from archi-  
 tects and engineers. Position, firm connection, and type  
 firm must be indicated on subscription orders;  
**CHANGE OF ADDRESS** or subscription service letters  
 should be forwarded to Fulfillment Manager, ARCHITEC-  
 TURAL RECORD, P.O. Box 430, Hightstown, N.J. 08520.  
 Give old and new addresses, zip code or postal zone  
 number. If possible, attach issue address label. Annual  
 subscription prices: U.S., U.S. possessions and Canada:

\$7.50 for architects, engineers and other individuals in the  
 fields served, all others \$20.00. Other countries: \$22.00 to  
 architects, engineers; others \$30.00. Single copies \$3.00.  
**UNCONDITIONAL GUARANTEE:** Publisher agrees to re-  
 fund that part of subscription price applying to unfilled  
 part of subscription if service is unsatisfactory.  
**ASSOCIATED SERVICES/McGraw-Hill Information Systems**  
 Co.: Sweet's Catalog Files (Architectural, Light Con-  
 struction, Interior Design, Industrial Construction, Plant  
 Engineering, Canadian Construction), 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).  
 THIS ISSUE is published in national and separate editions.  
 Additional pages of separate edition numbered or al-  
 lowed for as follows: Western Section 32-1 through 32-4.  
**POSTMASTER:** Please send form 3579 to Fulfillment Man-  
 ager, ARCHITECTURAL RECORD, P.O. Box 430, Hights-  
 town, N.J. 08520.



**INNOVATION IN DESIGN.** One of a series created for DAP Architectural Sealants. Design and rendering by Richard P. Howard Associates, Architectural Illustrators, Sylvania, Ohio. Harold R. Roe, A.I.A.

# DAP Acrylic: the sealant that can do things others can't

Today's architecture often imposes unusual demands on sealant capabilities. DAP one-part Acrylic Terpolymer Sealant is particularly recommended when joint surfaces are relatively inaccessible and maximum sealant adhesion is required. DAP Acrylic achieves design adhesion even if surface preparation is not all it should be. It stays flexible, resists the effects of rain, sun and weather. And DAP Acrylic Sealant reseals itself under compression if distorted or torn. For catalog on the full line of DAP architectural sealants, please write: DAP Inc., General Offices: Dayton, Ohio 45401/Subsidiary of *Plough, Inc.*

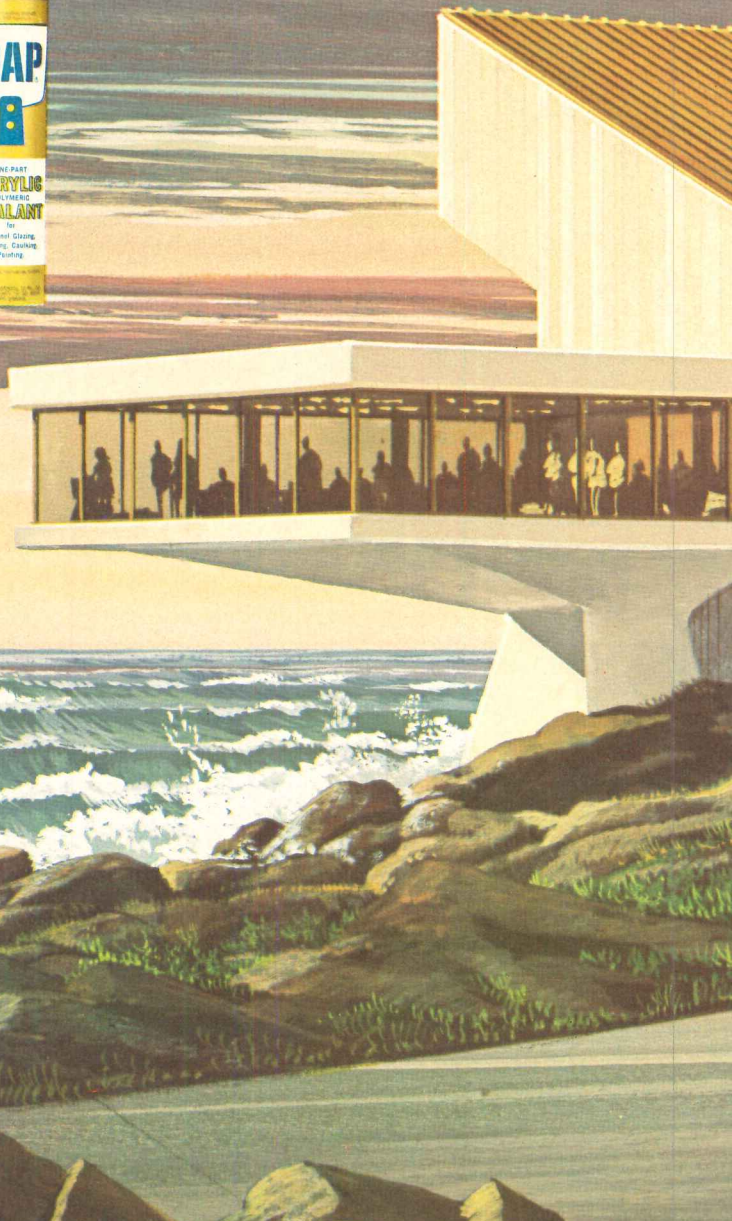
**DESIGN CONCEPT.** This plan for a National Seashores Visitors' Center calls on concrete as the basic building material to reflect the shapes and rugged forms of the rocky coast line setting. Extensive areas of glass permit visitors to enjoy the view while using the center's restaurant, tourist information and lecture facilities.

For more data, circle 4 on inquiry card



**DAP**<sup>®</sup>  
**ARCHITECTURAL  
SEALANTS**

Also available in Canada







The small job.



## Straight laminated beams can save you money on small jobs, too.

Forget for a minute the massive stadium in Oregon, the warehouse in New Jersey, the auditorium in Illinois. And all the *big*, low-cost jobs using Weyerhaeuser® Laminated Beams and Decking.

Think small job.

Think about the beautiful economy of post and beam construction. Big or small.

It costs less because it's faster, simpler and uses fewer components. And it's beautiful

because it's wood.

Availability is a critical factor, too. Solid timbers are scarcer. Steel and prestressed concrete beams are not normally stock items.

But chances are good that you can locate the laminated products you want at local Weyerhaeuser Customer Service Centers. Or at our nearest stocking dealer.

Do you have all our information on laminated beams

and decking?

How about prices? Or availability of sizes?

Write Weyerhaeuser Company, Box B-9093 Tacoma, Wa. 98401.

Or phone the sales representative nearest you:

R. Archibald, Chicago (312) 827-7765

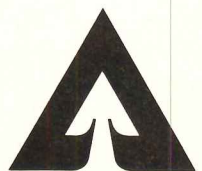
E. R. Fitzgerald, Portland (503) 646-0611

Larry Flynn, St. Paul (612) 645-0811

Q. T. Jansen, Green Bay (414) 435-8848

George Kocsis, Newark (201) 344-7880

F. G. Kroener, Los Angeles (213) 748-5451



**Weyerhaeuser**

*For more data, circle 5 on inquiry card*

# Bicentennial Parks: a proposal for a proper birthday present

American Revolution Bicentennial Commission has proposed—in honor of the occasion of our country's 200th birthday—come 1976—a network of 50 parks across the country. There would, in fact, be one in each state, built on land donated to the states by the Federal government, built (largely or entirely) with Federal funds, but—after the birthday celebration—turned over to the state governments for management and operation. The drawing below is one view of a prototype park pavilion designed for the Bicentennial Commission by Davis, Brody and Associates.

The question, before getting into the details of the proposal; is: Is this a good idea? My answer, not to keep you in suspense, is: It sure is.

To be sure, in these days of tragic problems of welfare, inadequate (to say the least) production of low- and moderate-income housing, woefully underfunded health care programs, et cetera et cetera; one must think a bit before making that it is a good idea to build—a probable cost of over \$1 billion—a network of parks. But, when you do do some thinking about it, you begin to realize that perhaps the proposed expenditure is a very good priority indeed:

The parks would be located on "parcels of surplus Federal lands, or otherwise donated lands . . . which lie inside a 40-mile radius of the densest population centers in each state." Davis, Brody's prototype envisions no auto traffic within the parks, parking nodes at a ring road, and demonstration mass transit (what a chance for the DOT to shine!) connecting the parks to the nearby population center. Thus,

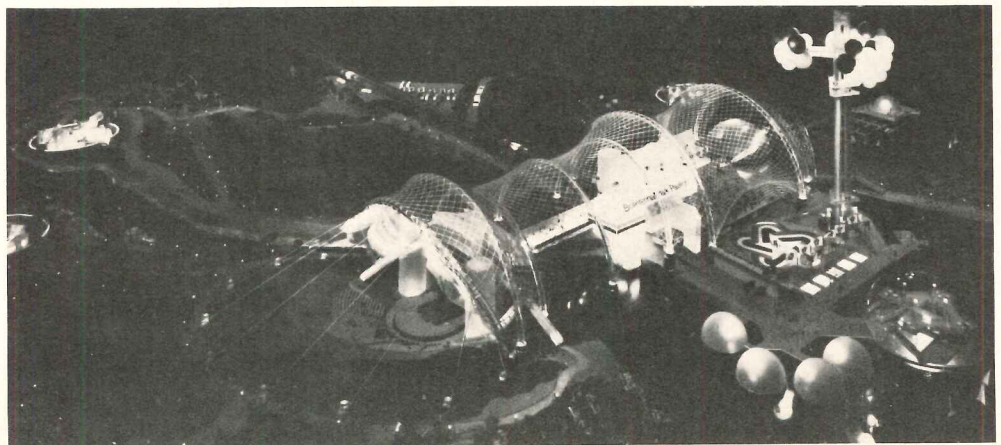
some of the parks would be accessible to a very large number of the people (i.e., the urban poor) who are in most need of such facilities. (The capacity of each park would be, at a minimum, 25,000 persons per day.)

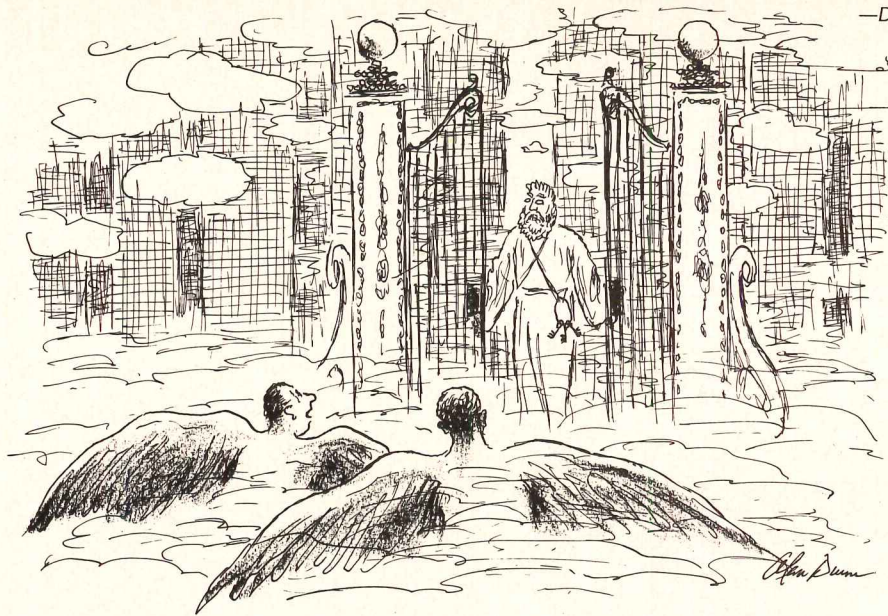
▪ These new parks would serve what is clearly a growing need for recreational space. As presently envisioned, the parks would be a minimum of 100 acres in size, and many would be much larger—mostly open and recreation space. And few cities have accessible parks of anything like this size. San Francisco's Golden Gate Park (1,017 acres) and New York City's Central Park (840 acres) are fully and joyfully used by the citizens of those cities—but there is very little inbetween, and there should be people's parks everywhere.

▪ What's in the whole program for those states where urban crowding is not quite the problem? There's another appeal. The Bicentennial Commission proposes that each park would have as its focal point a permanent pavilion building (perhaps like the cable-supported prototype designed by

Lew Davis), and that each pavilion might include a state historic exhibit, a bazaar where "arts and crafts indigenous to the state could be displayed and sold," a multi-screen theater, and—most importantly—an amphitheater where "live performances by national and international entertainment and cultural groups could take place." Performances of groups from around the world—say the Metropolitan Opera (or Aretha Franklin), the Bolshoi (or Arthur Mitchell's Dance Company), Joe Papp's Shakespeare Theater (or "Hair"), a great New Orleans jazz band (or Crosby, Sills, Nash and Young)—would be eased by an ingenious "utility" scheme devised by Davis, Brody. They propose a series of movable pods or modules that would "plug into" identical utility outlets at each park. Thus, a stage set for a play, for example, could be built in one such pod, and it could be transported, by truck, rail, or water, from park to park. At each park—even for the proverbial one-night stand—the module could be plugged in and ready for performance in minutes.

▪ Finally, in debating the expenditure (as it will undoubtedly be debated by conservative and militant alike) we need to think in the broadest possible terms. RECORD senior editor Mildred Schertz said it well in the book "Open Space for People" which she edited and which has just been pub-





“High rise! Wouldn't you know?”

lished by the AIA: “. . . open space is essential for man's most important needs. We are wearing out what we have, including the great parks which have been preserved as a legacy from the past. We are squandering the rest through inadequate advance acquisition. We must conserve what is left for the future. We must find ways of creating and acquiring new kinds of open space within the imperatives of technology.”

And so, it seems to me, that the proposed networks of Bicentennial Parks is a fine way to at once increase our desperately short supply of recreation and open space; a suitable gift (suitable both environmentally and politically) from the Federal government to the states and their people; and a spirit-lifting way to celebrate the 200th anniversary of the United States. Other celebrations—notably the much-talked-about Philadelphia exposition—seem to be fading away—the most optimistic view available on Philadelphia is that their program “is still bleeding.”

#### Some questions about quality:

##### Who designs the parks?

Mr. Mahoney and the Commission's Design Director Jack Masey both are clearly intent on maintaining high standards of planning and pavilion design. As noted, Davis, Brody's pavilion design is only a prototype (though it sets a very high standard indeed of design and appropriate innovation). According to the Commission: “No two parks would be alike. Each would be a unique architectural conception, reflecting the unique characteristics of its site, region, and program. . . . A National Design Review Board will be established to ensure that standards of design excellence and function are adhered to throughout the parks. Over-all guidelines . . . will be contained in a Design Standards Manual and the States will be obliged to conform to the criteria. . . .”

Under the initial proposal, “architects, planners and designers . . . would be selected through state and regional commissions established by a National Design Review Board whose role it would be to monitor and coordinate the design of all the parks.” That's a bit indefinite and bureaucratic—and since indefinite and bureaucratic things seem to tend to not turn out too well—a bit scary. If we're going to do these parks, let's do them right.

One suggestion: The Bicentennial Commission is about to embark on a major feasibility study. Part of that study will be discussions with architects—and with the national staff of AIA. So . . .

Why not seriously consider the idea of a major programming, planning, and design competition, under the joint auspices of the Bicentennial Commission and the AIA. Within broad parameters already established by the Commission, architects could in a first phase make an over-all programming and design proposal, then in a second stage develop the design more carefully.

There might be a competition in each state; or perhaps there should be a national competition with a great many winners, from which state commissions could choose.

At any rate, a competition format would, one hopes, establish for the parks a high level of design quality. It would seem a unique suitable competition for young and inexperienced architects—for there is little body of experience bearing on such a design problem, and the parks should be—in their developed focal points—fresh and festive. And with a developing surge of interest in the Centennial as 1976 approaches, the network of parks would make a fine, visible, people-oriented body of work with which America's architects could perhaps develop more awareness of architecture. And that's worth doing!

—Walter F. Wagner, Jr.

#### The West Front again. Again? Again.

What do you do now that the Architect of the Capitol is an architect, and a good one, and he comes out for extension of the West Front? (It was easy when the Architect of the Capitol wasn't an architect.)

Well, you do the same thing. You know it's still a bad idea, and a costly one, but that maybe some of the tourists would rather enjoy the sense of history that surrounds the only remaining portion of the original walls than have a little more walking-around space inside. And if the cost is still that our legislators need more open space, the answer is still build it somewhere else. Hooray for the AIA for having stepped in—it has volunteered, again, to play a leadership role in marshalling the support of all those concerned in this fight against demolition of the West Front.

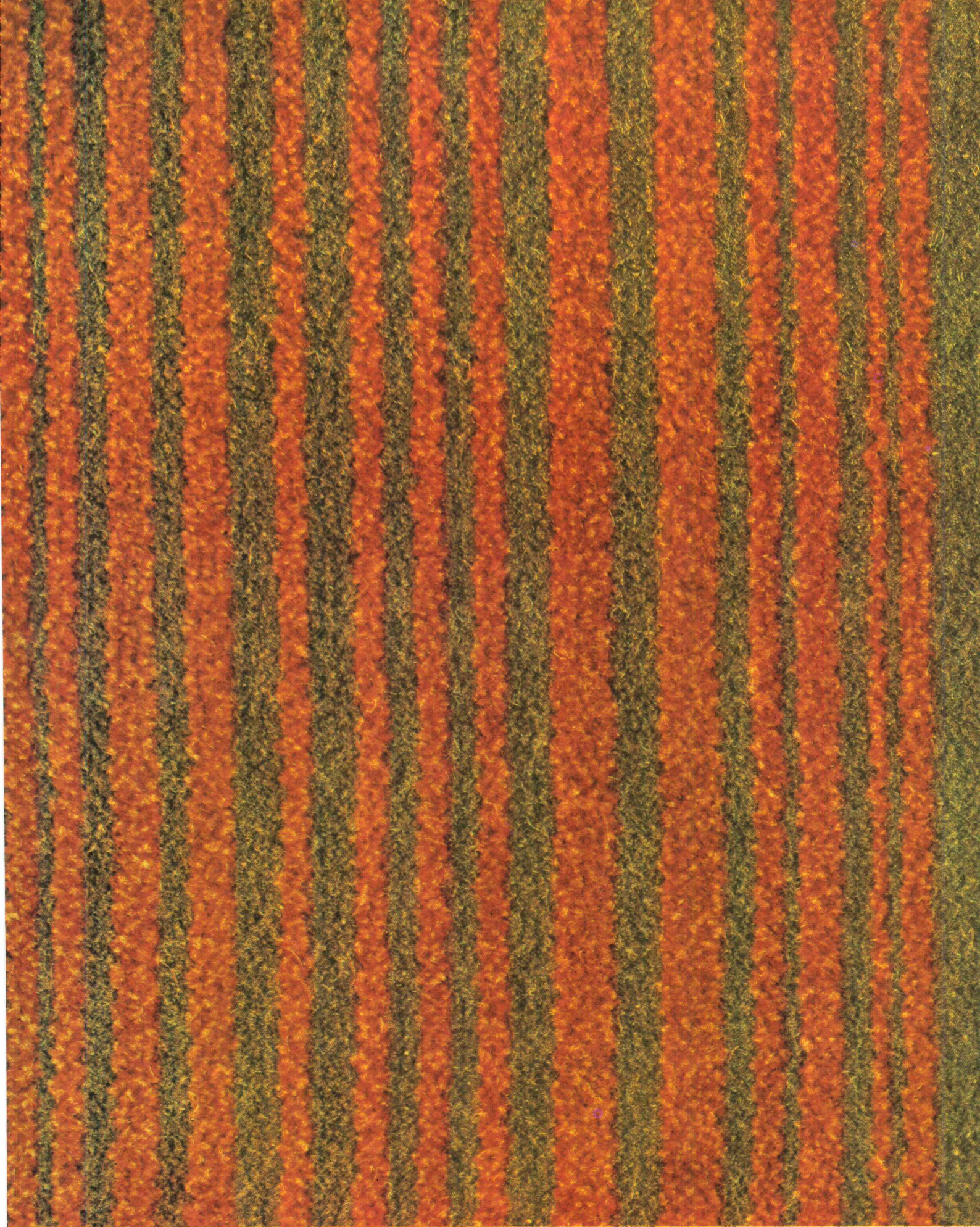
#### Quote of the month: From Russian guests

A six-man delegation of Soviet architects headed by E. I. Sidorov, chief executive for housing and civil construction, City of Moscow, just completed an 18-day study tour of seven U.S. cities. At a just-before-takeoff press conference, Mr. Sidorov wisely avoided naming his favorite U.S. building, though he did admit “personally—not from a professional point of view, but personally—I like San Francisco best.” Professionally speaking, he said that in studying the structure and spans of many U.S. buildings, he found “many of the architects' and engineers' solutions were very brave . . . very brave indeed.”

And I guess we were all struck by the statistic that the Russians supplied: They have just completed a 2.3-million-unit housing year.

(Fold here) - - -

CREATING WITH CARPET IS AS EASY AS FOLDING THIS HALF OF THE PAGE UNDER THE REMAINING HALF.



MAGEE'S EMPIRE STRIPE



YOU'VE JUST CREATED WITH MAGEE'S NEW  
100% WOOL CARPET EMPIRE STRIPE AND ITS  
COMPANION GLEN EAGLE. FOR MORE ABOUT  
CREATIVE COMPANION CARPETING,  
FLIP THE PAGE

Yesterday it was big business.  
 Today it's empire building.  
 Yesterday it was the plain carpet.  
 Today it can't do the job alone.  
 What with:  
 Moveable walls, no walls, open  
 landscaping, modular components, and  
 immense floor space.

That's why Magee designed a stripe carpet.  
 Empire Stripe, made of 100% wool, to help  
 the plain carpet.

Not just any plain carpet . . . but the one it  
 was designed to work with . . .

Glen Eagle.

Companion carpets, matching quality in  
 9 colors.

Companion carpets that are stock items.

Companion carpets where the stripe in  
 Empire Stripe comes in random widths  
 repeated every 36", finally making it possible  
 to get natural matches in a stripe.

Companion carpets that carry the wool mark.

Companion carpets that let you design on  
 the floor as you would on paper.

If your business is empire building and  
 you would like to know more about creative  
 companion carpets, write:

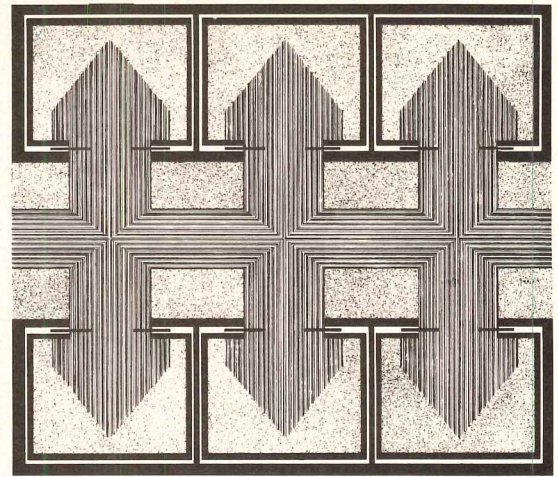
The Magee Carpet Company,  
 919 Third Avenue,  
 New York, N.Y. 10022,

and we'll talk about empires . . .  
 yours and ours.

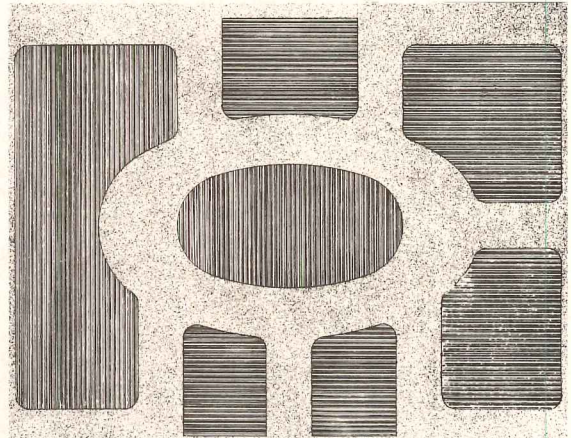
**CARPET BY**  
**MAGEE**  
 A carpet company that gives you all  
 the credit for being creative.



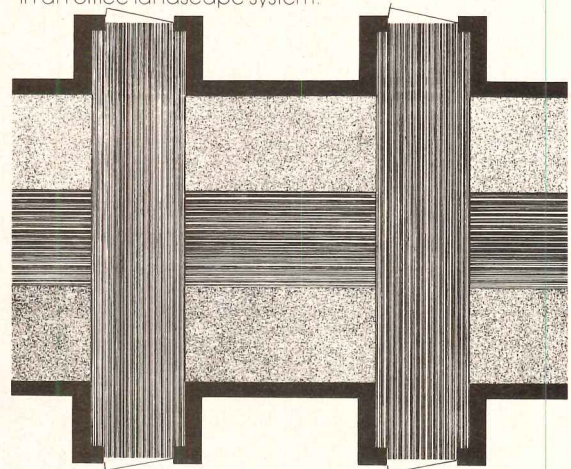
**PURE WOOL PILE**  
 The wool mark is your assurance  
 of quality tested carpets made  
 of pure wool pile.



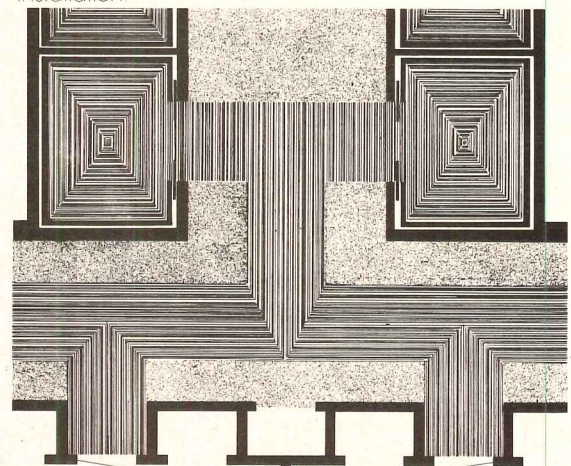
Empire Stripe used for directional design in an elevator bank.



Empire Stripe with Glen Eagle used to designate areas in an office landscape system.



Empire Stripe used with Glen Eagle for a cross corridor installation.



Empire Stripe and Glen Eagle used for corridor directions and office pattern.



# All for a better atmosphere.

Wallcoverings from Columbus Coated Fabrics help you create a mood. And as you well know almost any interior, today, is judged heavily on its atmosphere. Hotels, motels, restaurants, of course. Apartments, offices, schools. Even the single family home must create a special environment, if it's going to sell. With our three basic lines—Guard<sup>®</sup>, Satinesque<sup>®</sup>, Wall-Tex<sup>®</sup>—CCF has over 1200 patterns. So what's it going to be? Louis XIV or Madly Mod. We've got it. And a whole lot more. Look into our fabric-backed vinyl wallcoverings. Type I, Type II, Type III. For new buildings and houses . . . or improving old ones. Even to cover imperfections in walls. All this beauty and the practicalities, too. From Columbus Coated Fabrics—the largest producer of wallcoverings in the industry—with the delivery, service, quality, selection, and **GUARD<sup>®</sup>** local professional support only the leader can give. Write for complete specifications. We'll put you in a better mood.



COLUMBUS COATED FABRICS  
Division of Borden Chemical, Borden Inc.  
Columbus, Ohio 43216



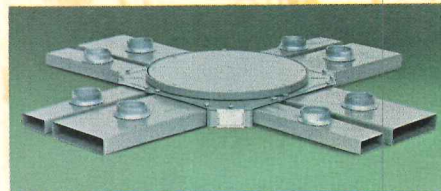
# Wake up to what's happening to communications.

The communications boom is nothing to get alarmed over. Not if you're ready to face the day when tenants start nagging about the wiring for more phones, for more new equipment. So open your eyes to what's coming. Put a Walkerduct

Underfloor System in your building specs. It will help keep the property's outlook sunny.

By running all the communications, power and signal requirements under the floor inside Walkerduct, you've got nothing to worry about. The building is safer, more efficient and able to handle any future needs quickly, easily and neatly. Without tearing up the floors. Without spending a small fortune.

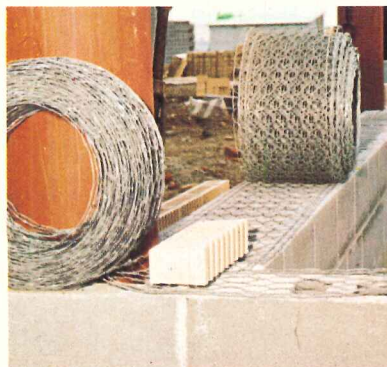
Contact your nearby Walkerman for more information. Or write: Walkerduct, Parkersburg, West Virginia 26101. In Canada: Walkerduct of Canada.



**walkerduct**<sup>®</sup>  
WALKER /  
PARKERSBURG  
A **textron** DIVISION

For more data, circle 8 on inquiry card





## OOOWALLS

are built to withstand hourly changing weather on the outside, heating and air conditioning on the inside . . . constantly changing humidity on the outside, a different and usually controlled amount of moisture on the inside. Consequently, wall materials, mortar, blocks, bricks, tile and the structural supports are constantly expanding and contracting, and forever absorbing or expelling moisture. Furthermore, each material has a different coefficient of expansion causing it to react differently from the adjacent material. These normal wall conditions require the use of a reinforcing to control expansion and contraction and to efficiently distribute the stress resulting from temperature changes.

How much reinforcing is needed? What type of masonry reinforcing is most desirable?

Are small twisted reinforcing wires superior to larger single wires?

## KEYWALL<sup>®</sup>

multi-bond masonry reinforcement provides more bonding surface with the mortar, more inches of anchorage to the block and more complete distribution of stress resulting from temperature changes.

One measure of the effectiveness of reinforcement is the amount of metal in surface contact with the mortar. For example, a pair of 9 gauge wires provides 11.2 square inches of bonding area per block foot. A pair of 3/16" wires, 14.2 square inches. KEYWALL gives 22 square inches. That's approximately 96% more bonding surface than the 9 gauge, about 55% more than the 3/16".

Another KEYWALL design advantage results from the two cords of two twisted wires compared with single rods. This double row of twisted wires more than doubles the amount of anchorage to the blocks. Interconnecting wires spaced 1" and 1 1/2" further bond and lock mortar and block.

The multidirectional pattern of wires in KEYWALL distributes the normal stress throughout the wall and more completely utilizes the great compressive strength of the concrete block and mortar. KEYWALL does provide more bonding surface and more anchorage to the block. KEYWALL has proven itself on so many important jobs — we really recommend it for your next job.

Contractors prefer KEYWALL. It rolls out, 200' per roll, lays flat in the mortar, is easier to handle on scaffold and on the wall. It is available from most building material supply dealers.

For more information about any reinforcing problem, contact Keystone Steel & Wire, Peoria, Illinois 61607.

## KEYSTONE STEEL AND WIRE FOR CONSTRUCTION

KEYSTONE STEEL AND WIRE, PEORIA, ILLINOIS 61607, DIVISION OF KEYSTONE CONSOLIDATED INDUSTRIES, INC.

® Trademark Registered

It makes no difference whether you have a 4-story, 12-story or 26-story apartment house, it's a walkup every time the elevators are out of order. And the tenants will let you know pretty fast that they want the service they're paying for.

If you're interested in happy tenants and elevators that operate at peak efficiency over the life of the building, specify Otis. And sign up for an Otis Extended Coverage Maintenance contract. It's our preventive

maintenance that stops shutdowns before they happen.

Whether you specify any of our pre-engineered, hydraulic models or a geared traction elevator, you get the same, incomparable Otis quality, competitively priced and ready to deliver, off-the-shelf.

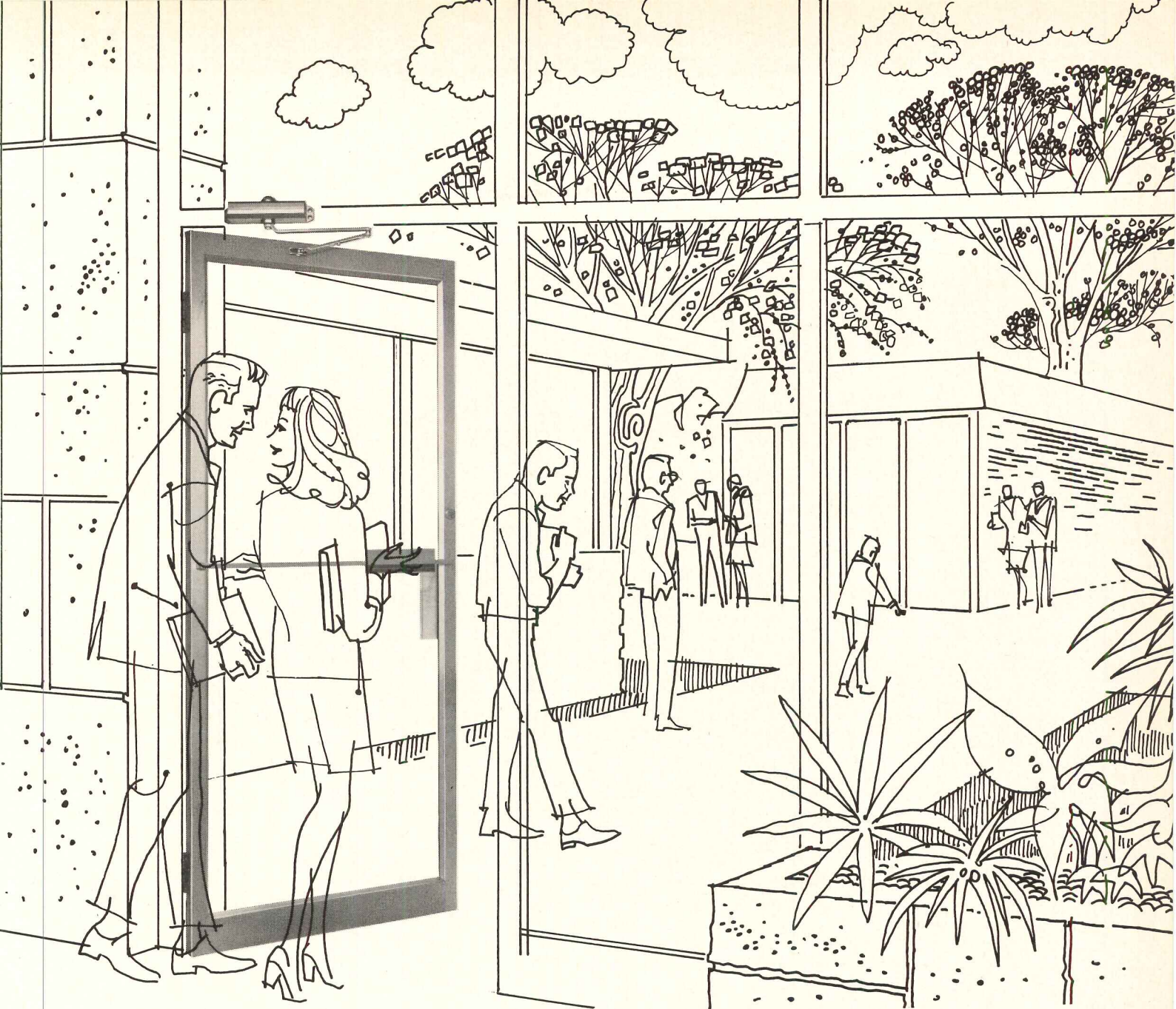
Because we want you to have satisfied tenants, not tired, foot-sore, complaining stair-climbers.

**Otis**<sup>®</sup>  
**HAS A SYSTEM**

*For more data, circle 10 on inquiry card*

**Your apartment  
is just another walkup  
if the elevators don't work.**





It has clean, classic lines.

It can be installed non-handed either top-jamb,  
parallel arm or regular arm...in a choice of  
three mounting methods.

How's that for  
all-purpose flexibility?

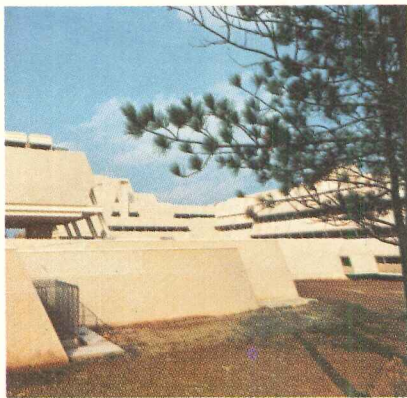
the **Norton**<sup>®</sup> 1600 Closer

For complete details, contact your  
Norton Representative or Eaton  
Corporation, Lock and Hardware  
Division, Norton Marketing Department,  
372 Meyer Road, Bensenville,  
Illinois 60106.

**EAT•N** Security Products  
& Systems

Architect uses  
sloping steel columns to  
give building rugged  
dramatic effect





make the new headquarters and research building Burroughs Wellcome Co. seem like a natural extension of the ridge on which it is located, Architect Paul Rudolph used sloping steel columns in a geometric, modular design.

The structure, located in Research Triangle Park near Raleigh, North Carolina, combines the functions of corporate headquarters and research facilities.

The sloping steel columns, set at a 22.5-degree angle, help to make the building seem to be an upward extension of the ridge. The steel-framed irregular ends of the structure were designed to facilitate incremental expansion in all directions in future years.

Geometrical modular units are also a unique part of the design. The large skylights and inward-slanting windows made possible by this design allow light to flood deep into the interior.

The completed building will house about 450 employees, and will contain 300,000 sq ft of space. Besides research facilities and offices, there will be a cafeteria, auditorium, library, and a lobby three stories high.

Steel columns sloping 22.5 degrees are a major feature of the design. The columns rest on a system of footings and tie-beams in which the vertical load is transferred directly to the soil through the footing.

The Burroughs Wellcome Co. building was designed by Paul Rudolph, New York. Structural engineer: Lockwood Greene Engineers, Inc., New York. Steel fabricator and erector: Peden Steel Company, Raleigh, N.C. General contractor: Daniel Construction Company, a division of Daniel International Corporation, Greenville, S.C. Bethlehem Steel supplied 3,100 tons of ASTM A-36 structural steel.

**BETHLEHEM STEEL**





Silver Slate, 760

# The Silvery Spectacular

Silver Slate is a striking new dimensional laminate that can turn any surface into a shimmering swirl of color and motion. Its chrome-like brilliance and bold, deeply embossed texture bring it alive with highlights and shadows.

And the real beauty is that when you specify Silver Slate, you're selecting an exclusive FORMICA® brand laminate that stays bright and new looking for years. Designed for any vertical or light horizontal application, the durable surface resists scuffs, dents and scratches.

Silver Slate is one of eleven exciting new colors and patterns that make this a vintage year. Deeply textured dimensionals, fabulous Quatramatic woodgrains and subtle patterns. They're all part of the biggest laminate line available. See them all in Sweet's Architectural File 6.14/Fo. Contact your Formica representative or write Dept. AR-4

**Leadership by design**

© 1972 Formica Corporation, Cincinnati, Ohio 45202, subsidiary of



For more data, circle 12 on inquiry card



# mfc\*

a complete concept of efficient, beautifully designed furniture with exceptional versatility for open space planning.



MFC work areas can be created to individual and departmental requirements and can be grouped and regrouped to changing office needs. For more information write: All-Steel Equipment Inc., Aurora, Illinois 60507. Showrooms in New York, Chicago, Los Angeles, Aurora. In Canada, B.K.Johl Inc., Montreal, Toronto, Vancouver.

\*Multiple function concept

For more data, circle 13 on inquiry card

# All-Steel<sup>®</sup>

# "SOMETIMES WE NEED ONE PRINT, SOMETIMES 5000."



**Call in Kodak.  
We've got the answers.**

From the smallest, single-detail revision to vast orders requiring thousands of prints of one drawing, Kodak's photoreproduction methods can help get the job done for you faster, and at lower cost.

Whether your drawings are full size or on microfilm, whether you use diazo or offset, we'll show you how to make your distribution prints the easy way: With Kodak's help.

We'll even send a Kodak sales representative to help you choose the best plan for your particular needs.

To set the wheels in motion, just mail in the coupon. We'll take it from there.

Please send me complete details on Kodak's many procedures for drawing reproduction.

Name \_\_\_\_\_

Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

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

Eastman Kodak Company  
Business Systems Markets Division  
Dept. DP829, Rochester, N. Y. 14650

**DRAWING  
REPRODUCTION SYSTEMS**



For more data, circle 14 on inquiry card

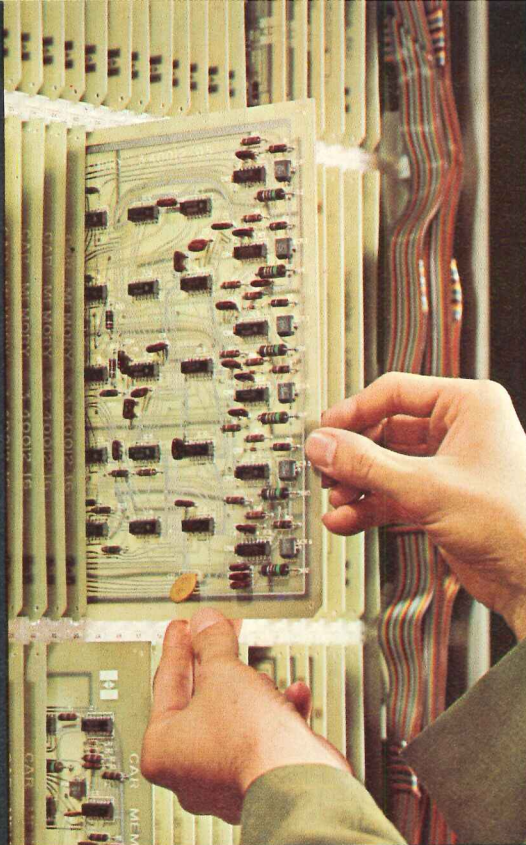
**Only Houghton  
1092-IC  
can ensure  
the shortest  
Passenger  
Destination Time.**

**HAUGHTON ELEVATORS  
AND ESCALATORS**

Toledo, Ohio 43601

DIVISION OF **RELIANCE** ELECTRIC COMPANY 

For more data, circle 15 on inquiry card



This is the most efficient and comprehensive system ever perfected for group elevator service. It's the only one that "thinks on its feet" — constantly recognizes and responds to everything affecting any car's ability to pick up and deliver passengers quickly. It's the only system able to provide the shortest Passenger Destination Time.

Faster than description — in milliseconds — 1092-IC locates every call as it's registered, computes distance between cars and calls, measures each car's load, counts every call, instantly and continuously allots and reallots calls to cars best able to handle them.

And 1092-IC is not merely last year's relay system warmed over. It's exclusive — an entirely new concept of elevator control. Micro-miniature integrated circuits are employed to their full capability for the first time in elevator application.

A compact cabinet of integrated circuits replaces a roomful of old-type hardware. Yet 1092-IC speed and scope exceed any other elevator system — deliver the shortest Passenger Destination Time ever achieved.

Personal investigation will convince you that Houghton 1092-IC introduces a new generation of passenger elevator service. We're ready. Just tell us when you are.



# Wash your hands of expensive water bills.



A seven-month test recently concluded in New York showed that water consumption, both hot and cold, was cut by 90% when Unatap spray mixing faucets were used instead of conventional faucets on ordinary wash basins.

While maintaining a hygienic spray of water, the flow-gov-

erning mechanism that's the heart of every Unatap faucet cuts wasteful water consumption.

That also means a saving on water heating, a major factor

in operational costs. And even installation costs because the entire water distribution system is scaled down to meet the drastically reduced hot and cold water demand.

Specify Unatap for the next job. With Unatap, you can wash up without pouring money down the drain.

## Richard Fife Inc.

1140 Broadway, New York, N.Y. 10001 Phone: (212) 683-0745

*For more data, circle 16 on inquiry card*

# 5.5 acres of softy cover for jumbo jets

## Long-lasting PPG coating on prefinished aluminum roof system assures minimum maintenance

Designing a gigantic, column-free service hangar capable of accommodating four 747 jumbo jets required careful consideration of building maintainability as well as structural engineering. Aluminum roofing panels prefinished with DURACRON® Super 800 coating were selected. This silicone-copolymer acrylic finish offers color stability with outstanding resistance to extreme weather conditions, yet its cost per square foot is only in the medium range. Whatever type metal building you plan, there's a PPG coil coating

designed to deliver the performance, beauty and protection you require. See Sweet's Architectural or Industrial Construction Files 9.10/PPG for more information. The panel manufacturer of your choice can help, too. Or contact PPG INDUSTRIES, Inc., Dept. 16W, One Gateway Center, Pittsburgh, Pa. 15222.

**PPG: a Concern for the Future**

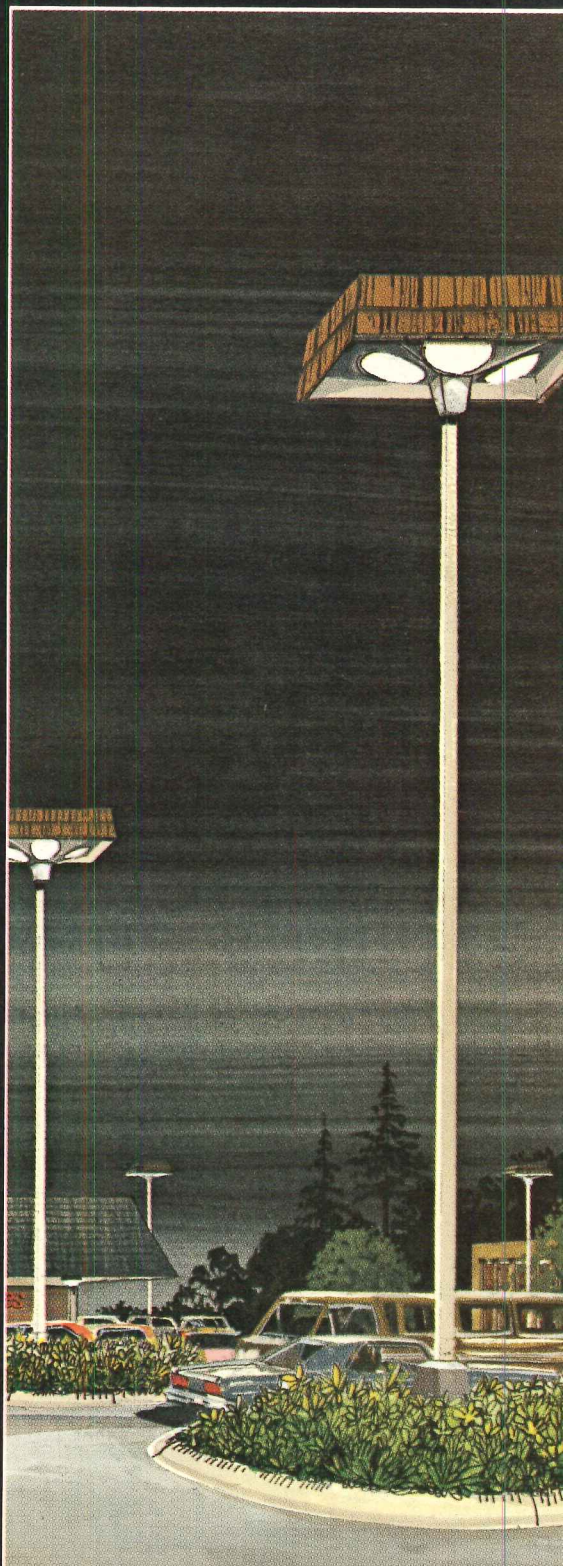
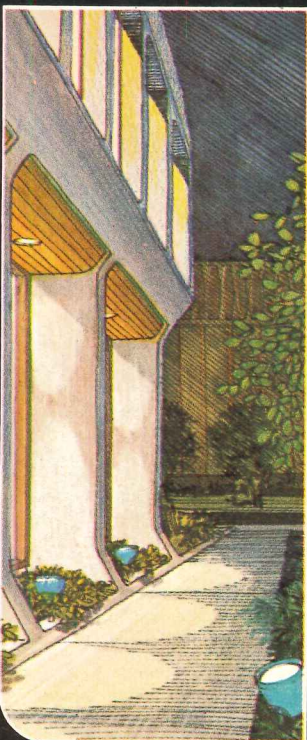
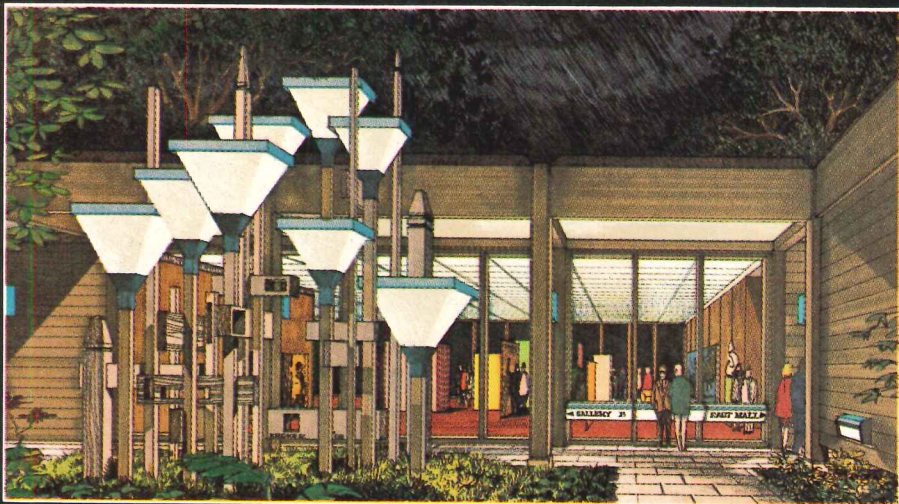
Coil  
Coatings   
INDUSTRIES

For more data, circle 21 on inquiry card

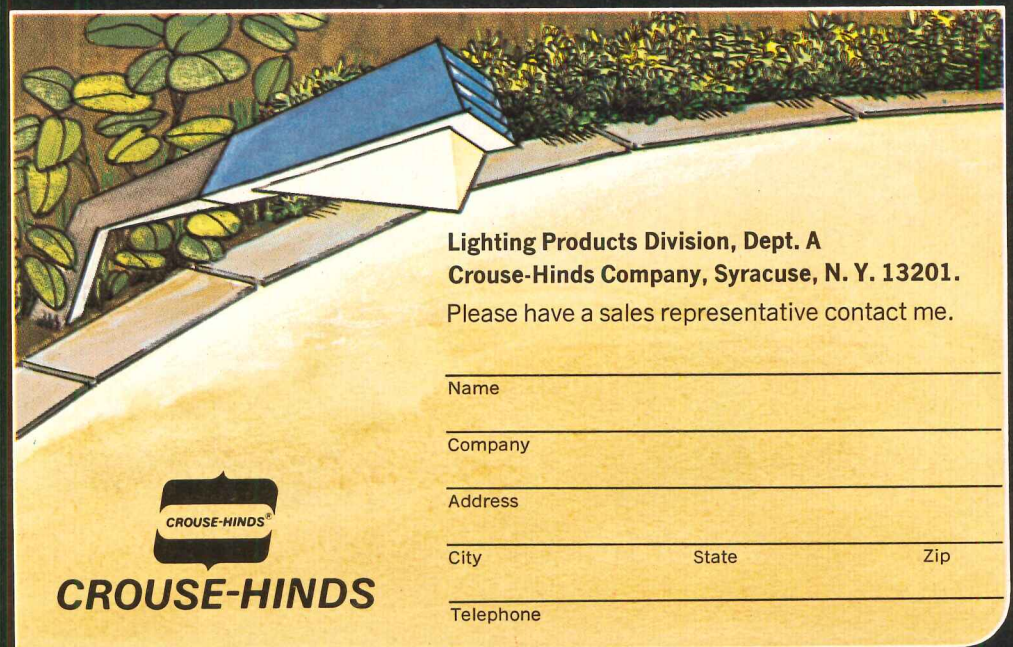
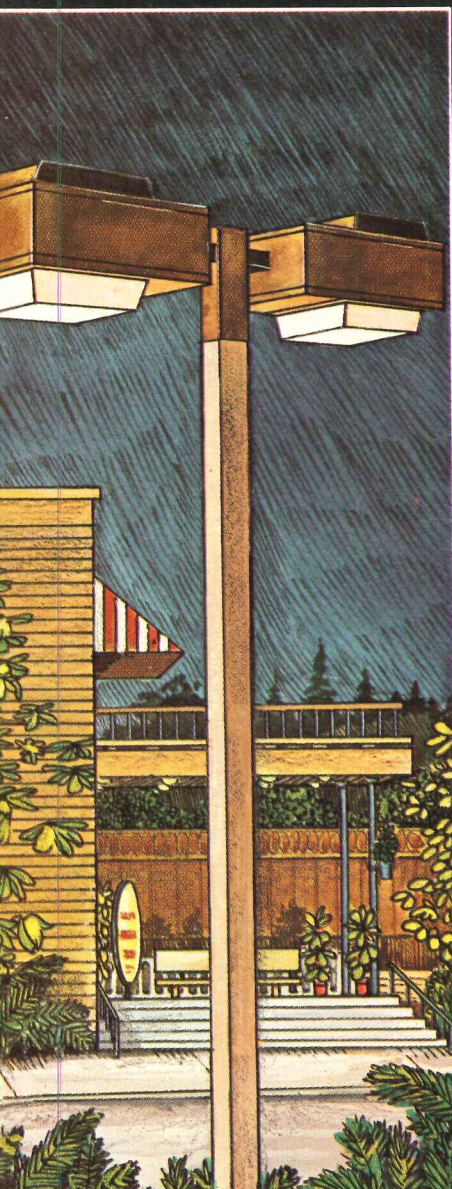
AMERICAN AIRLINES hangar,  
San Francisco International Airport  
Structural engineers:  
Zetlin Associates, New York  
Architects:  
Franklin & Rossant, New York  
Roof panel supplier:  
Aluminum &  
Chemical Corporation



# Light takes on form. By day, as well as night



Finish a brick facade. Splash safety on a footpath. Make bold a bas relief. Shine security on parking areas.



Until now that sort of lighting all too often came in ugly packages. The photometrics were nice. The esthetics weren't.

That's no longer true, as you can see on these pages. Good looks by day complement good light by night. Now, fixture designs complement architectural creativity, complement landscape features, complement other lighting.

We've packaged lighting function inside lighting form in many new ways. Let us show you. And let's talk about creative custom designs, too. The coupon opens the conversation. Send it now.

Lighting Products Division, Dept. A  
Crouse-Hinds Company, Syracuse, N. Y. 13201.  
Please have a sales representative contact me.

Name

Company

Address

City

State

Zip

Telephone



**CROUSE-HINDS**

# Introducing: The next generation in seating design

## The all-new ES/III AudiLec Chair...from American Seating

The system approach to seating: As your needs change, so does the ES/III AudiLec Chair. Begin with the basic chair—right as it is—and add to it as budget and needs change. With the system approach, you're no longer forced into making prophetic "decisions" when you buy. This is the chair that refuses to become obsolete!

### The basic chair

Sculptured cast-iron standards, either floor or riser-mounted, complete with polished armrest. Seat and back of high-impact,



blow-molded Dexlon® plastic. Wide color choice: easy to coordinate. Long-life, gravity-lift seat—unique in this price range—almost indestructible. Good-looking and extremely durable, the AudiLec Chair is the one right chair for auditoriums, lecture or training rooms, summer theatres, indoor or outdoor arenas . . . you name it!

### A wealth of options

Long-wearing nylon upholstery for the seat and/or back . . . upholstered or plastic armrests . . . big-surface Amerex® plastic tablet arm . . . each can be installed during manufacture or easily added in the future. In short, you can "customize" this chair at any time.

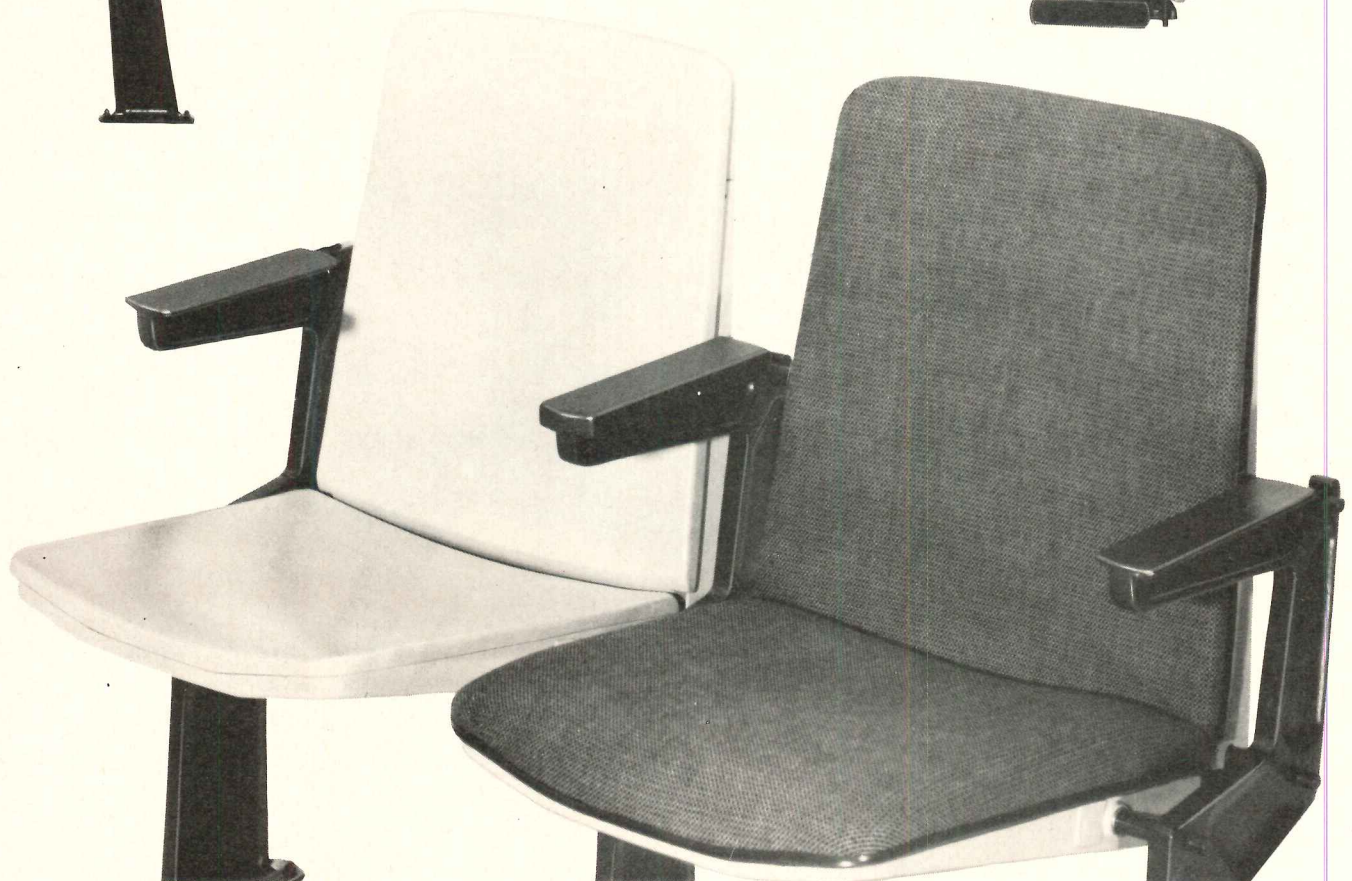
### A view to sightlines

Four chair widths—from 19" to 22"—can be had from *one* seat size, *one* back size! How? The secret's a patented internal spacer engineered into the seat and back support tubes, an integral part of the chair itself! All of which means (1) lower installation cost; (2) every seat and

back easily relocated, *without* concern for size; (3) upholstery sent out for cleaning can be quickly refitted without the tedious matching of chair widths.

For details, write: American Seating Co., Dept. AR-750, Grand Rapids, Michigan 49504.

**AMERICAN SEATING**®



For more data, circle 19 on inquiry card



Be sure you specify architectural finishes based on Dow Corning® brand silicones. More than nine years of actual in-place field performance demonstrate that finishes made with Dow Corning silicones can be specified for a 20-year life in any climate. You can select from a full spectrum of colors.

Silicone-based coatings give steel and aluminum siding, panels, roofing, fascia, and trim unmatched protection from sun, wind, and weather. They resist blistering, chalking, chipping, and peeling, and have excellent color retention. They are easily touched up in the field if marred.

**Yet the cost of silicone-based finishes is almost identical with that of organic coatings, and 50 to 70% less than other kinds of high-performance coatings that have no demonstrably better performance.**

A colorful new brochure on coil-coated panels using these finishes, and the names of paint manufacturers who supply them, is in the current Sweet's Architectural and Industrial Construction Files. Or write Dow Corning Corporation, Dept. A-2301, Midland, Michigan 48640.

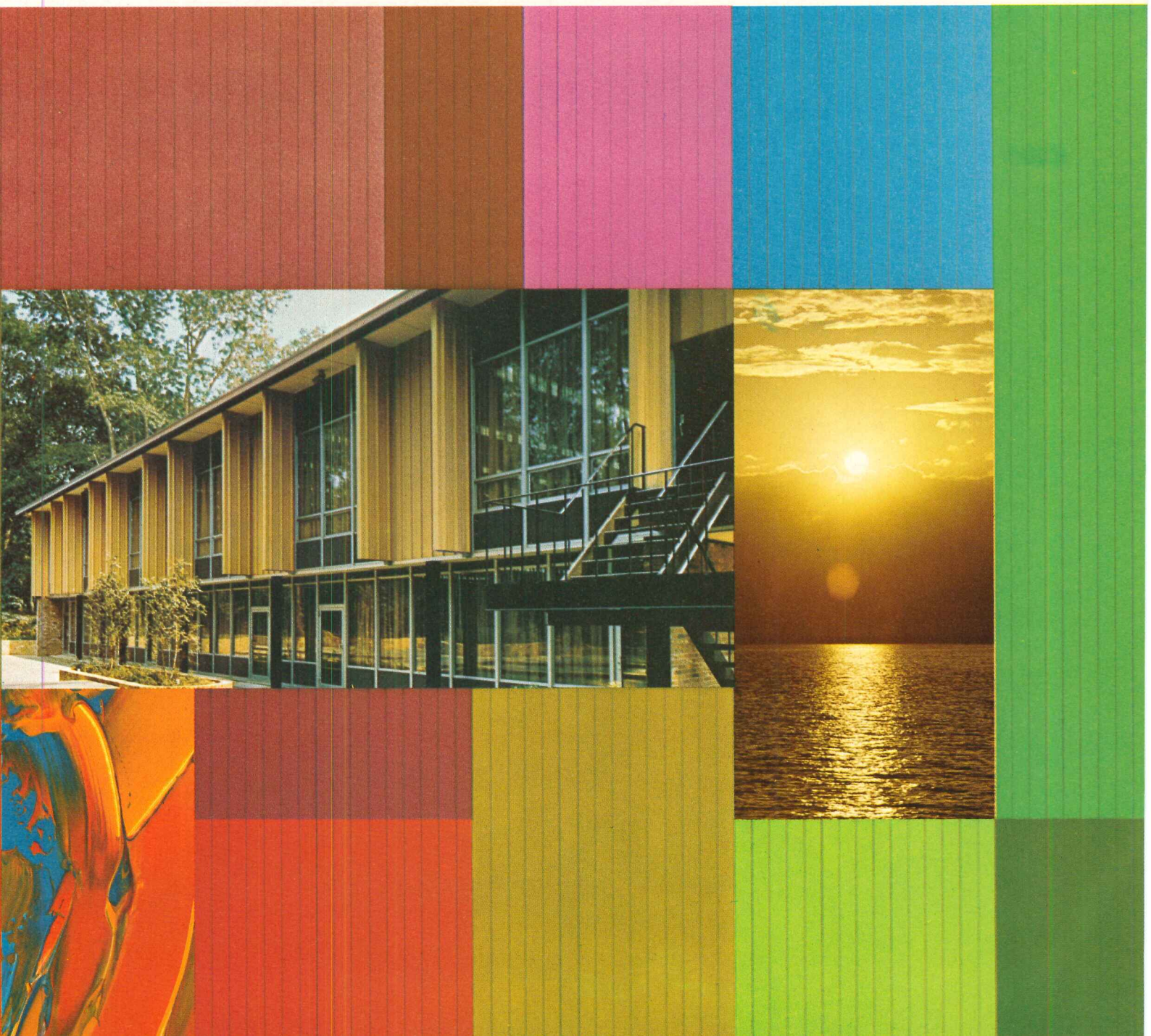
*Silicones for coatings from*

***DOW CORNING***

DOW CORNING

For more data, circle 20 on inquiry card

**“life-of-the-building” beauty  
and proved performance.**



# An airport needs pretty-tough carpet

Until now you had a choice of pretty carpets that weren't very tough. Or tough carpets that weren't very pretty.

But in many contract installations you need both. So we conceived carpets that are pretty and tough.

You can choose handsome original designs from our Masterworks Design Program. Or we'll create an exclusive design

to meet your specific requirements.

But these carpets are a lot more than pretty. They're made from 100% ANSO nylon so they hide dirt better. And they're tough enough to stand up to your heaviest traffic areas.

In fact, Allied Chemical guarantees carpets of ANSO nylon against excessive wear for 5 years (We've got more guaranteed carpet fiber installed than anybody — over

40 million square yards.)

If you need pretty-tough carpet, ask for ANSO. Or contact Allied Chemical Corporation, Fibers Division, Contract Department, One Times Square, New York, N.Y. 10036. Phone: (212) 736-7000.

For more data, circle 17 on inquiry card



**Guaranteed nylon carpet.**

BYRD AIRPORT CARPET BY SEAMLOC LOMA-LOOM CARPET CO.



# confidence countdown

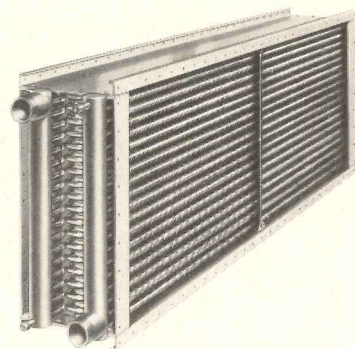


## About half the buildings erected in downtown Chicago in the last few years are AEROFIN COIL equipped

From "Big John" to "Ma Bell" Aerofin Heat Transfer Coils have run up quite a track record in Chicago—with its hot, sticky summers and deep-freeze winters.

Check out those landmark structures with Aerofin coils. Building profitability relates to the reliable performance of Aerofin coils with remarkably high exchange co-efficients, yet compact enough not to steal useable/rental space.

From heat recovery to controlled variable volume systems, get more efficient cooling/heating with dependable Aerofin coils. Chicago's confidence in Aerofin could color your coil thinking. Call our specialists in: Atlanta, Boston, Chicago, Cleveland, Dallas, New York, Philadelphia, San Francisco, Toronto, Montreal.



AEROFIN HEAT TRANSFER COILS come in many sizes, configurations, circuitry—copper or aluminum helical fins. Designs range from preheat or reheat applications, sprayed coil humidification control, freeze-up hazard reduction, to customized climate systems.

### AEROFIN CUSTOM CLIMATE HELPS SELL RENTALS HERE

- |                                     |   |
|-------------------------------------|---|
| 1. John Hancock Center              | 10. Blue Cross-Blue Shield Building               |
| 2. Connecticut Mutual Life Building | 11. Illinois Bell Telephone Building              |
| 3. Hartford Insurance Building      | 12. Illinois Bell Telephone Building              |
| 4. New Hartford Insurances Building | 13. Chicago Civic Center                          |
| 5. Gateway Center #1                | 14. U. S. Court House and Federal Office Building |
| 6. Gateway Center #2                | 15. Sears Building (under construction)           |
| 7. IBM Building                     |   |
| 8. 111 East Wacker Building         |   |
| 9. 230 West Monroe Building         |   |

**AEROFIN CORPORATION**  
LYNCHBURG, VIRGINIA 24505

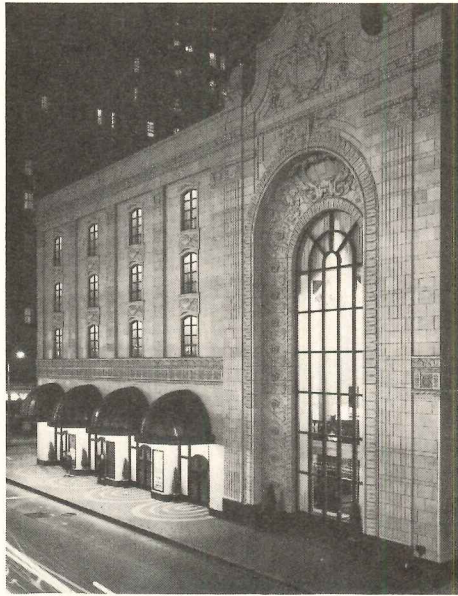
Aerofin is sold only by manufacturers of fan system apparatus. List on request.

# Dover Stage Lift helps recycle an old movie palace

In a Cinderella-like transformation, the old Penn vaudeville and movie theater in Pittsburgh has become a showcase for the arts.

Now known as Heinz Hall for the Performing Arts, this unique building is not only the new home of the Pittsburgh Symphony, Pittsburgh Opera, Civic Light Opera, Pittsburgh Ballet and the Pittsburgh Youth Symphony, but also offers complete theatrical and film facilities for international attractions.

Much of the neo-Baroque



opulence was retained in the multi-million dollar renovation project. But extensive revamping was necessary for conversion of the old movie palace into a building that functions efficiently and beautifully for its diverse new tenants.

A major addition was a Dover Stage Lift, 14' x 54' in overall dimensions. Raised, it provides a needed extension of the stage area; lowered, it serves as an orchestra pit.

Dover Stage Lifts are used in theaters, concert halls, opera houses and drama centers throughout the country to provide more flexibility and imagination in staging musical and dramatic presentations. Call us in for design and engineering assistance, or check our catalog in Sweet's Files. Dover Corporation, Elevator Division, Dept. A-4, P. O. Box 2177, Memphis, Tenn. 38102. In Canada: Dover/Turnbull.

**DOVER**  
**Stage Lifts**

For more data, circle 25 on inquiry card

HEINZ HALL FOR THE PERFORMING ARTS, Pittsburgh, Pa. Architects: Stotz, Hess, MacLachlan and Fosner, Pittsburgh. General contractor: Mellon-Stuart Co., Pittsburgh. Acoustical and stage lift consultant: Dr. Heinrich Keilholz. Engineers: George Levinson, Inc. (structural); Meucci Engineering Inc. (mechanical); Hornfeck Engineering, Inc. (electrical). Interior designer: Verner S. Purnell. Dover Stage Lift installed by Marshall Elevator Company, Pittsburgh.

## News in brief

**Architectural construction started the new year with a seasonally-adjusted decline, but . . .** The F. W. Dodge index of architect/engineer designed construction entering the contract stage slipped seven per cent to 154 (seasonally adjusted, 1967=100) from December's record 165. January data showed a sharp, seasonally-adjusted drop in apartments following December's record volume. Declines in the non-residential sector were centered primarily in commercial building where contracting for both offices and stores turned down significantly during the month. Manufacturing, still recovering from the recent recession, remained unchanged. Both educational building and hospitals recorded advances. January's slow start in architectural construction should not be construed as a sign of a weakening market during the coming year. The month's weak performance, according to the F. W. Dodge study, is primarily a result of random or irregular factors. But unlike 1971's steady upward trend, architectural construction is expected to exhibit more of a saw-toothed pattern this year, with one month's gain being partially offset by another month's decline. Setbacks are expected during the year in apartment building but they should be outweighed by gains made in non-residential construction as the business recovery accelerates. By the end of the year, the average value of the architectural construction index is expected to advance from three to four per cent over 1971's average.

**Ten architects, from nine foreign countries, have been named Honorary Fellows of The American Institute of Architects.** The ten, elected by the board of directors of the 24,000-member national professional society, are: Luis Arizmendi, Spain; Jai Rattan Bhalla, India; Henri Delaage, France; Sir Roy Grounds, Australia; Thomas Howarth and Jean Louis Lalonde, Canada; Vayden R. McMorris, Jamaica; Gueorgui Orlov, U.S.S.R.; Luis Ortiz Macedo, Mexico, and Michael Scott, Ireland.

**Wolf Von Eckardt, architecture critic of the Washington Post** has been named the recipient of The American Institute of Architects' 1972 Architecture Critics' Medal. Canadian author, architect, and educator, Peter Collins, has been named the winner of the AIA's 1972 Architecture Critics' Citation. Both men will receive their awards at the AIA convention in Houston, May 7-10.

**President Nixon was warned by NAHB President Stanley Waranch that unstable lumber pricing** could seriously threaten the economy. Prices have been scraping authorized ceilings for the past four weeks, in some cases exceeding them. Waranch stated that stud and plywood prices have been 18 to 20 per cent higher than a year ago.

**Four architects have been named to the National Public Advisory Panel on Architectural Services** by Rod Kreger, of GSA. The four are: Grant Curry Jr., Pittsburgh; William C. Muchow, Denver; B. Rea Nesmith, El Paso, and Kenneth C. Black, Lansing. The panel advises GSA on selection of firms to design government buildings and in developing designs reflecting regional architecture.

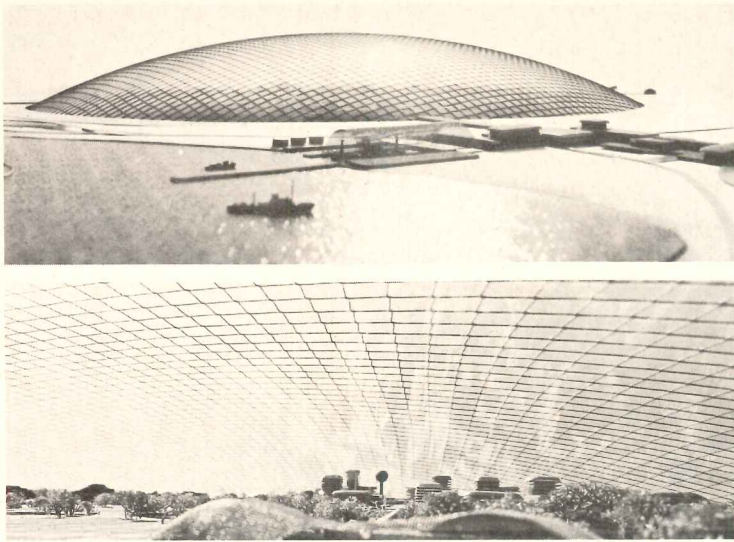
**Skidmore, Owings & Merrill are the winning architects for the New York City Convention and Exhibition Center.** The \$100 million Center, nearly a decade in planning, will be completed just before the opening of Expo '76.

**An omnibus housing bill, calling for the establishment of a National Institute of Building Sciences within the National Academy of Science,** is now set for quick Congressional consideration. The new body would make its technological research available to the construction industry. The bill authorizes an \$18 million budget over the first five years, after which, the Institute would become self-supporting. Spokesmen for the Senate Banking Committee say that such a national resource would help remove code obstacles and speed new technology into the building stream.

**James Stewart Polshek has been named Dean of the Columbia University School of Architecture.** Polshek succeeds Kenneth A. Smith who served as Dean for nine years. David E. Glasser will serve in the newly created post of Associate Dean.

**The 16th annual convention and exhibit of the Construction Specifications Institute** will be held in Minneapolis, June 19-21. The convention will focus on the specifier's expanding role as well as the greater demands made on his time for research and evaluation in the specification process.

**The Urban Land Institute's spring meeting will take place in Toronto, Canada, May 23-25.** Delegates will examine Toronto's metropolitan transit systems and will study the completed new town of Don Mills as well as two new towns now under construction.



1  
**ARCTIC CITY**

An international design team under the leadership of Frei Otto, director of the Institute of Lightweight Structures at Stuttgart, has developed plans for a climate-controlled, domed city capable of supporting 20,000 persons in frigid regions. Recent oil and mineral discoveries in polar areas stimulated the research which was financed by the West German chemical firm of Farbwerke Hoechst in Frankfurt. The domed city would support the work of recovering these resources. The study predicts that the first of these cities will be completed in "12 years at the latest." Customers for the domed project would most likely be large oil companies.

The dome is fashioned of a double-layered polyester fabric a mile and a quarter in diameter. It would be pneumatically tensioned and supported by a cable netting of specially prepared, PVC-impregnated, high strength polyester fiber with a maximum height at its center of 790 feet. Once erected, dome pressures would be maintained by a system of computer operated fans.

Electric power for the city would come from a nuclear reactor, situated just outside the dome. Thermal discharge from the reactor would warm the surrounding water, creating an ice-free harbor for supply of the city and also partially warm the air which would be taken into the city through a 985-foot air exchange tower adjacent to the dome. Temperatures inside the dome would be maintained at levels common in temperate climates.

Inside the dome, an artificial sun (a battery of electric lights) would run on a track across the dome during the long arctic winter in order to give residents a sense of diurnal rhythms. In summer, rotating shutters would shield out the sun during portions of the six-months arctic day.

Construction of buildings in

the city itself would be open to a variety of technique and materials. The city would contain separate residential, business and city center districts plus a large park. Intracity transportation would be by fast or slow moving sidewalks.

The study argues that domes up to about 14 miles in diameter are practical—beyond that point, the costs become prohibitive.

The Tokyo planning firm of Kenzo Tange & Utec performed the over-all city planning, while the London consulting engineering firm of Ove Arup & Partners provided structural engineering details for the protective dome roof.

**WILL THE GLOVES COME OFF?**

President Nixon's 19-page environmental message calls on Congress to get on with the work of passing new laws submitted last year plus new amendments now proposed. Nixon wants this to be a year of action. He's seeking a toxic-wastes disposal control law, state programs to control sediment discharge from construction projects, charges on sulphur emissions starting in '76, another \$88 million for clean energy production, clarification of tax exemptions for plants recycling their wastes, \$23 million more for noise reduction research and another \$12 million for studying health effects of air pollution.

All these are hopeful signs—but critics point out that Washington is a city of rhetoric and every initiative by the administration is introduced as "the boldest," "the more urgent" and "the longest overdue." In a city of verbal overkill, where every program is "highest priority," a rhetorical stance is not enough. The President must be prepared to fight "tooth and nail" for the programs he really wants. Capitol Hill observers are watching and waiting.



2  
**ONE THAT DID; ONE THAT DIDN'T:**

A) Bowling Green Park, a disheveled half-acre oval in lower Manhattan, has a history of proud associations. Peter Minuit is said to have stood on the spot when he purchased Manhattan Island from the Indians in 1626. Early Dutch settlers developed the site as a bowling lawn and a place to stroll away many a languorous summer afternoon. In 1732, the park was leased to a group of private citizens at the exceedingly nominal rental of one peppercorn a year. Nearly a half century later, in 1776, the park's statue of King George III was torn down and melted into bullets for Washington's army then at bay in Brooklyn.

Now swallowed up in high rise development, the site is little more than a subway stop to most New Yorkers. Plans are underway, however, to renovate the park and restore it to its late eighteenth century condition. Landscape architect M. Paul Friedberg has been retained to develop plans for the restoration with funds provided from the capital budget of Transit Authority who will expand and upgrade their subway facility. Also involved in the renovation project are the City's Department of Parks, Recreation and Cultural Affairs and the Landmarks Preservation Committee.

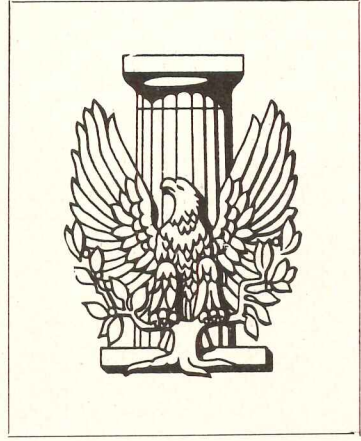
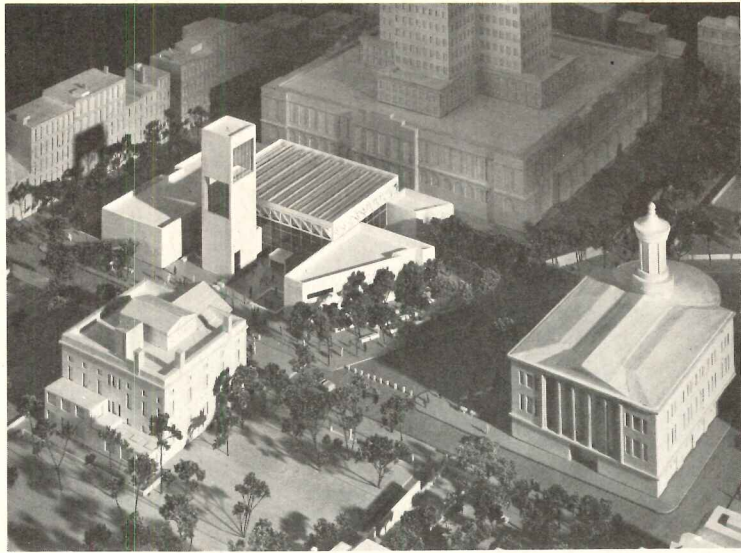
B) Although it was the oldest Methodist church west of the Alleghenies and the scene of William Henry Harrison's funeral, Cincinnati's Wesley Chapel (photo above) did not fare so well. Its claims to historic significance were not really overwhelming but Wesley Chapel typified the starkness of early Methodism sufficiently to warrant a place in the Federal Registry of Historic Buildings. It nonetheless became the property of a large corporation who wanted to demolish the chapel to make way for office expansion. The corporation was apparently willing to "discuss" the building's

preservation but the owners' conservationists could not reach any satisfactory agreement. As a result, on the night of February 1, 1972, over the protest of many city professional groups (including AIA), demolition began.

Whether this chapel should have been saved caused wide debate. What is disturbingly true, however, is that in the absence of any rational mechanism for preservation, buildings of excellent quality continue to be replaced too often by buildings of mediocrity. The tug-of-war between past and present, vital parts of our cultural heritage are being destroyed—so many passenger pigeons—out plan or sufficient forethought. A park was saved, but add Wesley Chapel to the roll call of buildings doomed. When will a national preservation policy be more than just talk?

**ST. LOUIS EXPERIMENTS WITH WASTE DISPOSAL**

The city of St. Louis and the Electric Co. have joined the Environmental Protection Agency in sponsoring a demonstration aimed at combining ground water and other municipal wastes pulverized coal to fire boilers generate electricity at a power plant. Says EPA Administrator William D. Ruckelshaus: "St. Louis project, if successful, would provide a way to use energy that would otherwise be wasted, a procedure will become available that would be used in a number of large cities across the country to help solve the problem of waste disposal." EPA estimates the value of such waste to be about half that of coal.



**KEY ADDRESSES  
ARCHITECTS AND ENGINEERS**

Architects and engineers from all parts of the nation swarmed Capitol Hill on Tuesday, March 14, for their annual visits to members of Congress to argue for passage of legislation advantageous to their practices. This invasion of professional offices followed a series of sessions in which delegates met with the annual Public Affairs Conference, co-sponsored by the American Institute of Architects and Consulting Engineers Council, to be briefed on current bills and attend seminars in which issues were discussed in detail.

Subjects of the concurrent seminars were housing, transportation, labor relations, research, and technological conversion as subjects affect the design professions. Nearly a score of Congressmen and Senators also participated.

Unhappily, a day of hearings on the A-E procurement measure sponsored by Rep. Jack Brooks (D-Texas) gave delegates a chance to appear on a House panel in action on March 14. The bill would legalize currently prevailing methods of A-E selection on Federal projects, staffed by a General Accounting Office to force a bidding procedure. Efforts for passage this year are in line with full committee chairmanship of Chet Holifield (D-Cal.) opposed to the bill as written.

The luncheon speaker March 13 was Sen. Edward M. Kennedy (D-Mass.), who urged architects and engineers to show their skills by planning a new city that by 1980 would be serving the needs of its citizens. Such a city should be "a model goal for skilled men and modern technology which he said has been marking time since the Civil War was won.

Sen. Kennedy also detailed provisions of his proposed National Economic Policy and Priorities Act which would authorize \$2 billion

in three years to establish a framework of policy and priority for civilian science and technology. He also took the opportunity to criticize the recent decision to extend, rather than restore in place, the West Front of the U. S. Capitol Building.

**4  
NEW HOME FOR LIBERTY BELL**

Because security is inadequate and its present home too small to accommodate the crowds that Expo '76 will almost certainly generate, the Liberty Bell will be moved to a bell tower soon to be constructed nearby as part of a \$5 million Visitors Center. Designed by Cambridge Seven Associates, the Center will provide information and assistance to visitors in locating Philadelphia's historic buildings. In its new setting, the 220-year-old symbol of national independence will hang four feet off the floor so that visitors can touch it and examine its famous crack. The bell has not been rung since 1846 for fear of enlarging that crack.

Construction of the new center is expected to begin in July or early August.

**HUD TO REVISE  
INSULATION STANDARDS**

The White House has directed HUD to issue revised insulation standards for apartments and other multi-family structures coming under FHA-insured mortgages. The new rules will cut maximum permissible heat loss by 40 per cent with costs to be recovered through lower fuel costs. HUD already has new single-family standards reducing maximum permissible heat loss by about one-third.

**HOUSTON CONVENTION**

New efforts by the AIA to influence national growth policies will be the theme and prime focus of the 1972 convention in Houston. Delegates to the convention will debate, amend, and vote on a major policy document—the Report of the Task Force on National Policy (RECORD, February 1972). A year in the making, the Report recommends a number of strategies aimed at assuring intelligent use of our dwindling land reserves and proposes methods for creative, humane rebuilding of our crumbling and chaotic urban areas.

■ A Marketplace of New Ideas, to be located in the Albert Thomas Convention Center, is a new activity this year. Through seminars, slide presentations, and training laboratories, the Marketplace will provide an interchange of the latest developments in architectural practice and the construction process. More than 50 presentations of topics of vital interest to architects will be in the Marketplace. Among them: computer systems, legislative issues, employer-employee relations, Federal agency programs, financial management and cost accounting, planning special environments, and ecological concerns.

■ Dr. René Dubos, microbiologist and experimental pathologist, renowned for his writing and lectures on man's relationship to his environment, will deliver the keynote convention address, "In Praise of Diversity," on Sunday, May 7. On Wednesday, Texas Senator John Tower will address the convention.

■ The convention's round of social activities—the McGraw-Hill/Dodge Party, a Night at the Alley Theatre, and the Houston Chapter's Texas Fiesta, will be capped by the Gold Medalist's Ball honoring Pietro Beluschi (see page 119) on the evening of Wednesday May 10.

■ The Building Team Conference this year will follow the convention on May 10-12.

**5  
IS THE AIA EMBLEM  
OUT OF DATE?**

Some architects think so and are petitioning the AIA's board of directors to commission a new design that is "more representative of the emerging new image of the architect." If the board disagrees, the matter may be brought to the attention of the membership at the forthcoming Houston convention.

**HOME APPLIANCES TO BE  
RATED FOR EFFICIENCY**

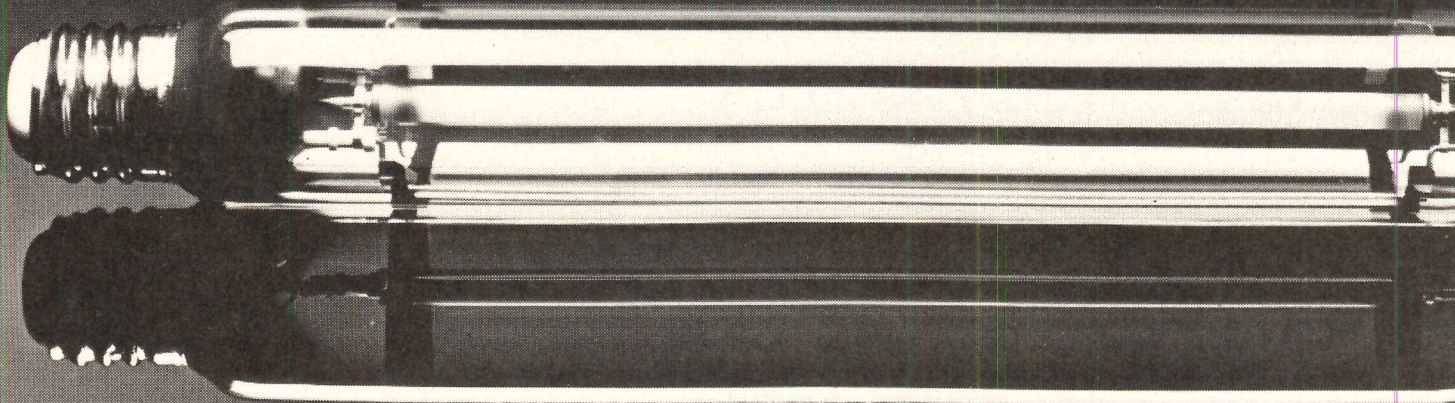
A great deal of electrical energy could be saved if room air conditioners were more efficient. That making them more efficient is not a technical problem was brought out at RECORD's Round Table on Energy Conservation (January). Rather, efficiencies have been going down because the public has not demanded any better.

The fact that room air conditioners represent a large electrical load apparently has moved the Municipal Service Administration of the City of New York, under administrator Milton Musicus, to work out a joint government-industry campaign to conserve energy by rating the efficiency of the units.

As a result of a meeting with the Association of Home Appliance Manufacturers, the AHAM organization has agreed to publish and disseminate: 1) a consumer purchase and use book; 2) forms for estimating the size of air conditioners best suited for the customer's needs; 3) data that will permit consumers to compare the efficiencies of various models 4) suggestions for saving electricity through shading, better insulation, reduction of heat from lights and appliances, and proper maintenance.

Further, and most importantly, AHAM will require that every air conditioner sold in New York City be rated according to energy efficiency (Btu/watt-hour).

Lucalox® lamp





# Since you can't beat it, join us.

Once you join General Electric's Savings in Light Association, you discover there are a number of important advantages.

And none of them is more unbeatable than the Lucalox® lamp.

The Lucalox lamp is, quite simply, the most efficient general lighting source available.

Specifically, a single 1000-watt Lucalox lamp puts out an average of 130,000 initial lumens of light. That's 130 lumens per watt—approximately  $\frac{1}{3}$  more light per watt initially than any other comparable general light source available.

The lighting efficiency of the Lucalox lamp becomes even more impressive when you consider that it's double the efficiency of the average mercury lamp (which is around 60 lumens per watt). That's a pretty good reason to think about updating your present mercury or other type of lighting system.

And when you begin to investigate that possibility, you make another interesting discovery.

Often, to increase your lighting levels, no change in existing wiring or electrical distribution systems is required when Lucalox lamps and fixtures replace your existing lighting units.

Lucalox lighting has many applications: street lighting, parking lots, industrial lighting, highways and others. Anywhere you want to increase your lighting levels and conserve electricity.

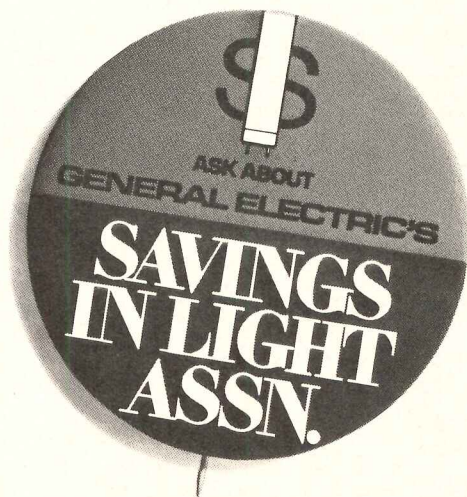
(And nobody knows for sure how much improved lighting may save by reducing accidents and crime, or by increasing productivity in factories, etc.)

Lucalox lamps are available in three sizes: 250 watts for smaller areas, the popular 400-watt size and a 1000-watt lamp for high mounting areas.

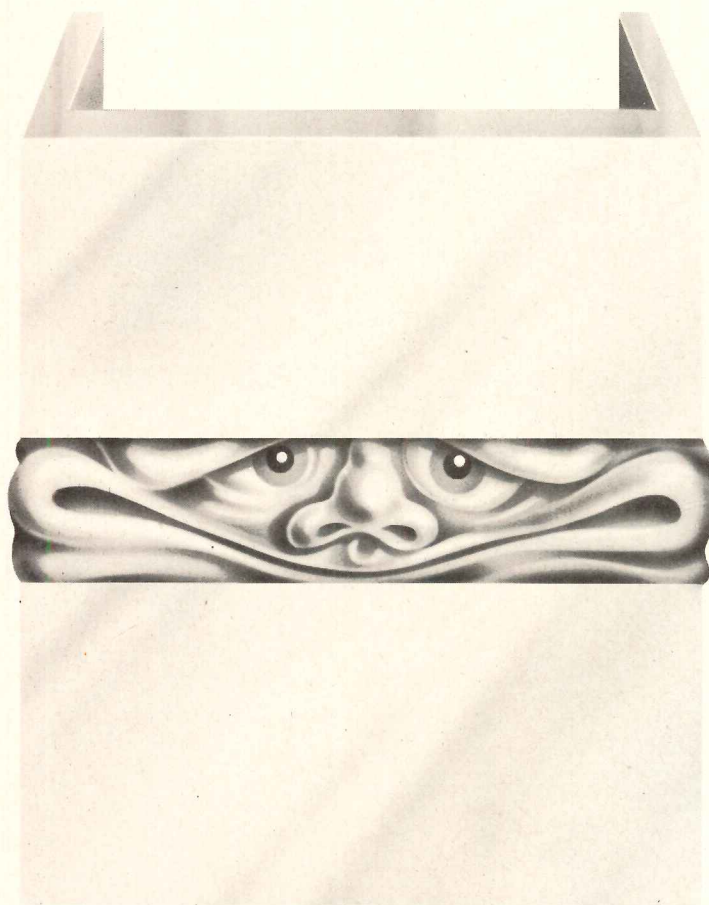
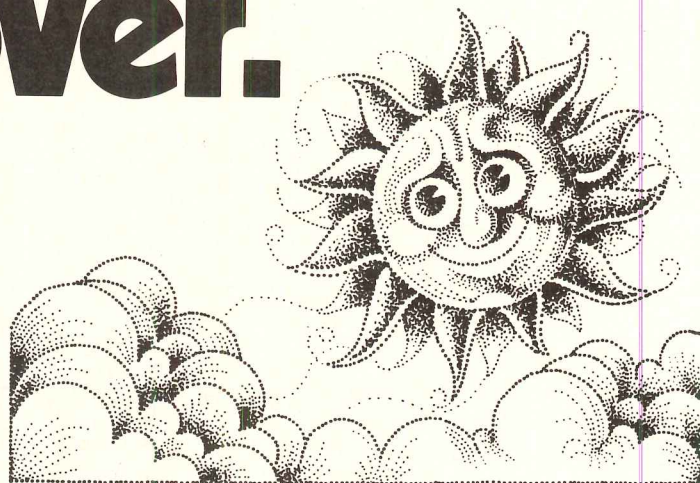
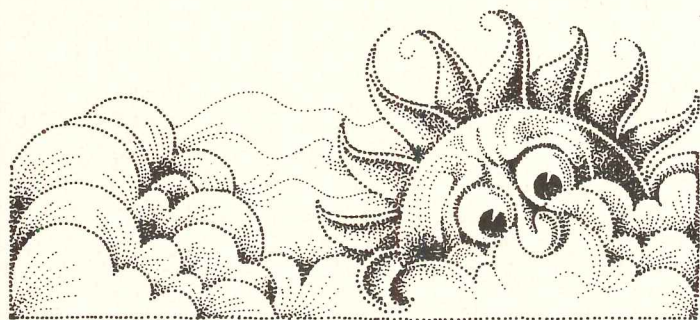
You can't beat Lucalox lamps for efficiency and savings in your total cost of light. And since most of the cost of light is in maintenance, power, etc., the way Lucalox lamps perform can mean major savings in your total lighting costs. And, as is usual in lighting, the cost of the lamps is relatively unimportant.

So take advantage of Lucalox lamps. Call your General Electric lamp representative. Or write: General Electric, Dept. C-110, Nela Park, Cleveland, Ohio 44112.

GENERAL  ELECTRIC



# Mating habits of the all-aluminum column cover.

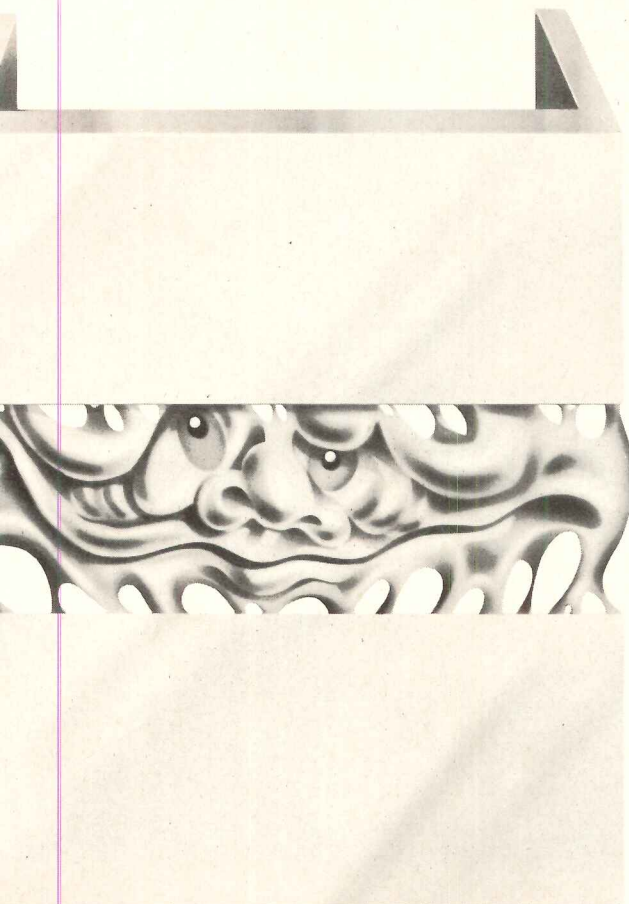
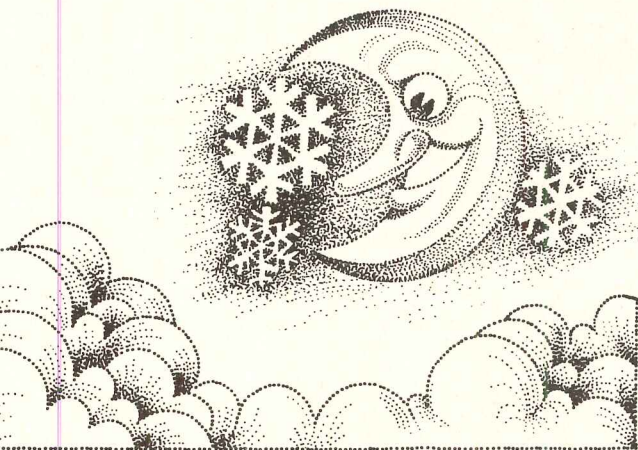


By itself an aluminum column cover is a thing of joy and beauty forever. The trouble starts when you try to make a waterproof joint between a pair of them.

Let's say the job calls for a  $\frac{3}{8}$ " joint between 12-foot panels. The panels are set in place at 8:30 a.m. The temperature is 50°F when the sealant is applied. (Above, left).

But now the temperature starts to rise. By 4:00 p.m. it's 85°. And those dark-colored, dull-finished, insulated panels are up to 175°. The joint has compressed to  $\frac{1}{4}$ ". This is normal building movement. But look what's happened to the sealant. (Above, center).

Heat speeded the cure. And by 4:00 p.m. the sealant has cured to a firm bead  $\frac{1}{4}$ " wide.



Now the temperature drops. By 9:00 p.m. 20°; the joint opens up to  $\frac{7}{16}$ ". And while the job called for a  $\frac{3}{8}$ " cured bead that could move 25% either way, it actually winds up with a  $\frac{1}{4}$ " cured bead that must elongate more than 50% to  $\frac{7}{16}$ ". It probably won't stick it (Above, right).

Here's how you can avoid this problem.

Design the joints at least  $\frac{1}{2}$ " wide. This way, you will wind up with a  $\frac{3}{8}$ " cured bead that has to move just 25% of its cured width.

If it is aesthetically feasible, use 6-foot instead of 12-foot panels. You'll cut panel expansion in half and stay well within the sealant's movement capability.

Better still, you might talk to us while you are still in the design stage. We're Tremco. And we cope with aluminum column cover sealant problems every day of the year. We also have some 15 basic sealant formulations to work with — including such familiar names as MONO (our job-proven acrylic terpolymer), DYmeric (our Tremco-developed polymer), and Lasto-Meric (our polysulfide).

With all this going for you, you can stop worrying about the mating habits of the all-aluminum column cover. Because Tremco will come up with a sealant system that will stick with you for years on end. The Tremco Manufacturing Company, Cleveland, Ohio 44104, or Toronto 17, Ontario.

**TREMCO**  
The water stoppers



# Our light heavyweight

**Permalite Pk** • the new, compact roofing board that provides as much insulation as materials twice as thick.

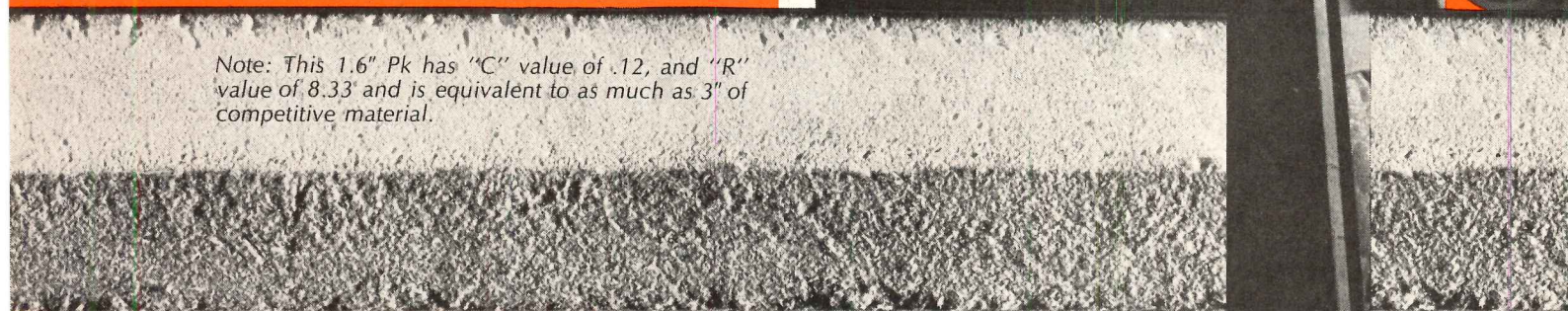
**Permalite Pk** • increases design flexibility, sharply decreases operating costs, and reduces shipping and installation costs significantly.

**Permalite Pk** • combines the exceptional dimensional stability and fire protection properties\* of famous Permalite Sealskin with the unmatched insulation qualities of urethane foam and a high-strength water repellent laminate.

Get the facts:

**Grefco, Inc.**

Building Products Division  
2111 Enco Drive  
Oak Brook, Illinois  
60521



Note: This 1.6" Pk has "C" value of .12, and "R" value of 8.33 and is equivalent to as much as 3" of competitive material.

\*Permalite Pk: Listed by FM for Class 1 Steel Deck Construction (fire and wind uplift); UL Metal Deck Assemblies Construction Nos. 1, 2 and others.



Building Products Division

**Permalite Pk**<sup>\*</sup>  
RIGID ROOF INSULATION



## This is why Executone created Room-Tuned Sound.

Even the finest sound systems ring, whistle, howl, echo—or distort the sound in other disturbing ways.

Sound engineers will tell you that the room itself usually causes the problem. Working from this premise, sound engineers have come up with a solution: Executone Room-Tuned Sound Systems. These professional sound systems employ the most sophisticated techniques yet developed to electronically match amplification to the room it serves. Before installing a system,

Executone sound engineers determine the room's "acoustic personality." This is the room's environment, the sum of its size, shape and volume—plus the influence of materials used in the walls, ceiling, floor and furnishings.

They then select the proper combination of Executone professional sound components to match the room's personality and function. And where a room has acoustic deficiencies, the engineers "tune out" unwanted variations and "tune in" needed sound reinforcement.

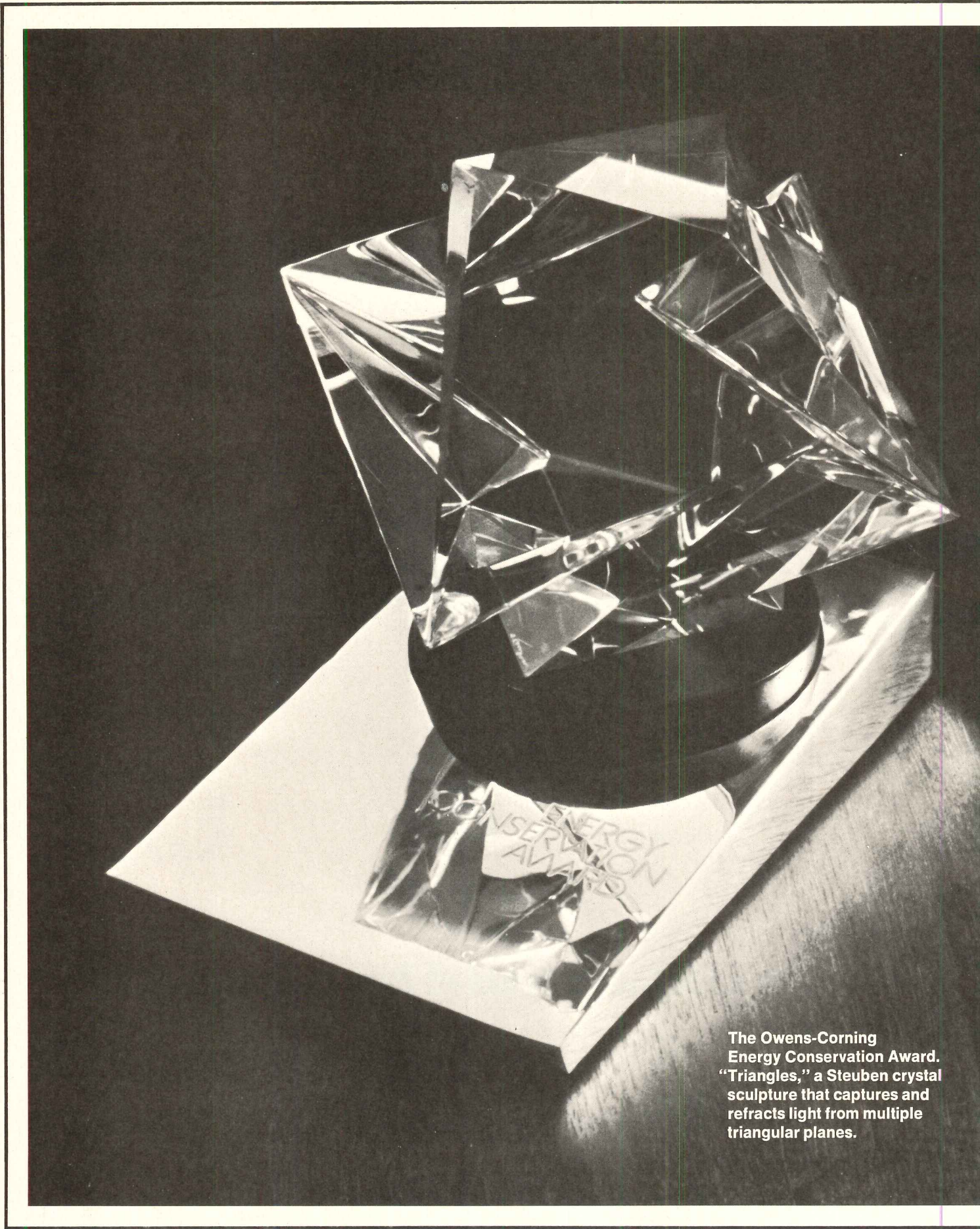
The result is an Executone Room-Tuned Sound System. Consistently clear and balanced sound, free of feedback and distortion. People using the system become more confident and audiences more attentive.

Executone Room-Tuned Sound Systems are backed by our own expert local service people who provide prompt, dependable maintenance.

If you're ready for a sound system that will never embarrass you, call your Executone man now.

Or write for free portfolio, "Executone Room-Tuned Sound Systems."

**Executone**



The Owens-Corning Energy Conservation Award. "Triangles," a Steuben crystal sculpture that captures and refracts light from multiple triangular planes.

# Announcing the first Owens-Corning Energy Conservation Award for architects and engineers.

**Show our Awards Jury a building design that doesn't waste energy—and you could win one of the three Energy Conservation Awards Owens-Corning will present this year.**

The Awards Jury will be looking for three things: Creativity. Originality. And designs that save energy.

We're running this program because of the urgent need to conserve energy. Too many buildings waste energy and contribute to environmental pollution.

By offering Energy Conservation Awards, we hope to stimulate new designs and ideas for conserving energy. We also want to honor the architects and engineers who do the best job of designing buildings and mechanical systems that save energy.

The winning combination of energy-saving ideas could be in the building you're working on now.

**Who can enter.** All registered architects and professional engineers practicing in the U.S. are eligible. As individuals. Or in teams. But to qualify, your entry must be a commissioned building project—in the design process, under construction or a completed structure.

The use of Fiberglas\* products is not an entry requirement.

**The Awards.** The Awards Jury—outstanding

professionals in the fields of architecture and engineering—will present an award in each of these categories:

*Institutional*—schools, hospitals and government buildings, for example.

*Commercial*—office buildings, shopping centers, retail stores and similar structures.

*Industrial*—including manufacturing plants, research centers, warehouses.

Equal emphasis will be given to all entries in each category, regardless of project size.

Winning architects and engineers will receive a Steuben crystal sculpture—the multi-faceted polyhedron shown on the opposite page. The firms and building owners associated with the winning entries will receive Steuben plaques.

**Send for entry details now.** Completed entries must be submitted by August 31, 1972, so that winners can be notified in September 1972.

For a brochure giving complete details, contact your local Owens-Corning representative. Or write: Owens-Corning Fiberglas Corporation, Energy Conservation Award Program, Fiberglas Tower, Toledo, Ohio 43659.

\*T.M. Reg. O.-C.F.

**Owens-Corning is Fiberglas**

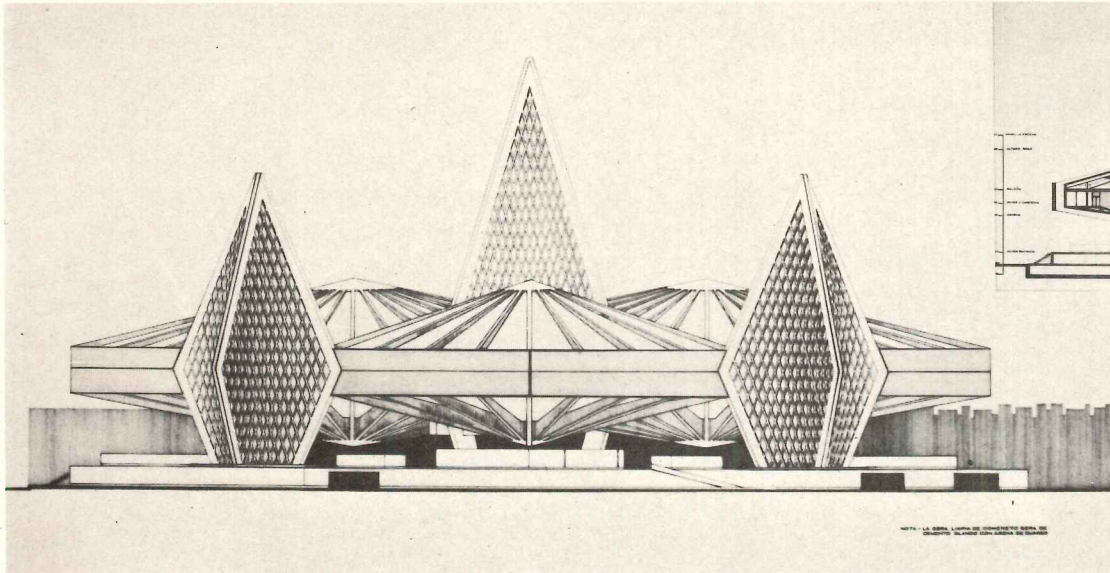


For more data, circle 30 on inquiry card

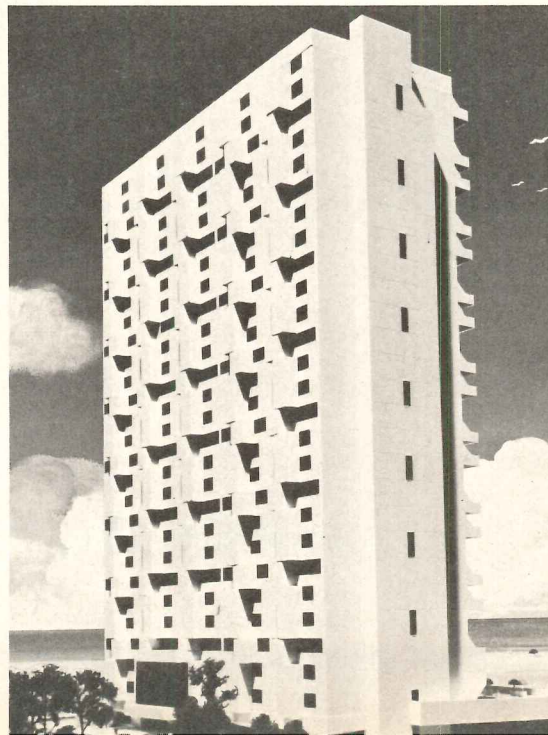


Anthony Hathaway

**Dunbar High School** in Washington, D.C. by Bryant and Bryant, a black-owned architectural firm, consists of a learning tower and adjacent facilities to serve both the community and school. The tower is composed of split levels connected by up-escalators and down-ramps. There are three four-level "houses" for different age groups, each having—besides learning areas—its own kitchenette, a combined lunch and multi-purpose space and a terrace. Robert Jongh, chief designer; Hector Arillo, project architect.

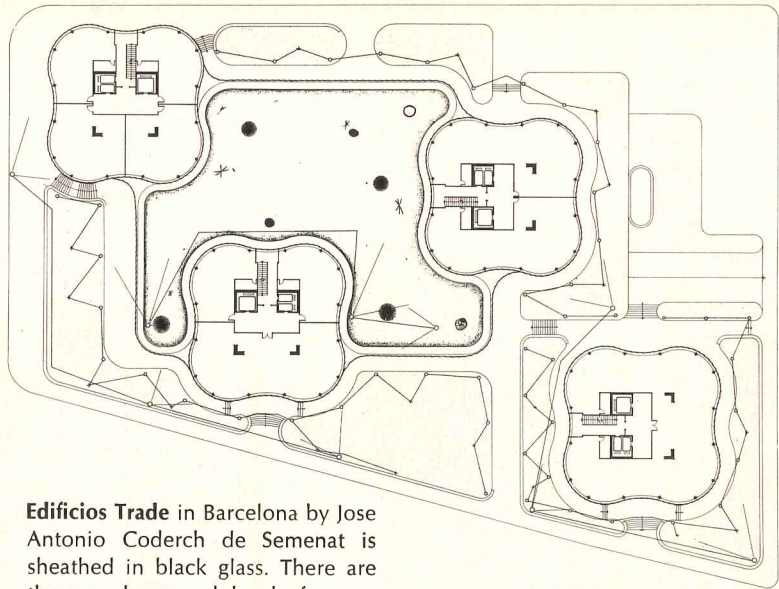


**The Caracas Concert Hall** by Carlo Vannini, architect, and Emma Gavillet, civil engineer, is shown in its preliminary design stage. The main hall for 2,500 people is designed to accommodate chamber music, symphonies, opera and ballet. The diamond shape dominates the elevations and the plan which includes a 500-seat hall.

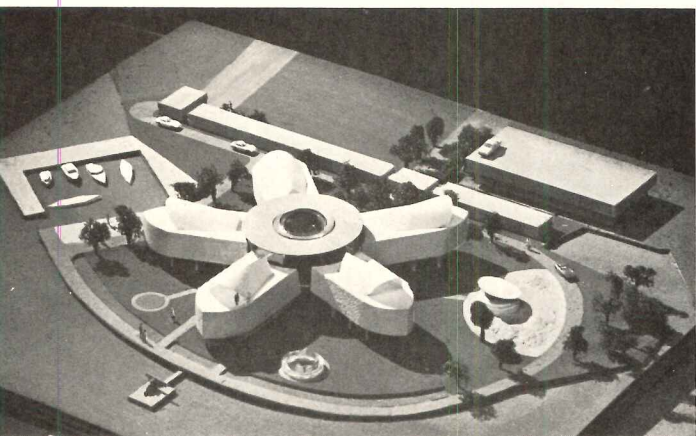
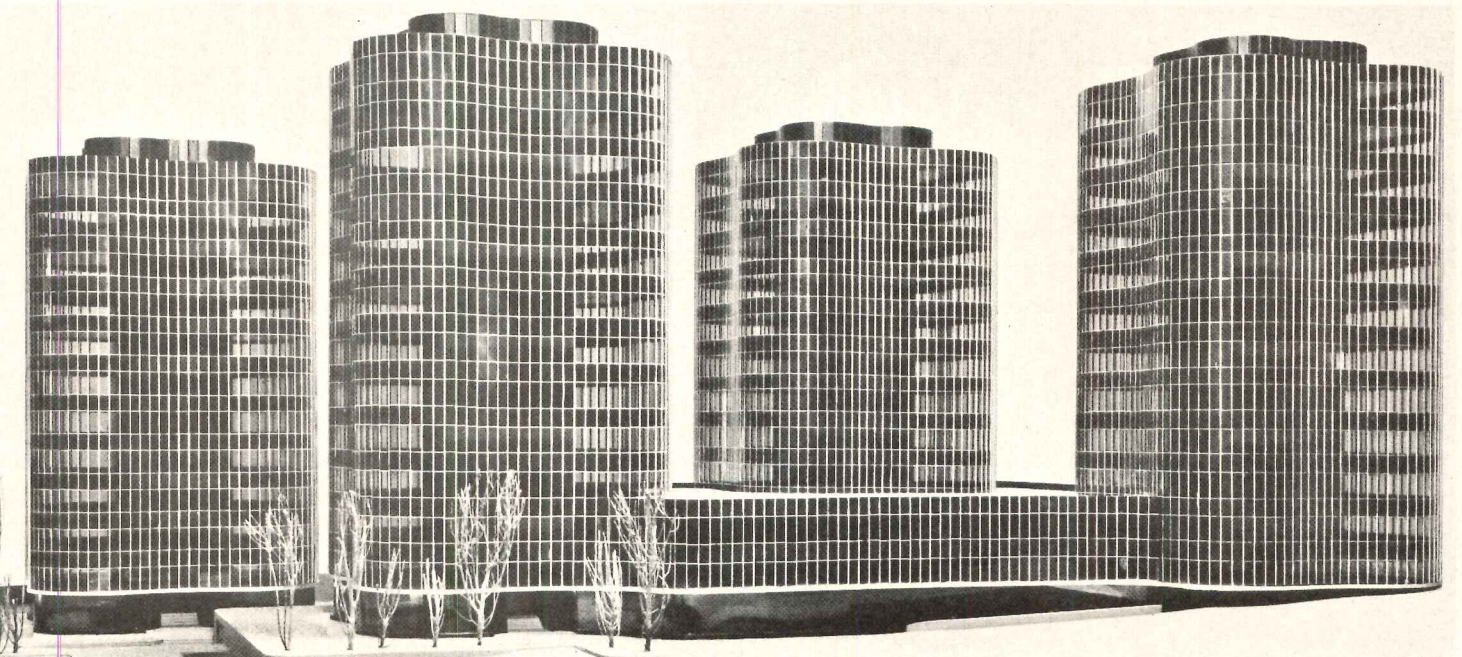


**The Century I Condominium** in Ocean City, Maryland by William Robert Wakeham of Valand, Boring and Associates will have a ground-level, rainy-day play area under the raised structure; a lounge, game room, sauna, steam and massage areas on the second floor; and a swimming pool, deck and dune walk on the ocean front. There will be 167 one- and two-bedroom units, all with livable portions and with living and dining areas facing the Atlantic and bedrooms facing a bay. The building will be 26 stories high and use a skip-corridor plan, of cast-in-place reinforced concrete.





**Edificios Trade** in Barcelona by Jose Antonio Coderch de Sememat is sheathed in black glass. There are three underground levels for mechanicals and parking. In the area connecting three of the towers are restaurants, gym, sauna and shops on the ground floor; conference rooms and auditorium on the mezzanine.



**Aquaseum** designed by Knafo Serra for a Greenport, Long Island City waterfront site is to be a unique aquarium-museum-teaching facility where graduate and high school students could conduct studies. A multi-story tank will form the

core with exhibits, services, laboratories, instruction and lecture rooms in the starfish shaped wings. On stilts, the structure will leave the grounds free and protected for outdoor exhibits. There will be a rooftop restaurant around the tank.

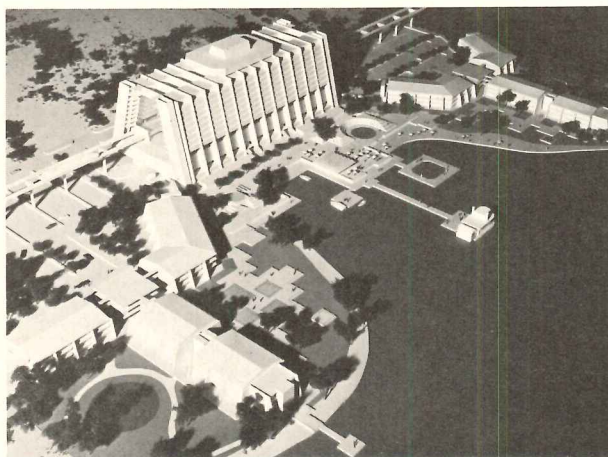
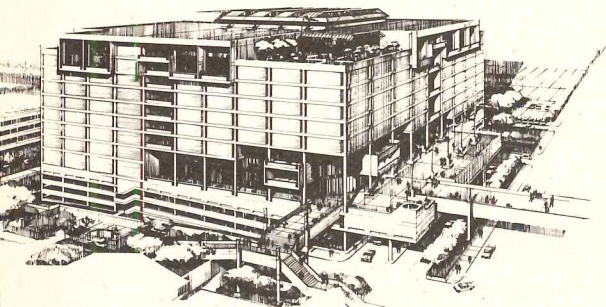


**The Steamboat Village Inn** (right in photo) and Plaza (left, rear) in Steamboat Springs, Colorado, designed by Ken R. White Co. offers 80 hotel rooms, 22 condominiums, a dining room, lounge, saunas, game room, meeting rooms and shops.

# The Society of American Registered Architects 1971 Awards Program

The 1971 Awards Program of the ARA indicated a far higher standard of design than has been true of its past programs. The premiated designs shown below (and the Third Honor Award winning **Red Wing, Minnesota marina, shopping center and housing development**, not shown, by the ARA president's firm, Lie-

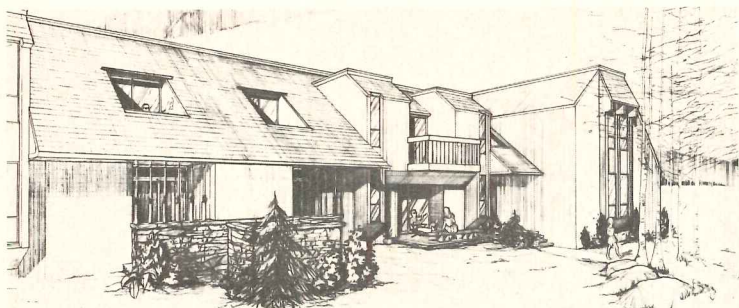
benberg, Kaplan, Gotter & Associates) were judged by F. Schmitt, Paul F. Colebrook, Jr., Herbert H. Johnson, Andrew Ferendino, Wahl J. Snyder, Samuel H. Kruse, John Hellman, John Boulanger and Sidney Epstein with Blake Hughes, RECORD publisher, as jury chairman.



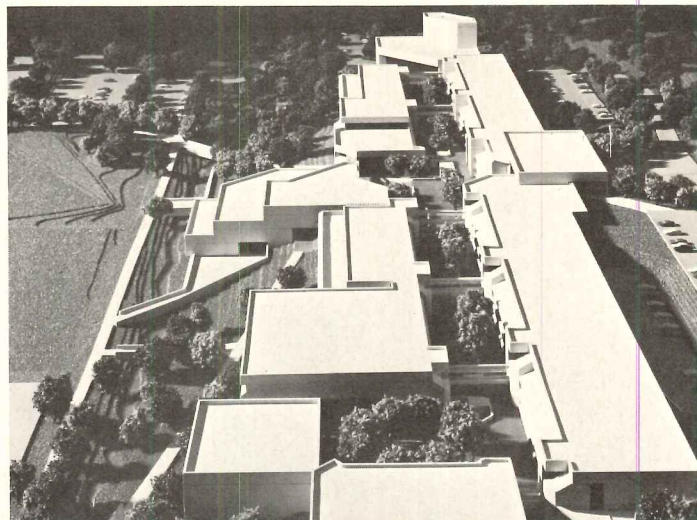
Richard Karl Koch

**The Los Angeles Resource Center** (far left) and the **Disneyland Hotel** (left) in Orlando, Florida by Weisman Becket & Associates both won First Honor Awards.

**Holyoke Community College** in Holyoke, Massachusetts by Daniel, Mann, Johnson & Mendenhall, with Frank Masiello as consulting architect, won a Second Honor Award.



**The Villa Apartments** in Raleigh, North Carolina by Harry W. Moser, Jr. won a First Honor Award.



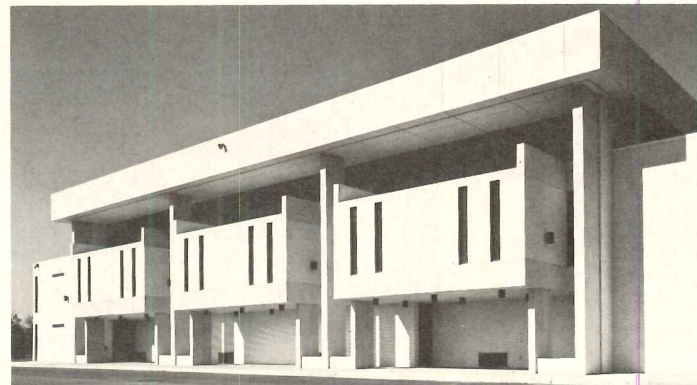
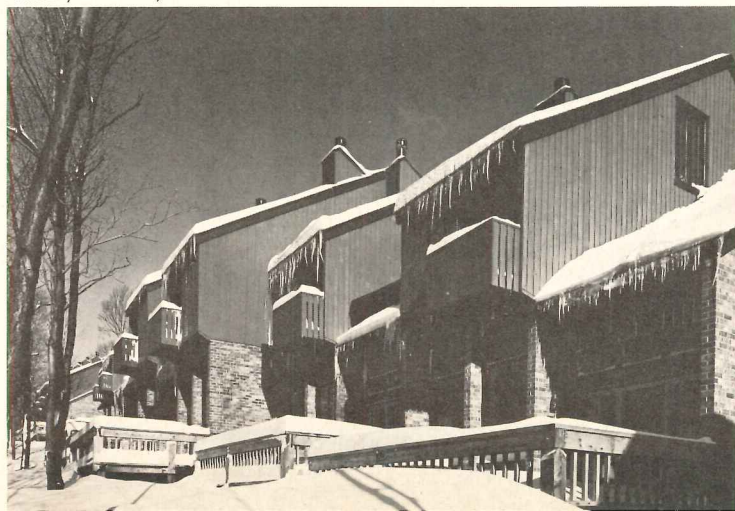
Richard Karl Koch



**Woods Cross High School** in Farmington, Utah by Harold K. Beecher & Associates won a Third Honor Award.

**A Ski Resort** in Seven Springs, Pennsylvania by Collins, Kronstadt, Leahy, Hogan & Collings won Honorable Mention.

Anthony Hathaway



**The Parkland Junior High School** (top, above) and **The William Allen Physical Education Building** (above), both in Allentown, Pennsylvania and

**St. Steven's Lutheran Church** (shown) in Bethlehem, Pennsylvania by Everett & Associates all won Honorable Mentions.



# The eye takes the first step.

The floor is  
Brigantine™ Vinyl Corlon®  
The color is char brown.  
And as it stretches in front  
of the eye, interior lines  
and shapes are brought together.  
Unified.

That's the design value  
only a floor can offer.

Brigantine Vinyl Corlon  
is one of many Armstrong floors  
being used by architects and  
designers. Our floors are chosen  
because they help achieve  
a coordination of elements.  
A sense of "total architecture."

We offer enough different floorings,  
in an unprecedented collection  
of patterns and styles,  
to work with almost any concept  
or budget. And we can provide  
the technology you may need to  
bring an interior design idea to life.

Please write us for whatever  
information you may need.  
Armstrong, 301 Rock St.,  
Lancaster, Pa. 17604.

**Armstrong**

For more data, circle 1 on inquiry card

# How Can Your Firm Increase Profitability, Creativity And Productivity All At The Same Time?

One way would be to cut your drafting time by, say, half. That would take care of the profitability and productivity. And it would free your people for more creative tasks.

Easier said than done? Of course. Unless you consider putting Itek's Positive Printmaker to work for you.

You can use the Positive Printmaker all the way through, from renderings to schematics to design drawings to working drawings.

With the Posi you can perform scissors "paste-up" drafting, size and scale your work, rearrange drawing elements, and add details which you might not normally include. It even gives you diazo intermediates up to 18" x 24".

So you never have to draw anything twice. That gives your staff more time to be creative. And that's *real* profitability.

Write today for more information, including rental and leasing plans.

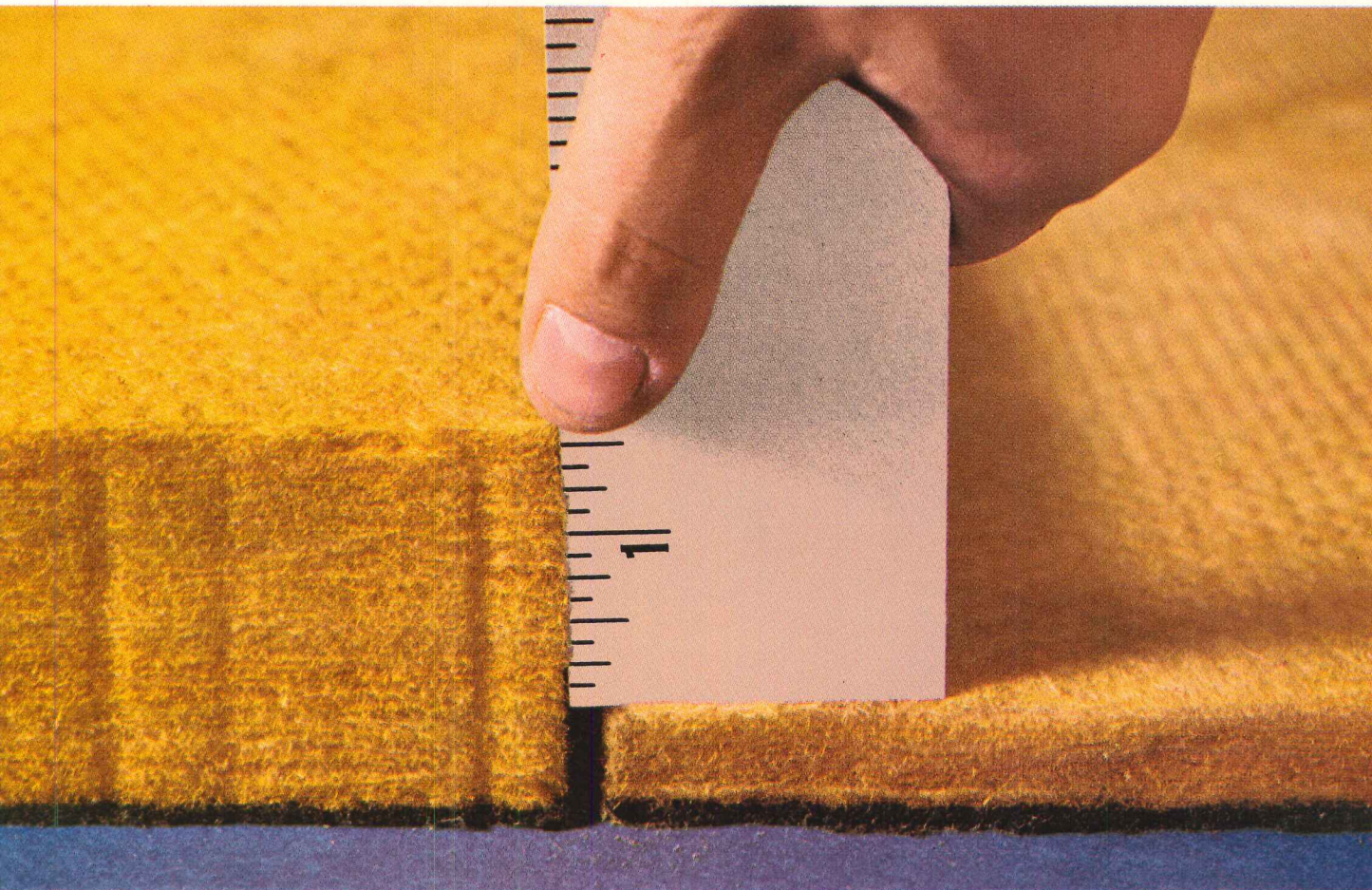
A black and white photograph of a man in a striped shirt and tie, looking intently at a large architectural drawing spread out on a drafting table. The drawing shows a complex floor plan or schematic. In the foreground, there are several rolled-up blueprints. The background shows a wall with a grid pattern and some framed drawings.

**Itek**

**Itek Business Products, Dept. PC**  
1001 Jefferson Road, Rochester, New York 14603

For more data, circle 31 on inquiry card

# Efficient building idea: Use this much more Fiberglas roof insulation and save up to \$27,000 every 60,000 sq.ft.



Those are the potential savings you could realize on the initial cost of heating and cooling equipment. Your client could also save an additional \$2500 a year on fuel.

Simply by using 2 1/4" instead of 3/4" of Fiberglas\* roof insulation.

These particular savings were figured for a suburban office plaza in the northern climates (zone 1). Factors taken into account were: the normal temperature range of

the region, size and type of roof deck, the "U" improvement due to thicker insulation. And the added cost of the thicker insulation.

How much can you and your client save by using 2 1/4" insulation?

Send for our free booklet "Raising the Roof." It'll show you how to figure your own savings for your section of the country for common types of roof decks.

Write Mr. A. D. Meeks, Architectural Products Division, Owens-

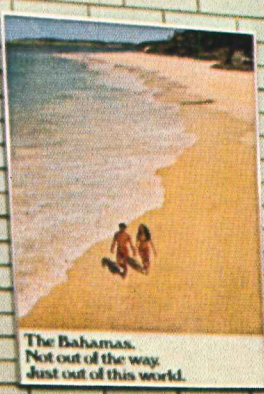
Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

#### Energy Conservation Award

Owens-Corning is offering awards to stimulate new designs and ideas for conserving energy. Special Steuben sculptures will go to the three architects or engineers who—according to a panel of independent judges—do the best job of designing buildings that don't waste fuel. See our announcement in this magazine for details.

Owens-Corning is Fiberglas

OWENS/CORNING  
**FIBERGLAS**  
TRADEMARK®



**Enkalure II soil-hiding nylon.**  
**When things are at their worst, we're at our best.**



Before the miseries of winter are left behind, this carpet will be left with a lot of things worse than snow, slush or rain.

Of course, since the carpet's made of Enkalure® II nylon, they'll be a lot easier to hide.

That's because Enkalure II's unique construction makes it harder for dirt to accumulate.

And harder for dirt to be seen. The reasons for this are simple.

Unlike conventional nylon fibers, Enkalure II fibers have smooth, sloping surfaces. Which means there are no deep grooves to trap dirt.

In addition, Enkalure II's special multilobal construction acts like millions of tiny reflectors, to bounce light in every direction. This intensifies the color and makes it appear brighter than any other soil-hiding nylon available. Even when dirty.

Of course, you'll be able to see that with your own eyes, so you won't have to take our word for it. And because carpets made of Enkalure II must pass Nationwide Consumer Testing Institute's critical tests for performance, you won't have to take our word for that either.

Now that you know how Enkalure II hides the dirt, it's easy to understand why carpets made of it need less cleaning. And therefore, why installations in airport terminals, schools, office buildings, theaters, shopping centers, or any other place where there's heavy traffic and soil, mean lower maintenance costs.

So if you're looking for a commercial carpet fiber that's at its best when things are at their worst, why not look at Enkalure II soil-hiding nylon. For more information contact American Enka, 530 Fifth Avenue, New York, N.Y. 10036 (212) 661-6600.

Carpets made of Enkalure II must meet the following minimum specifications:

1. Pile yarn: One hundred per cent Enkalure II Nylon.

2. Pile weight: Minimum of 20 ounces per square yard.

3. Pile density: Minimum 5,000. Formula:  $D = \frac{36W}{T}$

W = average pile weight (oz. per square yard)

T = average pile yarn thickness in inches

4. Tuftbind: Nine pounds, minimum.

5. Wear: Minimum — 10,000 revolutions (NBS. modified using #320 Aloxite cloth with a torque of 60 inch pounds.)

6. Flammability: Must pass Flammable Fabric Act Standard DOC FF 1-70 Methenamine Tablet Test. Must not propagate a flame.

7. Pilling: Must resist pilling after 10 hours in abrasive tumble-drum tester with a rating of 2.5 or less.

8. Resiliency: Must recover at least 80 per cent of its pile height after 48 hours of pressure at 50 psi.

9. Crocking: AATCC 8-1964 rating 4 or better.

10. Colorfastness: AATCC 16 A-1964 minimum of 20 SFH with no color change.

**Enkalure II soil-hiding nylon by ENKA**  
**The color stays clean when the carpet gets dirty.**

# KINNEY<sup>®</sup> REFLECTIVE GLASS

# KINNEY<sup>®</sup> REFLECTIVE GLASS

# KINNEY<sup>®</sup> REFLECTIVE GLASS

# KINNEY<sup>®</sup> REFLECTIVE GLASS

# KINNEY<sup>®</sup> REFLECTIVE GLASS

# ASG REFLECTOVUE<sup>®</sup>

# ASG REFLECTOVUE<sup>®</sup>

# ASG REFLECTOVUE<sup>®</sup>

# ASG REFLECTOVUE<sup>®</sup>

# ASG REFLECTOVUE<sup>®</sup>

# ASG REFLECTOVUE<sup>®</sup>

# ASG REFLECTOVUE<sup>®</sup>

# ASG REFLECTOVUE<sup>®</sup>

## GET THE PICTURE?

ASG Industries, Inc., has purchased the glass coatings division of Kinney Vacuum Company. This involves the vacuum deposition of metals on glass, a technique used in the manufacture of light and heat resistant architectural glass and transparent mirrors. The production facilities have been moved to Tennessee where ASG laminated glass and insulating units are manufactured.

Chrome, gold and silver reflective glass is being produced under the tradename REFLECTOVUE<sup>®</sup>. Transparent (one-way) mirrors will be marketed under the tradename DUOVUE<sup>®</sup>.

New literature and technical data are being prepared. Return the coupon, and you will receive the new material when available. In the meantime, please refer to your current Kinney literature and direct your inquiries to the nearest ASG sales office.

Atlanta, Ga., (404) 636-3001  
 Boston, Mass., (617) 482-0663  
 Chicago, Ill., (312) 693-2031  
 Dallas, Texas, (214) 748-6391  
 Detroit, Mich., (313) 547-6880  
 Los Angeles, Calif., (213) 723-7171  
 San Francisco, Calif., (415) 697-7244  
 Stamford, Conn. (203) 325-4411

Please Send New Literature And Technical Data When It Is Available.

Reflectovue<sup>®</sup> (ASG Reflective Glass)  
 Duovue<sup>®</sup> (ASG Transparent Mirrors)

(Please Print)

Name: \_\_\_\_\_

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

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



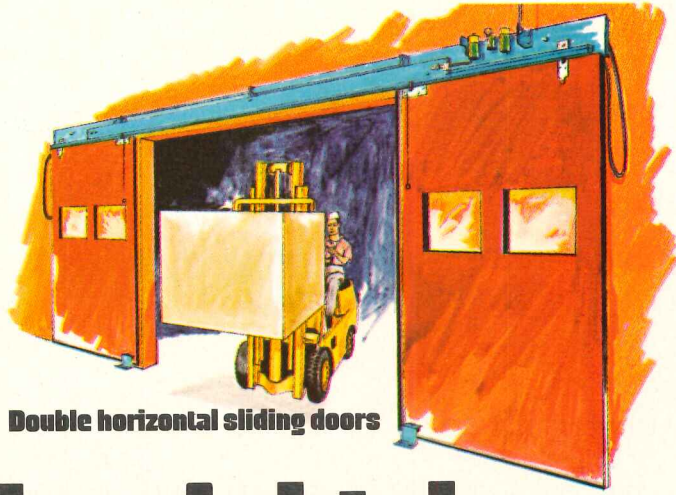
**ASG Industries Inc.**

POST OFFICE BOX 929  
 KINGSPORT, TENNESSEE 37662





**Shock absorber doors**



**Double horizontal sliding doors**

# Choosing the right door is tougher than you think...



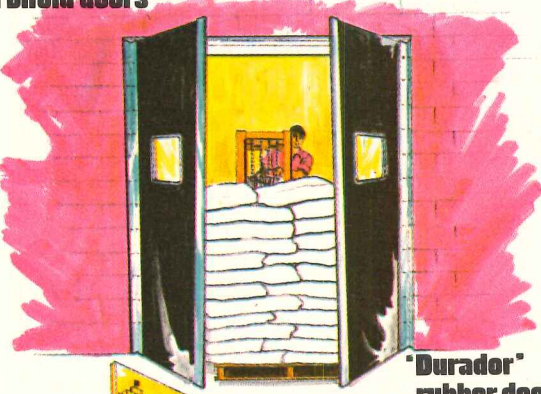
**Hinged bifold doors**

**But Clark can put you on the right track.**

Each door installation encounters a number of different materials handling, temperature and building requirements. That's why we make the widest range of manual and automatic Industrial and Cold Storage Doors in the industry. Not to make your task more difficult, but to make sure that you can select the *one* door type that best suits your needs. Our specialists can help you make that selection. Send for your catalog. Specify whether Cold Storage or Industrial. Today.



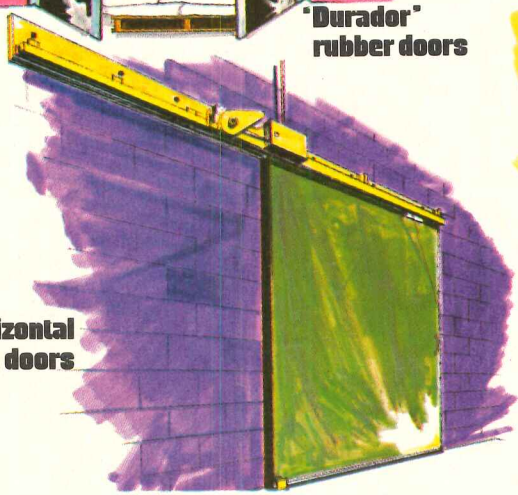
69 Myrtle St. Cranford N. J. 07016  
Tel. 201-272-5100 Telex 13-8268



**'Durador' rubber doors**

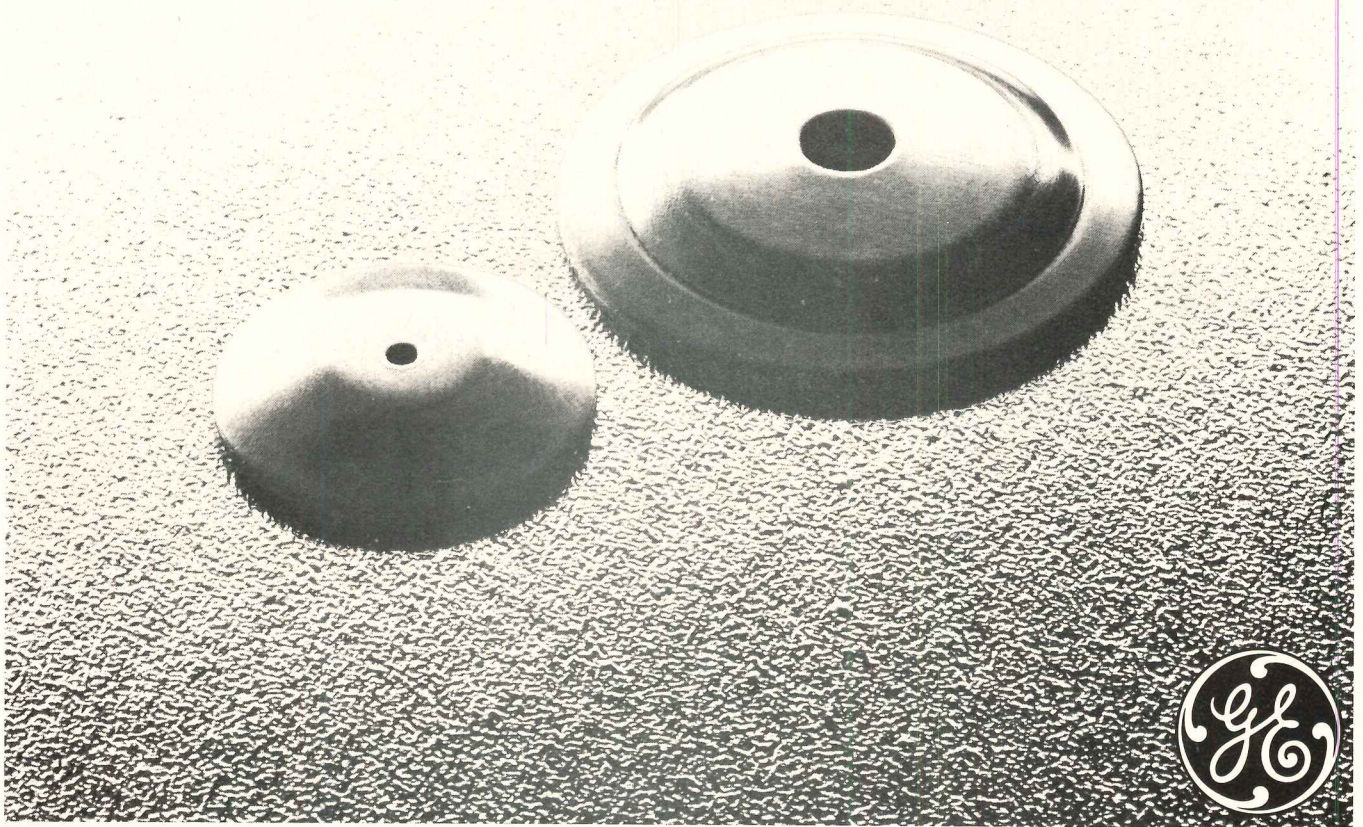


**Vertical lift doors**



**Single horizontal sliding doors**

# All you need to convert GE's gas/electric to LPG is five minutes and two pieces of metal.



In some areas, the natural gas shortage is a heartbreak. But not to users of GE's gas/electric heating and cooling equipment.

Because, with a simple kit, GE's gas/electric units can be converted to LPG.

The kit consists of two aluminum washer-type orifices, a nameplate and instructions.

The orifices go into the pipe union and meter the flow of gas to the burner.

The nameplate signifies that the unit has been converted to LPG at 2500 BTU/FT<sup>3</sup> with parts supplied by the General

Electric Company, And that the unit does not lose its A.G.A. certification upon conversion.

It's a small plate, so there are some things we couldn't put on it.

For one thing, the unit runs at 3.5" manifold pressure, the same as natural gas, so it isn't necessary to adjust the gas input valve.

The burner is a forced combustion type, which eliminates the need for increased pressure drop, and aspiration of primary air into the gas.

The valves themselves are A.G.A. certified for natural

and LP gas regulation and control.

The combustion chamber is made with the same metal we developed for jet engines.

And finally, all our gas/electrics have the General Electric National Service Contract available at the time of installation. Service is available from the installing dealer or other authorized servicer.

For more information, call your General Electric Central Air Conditioning Dealer. He's listed in the Yellow Pages under Air Conditioning Equipment and Systems.

GENERAL  ELECTRIC

*For more data, circle 36 on inquiry card*

**We've improved one of the trade's basic tools.  
Trinity White's Waterproofed Masonry Cement.**



You get the traditional color uniformity you expected from Trinity White Masonry Cement with the added advantage of a water repellent mortar joint with Trinity White *Waterproofed* Masonry Cement.

Trinity White Waterproofed Masonry Cement, when mixed with white sand, can produce a pure white mortar that contrasts beautifully with dark masonry units. With pigments or colored sand, the mortar blends nicely. Of course, for brilliantly white walls, there's no better

choice. Exacting quality controls during manufacture make Trinity White Waterproofed Masonry Cement consistent bag-to-bag for uniform results, wall-to-wall.

High water retention gives Trinity White Waterproofed Masonry Cement better bond strength. Its excellent workability is further assurance of good results.

Make new Trinity White Waterproofed Masonry Cement a basic design tool. Specify it for your next masonry job.

*Trinity White*

Creativity in Concrete

THE OWNER  
OF THIS BUILDING  
SAVED \$7,600\*—

## ...all because someone specified ZONOLITE Masonry Fill Insulation.

No wonder he's sold on the people who advised him to insulate.

It makes sense. Masonry walls need insulation even more than wood frame walls.

ZONOLITE® Masonry Fill is a water-repellent, granular vermiculite that improves the thermal performance of masonry walls up to 50% or more. It provides increased comfort through warmer walls and uniform temperature.

Year-'round savings quickly pay for this low-cost insulation. Typical average returns on the cost of insulating with ZONOLITE Masonry Fill range from 21% to 48% over a ten-year period.

### Some examples:

A Boston office building with 10,000 sq. ft. of wall area. Insulation installed: \$1,700. Estimated ten-year savings: \$6,350 for heating, \$1,250 in electricity for cooling. A 45% average annual return on insulation cost.

The same building in Atlanta: \$3,500 savings, a 21% return. In Minneapolis: \$8,150, a 48% return!

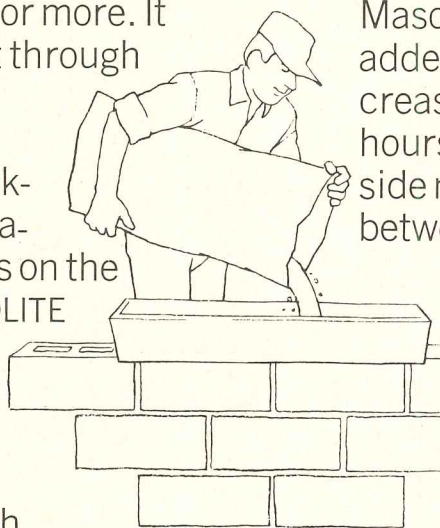
Reductions like these in fuel consumption can ease the nation's energy crisis, and reduce pollution caused by excessive fuel use.

In addition to saving money, ZONOLITE Masonry Fill Insulation provides added fire protection—actually increases fire resistance up to 6 hours, while helping to deaden outside noises and noise transmission between rooms.

It makes sense to recommend and specify ZONOLITE Masonry Fill. For more information, send the reader service card. Or, write today for brochure MF-164. It contains specific

cost data proving the savings ZONOLITE Masonry Fill Insulation offers your clients.

W. R. Grace & Co., Construction Products Division, 62 Whittemore Ave., Cambridge, Mass. 02140.



**GRACE ZONOLITE**

For more data, circle 38 on inquiry card

# Bally belongs.

In mass feeding  
for student bodies  
Bally Prefabs set the standard  
for Walk-In Refrigeration



Bally Walk-In Coolers and Freezers belong everywhere mass feeding takes place. They can be assembled in any size for indoor or outdoor use from standard panels insulated with four inches of foamed-in-place urethane, UL 25 low flame spread rated. Choice of stainless steel, aluminum or galvanized. Easy to enlarge... easy to relocate. Refrigeration system from 35°F. cooling to minus 40°F. freezing. Subject to fast depreciation and investment tax credit. (Ask your accountant.) Write for 28-page book and urethane sample. **Bally Case and Cooler, Inc., Bally, Pennsylvania 19503.**

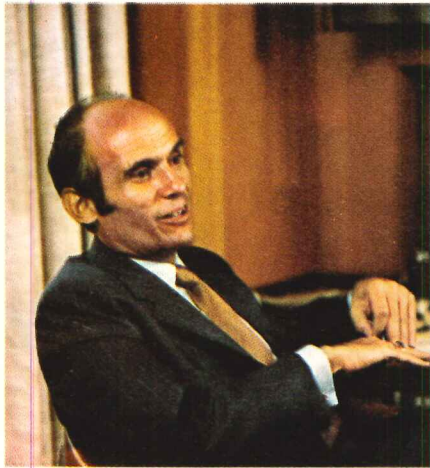


© 1972, ALL RIGHTS RESERVED.

For more data, circle 39 on inquiry card

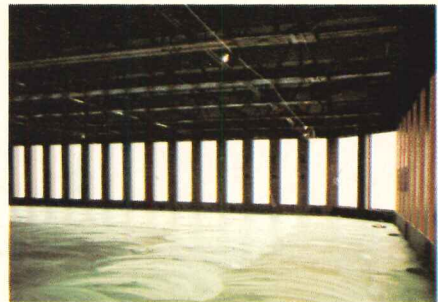
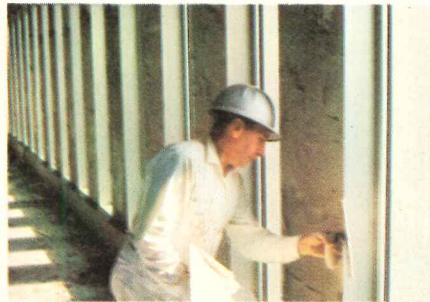
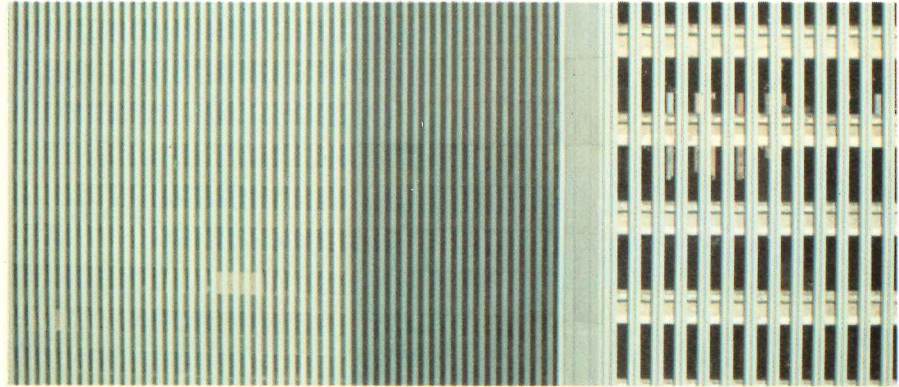
ADDRESS ALL CORRESPONDENCE TO DEPT. AR-4





**Consultant and general contractor John Tishman (Tishman Realty and Construction Company, Inc.) evaluates the World Trade Center wall system:**

"Our recommendation of aluminum as the Trade Center curtain-wall metal was largely the result of our own experience with aluminum wall systems in the many buildings we've built for others and for ourselves. "To begin with, we knew that aluminum



would give us a structurally sound wall system. "We also knew that maintenance costs on an aluminum curtain wall would be negligible, which created a favorable combination of ultimate and first costs of the metal. "And we had every reason to feel that anodized aluminum would give the Trade Center the smooth finish we wanted. "It appears that our judgment was correct. Every indication is that the Trade Center's aluminum wall system will fulfill all the exceptional specifications it was designed to meet. "The building is also exceptional in the design correlation between exterior and interior. The exterior metal wall comes through, to give us a crisp

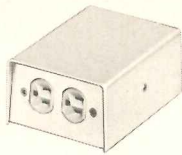
guideline for interior finishing. And the 40-inch module of windows and columns is much more flexible for interior layout than the typical four- or five-foot module. "In effect, then, the refinements of the curtain wall provided by Cupples Products Division of H. H. Robertson Company contributed to the efficiency of the trades responsible for interior finishing, another example of the interrelated planning of the building team. On a project like the Trade Center, total involvement of the building team is vital."

The World Trade Center is a project of the Port of New York Authority. Engineering and development were carried out under the Authority's World Trade Center Planning and Construction Division.

Change for the better with Alcoa® Aluminum



# This Single Fitting Delivers Phone, Power and Signal Service



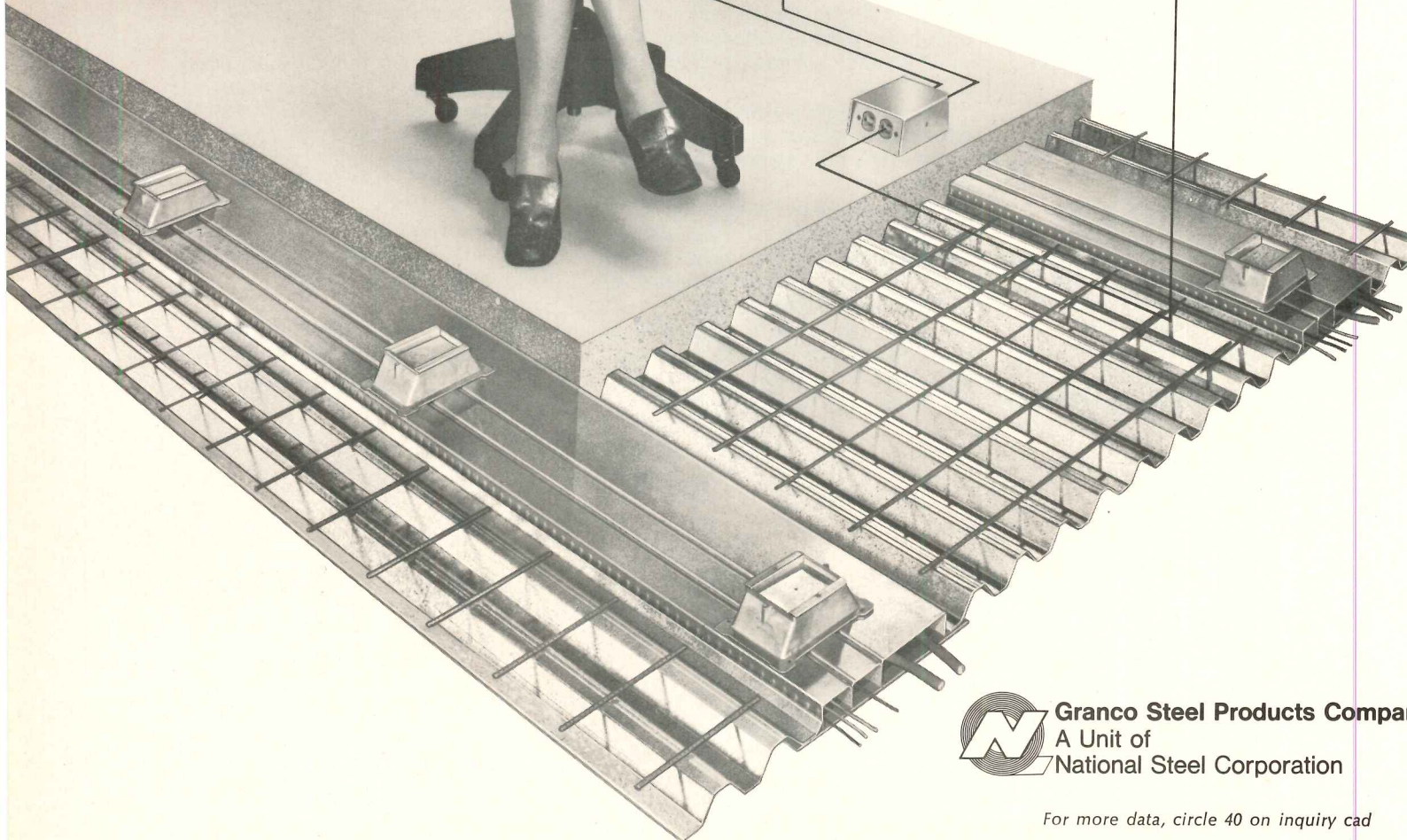
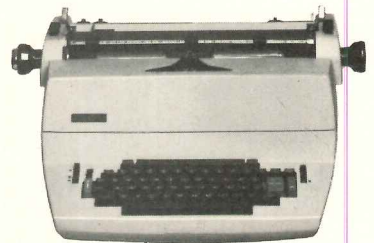
## THE GRANCO CEL-WAY®/COFAR® SYSTEM


Only visible evidence of the system is the handsome floor fittings, each furnishing telephone, power and signal services wherever needed throughout the floor.

Concealed within the 5 1/4" floor slab is a network of electrical cells, factory-installed pre-set inserts and Granco's new Feed-Way high capacity header. Granco's Cofar floor deck (combined form and reinforcement) completes the system.

Pre-set inserts permit future installations of additional floor fittings without core drilling. Desks and partitions can be changed whenever desired.

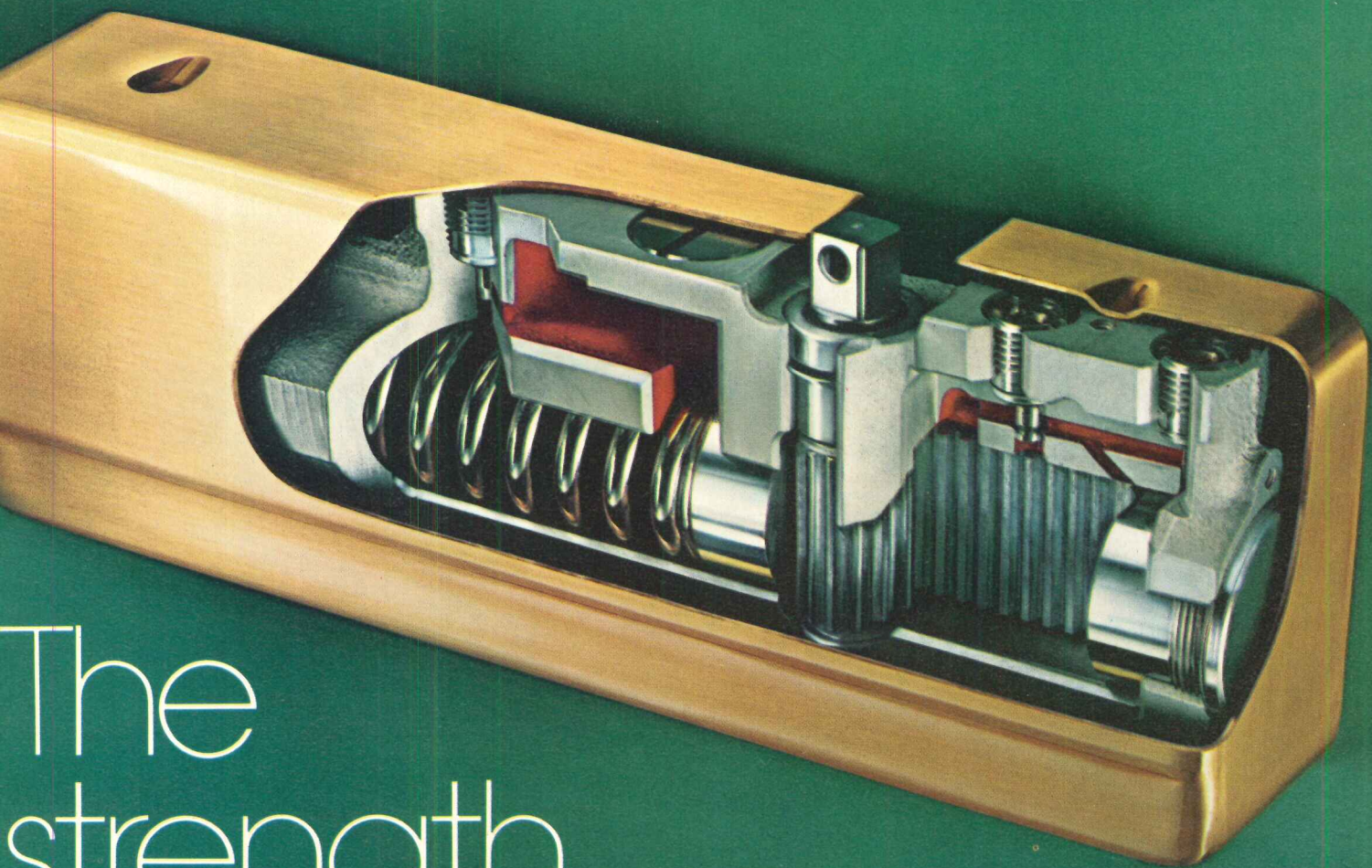
Get the complete story on CEL-WAY/COFAR in-floor electrification. See Sweet's 5.5/Gr and 16.2/Gr, or write for new product design manuals. Granco Steel Products Company, 6506 N. Broadway, St. Louis, Mo. 63147.



 **Granco Steel Products Company**  
A Unit of  
National Steel Corporation

For more data, circle 40 on inquiry card





The  
strength

The  
style

The  
range

Door closers.  
Look at them as we do.  
From the inside,  
where strength and power  
combine to easily close  
the heaviest doors.

Now look at their eye appeal.  
Clean, smooth lines.  
Handsome finishes.  
Style.

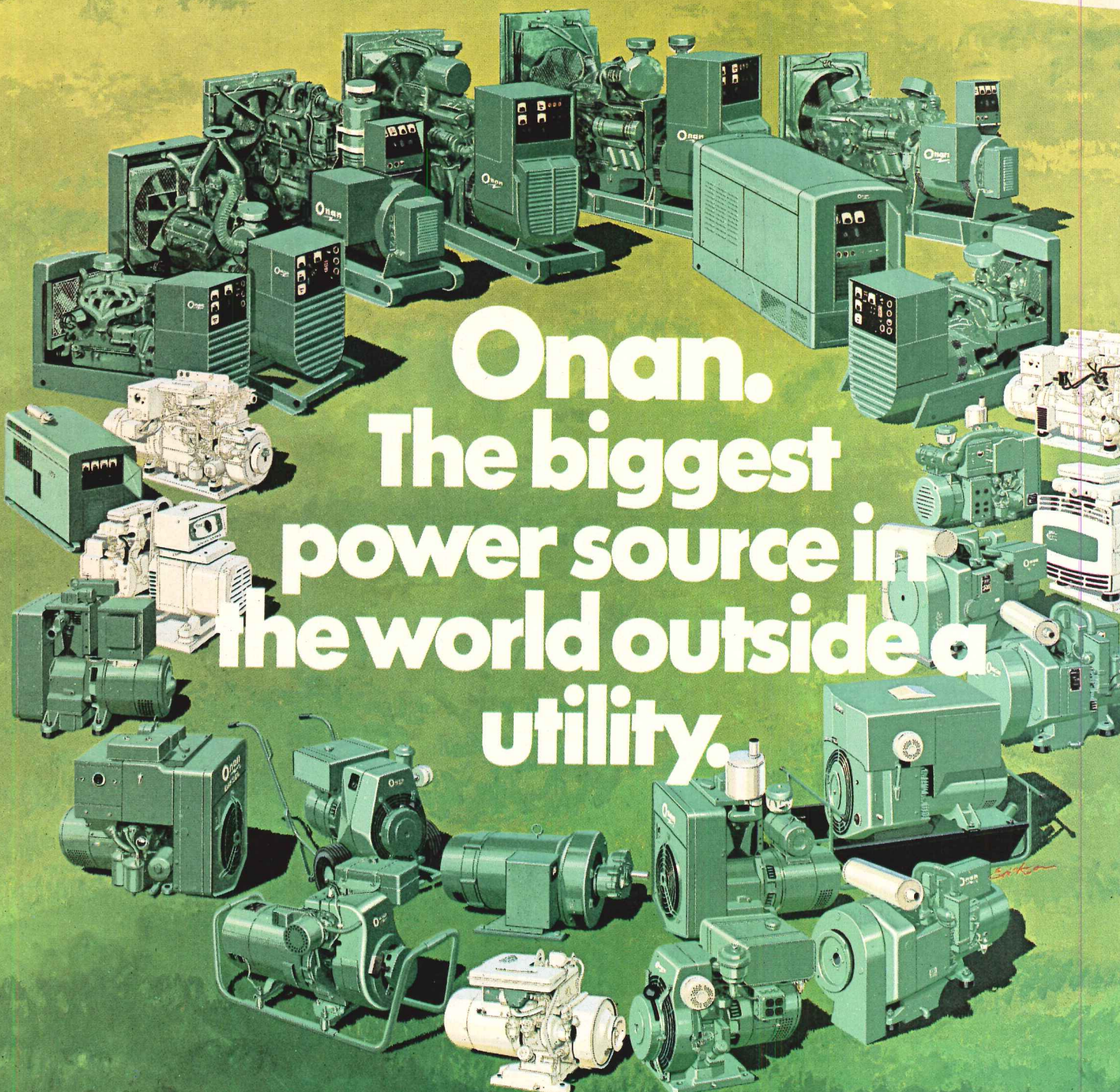
Take a look, too, at the choice:  
The powerglide<sup>®</sup>,  
the 1200 Series.  
A door closer for every door,  
in every value range,  
with every feature.

Sargent door closers . . .  
well worth another look.



**SARGENT**<sup>®</sup>

A complete line of advanced architectural hardware, including the Sargent Maximum Security System  
New Haven, Connecticut □ Ontario, Canada



# Onan. The biggest power source in the world outside a utility.

Onan manufactures a complete line of engine-generator sets from 1 to 450 KW, gas-, gasoline- or diesel-driven. For standby power in homes, industrial plants, commercial buildings and institutions. For auxiliary or portable power in boats, recreational vehicles, service trucks and construction equipment.

1400 73RD AVENUE N.E., MINNEAPOLIS, MINNESOTA  
ELECTRIC GENERATOR SETS • LOAD TRANSFER CONTROLS • INDUSTRIAL  
For more data, circle 42 on inquiry card



## Marketing architectural services

Bradford Perkins

President, D'Orsey Hurst and Co., Inc., a division of McKee-Berger-Mansueto, Inc.

architect who wants to achieve a steady growing volume of interesting projects have already pointed out there is an organizational difference between "steady" ("growing") has to seek new clients and convince them that they should commission this firm. Even those clients who come to him "over the transom" must have had a presentation other than the yellow pages of the telephone directory. A presales job, perhaps? In some way made known?

We have already emphasized (RECORD, March) the need for developing and following a plan for all aspects of a firm's practice, including business development. What follows is a more detailed introduction to the development and implementation of a marketing plan.

The importance of a successful business development effort was memorably summarized by H. H. Richardson. A widowed mother implored him, one day, to use her son who aspired to be an architect. "What," she asked, "is the most important thing in architectural practice?" "Getting the first job!" Richardson replied. "Of course that is important," she agreed, "but after that what is most important?" "Getting the next job!" was Richardson's response.

The "how" of business development is something that can be taught as a series of tricks and pitches. Professionals are selling a service, not an encyclopedia or vacuum cleaner. Each firm has to be extremely creative in developing that approach which is exactly right for it, because a successful professional business development program is one that is molded to the unique personality of the firm.

The first steps in this molding process, as pointed out in the March article, are an internally consistent statement of the firm's goals and an objective analysis of the firm's strengths and weaknesses. Certain offices may want only prestige projects, the lion's share of which are obtained by what Morris Lapidus has labeled the "sky tower" firms. But if that is the firm's objective then the architect must chart a realistic business course that will eventually bring his office to a point where he is the logical choice for these commissions. A firm cannot expect to be chosen until it

knows how much and what type of work it wants, as well as how to build the strengths and minimize the weaknesses that will affect its selection.

The most important guide in this process should be what is known in other businesses as the "marketing concept." This concept, if it is well developed, can be used effectively not only to help sell professional services but also to improve the quality of the service sold. In simplest terms, this concept has been defined as "finding a need and filling it." Every client has needs which he expects the architect and engineer to understand and to fill.

### How to identify the client's needs

Each client's needs are somewhat different, of course, but there are certain general if not universal expectations. The typical client wants an architectural firm that considers all aspects of the job—function, cost, schedule, esthetics, etc.—and designs effectively to meet the project's schedule. While meeting these practical requirements, the firm is still expected to produce attractive facilities.

Increasingly in today's complex milieu, professional firms are expected to deal effectively with the many management problem areas that affect so many projects. In addition to the normal and familiar procedural areas of management, clients are beginning to expect more and more of the professional's participation in such areas as community relations, prequalification of contractors, project financing, etc.

It is less simplistic than it sounds to say that clients want a professional who is easy to work with. The day of the prima donna is past, and the corporate client especially is accustomed to dealing at well defined levels of authority with the various aspects of their projects. So the professional firm must not only sell its overall capacity and specialized capabilities to carry out the project, it must also set up those capabilities in a way that will assure the complex client that the project will get the attention of the most senior and most qualified personnel available at key points in the procedure.

While the exact needs of particular

projects differ from client to client, groups of potential clients do share roughly similar categories of emphasis in their needs. For example, hospital clients typically consider an understanding of the facilities' operational requirements as paramount. Others, including many industrial clients and developers, rank project cost and schedule as their primary concerns.

As part of its initial planning effort, the firm should select and concentrate on several potential client and building types. Some concentration is necessary, for as even the largest, most diversified firms know, the broadside approach rarely works. The selection of target building types will naturally be guided by the principals' and staff's interest, the firm's long- and short-term objectives, the competition, the projected volume, whether or not the firm is or could be qualified to handle the project type, profitability, and many related issues.

Part of the process of narrowing the field down to two or more target groups (no firm should concentrate on just one because of the risk) will be research into the major problems facing each group: i.e., financing, operating methods, the need for flexibility, growth potential, siting problems, etc. Also, the firm should find out as much as possible about the strengths and weaknesses of other firms in the field, their presentation methods, the design selection process, and, of course, the target group's basic level of sophistication in construction programming and management—since all of these factors will affect the architect's own costs and methods of doing business.

While all of this research will have the effect of narrowing the field of target groups, it should not be regarded as simply a search for the easiest windfalls. The most fertile ground may indeed lie among clients with the most difficult or the most neglected problems. The search, in fact, is for a market for services within the professional's most outstanding potential.

### Identify the target—then shoot straight

As we move from the general to the specific, the question becomes: "How does one identify and contact prospective clients within the target group?" Many professionals do not seem to realize that there are

usually at least three routes to each client: The architect contacts the client; an intermediary contacts the client; or the client contacts the architect. Virtually every successful firm uses all three, and there are neither ethical nor business reasons to favor one over another.

To illustrate typical approaches, let us look at one client group—hospitals. Many people know about a hospital's building plans long before the architect is selected. To name a few: hospital consultants, regional health planning agencies, government (Federal, state and local) health agencies, local newspapers, and, of course, hospital administrators.

Aggressive firms interested in hospital work might contact all of these sources directly to ask if they know of any proposed building plans and to express an interest in being of service if and when there is a need for the firm's capabilities. This, of course, implies those capabilities exist and are in some way documented. The direct approach requires backup by direct response to any client's expression of interest. There is another kind of backup implicit in and supported by more indirect approaches, such as attending the conventions every target group has, joining the group's associations and participating in its committees, etc.

One way to expand the potential use of intermediaries is through association with other firms. Several large firms, for example, have made a successful career of lending their national names and impressive experience to local architects who may have certain contact advantages but limited staff credentials for major projects.

The best and most frequently used intermediaries are friends and past clients. All firms should maintain close contact with as many people as possible—especially past clients. To quote one principal of a 600-man firm: "Everything leads somewhere."

### **How to get the client to come to you**

The third category, that of client-initiated contacts, is the most desirable but, of course, the hardest to achieve. Most firms who enjoy a large number of unsolicited contacts received them as a result of satisfied clients and one or two well known projects. In fact, virtually every successful "design-oriented" practice can trace its reputation back to one or two early successful projects.

The impact of many of these projects can be assisted by an effective public relations program. Articles in the trade journals of the target client groups, newspaper features, places on client convention panels, etc. are the most effective. Too often a firm's public relations program is aimed at the design profession's trade journals, which are useful in building a firm's general reputation, but other architects are not clients. So if your building is published in

an architectural journal, see that the prestige of that event is made known to the client group as well as to your peers.

One further note on public relations: Robert Townsend in *Up the Organization* noted "We eliminated the P. R. staff. And we called in the top ten or so people in the company and the telephone operators and told them they were the P. R. department." The same advice applies to architectural firms. Outside consultants are worth their fees if—and only if—they write well, understand design and construction, and know a target client group well. Used carefully, however, to achieve specific tasks—such as writing and placing key articles, advising on the firm's marketing plan, or securing key introductions for speaking engagements—a firm of qualified consultants can be used to supplement the efforts of the firm's own staff.

### **Let your presentation show your wares in clients' terms**

Whatever the route to a client, the next step is to convince the potential client to select your firm for a project. Although, unhappily, a few projects are awarded on the basis of contacts and pressures rather than qualifications, most are not. In fact, most clients try to choose on the basis of some rational criteria.

The major purpose of a firm's marketing and sales planning is to prepare itself to satisfy these criteria better than any other firm. The successful architectural business development effort must achieve this in order to provide the firm with a consistent means of differentiating itself from the many other offices competing for the same project. In other words, if you believe the firm should be selected for a project, find some way to demonstrate it *in the client's terms*.

Specifically, go back to the list of typical client needs at the beginning of this article. Each client presentation and support material should be structured to leave easily understood answers to each of the client's primary needs. Leading school boards, for example, want to be reassured on the chosen architect's understanding of educational concepts, ability to control costs and to have the new facility open for class at the beginning of the school year, the experience of the proposed project architect and principal in charge, etc. If the firm's demonstrable capabilities and experience do not provide these ready answers, then it must work to build its marketing strengths. Some firms do this by such techniques as hiring senior experienced staff; using strong consultants; and preparing special presentation materials. Several can trace large numbers of projects to their decision to take these steps. This is the "marketing concept" applied to architectural practice.

The various client contacts must also take into account who in the client's organization is listening. The late D'Orsey

Hurst, founder of our management consulting firm, noted that since fewer commissions are being awarded by a single individual, it is important to distinguish

- 1) "initiators" who establish the contact,
- 2) "influencers" whose goodwill is important but who don't make final decisions,
- 3) "permitters" who can narrow the list of firms under consideration,
- 4) "deciders" who make the decision.

All of those are important, and all contacts with each must be fitted to the client's particular needs. If, for example, one or all of the above are a committee, remember that many committees look for the "safe" decision. As one architect noted, selection committees—both corporate and public—"are as concerned with protecting themselves from criticism as they are in selecting the best firm. If the project is a doghouse, many committees will prefer to award it to a firm that has done eighty previous doghouses, for one can criticize them for awarding eighty-first." A firm that best meets all the client's needs as well as makes the "safe" decision will consistently get a large share of projects.

Exactly how the effective message is transmitted—by oral presentation, slides, brochures or sky writing—depends on the client as well as the architect's own presentation capabilities. As long as it is relevant, expressed in the client's language, demonstrates an understanding and interest in the project, it is likely to be generally correct. In spite of how obvious these points are, however, it is a constant source of wonder to us that most firms use the same brochure, slide show, consultants and other "point-of-sale" material and approach for every client contact.

Marketing (the overall planning) and sales (the implementation of the plan) must be a dynamic process. Each project, presentation, new staff member, etc. should contribute to the firm's next project. As a result the firm must continually learn from the answers to such questions as why it was chosen for or lost a project, what does new staff add to the firm's knowledge of a client type, or what changes are taking place in the firm's potential clients.

How much effort and cash investment should be devoted to all of the above steps will, like all other aspects, vary in accordance with the firm's objectives. A firm with national aspirations will typically spend more than one wishing to stay local and small. Typically the amount spent, including salaries will range from five to eighteen per cent of the firm's income. Whatever it is, it should be carefully budgeted and then controlled in accordance with the guidelines outlined for financial planning and control which will be contained in the next article in this series.

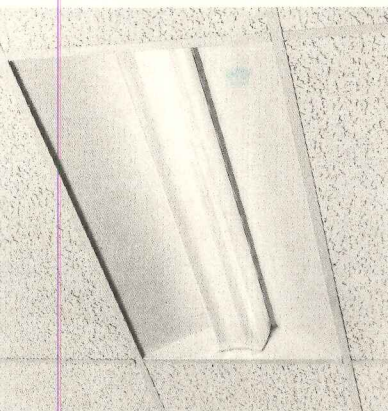
# Percepta™ Convertible Coffer.

## Designed for visual comfort.

## And styled for visual appeal.



For design flexibility, the PERCEPTA Convertible Coffer can be installed with ceiling tile side panels (above), or matte white or black panels (below).



The introduction of PERCEPTA by Holophane brought an important new advance to lighting. A luminaire that eliminates veiling reflections (reflected glare). And thereby improves task seeability in places where eyes work the hardest. Schools. Offices. Libraries. Computer centers.

And with PERCEPTA, fewer lamps are needed to produce the required "effective" footcandles (E.S.I.). So your electric power and air conditioning requirements are substantially reduced, decreasing your operating costs and conserving energy resources.

Until now, PERCEPTA has been available only for surface-mounted applications.

But now you can have all the PERCEPTA benefits in a recessed unit as beautiful as it is effective.

You can even use it as a design element!

Install it in suspended ceilings with optional matte white or black metal side panels. Or paint the panels any color you wish. Or use ceiling tile instead. No matter which you choose, the glare-free light distribution is unaffected.

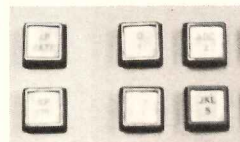
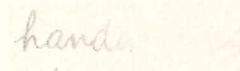
You can also choose between 430 and 800 ma luminaires to meet your specific lighting needs. Both are available in recessed or surface-mounted PERCEPTA units.

Highest visual comfort. Unusual flexibility. Lower power consumption.

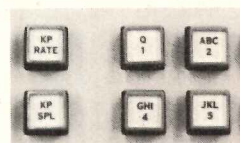
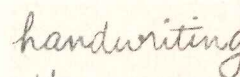
PERCEPTA Convertible Coffer offers all three.

See your Holophane sales engineer for details. Or write Dept. AR-4, Holophane Company, Inc., 1120 Avenue of the Americas, New York, New York 10036.

#### CONVENTIONAL LIGHTING



#### PERCEPTA LIGHTING



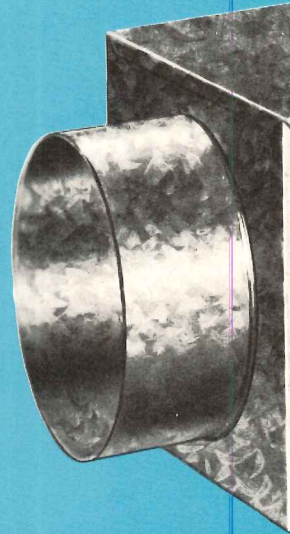
Unretouched photos of typical reading tasks: handwriting and keyboard. Conventional luminaires reflect light into viewer's eyes, producing veiling reflections. The unique PERCEPTA prismatic design virtually eliminates veiling reflections.



# Holophane®

For more data, circle 43 on inquiry card

Chrysler Airtemp introduces-



# F.A.C.T.S.

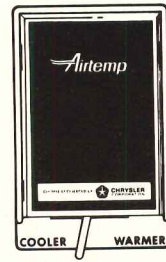
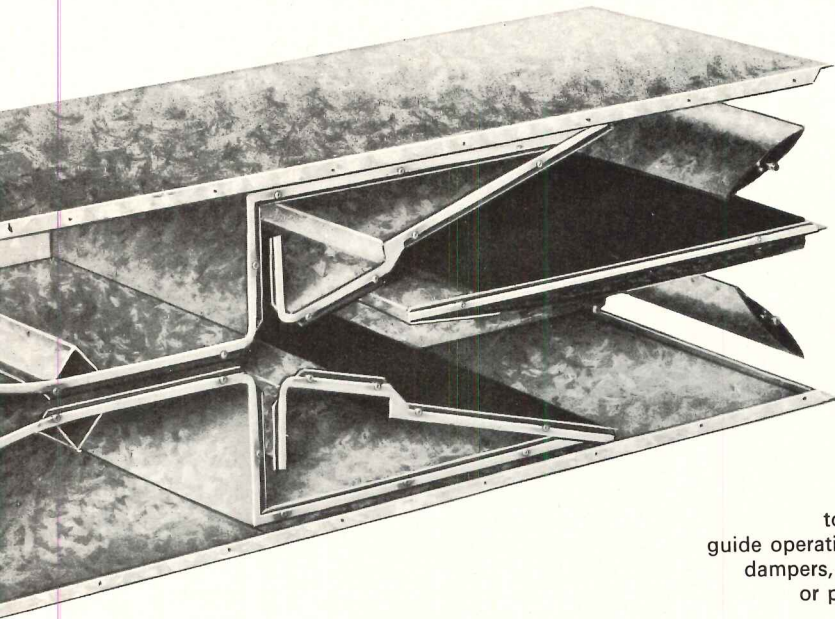
a whole new dimension in  
engineered climate control systems

AIRTEMP DIVISION



CHRYSLER  
CORPORATION

\*Fluidic Air Control Terminal System



**The only moving part  
in fluidic terminal unit  
is on the wall**

Simple bi-metal thermostat reacts to temperature changes immediately to guide operation of system. There are no automatic dampers, bellows operators, linkages, electrical or pneumatic connections to make noise, require maintenance, or wear out.

**A variable air volume terminal with no moving parts • No limitations on ceiling construction or type of outlet • Close temperature control  $\pm 3/4^{\circ}\text{F}$  • Quiet • Lower cost**

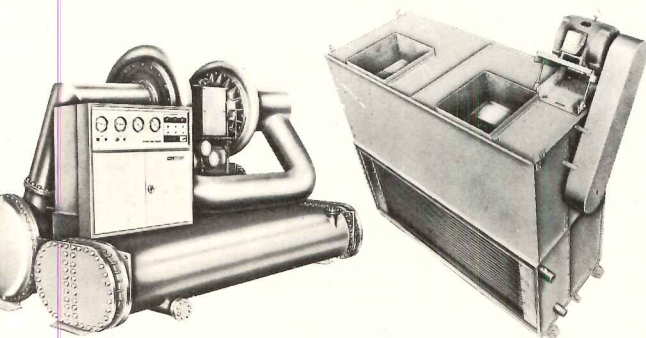
Chrysler Airtemp's F.A.C.T.S. eliminates the restrictions, the noisemakers, and the costly specials that plague other variable air volume systems. Customers get quieter, more precise comfort, yet pay less to purchase, install, operate, and maintain the system.

F.A.C.T.S. delivers air to room at full velocity and attains its design throw under all load conditions. No throttling or dumping of air. No need for delicately counterbalanced discharge grilles or spe-

cial ceiling diffusers. And the constant fan volume eliminates the problems involved with varying volumes and varying duct pressures.

Patented fluidic terminal units are manufactured in sizes from 120-2400 cfm. Several outlets can easily be ducted from a single unit. System-matched chillers and air handling units customize F.A.C.T.S. to wide variety of applications. Ideal for office buildings, schools, institutions. Mail coupon today for full details.

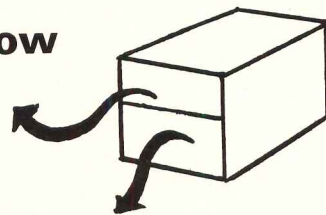
### System-Matched Line of Chillers and Air Handling Units



**Water Chillers**—Wide selection of space-saving centrifugal or reciprocating models for use with Airtemp air handlers. Capacities from 10-850 tons.

**Air Handling Units**—Airtemp offers a complete line of central station air handlers for use with water chillers. Air capacities from 800 to 37,000 cfm.

**show me how  
it works!**



Airtemp Division  
1600 Webster St.  
Dayton, Ohio 45404

Gentlemen:

- Have your representative call for F.A.C.T.S. demonstration.
- Rush new Data Booklet containing complete details on new F.A.C.T.S. System.

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

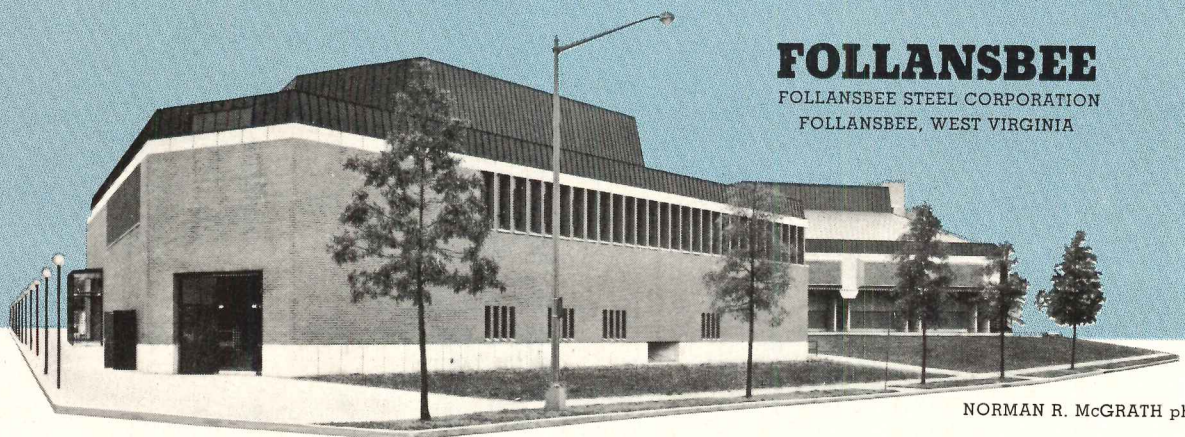
COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Professional critics have been virtually unanimous in regarding Harry Weese's Arena Stage as a major landmark in American architecture. Wholly original in concept, superbly functional, and elegant in detailing, it has "an ambiance which suggests that magic is made, after all, in a working place," as one commentator remarked. Among other significant developments which were foreshadowed in this exciting structure was the utilization of roof perimeters as an important element in contemporary design, particularly when executed in metal.

Our initial gratification when Mr. Weese and his associates selected Follansbee Terne for these roof areas has thus merely been enhanced with the passage of time. And we were therefore doubly gratified, nearly a decade later, when Terne was again specified on the adjacent Kreeger Theater, a building of comparable distinction.



**FOLLANSBEE**  
FOLLANSBEE STEEL CORPORATION  
FOLLANSBEE, WEST VIRGINIA

NORMAN R. McGRATH photo

KREEGER THEATER, WASHINGTON, D.C. WITH ARENA STAGE IN BACKGROUND.  
ARCHITECT: HARRY WEESE AND ASSOCIATES, CHICAGO, ILLINOIS, WASHINGTON, D.C.  
ROOFER: MATHY COMPANY, FAIRFAX, VIRGINIA.

For more data, circle 45 on inquiry card





## Can the housing census measure quality?

The nation's housing stock, or inventory, is the composite total of every dwelling unit (including raised ranch, condominium, mobile home and slum tenement) in existence at a given point in time. It stood at 68.7 million units when the 1970 Housing Census was taken, a gain of over 10 million since 1960. That's a lot of homes, but the gain in the previous decade—1950 to 1960—was more than 12 million. A slowdown in the rate of progress? That depends on how you look at it.

Additions to the housing stock are not just, "more units" added to a stable base of dwellings. They are a net figure—the gain that exists after losses due to natural disasters, demolitions or abandonments are subtracted from the total. And, since a significant portion of the losses—most of those due to demolitions and abandonments, anyway—are lower value, or substandard housing, there exist distinct quality factors that are not at all reflected in a "numbers only" analysis of changes in the housing stock.

The Government gave up rating housing units as "sound," "deteriorating," or "dilapidated" with the last census, because they felt that it was too subjective a criterion. The results supposedly varied greatly from one census enumerator to another, despite specific sets of instructions on what factors to look for in evaluating any given structure.

There do exist a number of factors in the housing census that can help us evaluate the changes in the quality of the housing stock that have taken place over time, though. One that should serve as a significant indicator of quality is the condition of the plumbing facilities in the structure.

As recently as 1950, one-fourth of the homes in the nation lacked separate bathtub or shower facilities. By 1960, this figure was halved to 12 per cent, or 6.9 million units. And by the 1970 census, it had shrunk to 3.3 million units, or five per cent. Similar progress was discernible with respect to flush toilet facilities and piped-in-water, though in 1970, there were still 2.7 million units in the nation lacking an indoor toilet, and 1.7 million units that still relied on an outside well or spring for their water supply.

Regionally, the South rated the lowest

over-all quality score in the last census. With 31 per cent of the nation's dwelling units in 1970, it accounted for 61 per cent of the units that were deficient in bathtub or shower facilities. The figures for flush toilet facilities and piped-in-water show a similar regional split. Lack of progress in the South? Quite the contrary. Of the 3.6 million units lacking bathtub or shower facilities that were removed from the housing stock, or renovated between 1960 and 1970, 1.9 million, over half, had been in the South.

### It's not so much the plumbing as where the plumbing is

Terms such as "the housing problem," or the "housing crisis," so much in vogue in recent years, are not normally associated with specific regions of the country, though. These terms have a distinctly urban accent. But, the data for the nation's central cities, are not very revealing—at least as far as things like plumbing facilities are concerned. While one-third of the nation's housing stock is located in cities, only 17 per cent of the units deficient in over-all plumbing facilities are found there. When we broaden the picture to look at the central cities and their surrounding suburban areas, that is, the metropolitan areas of the country, the situation is about the same. Roughly two-thirds of the nation's housing stock is located in metropolitan areas, but only one-third of the units deficient in over-all plumbing facilities are in those areas. And, the data for the major metropolitan areas does not behave much differently either, disclaiming any contention that we are dealing with a "big city" problem. The top ten metropolitan areas of the country, where 22 per cent of the nation's dwelling units are located, account for less than ten per cent of the units deficient in plumbing facilities.

There are aspects of the central city housing stock that point to something less than ideal conditions. This is particularly true among rental units. The median number of rooms in central units. The median number of rooms in central city apartments was 3.8, for instance, while rental units in the nation as a whole had 4.0 rooms. And, for this smaller apartment, the city dweller pays a dollar more a month in rent than

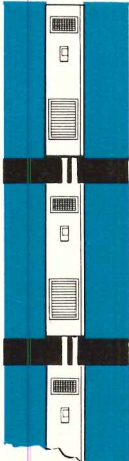
the national average. Basically, the same conditions were found in the 1960 census also without relation to actual room size.

But, the statistical portrait of the nation's stock of dwelling units painted in the 1970 Housing Census does not seem to effectively communicate what housing conditions are *really* like in this country. Basically, it fails in three ways, but in all fairness only the following one can be directly blamed on its internal design: despite the mass of data on plumbing facilities, numbers of rooms, and the like that is presented about the nation's dwelling units, we still do not have an effective measure of the actual "condition" those units are in. Scrapping the judgmental criteria "sound," "deteriorating" and "dilapidated" because of "serious problems with response reliability," as was done in the 1970 Housing Census, did not strike me as directly facing the issue. Perhaps a change in terminology or more effective training of census takers would have been better alternatives to simply deleting that section of the survey. If anything, this part of the survey should have been expanded to include some indication of the over-all size and layout of the dwelling unit. A room count is not always an effective measure of living space.

Another failing of the housing census—and this is a failing of most statistical presentations—is that it offers no way of matching the observed data with the human condition to which it relates. That is to say, in human terms, there is a distinct difference between not having piped-in-water or a flush toilet on a small farm in Kansas and not having these amenities in downtown Philadelphia. We can appreciate the difference, but we are unable to place a numerical value on it.

Thirdly, and this is in part related to the second failing, there is no provision for judging the social context in which the nation's housing inventory is set. Housing is only one facet of a larger community network. It seems logical that a structurally sound dwelling unit in a crime-ridden slum cannot be given equal weight in any head-to-head count of housing with a similar unit in a suburban bedroom community. But, again, all we have been able to do so far, is to appreciate the difference.

## McQuay® Hi-Line Fan Coil Units reduce installed costs without reducing comfort



McQuay's new upright Hi-Line Seasonmaker® Fan Coil Units can save 15% and more on installed costs but still offer greater flexibility than conventional units. They're shipped with all chilled, hot water and drain risers and all internal control systems already installed. The contractor merely places the units above each other on the floors, sweats the factory-supplied couplings together, connects the power and plugs in the external thermostat. All units produce equal water pressure drop, virtually eliminating system balancing.

Hi-Line units can have single, double, triple and top duct discharge to service one room or a number of rooms. Five sizes from ½ to 2 tons with 200 to 800 CFM. Available features include standard and low-flow coils, with or without reheat coils, for two-pipe and four pipe systems; both full and supplementary electric heat; fan cycle control; 2-way and 3-way valve cycle control; single stage thermostats with manual or automatic heating-cooling changeover, and two-stage and sequenced heating-cooling thermostats.

For complete information on these upright Hi-Line Seasonmaker Fan Coil Units, ask your McQuay representative for Catalog 770.

Or write McQuay Division, McQuay-Perfex Inc., Box 1551, 13600 Industrial Park Blvd., Minneapolis, Minnesota 55440.

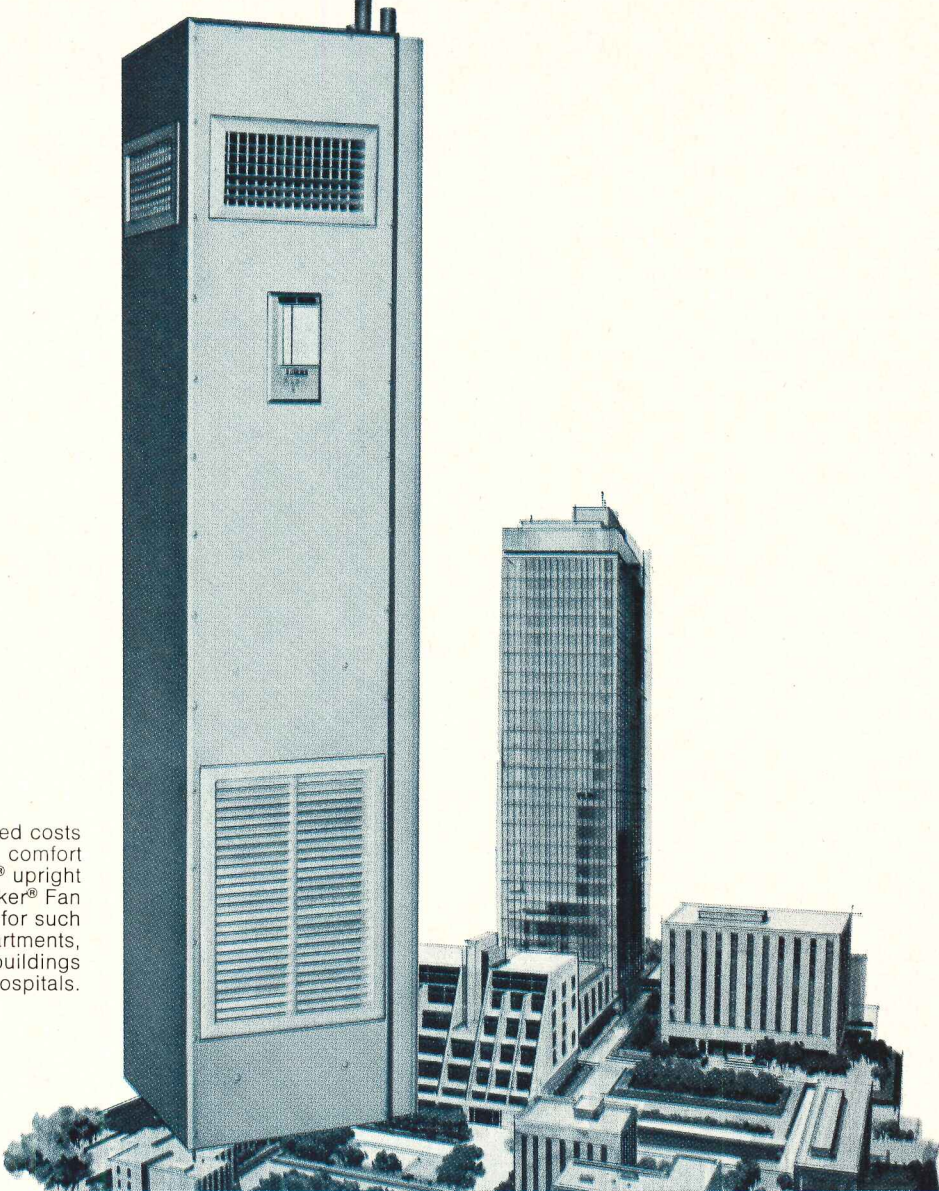
Look to the systems leader . . .



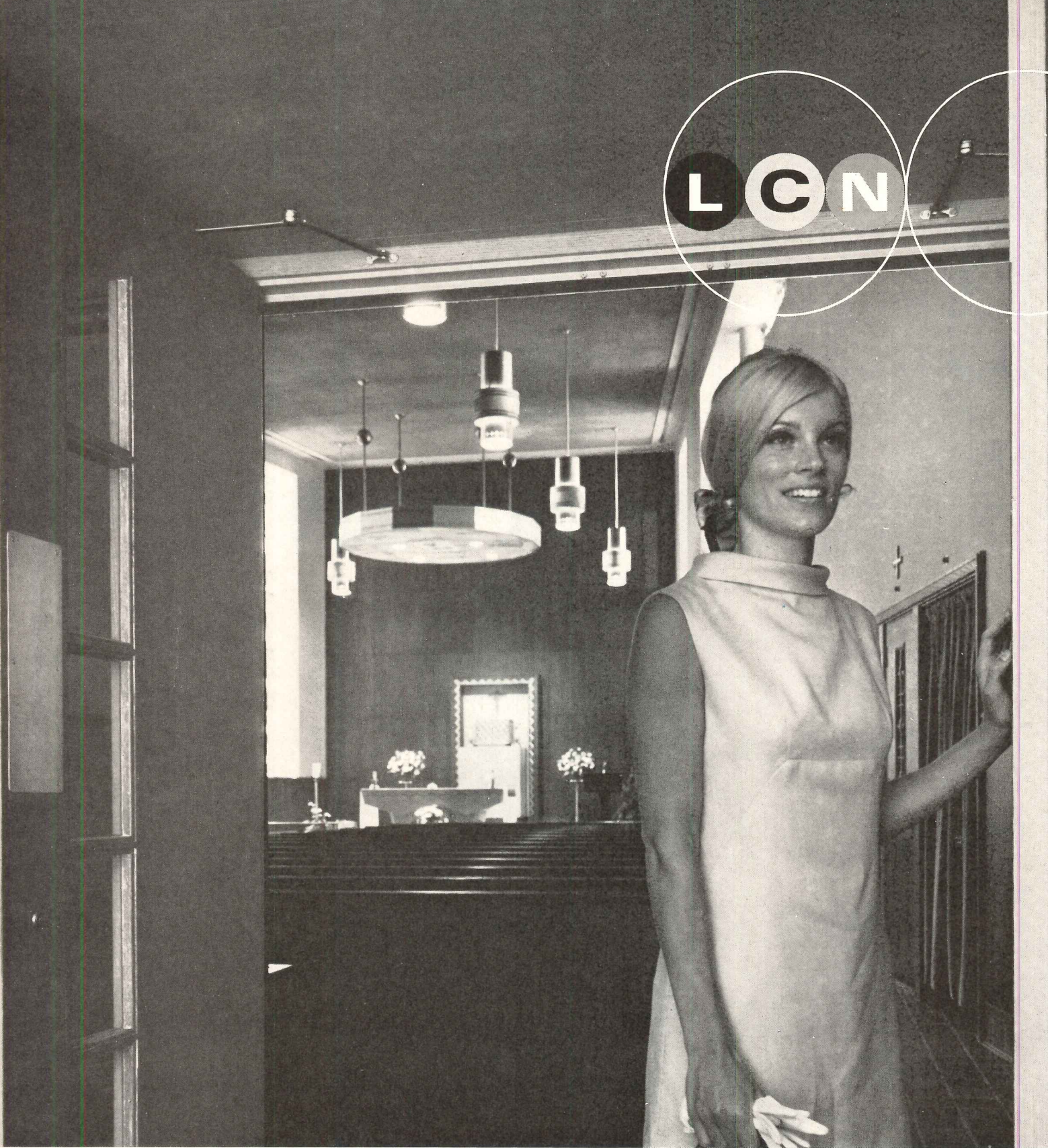
*McQuay*  
DIVISION

McQUAY-PERFEX INC.

# The cost saver



Reducing installed costs without reducing comfort makes McQuay® upright Hi-Line Seasonmaker® Fan Coil Units ideal for such applications as apartments, hotels, office buildings and hospitals.



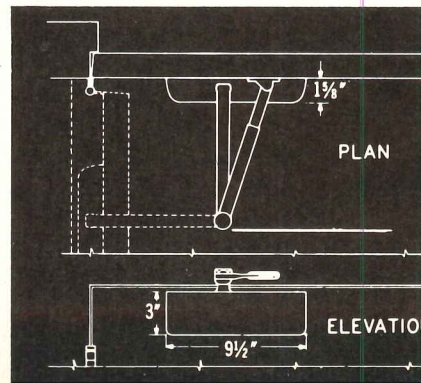
Cardinal Cushing General Hospital, Brockton, Mass. • Kennedy, Kennedy & Keefe—Architects, Boston, Mass.

### Smoothee® Door Closers for Interior Doors... by LCN

The 4030 Series compact LCN "Smoothee" closer provides the following features: 1. Adjustable hydraulic back check; 2. Adjustable main swing and latch speeds; 3. Full rack and pinion action; 4. Optional hold open arm or, 5. Fusible link hold open arm. The closer mechanism that revolutionized the door closer industry. May we send you a catalog?

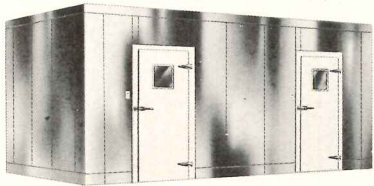
LCN Closers, Princeton, Illinois 61356

For more data, circle 51 on inquiry card



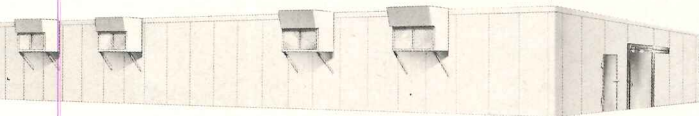


*They  
love us  
in...*



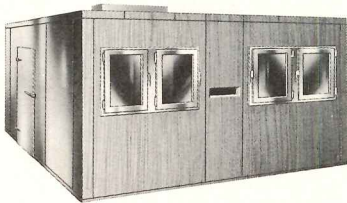
*Notre Dame, Ind.*

University of Notre Dame Athletic and Convocation Center  
20'x10' Combination Cooler/Freezer  
Architect: Ellerbe Architects, St. Paul, Minn.  
Dealer: Aslesen, Minneapolis, Minn.



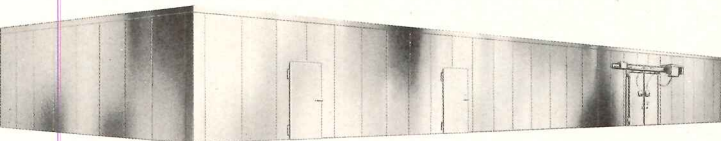
*Washington, D.C.*

Andrews Air Force Base  
96'x36'x10' Refrigerated Warehouse  
Architect: Vollrath Refrigeration Inc., River Falls, Wis.  
Dealer: Alto Inc., Alexandria, Va.



*Los Angeles, Calif.*

Straw Hat Pizza Palaces  
12'x14'x8'4" Reach-In Cooler  
Architect: Design Services Inc., Menlo Park, Calif.  
Dealer: Design Services Inc., Menlo Park, Calif.



*Clearwater, Fla.*

Pinellas County School Board  
24'x98'x10'7" Commodity Storage Cooler  
Architect: R. D. Bateman Co., Tampa, Fla.  
Dealer: R. D. Bateman Co., Tampa, Fla.

**VOLLRATH WALK-IN COOLER / FREEZERS**

...nwide, Vollrath modular walk-ins have proven their  
...y and versatility. Pre-engineered, factory-built panels  
...nble to specified size on site, and may be easily dis-  
...mbed to enlarge, relocate or to convert cooler to freezer.  
...ls are full 2 and 4 foot increments — not nominal  
...urements — to simplify layout and maximize cubic  
...ge capacity. Fire retardant, 4" thick foamed-in-place  
...ane provides superior insulating properties. With a  
...e of 5 interior and exterior finishes, plus the most  
...lete selection of options and accessories, there's a  
...ath walk-in adaptable to your varied requirements.  
...fy Vollrath!

All Vollrath Walk-ins N.S.F. approved.



Send for your personal copy of Vollrath's complete Walk-in Design and Specifications Manual — limited number available.

Mail to: ADVERTISING DEPT., THE VOLLRATH CO., SHEBOYGAN, WISCONSIN 53081

Name \_\_\_\_\_  
Title \_\_\_\_\_  
Firm \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

For more data, circle 52 on inquiry card

**BUILDING COST RISE SLOWS DOWN**

Average building costs have gone up 2.4 per cent in the last six months instead of 4.5 per cent which might have been expected from previous increase rates. The national average now stands at 7.7 per cent over a year ago.

This apparent slow-down in the rate of building cost inflation was revealed in a Dodge survey conducted in March of 1972. The Dodge surveys regularly cover 182 metropolitan areas, and composite price figures or indexes are based upon wage rates for 10 building trades and prices of five key materials weighted for their influence on the overall building cost.

The reasons for the moderating rate have to do with market conditions as much as they do with Phase-2 constraints, according to most observers.

**School equipment costs**

Chalkboard: slate 3/8-in.	3.30	SF
porcelain steel on 1/4-in. hardboard	2.60	SF
plastic coated 1/4-in. hardboard	1.65	SF
ceramic enamel glass, 1/4-in.	2.80	SF
sliding, custom design	4.50	SF
Chalktrap, aluminum	2.20	LF
Headrail, 2 X 1 1/4-in. aluminum	0.90	LF
Map rail, 2-in. aluminum	0.90	LF
Edge moulding, 1 1/2-in. aluminum	0.80	LF
Tackboard, 1/4-in cork	1.30	SF
with 1/2-in plywood		
backing and frame	3.40	SF

Metropolitan area	Cost differential	Current Indexes				% change last 12 months
		non-res.	residential	masonry	steel	
1941 average for each city = 100.						
<b>APRIL 1972</b>						
U.S. Average	8.3	376.0	353.0	368.2	358.9	+ 10.0
Atlanta	7.8	478.6	451.2	465.7	455.5	+ 11.0
Baltimore	7.9	395.1	371.4	384.1	373.9	+ 10.0
Birmingham	7.3	345.2	321.0	333.0	328.3	+ 9.0
Boston	9.0	382.6	361.4	379.0	367.9	+ 14.0
Buffalo	9.1	419.4	393.8	414.3	400.5	+ 9.0
Chicago	8.4	429.1	408.0	414.9	407.8	+ 9.0
Cincinnati	8.7	405.5	381.5	394.5	384.7	+ 14.0
Cleveland	9.3	421.4	396.5	411.7	401.9	+ 8.0
Columbus, Ohio	8.3	400.7	376.2	388.8	381.5	+ 8.0
Dallas	7.6	368.5	356.9	361.4	354.4	+ 11.0
Denver	8.1	403.1	379.2	398.4	384.6	+ 7.0
Detroit	9.5	421.9	401.9	421.4	405.6	+ 10.0
Houston	7.6	358.8	336.9	350.4	343.6	+ 9.0
Indianapolis	8.0	354.4	332.8	345.6	337.9	+ 12.0
Kansas City	8.1	353.6	334.1	343.9	336.7	+ 10.0
Los Angeles	8.2	417.2	381.3	405.5	397.3	+ 12.0
Louisville	7.7	374.2	351.4	366.6	358.1	+ 12.0
Memphis	7.7	358.4	336.5	346.5	340.6	+ 9.0
Miami	8.0	396.6	377.8	387.0	378.5	+ 10.0
Milwaukee	8.5	429.0	402.8	423.7	410.1	+ 8.0
Minneapolis	8.9	406.5	382.4	400.3	388.4	+ 10.0
Newark	8.9	374.5	351.7	369.2	360.1	+ 9.0
New Orleans	7.3	355.8	335.8	350.2	342.4	+ 9.0
New York	10.0	416.3	387.0	403.4	393.3	+ 10.0
Philadelphia	8.7	398.9	380.0	391.9	382.7	+ 13.0
Phoenix	7.9	214.2	201.1	206.7	203.3	+ 13.0
Pittsburgh	8.8	368.9	347.0	362.1	351.6	+ 10.0
St. Louis	8.7	390.9	368.9	385.9	373.9	+ 11.0
San Antonio	7.6	144.7	135.9	141.3	138.0	+ 3.0
San Diego	8.0	149.5	140.4	146.5	143.1	+ 7.0
San Francisco	9.3	547.6	500.5	543.8	525.9	+ 14.0
Seattle	8.6	372.8	333.6	369.3	355.2	+ 5.0
Washington, D.C.	7.8	354.9	333.3	344.3	336.8	+ 12.0

Cost differentials compare current local costs, not indexes.

**HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES**

1941 average for each city = 100

Metropolitan area	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971 (Quarterly)				1972 (Quarterly)				
										1st	2nd	3rd	4th	1st	2nd	3rd	4th	
Atlanta	298.2	305.7	313.7	321.5	329.8	335.7	353.1	384.0	422.4	424.0	445.1	447.2	459.2	472.5				
Baltimore	271.8	275.5	280.6	285.7	280.9	295.8	308.7	322.8	348.8	350.3	360.5	362.5	381.7	388.1				
Birmingham	250.0	256.3	260.9	265.6	270.7	274.7	284.3	303.4	309.3	310.6	314.6	316.4	331.6	340.4				
Boston	239.8	244.1	252.1	257.8	262.0	265.7	277.1	295.0	328.6	330.0	338.9	341.0	362.0	377.3				
Chicago	292.0	301.0	306.6	311.7	320.4	328.4	339.5	356.1	386.1	387.7	391.0	393.2	418.8	422.8				
Cincinnati	258.8	263.9	269.5	274.0	278.3	288.2	302.6	325.8	348.5	350.0	372.3	374.3	386.1	399.9				
Cleveland	268.5	275.8	283.0	292.3	300.7	303.7	331.5	358.3	380.1	381.6	391.1	393.5	415.6	415.2				
Dallas	246.9	253.0	256.4	260.8	266.9	270.4	281.7	308.6	327.1	328.6	341.4	343.4	357.9	364.9				
Denver	274.9	282.5	287.3	294.0	297.5	305.1	312.5	339.0	368.1	369.7	377.1	379.1	392.9	398.3				
Detroit	265.9	272.2	277.7	284.7	296.9	301.2	316.4	352.9	377.4	379.0	384.6	386.8	409.7	416.9				
Kansas City	240.1	247.8	250.5	256.4	261.0	264.3	278.0	295.5	315.3	316.6	329.5	331.5	344.7	348.7				
Los Angeles	276.3	282.5	288.2	297.1	302.7	310.1	320.1	344.1	361.9	363.4	374.2	376.4	400.9	407.8				
Miami	260.3	269.3	274.4	277.5	284.0	286.1	305.3	392.3	353.2	354.7	366.8	368.9	384.7	391.5				
Minneapolis	269.0	275.3	282.4	285.0	289.4	300.2	309.4	331.2	361.1	362.7	366.0	368.0	417.1	401.7				
New Orleans	245.1	284.3	240.9	256.3	259.8	267.6	274.2	297.5	318.9	320.4	327.9	329.8	341.8	350.9				
New York	276.0	282.3	289.4	297.1	304.0	313.6	321.4	344.5	366.0	367.7	378.9	381.0	395.6	406.5				
Philadelphia	265.2	271.2	275.2	280.8	286.6	293.7	301.7	321.0	346.5	348.0	356.4	358.4	374.9	394.2				
Pittsburgh	251.8	258.2	263.8	267.0	271.1	275.0	293.8	311.0	327.2	328.7	338.1	340.1	362.1	364.5				
St. Louis	255.4	263.4	272.1	280.9	288.3	293.2	304.4	324.7	344.4	345.9	360.0	361.9	375.5	385.5				
San Francisco	343.3	352.4	365.4	368.6	386.0	390.8	402.9	441.1	465.1	466.8	480.7	482.6	512.3	535.3				
Seattle	252.5	260.6	266.6	268.9	275.0	283.5	292.2	317.8	341.8	343.3	347.1	349.0	358.4	363.0				

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 (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.

**1. To give you measurably more—we do more.** There's a Kohler generator set to match your specs. More than 1,000 models—gas, gasoline and diesel fueled—including brushless sets from 300 to 500 KW. **2. Measure dependability:** No other generator set manufacturer makes as many component parts. Therefore, no other can exercise greater quality control. Every set is tested under full load and registered in our files for accurate service reference. **3. Measure cooling efficiency:** Kohler doesn't settle for automotive-type cooling. We design our system to the application for higher ambient temperatures. **4. Measure vibration control:** Who else uses elastomeric couplings on generator shafts to prevent torsional damage? Nobody. And Kohler doesn't consider vibration dampeners to be optional equipment. We design and build a complete dampening system into virtually every set. **5. Measure service:** Because we're big, we're easy to find. The Kohler service network is worldwide. *Kohler does more, does it right, and has for more than 50 years.* Free literature? Write Kohler Co., Kohler, Wisconsin 53044.

**KOHLER CO., KOHLER, WISCONSIN 53044**  
For more data, circle 53 on inquiry card

# KOHLER DOES MEASURABLY MORE!

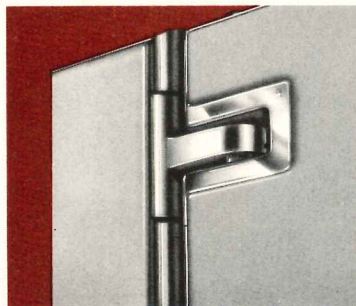


**YOU CAN TRUST**  
**Sanymetal®**  
**TO PROVIDE**  
**FEATURES**  
**THAT ASSURE...**

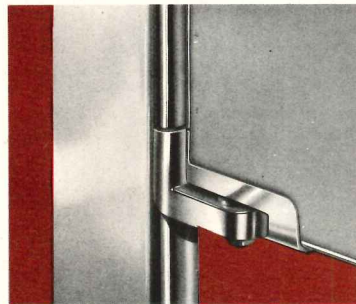
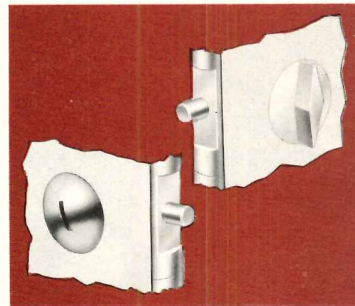
- smooth surfaces
- flush hinges
- concealed latches
- proven performance
- genuine value

***...inside and out***

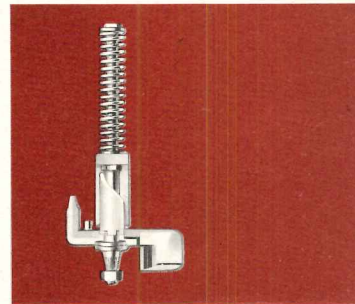
**RECESSED TOP HINGE BRACKET** is factory installed... integral with pilaster. Hinge and pin fully recessed in door... hygienic, vandal resistant.



**CONCEALED LATCH**... no exposed fasteners, stainless steel bolt, concealed and flush-mounted, smooth, vandal-proof operation.



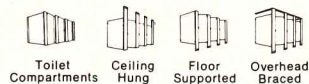
**RECESSED BOTTOM HINGE**...super-strong hinge tested to 1 million swings—proven in use to 10 million operations... fully recessed in door surface.



**BOTTOM HINGE POWER BEARING**... fully concealed—inside and out. Door rides on thrust bearing with power return to pre-set opening... the only hinge with "muscle" and "memory."

**Sanymetal®**

PRODUCTS COMPANY, INC.,  
 1701 Urbana Road, Cleveland, Ohio 44112



For more data, circle 54 on inquiry card



# OUR CARPET STANDARDIZATION PROGRAM SAVES YOU MONEY.

We're CCC, the largest manufacturer of commercial and institutional carpet systems with millions of square yards of references on the floors of major corporations, hospitals, schools and stores.

When you standardize on CCC for corporate carpet, we become your single source of responsibility for product performance, delivery, installation and maintenance.

Our program will reduce your administrative costs, assure you of consistent quality and price and give you centralized control of carpet purchases.

One call to a CCC corporate specialist will take care of your carpet needs from coast to coast. He's one of 70 experts we have around the country and he's backed by a nationwide network

of certified installers and regional standards operations managers.

To make sure you get maximum wear-life from your carpet at minimum life cycle cost, our man can help you set up a comprehensive maintenance program that's based on a building survey by a CCC maintenance consultant. The survey enables us to recommend a detailed plan for floor care procedures, frequency and equipment... including a CCC-formulated and endorsed line of maintenance chemicals.

Your CCC corporate specialist knows all about trench headerducts and other subfloor access systems and the best way to integrate carpet with them. He's well versed in leasing and can document how our Showplace

program will give you a completely carpeted building without using capital funds.

The CCC system features heavy duty Densylon carpet, constructed of Anso nylon and bonded to fire-retardant  sponge rubber cushioning. It has outstanding appearance retention, is easy to clean and keep clean, and contains a static control system. Densylon and our other heavy duty brands are available in a wide range of styles and colors so your standardization program can have all the design flexibility you want.

A carpet standardization program will effect a significant reduction in your operating costs if your supplier has the experience and expertise to make it work. CCC has both. Fill in the coupon and we'll share them with you.



 **Commercial Carpet Corp.**  
10 West 33rd Street  
New York, N. Y. 10001  
Dept. AR-4

**Attention: Mr. Walter Brooks**

- Please have a corporate specialist call on me.
- Please send more information about your program.

Name: \_\_\_\_\_

Title: \_\_\_\_\_ Phone: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

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

For more data, circle 55 on inquiry card

# “If I were building a gym, I’d specify a Trophy-finished floor”

By Hank Iba\*

“I’ve seen enough basketball courts in 50 years of coaching to convince me. Trophy® is the finest, best-playing gym finish around.”

That’s the voice of experience speaking. And, like Hank Iba, coaches all across the country have shown an overwhelming preference for Trophy. That explains why over 18,000 basketball courts – high school, college, professional and almost every championship court – are sealed and finished with Trophy.

When you’re designing or building a gymnasium it helps to know what coaches, athletic directors and administrators want in a gym floor. Hank Iba can tell you.

“They want a light finish with built-in controlled light reflectivity. They want abrasion resistance and a slip-resistant surface that won’t rubber burn. And they want a floor that stands up under multiple uses and is easy to maintain.

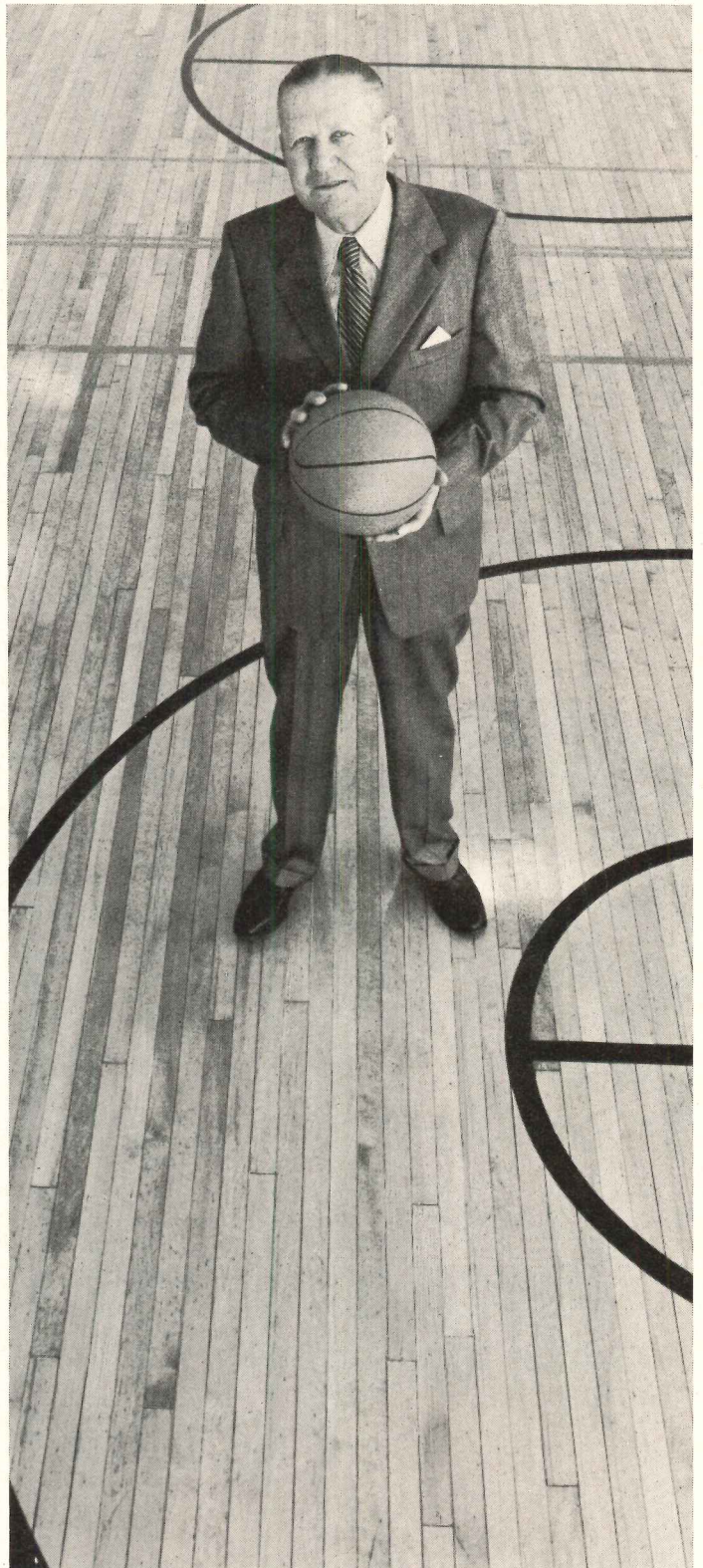
“They get it – all of it – with Trophy.”

So make sure you give them the floor they want. Specify Trophy Gym Seal® and Trophy Gym Finish®.

Write, wire or call collect for Hillyard’s complete, free gym floor treatment file and for Uniform Numbered Files for every type of floor. Or ask for a certified Hillyard Maintaineer® for expert, no-obligation help. See the Hillyard section in Sweet’s for a complete listing.

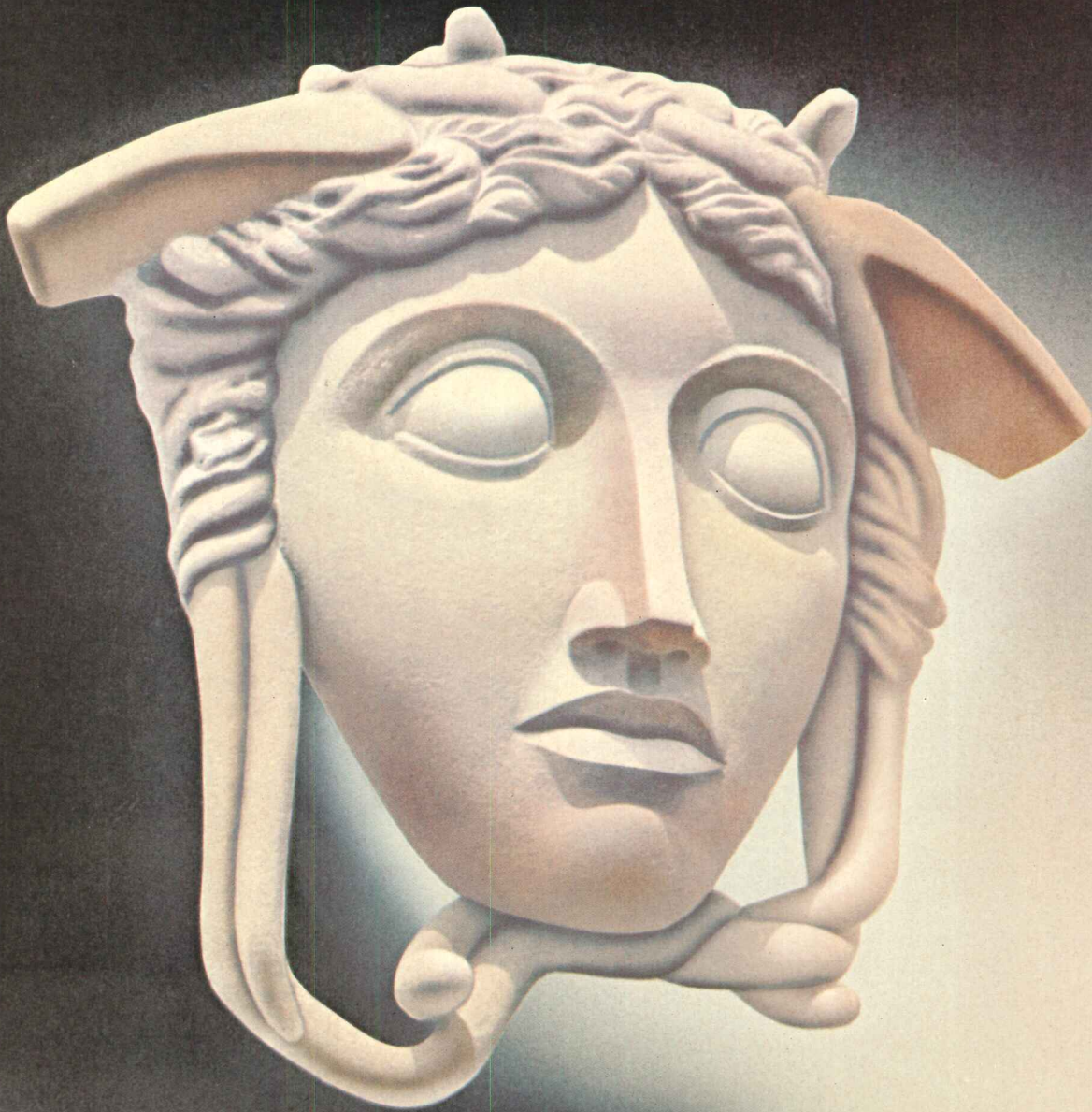
\*Coach of U. S. Olympic Basketball Team 1964, 1968, 1972. Head Coach and Director of Athletics, Oklahoma State University, 1934-1970.

**HILLYARD**  
**FLOOR TREATMENTS**  
**ST. JOSEPH, MISSOURI U.S.A.**  
TOTOWA, N.J.      SAN JOSE, CALIF.  
BOSTON, MASS.      DALLAS, TEX.  
MINNEAPOLIS, MINN.  
IN CANADA: Calgary, Alberta  
London, Ontario



For more data, circle 65 on inquiry card

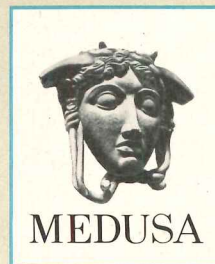
From Medusa...the Cementmaster.



**NEW COLORED PORTLAND CEMENTS TO BRIGHTEN THE FACE OF AMERICA.**

For the first time in the long history of portland cements, the architect, or precast producer has available a veritable rainbow of new Colored Portland Cements... from Medusa... the Cementmaster. All are pigmented, intermilled white cement base products manufactured under a strict scientific process for maximum color control.

Ten stock colors, plus white, available for color design flexibility. Special colors upon request. For a free sample of Colored Portland and literature, write Medusa, P.O. Box 5668, Cleveland, Ohio 44101.



*The Medusa Trademark head shown includes ten basic colors of new Medusa Colored Portland Cements*

OWNER: Maryland Blue Cross.  
ARCHITECTS: Peterson & Brickbauer Inc., Baltimore  
ASSOC. ARCHITECTS: Brown, Guenther, Battaglia, Galvin, New York  
GENERAL CONTRACTOR: Cogswell Construction Company, Baltimore  
GLAZING CONTRACTOR: The Southern Plate Glass Co., Baltimore



# How Vari-Tran<sup>®</sup> helped Maryland Blue Cross establish a good neighbor policy.

**Problem:** Build a large, efficient office complex surrounding a new residential community. And in the process enhance the beauty of the neighborhood.

**Solution:** Turn the building into a piece of sky-sculpture with Vari-Tran<sup>®</sup> Thermopane<sup>®</sup> insulating glass made with Vari-Tran reflective glass.

Because Vari-Tran reflects the sun's heat and light, it greatly reduces air-conditioning needs and results in reduced construction and operating costs. In addition, Maryland Blue Cross Inc., Vari-Tran's aesthetics are what the doctor ordered.

Building on a raised site, and using silvery



Vari-Tran, the result is an ever-changing reflected skyscape. On clear, cloudless days, the building takes on myriad solid hues which change throughout the day.

Maryland Blue Cross figures that Vari-Tran's reflective beauty helped establish good will among their neighbors. But remember, even if aesthetics aren't your most important consideration, Vari-Tran can

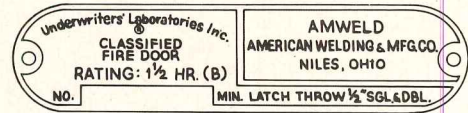
provide comfort and save money, too.

Either way, drop us a line: Libbey-Owens-Ford, Toledo, Ohio 43695.

**LOF** **Hi-Performance Glass**  
GLASS *The glass that cuts building costs*

# Amweld puts the heat on fire door costs

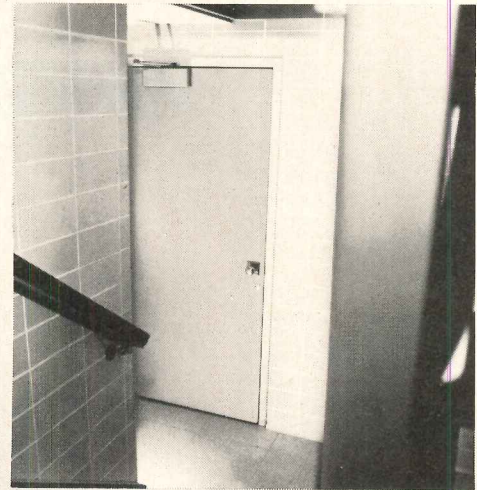
We've added Underwriters' "B" label to our polystyrene core door to give you an economical fire door. It's our Super Core, available in either 1 $\frac{3}{8}$ " or 1 $\frac{3}{4}$ " thickness.



Super Core fire door offers fire protection, plus excellent sound retardation, moisture resistance, and cold weather insulation characteristics at an economical price.

Super Core is the reason.

A rigid, pre-cured, pre-formed polystyrene core is permanently bonded to cold-rolled steel panels with structural thermosetting adhesive. This combination gives our door its inner strength, assures dimensional stability, and results in a smooth, attractive exterior. There is no sacrifice in quality or materials. You get the same kind of precisely engineered, hard-working product that you've come to expect from Amweld.



Specify Amweld Super Core. It's the perfect door for stairwells or other areas requiring fire protection. And, it's available in 18- or 20-gauge, full-flush or seamless, in a wide range of widths and heights.

Want to know more? Contact your Amweld distributor or call us. Amweld Building Products, 370 Plant St., Niles, Ohio 44446. Phone (216) 652-9971.

*For more data, circle 59 on inquiry card*

**AMWELD** METAL DOORS AND FRAMES  
A division of The American Welding & Manufacturing Company, Warren, Ohio



*Krueger Sequence Seating at Mascenic Regional High School; New Ipswich, N. H.  
Designer: Frank Torrey, Silver Spring, Md.*



**Classroom and lecture hall seating . . .  
in arrangements to fit your most versatile needs**

Tablet-arm seating, beam-mounted for floor or riser applications, or floor-mounted pedestals . . . plain or upholstered fiberglass shells . . . fixed or folding tablet. Arrangements in rows, staggered, curved in-line or other configurations to fit your needs. Floor-mounted units adaptable to floor pitch. Posture curved, durable, fiberglass shells. Comprehensive room planning and consulting engineer services are available. *Write for details.*

*For more data, circle 60 on inquiry card*

**krueger**  
GREEN BAY, WISCONSIN 54306



# Lechmere shows its true colors

Life's a little brighter for customers at one of New England's largest hardgoods stores, Lechmere Sales, at Liberty Tree Mall.

The reason? GTE Sylvania's Metalarc HID lamps.

Thousand-watt Metalarcs flood the outside. And 360 four-hundred-watt Metalarc/C's light up the inside.

Customers feel secure as they walk through the parking lot, because

with powerful Metalarcs they can see and be seen. These lamps deliver nearly twice the light of ordinary 1000-watt mercury lamps. And their color rendition is so good, a customer can spot his car by its color.

Inside the store, phosphor-coated Metalarc/C lamps spread a warm, natural light. The merchandise stands out in its own true colors. Reds don't look purplish. Yellows don't look

greenish. Blues don't look garish. (And people don't look sickish.)

Customers don't come back complaining, "Gee, that wasn't the color we thought we saw in the store."

The entire store is lit up so brightly and the merchandise can be seen so clearly, that shopping is a pleasure.

Metalarc/C's even make life a little brighter for management.

Compared with fluorescents or incandescents,





# -inside and out.

andescents, a lot fewer lamps and fixtures are needed. So you can design better-looking ceilings, yet pay less for installation and maintenance.

To top it off, Metalarc/C's last a long, long time. The newest 400-watt lamps are rated for an average life of 15,000 hours. That's about 4 years, if the store stays open 6 days a week from 10 to 10.

We'd like you to know the ins and

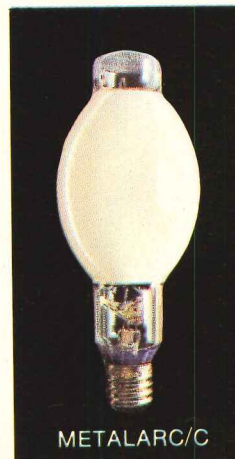
outs of Metalarc lighting.

Talk to your nearest GTE Sylvania sales representative or independent electrical distributor.

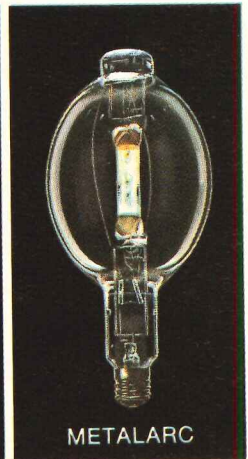
And learn the whole, colorful truth.

To find their names, look under "Lighting" in the Yellow Pages. Or write to: Sylvania Lighting Center, Danvers, Massachusetts 01923.

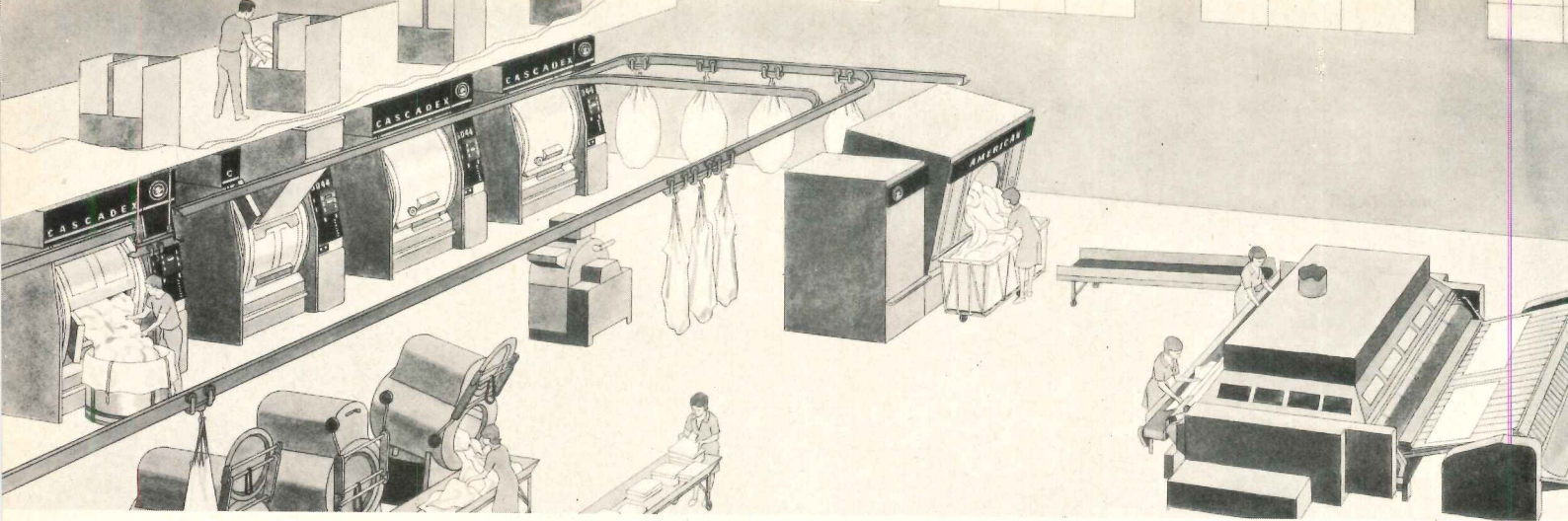
**GTE SYLVANIA**



METALARC/C



METALARC



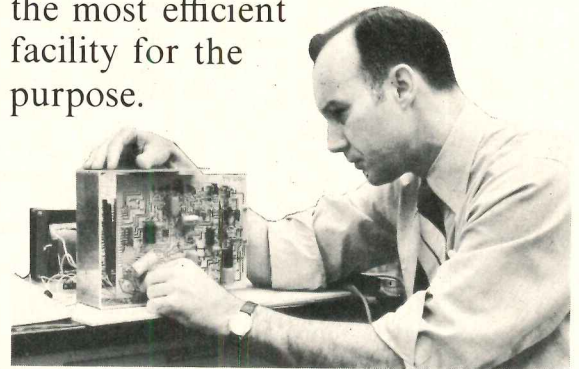
## How to plan an up-to-date laundry that stays up-to-date

Laundry needs—in terms of type of equipment and provision for flexibility—have changed dramatically. New synthetic fabrics and rising labor costs have called for new kinds of equipment, greater degrees of automation—and the adaptability of both to changes in the size and sort of work loads.

In planning laundries to meet these conditions, you can count on uniquely qualified help from American.

Our credentials—over and above our long experience—include the industry's most extensive R&D program and the new and

laundry operations of today. For dependable help in planning up-to-date laundries—that stay up-to-date—call on American. We can help you with complete floor plans, equipment recommendations, flow diagrams, capacity and personnel data—anything you need to provide the most efficient facility for the purpose.



improved process machinery that it has produced—machinery that is now proving itself in the “new”

Tomorrow's equipment is ready today at American.

The American Modular Industrial Drycleaning System

The American Slant Line Washer

The 6044 Cascadex Washer/Extractor

The Super Thermatic Drying and Conditioning Tumbler

The Tru-Feed Spreader Feeder

The Foltronic Primary Folder

The Trumatic II Primary Folder

The Trumatic Cross Folder

The Formatic Steam Finisher

The Formatic Wet System Finisher

**American** 

American Laundry Machinery Industries  
5050 Section Avenue, Cincinnati, Ohio 45212

For more data, circle 62 on inquiry card

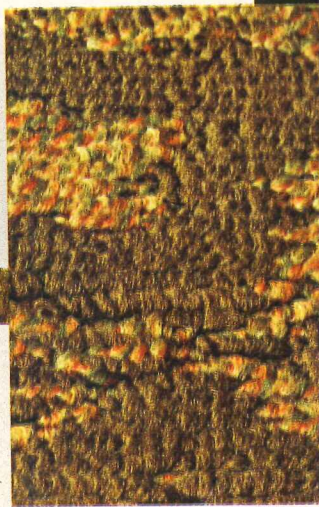
Lea & Perrins got saucy on Mohawk Carpet of Herculon®...



### ...but not for long.

Mohawk's Omnibus carpet of HERCULON\* had a legitimate claim to fame. Very rare and juicy. And we covered its "Quadrille" pattern with spicy Lea & Perrins Worcestershire Sauce. But at the great meal didn't last long. It was cleaned up quickly and easily, leaving nary a trace.

The stain resistance of HERCULON olefin fiber, coupled with its common resistance to abrasion and fading, gives you the perfect carpet for any commercial installation.



Lea & Perrins couldn't make a lasting impression on Mohawk's Omnibus carpet of HERCULON. But its "Quadrille" pattern will make a beautiful impression on your clients.

For detailed information on HERCULON olefin fiber see Sweet's **S** Light Construction, Architectural and Interior Design files. Or, write Fibers Merchandising, Dept. 209. Hercules Incorporated, Wilmington, Delaware 19899 for free 24 page booklet.

**Specify carpet of Herculon® by Mohawk**




\*Hercules registered trademark.

For more data, circle 63 on inquiry card



Shown above: Flush Mounted CP-130 Control Panel and Ceiling Mounted DI-6 Ionization Detector



Pyr-A-Larm, unchallenged leader in early warning fire and smoke detection, now offers a system with smartly styled detectors and control equipment to blend with any commercial decor . . .

But more important, the Pyr-A-Larm system offers the four major methods of fire detection making it adaptable to any application. These are: Ionization Detection which is capable of detecting a fire BEFORE there is any visible smoke, flame or appreciable heat; Visible Smoke Detection; Flame Detection and Thermal (heat) Detection. In the event of fire, the detector signals the control panel which sounds the alarm, and if desired, activates the fire extinguishing system, closes smoke doors and dampers and sends a signal to the fire department.

The low-voltage detection methods are the same as those in Pyr-A-Larm high-voltage systems installed in major industrial plants, in government buildings, museums, universities and other institutions throughout the world.

Get all the facts on Pyr-A-Larm today. See for yourself how its handsome styling can be incorporated into your designs.

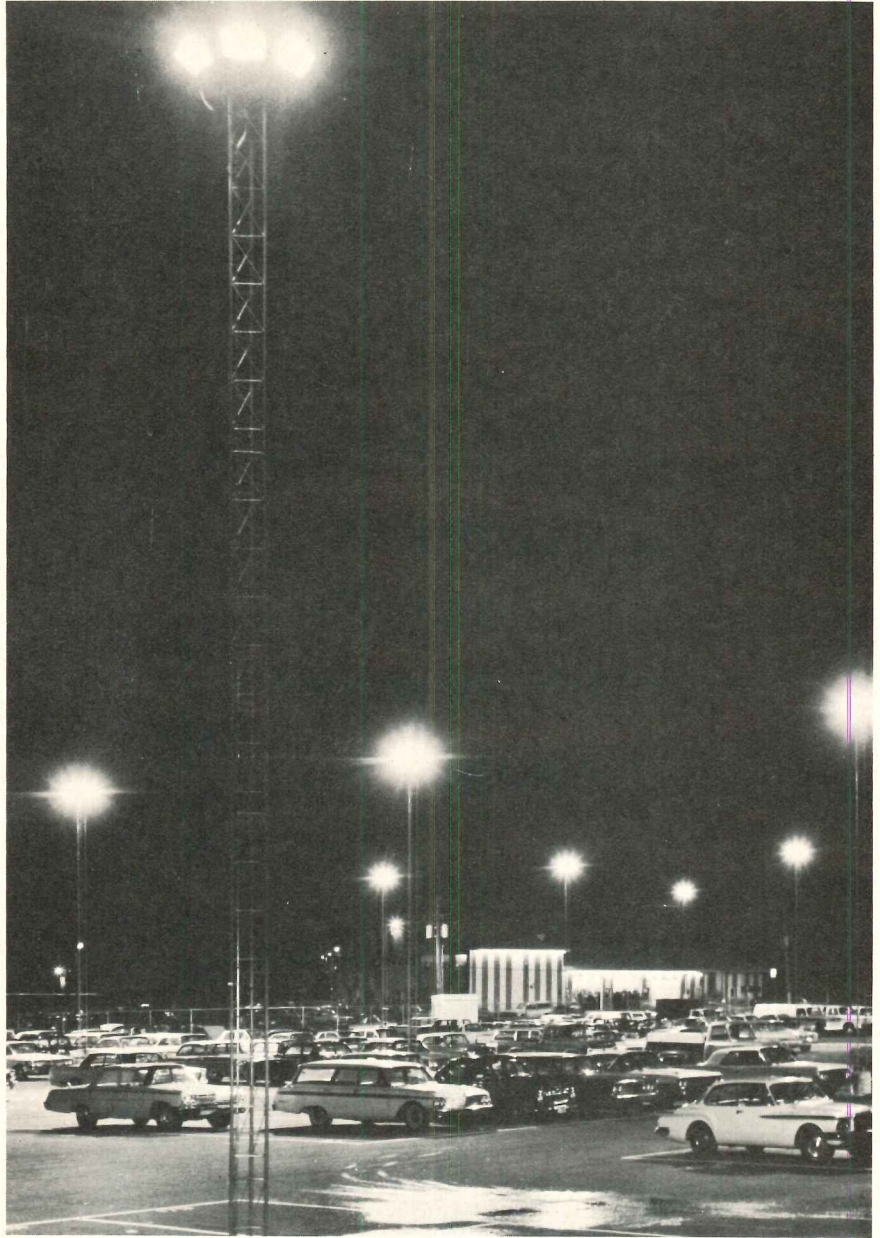
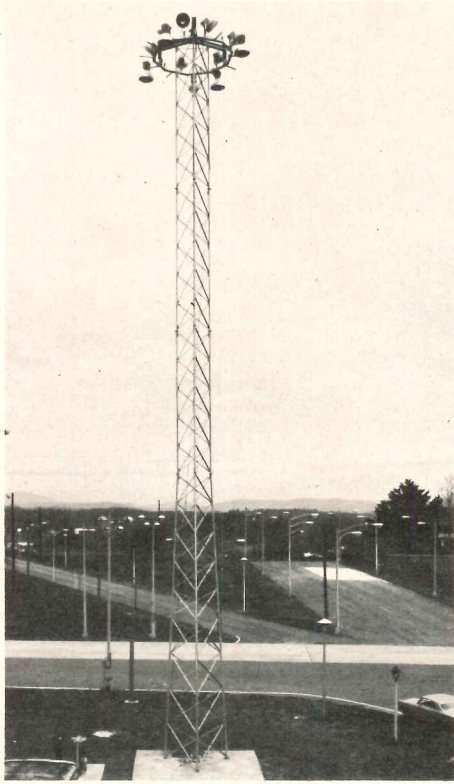
Write or Call:

Mr. William A. Columbus,  
Pyrotronics, A Division of Baker  
Industries, Inc., Cedar Knolls,  
N.J. 07927 (201) 267-1300

**Pyr-A-Larm®**

For more data, circle 64 on inquiry card

**Pyr-A-Larm puts  
low voltage  
fire detection in style.**



reduce  
costs  
up to  
50%

*Sounds unbelievable but it's true.* Time and time again our cost for *stable, attractive* lighting supports have proved to be up to 50% less than the cost of poles of 100 ft. and higher. If you are on a tight budget, take a close look at us. You'll find a complete manufacturing facility . . . from computer backed design thru the finished galvanized product under one roof. And it doesn't stop there. We will even make arrangements for installation and servicing. If high level lighting supports are your concern . . . talk to us . . . it's our business.

**ROHN** <sup>®</sup> **MANUFACTURING**

DIVISION OF



P.O. BOX 2000 / PEORIA, ILL. 61601

**ROHN MFG. / P.O. BOX 2000 / PEORIA, ILL. 61601**

Gentlemen:  
I'd like more information on:

INDUSTRIAL LIGHTING  
 SECURITY LIGHTING  
 RECREATIONAL LIGHTING  
 OTHER

\_\_\_\_\_ Specify

Name \_\_\_\_\_ Title \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_ Zip \_\_\_\_\_

For more data, circle 56 on inquiry card

# A SCHOOL IS BORN.

Gestation period 150 Days.

This spanking new 48,500 square-foot, 3-story Hood Junior High School in Derry, New Hampshire is the first completely pre-engineered environmental school in New England. Built during the last half of 1971, it accommodates approximately 500 students.

AllianceWall porcelain-on-steel panels form both the exterior and interior walls. Officials estimate the use of these panels will save the school district thousands of dollars each year in maintenance. The AllianceWall panels never require painting and are both graffiti and vandal-proof. They cannot be scratched or marred and paint wipes off without leaving smear marks.

Designers of the school\* also used floor-to-ceiling chalkboards of AllianceWall porcelain-on-steel in various decorator colors to achieve an ideal teaching environment.

Shown here (left to right) is an exterior photo of the new 3-story addition which is connected to the original school by a double-deck enclosed passageway. Also shown is the school science laboratory and two art studios.

Write today for complete information and free floor plan.

\*Titan Environmental Construction Systems, Inc.  
2539 St. Paul Street, Baltimore, Maryland 21218

## AllianceWall Corporation

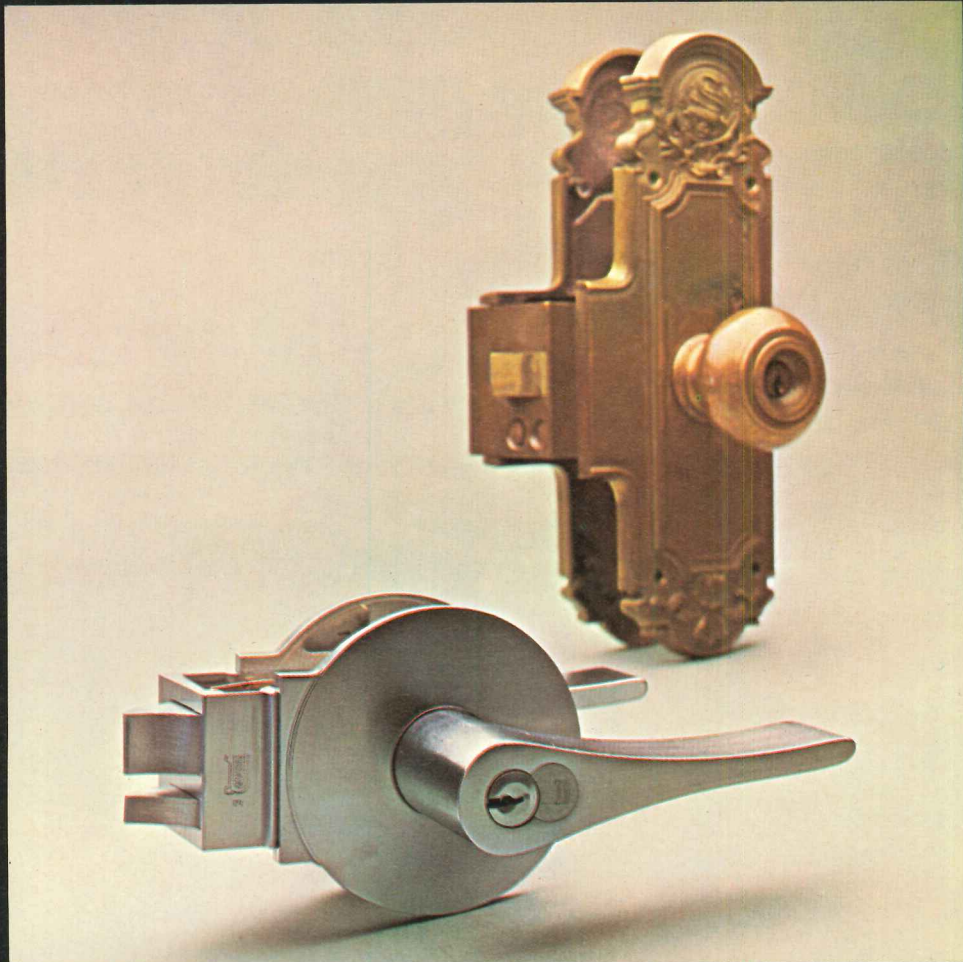
Box 247, Alliance, Ohio 44601

European Plant:

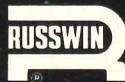
Alliance Europe, N.V., Box 19, 3600 Genk, Belgium



# Handsome Heritage



*Lever-action UNILOC™ lockset.  
A classic evolution of line and  
form and fingertouch response.  
Enduring design in the Russwin tradition.  
Russwin, Division of Emhart Corporation,  
Berlin, Connecticut 06037.  
In Canada – Russwin, Division of  
International Hardware.*



*The Collector's Series by Russwin*

*For more data, circle 67 on inquiry card*



Not many architects produce houses that illuminate philosophic concepts at the same time that they solve esthetic and programmatic problems. Richard Meier does. There is a clarity in Meier's work that compels every architect, no matter what his bias, to study the buildings and absorb the lessons each offers. This house near New York for a family with six children is worth study on four levels: First, as it responds to the work and thought of Le Corbusier. Second, as it conveys the special delight of architectural sculpture. Third, as a thoughtful solution of the clients' program on a specific site. Fourth, as a series of details which solve house-building problems economically and well. In short, it is a very comprehensive approach to residential design.

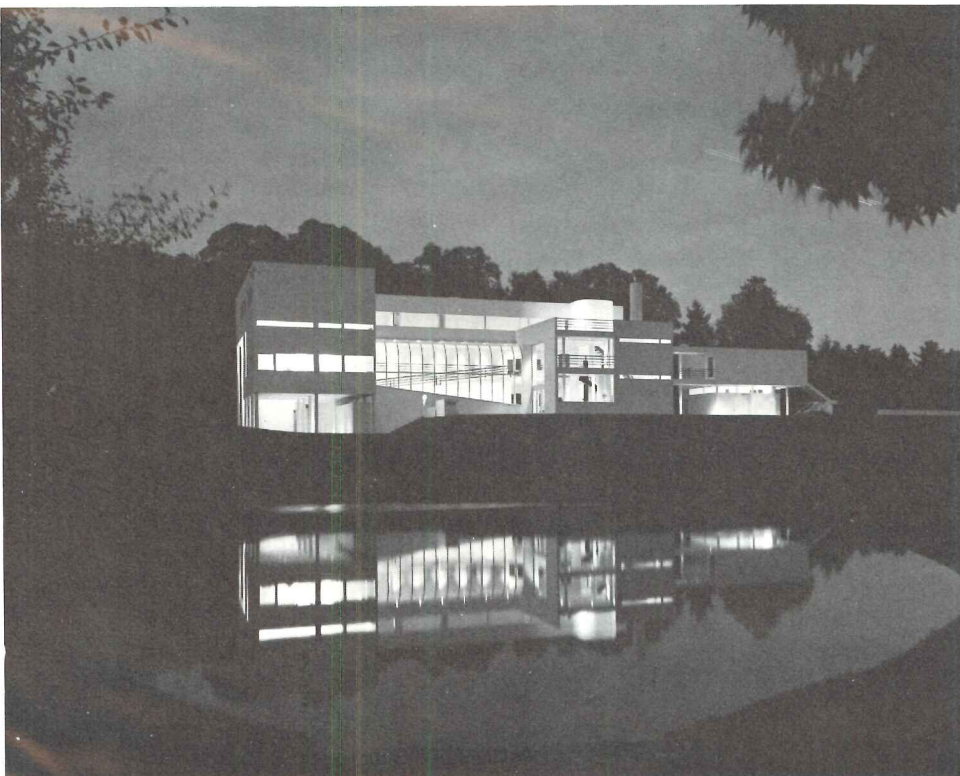
Richard Meier believes that every architect working today has been affected by Le Corbusier. In his own work, and particularly this house, he cites Corbusier's interest in structural clarity, of the relationship of the horizontal plane to its columnar support and the ensuing visual framework. He cites the bold expression of vertical circulation patterns, such as the ramp, and their incorporation as major design elements. Finally, he cites the play of light and shadow upon form. That is, after all, one of the principal ways in which Le Corbusier defined architecture.

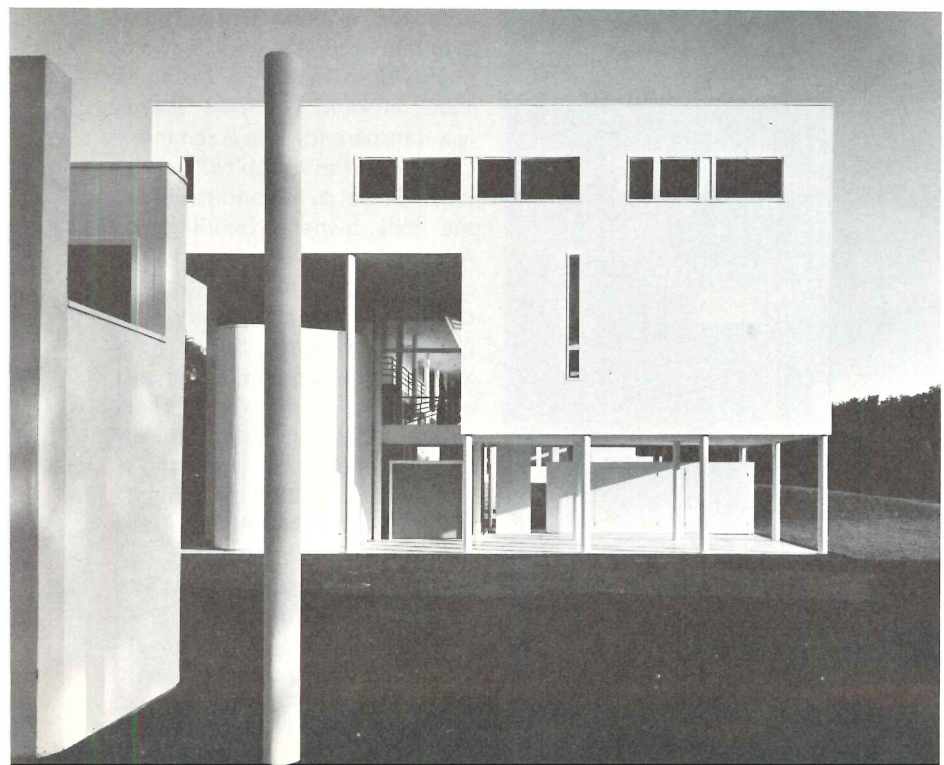
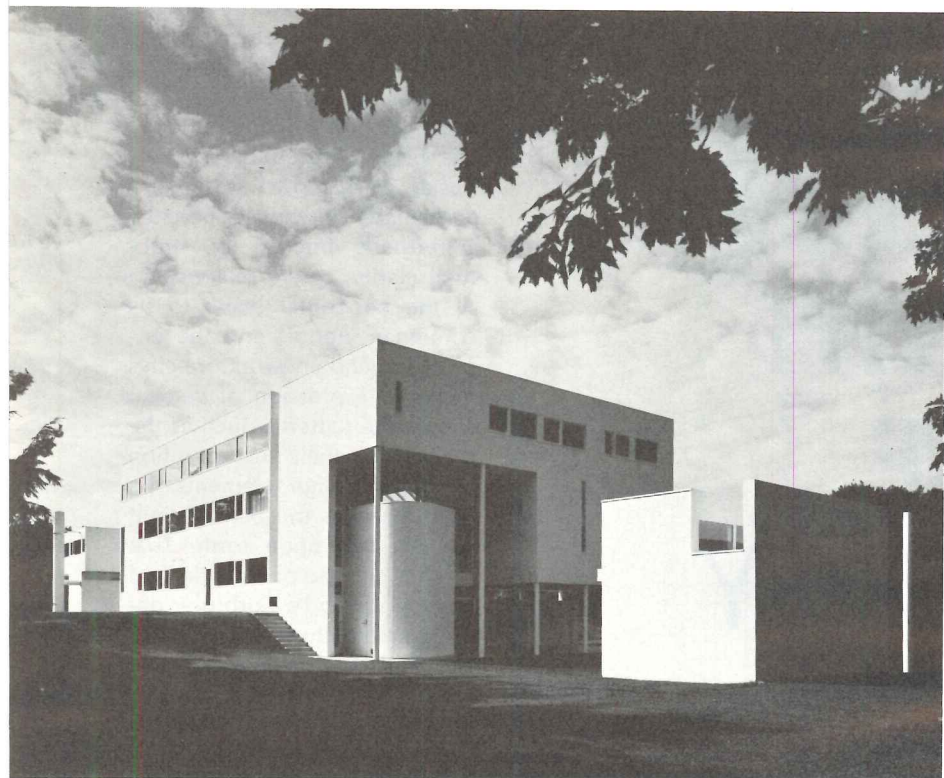
And it is in this way that Meier has particularly succeeded here. As in his earlier houses, Meier has carefully balanced interior daylight level with the exterior light. Thus, even in the daytime (when many glass buildings become solid mirrored volumes), there is a transparency that is reminiscent of Corbu's tropical buildings—those at Chandigarh or the mill owners' building at Ahmedabad. In other words, in a climate that requires tightly composed and completely enclosed buildings, Meier has achieved the apparent openness of an unenclosed building. That has been the main esthetic quest of a generation of architects.

The illuminated building at twilight (left) conveys the quality well, but transparency in daylight is the true test. With admirable bravura, the architect has used ramps to connect four levels and has underlined

# A HOUSE THAT GLOWS WITH CRYSTALLINE TRANSPARENCY

Ezra Stoller photos © ESTO





their presence with quasi-industrial detailing such as the welded pipe railings and the arched metal glazing structure. The juxtaposition of the arched glass wall and the two glass walls of the living room (right) produces a visual depth that has eluded most designers.

It is this transparency, of course, that makes the house truly sculptural in contemporary terms. It is not enough, today, for external massing to be powerful or pleasing. In both sculpture and architecture there ought to be an interplay of internal and external spaces: a topological continuity is the ideal. Set as an object in a meadow, the scale of the house is deceiving. The linear quality, so obvious in the second level plan, is largely achieved by the connected pool house/playroom. The total length on that level is almost 160 feet but the house itself is only 85 feet long. Thus, using a swimming pool and ancillary structures, Meier has maximized the thrust of the form into the site.

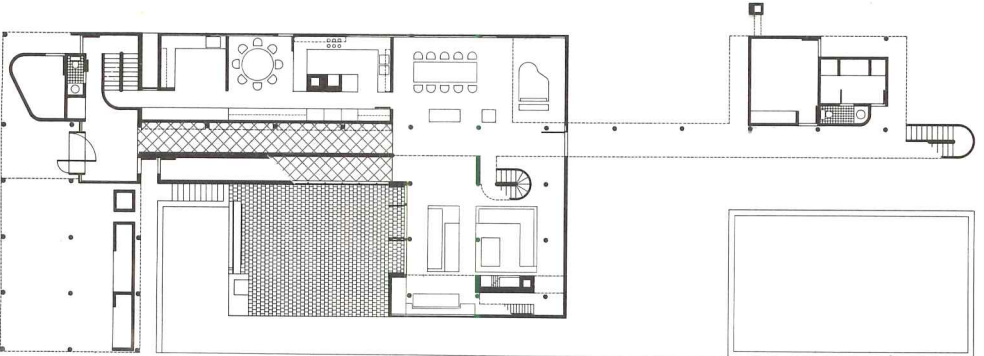
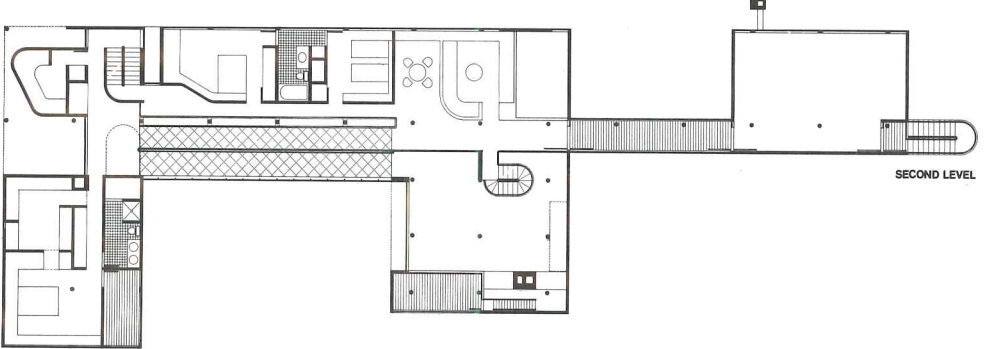
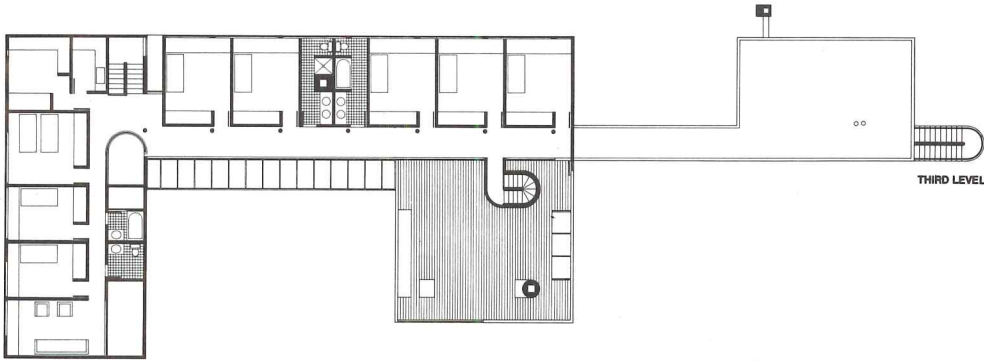
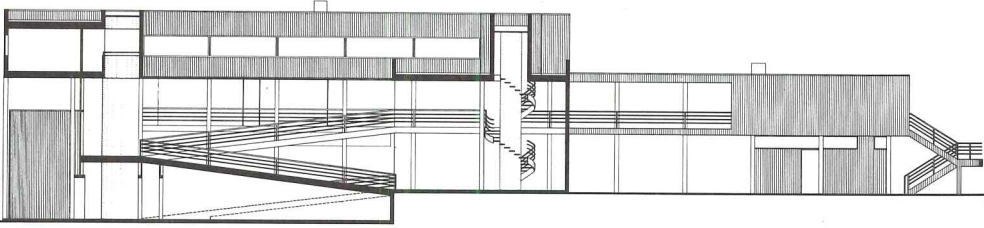
It is a large house—eleven bedrooms—but it definitely has a residential scale. When the six children are at home with their friends, and young visitors are very frequent, the ramps are alive with running, shouting youngsters. It is an indoor playground. A device which architects have always identified with monumentality, or at least with access for the handicapped, is used here to express an open and informal style of living. Although the plan organization of the house indicates a compartmentalization usually identified with much larger buildings, the intensity of use (a dozen people live here after all) requires such zoning.

Finally, in spite of its steel frame, this is a wood house which owes as much to American house-building techniques as it does to European formal traditions. The 4 ft.-6 in. wide ramp is wood framed, and, like most of the floors, is of dark-stained oak boards. This material, played against glass and white walls inside and out, adds a warmth that is entirely appropriate.—James D. Morgan

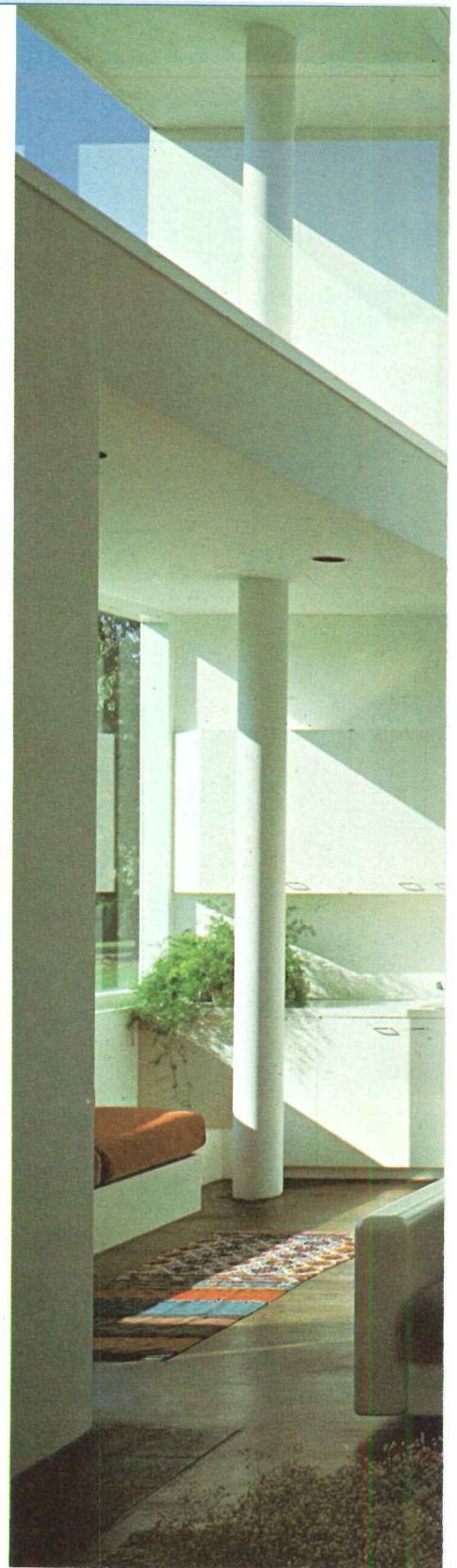
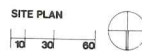
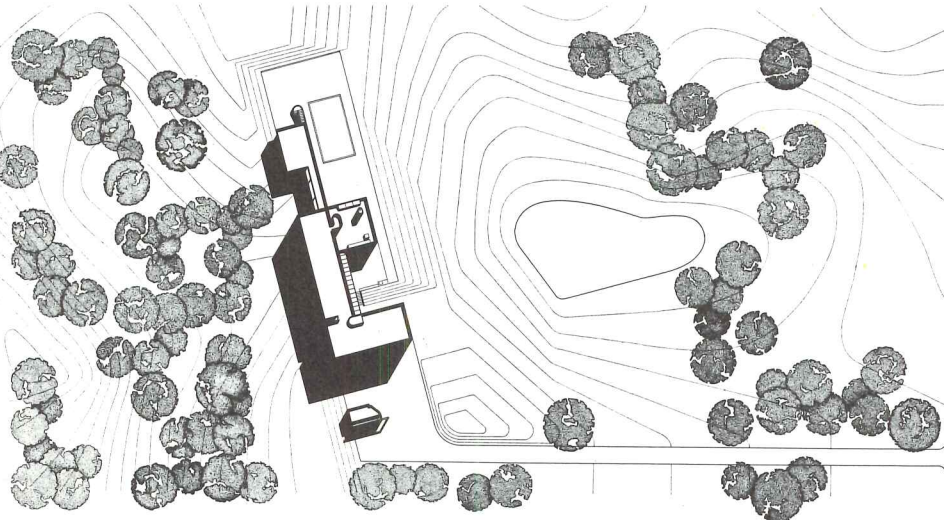
The rear and side elevations (left) are designed as a tight skin to complement the rich forms of the main facade. A symbolic freestanding steel column (bottom left) has been placed on the structural grid.



MEIER HOUSE

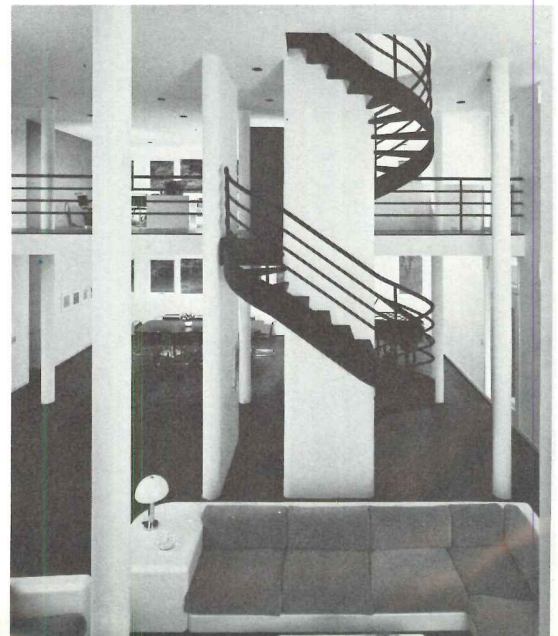


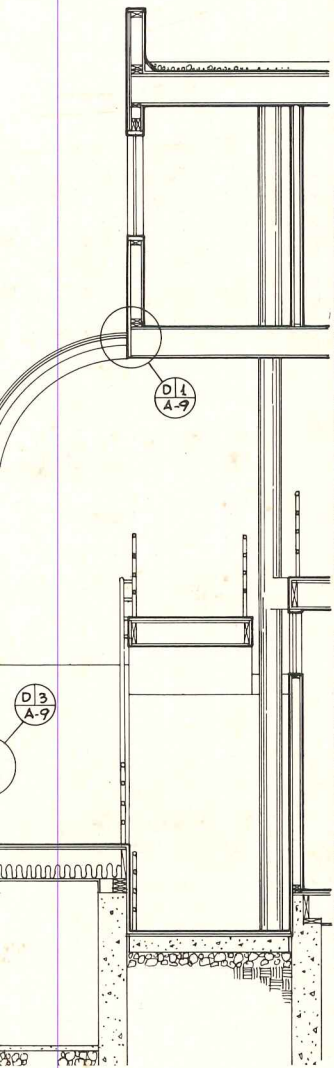
The linear organization of the house, emphasized by the ramps and the second-level connection to the play-room/poolhouse, relates well to the site. Formerly a pasture in which horses grazed, the land was gently shaped including a mound which screens the entry from the drive. The existing lake was also modified.



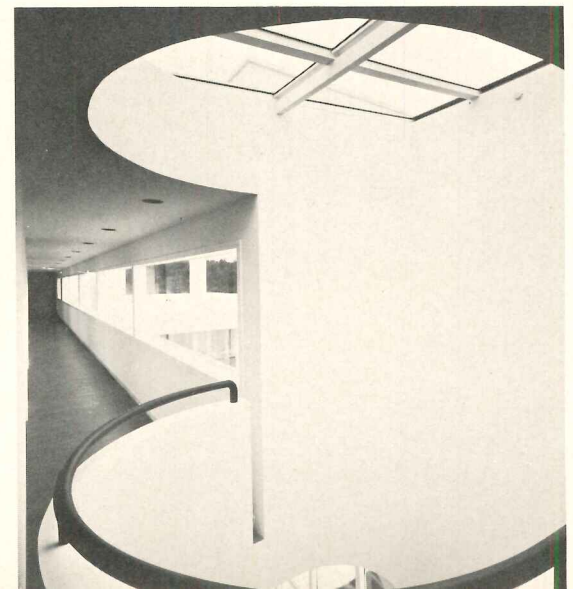
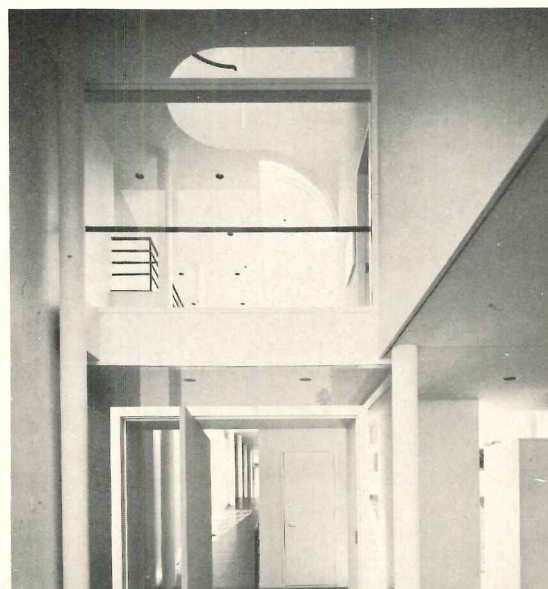


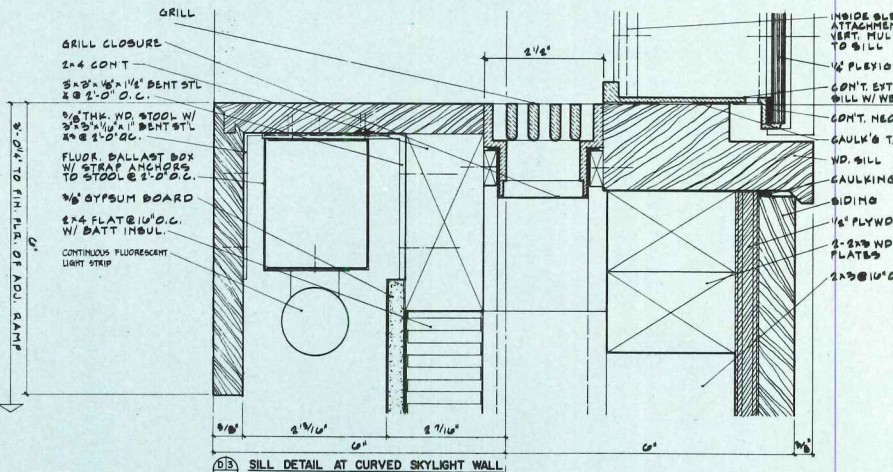
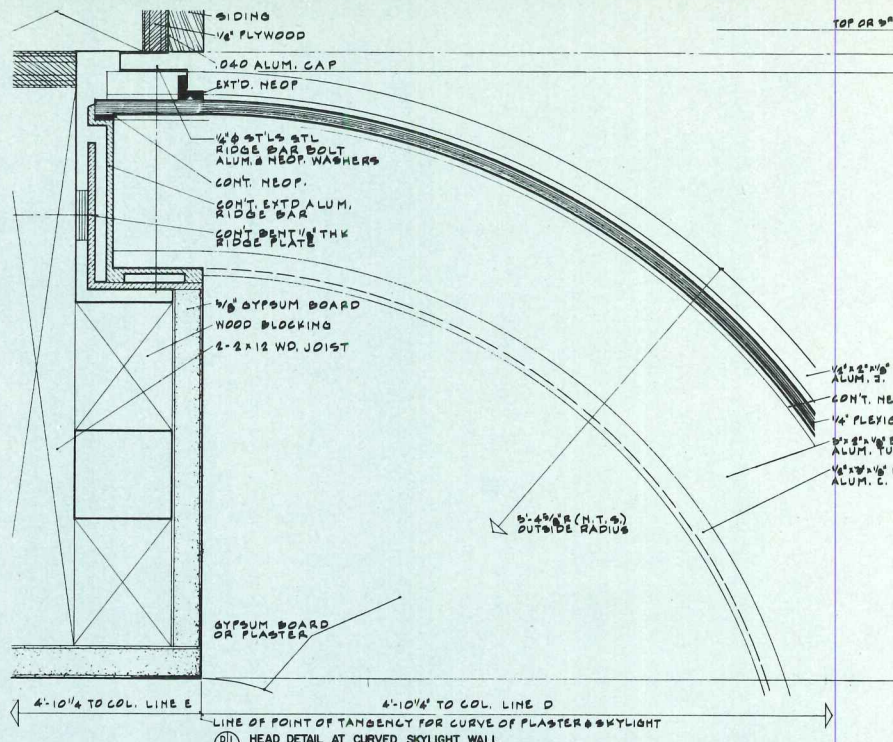
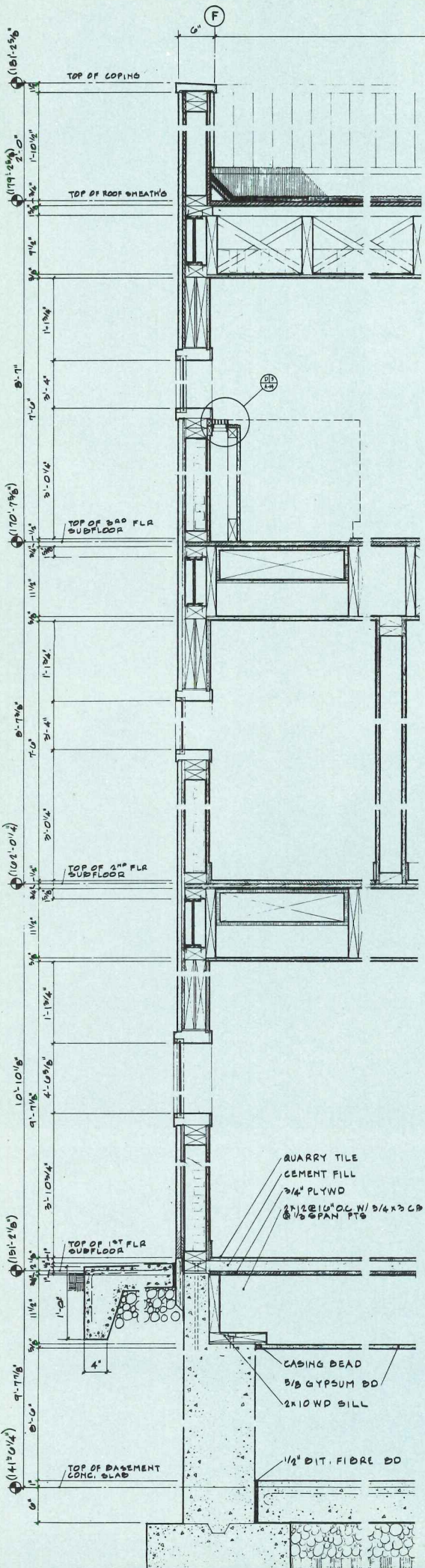
The living room is a two-story glazed pavilion, partly defined by the winding metal stair (right) that continues up to the bedrooms on the third level. Yet the space is contiguous with the circulation spine on both levels and with the areas beyond: dining and music below and children's recreation above. Specially-designed white lacquered wood furniture grouped around the fireplace provides a remarkably intimate area for entertaining. The steep stairway behind the fireplace (left) leads to a small deck. From the interior, the deck provides a smaller-scale sitting area to one side of the fireplace. From the exterior, it creates a well-proportioned opening, with the upper glass thoroughly shaded, thus assuring transparency.





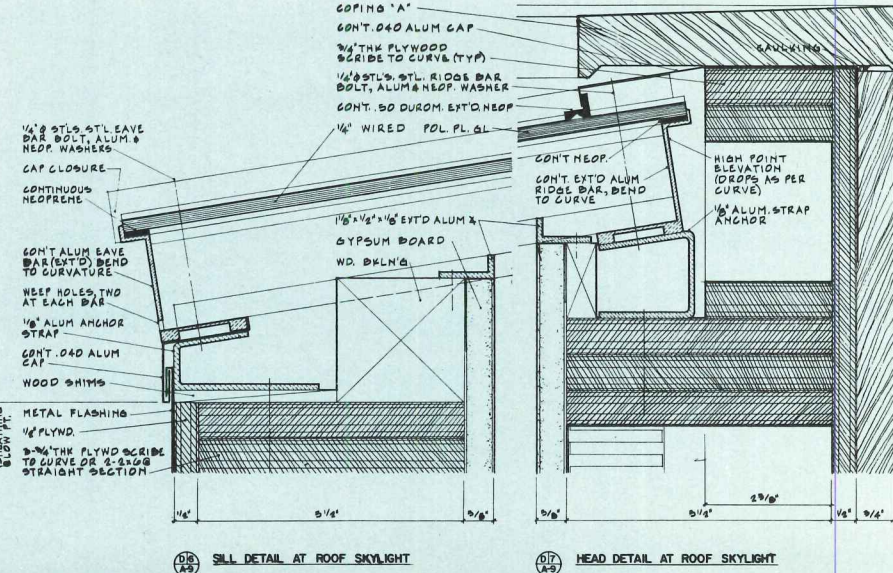
ramps in the acrylic-glazed gal-  
 are the most compelling archi-  
 tural feature of the house. Framed  
 2 by 12's and surfaced with  
 stained oak flooring, their spring-  
 helps to give a domestic scale  
 what might seem an inappropriate  
 monumental design element.  
 entry (right) with its red, asym-  
 metrically-pivoted door, leads imme-  
 diately to the ramp which ascends  
 the living room (above right). The  
 end leg of the ramp lands above  
 entry, adjacent to the master bed-  
 room. There, a cylindrical two-story  
 (right and far right) is topped  
 a flat skylight, details for which  
 shown on the next page. The de-  
 tailed indicated on the section through  
 ramps (above) also appear on the  
 page.

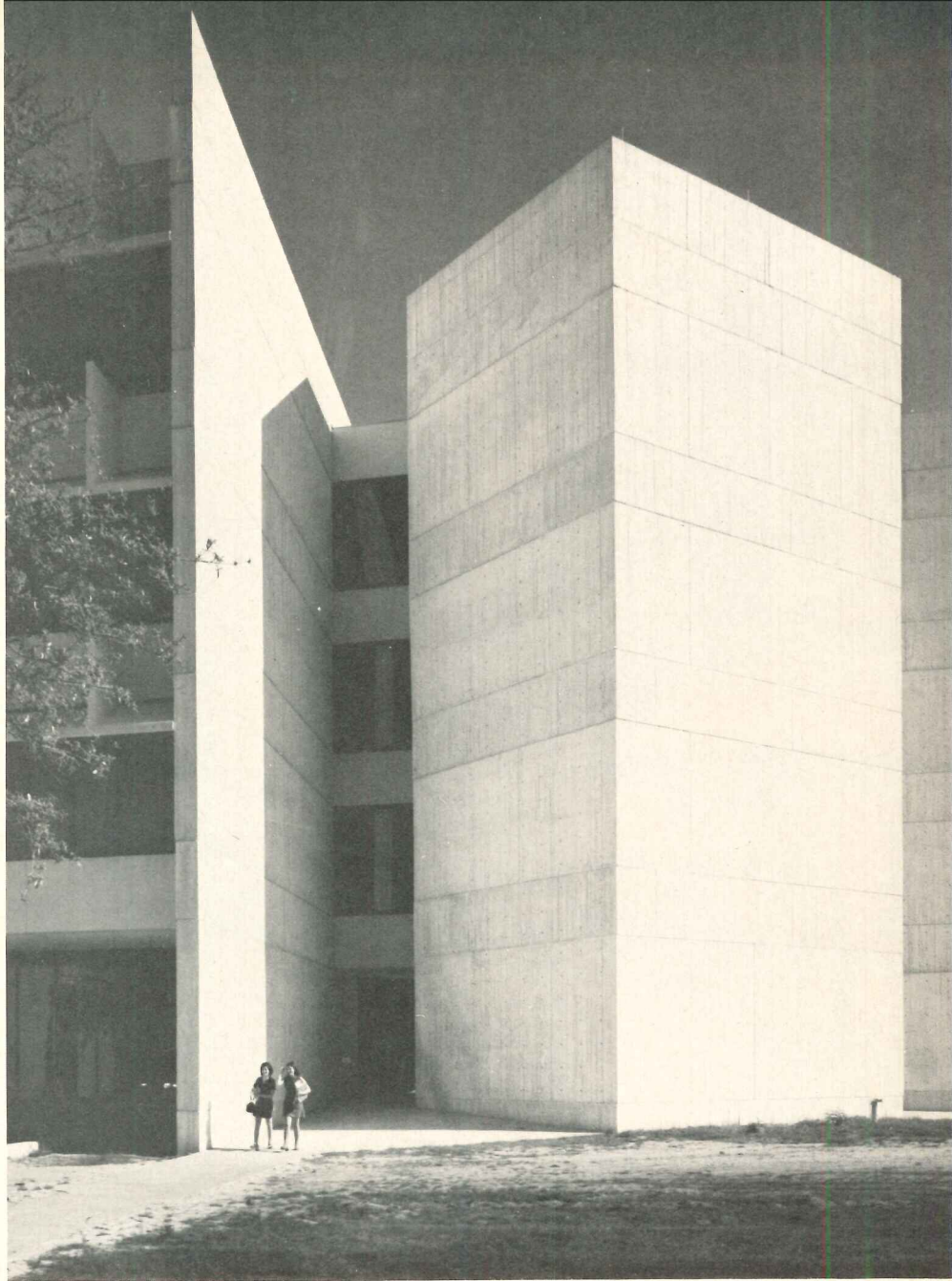
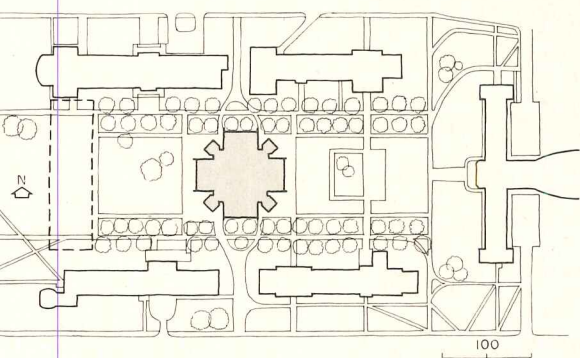




These drawings are taken from Richard Meier's construction documents. The wall section (left) is cut through the rear elevation. Note the extensive use of dimension lumber and the straightforward design of the fixed glazing detail. Steel operating sash are installed in similar fashion. The curved gallery window above and the flat roof skylight below are also examples of effective minimal

detailing. The wall section is reduced at 1/2" = 1'-0" and the sills at 3" = 1'-0". Architects: Richard Meier and associates; Dorothy Alexander Sherman Kung, project manager; Littenberg and K. Childs, assistant; Engineers: Severud-Perrone-Stubel (structural); Dalton and D. (mechanical & electrical). Contracted by Burton M. Saks Construction Co.



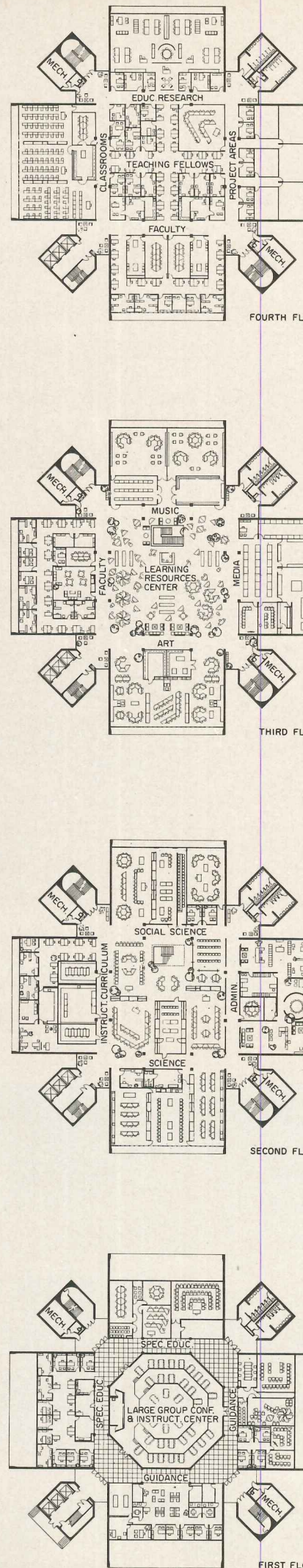


## BOLD, SYMMETRICAL DESIGN ANTICIPATES A VARIETY OF NEW TEACHING OPTIONS



Wilson, Morris, Crain & Anderson have recently completed a handsome, surprisingly flexible College of Education on the campus of the University of Houston. In plan, the building is a Greek cross, symmetrical about every centerline, with core elements split-up and placed in four, free-standing towers outside the building where the arms of the cross intersect. Sited at the center of a long quadrangle, the building's symmetry and omni-directional orientation are, in part at least, a response to its focal location.

The four-story, 120,000-square foot structure is reinforced concrete with core and shear walls poured-in-place and post-tensioned. Window walls are bronze-tinted solar glass framed in anodized aluminum sash and protected by conspicuous, carefully articulated sun screens. Entrances, at grade, are located behind each of the four towers.



Inside, the rigid geometry of the forms begins to disappear. By transferring the core elements to the building's periphery, the architects were able to provide a superimposed sequence of large central spaces, defined by point supports but otherwise unencumbered. On the first floor, a Large Group Instruction Area can accommodate 300 people. It also doubles as a conference center for the College, the University or the surrounding community. The second and third floor spaces, partly opened to each other (photos above), form the Learning Resource Center—a space or series of sub-spaces in which a wide variety of learning situations can be generated.

Surrounding these central spaces on each floor are assorted faculty and administrative offices, audio-visual labs, seminar rooms, lounges, practice teaching classrooms—all with non-bearing partitions that can be rearranged as new needs arise. A system of paired columns separates the large and small spaces, delineating interior circulation and picking up intermediate structural loads (see plans).

The educational program is subject to continuing revision, so the architectural program emphasized flexibility. The as-

sumption was that the best facility would be one that got out of the way of the educational program. To both client and architect, this meant innovative, open planning. It meant planning for a future full of practical uncertainties—a future in which tools, techniques and perhaps even purpose will improve. As knowledge in nearly every discipline continues to explode, the concept of teacher as “dispenser of knowledge” gives way to more viable alternatives. The burdens of education are being transferred at an earlier age to the learner.

The function of the College, therefore, is to train and retrain teachers, to encourage experimental attitudes, in short, to influence both the direction and the quality of present and future education. In spite of these uncertainties, the building has a surprising sense of self assurance. The forms have a clarity and confident logic. The detailing, inside and out, is precise and sure-handed. Metaphorically, the building seems to answer more questions than it asks. Such ambiguities as exist center on the shifting, multiple use of the building's varied interior spaces, and it is in these spaces, of course, that the building's long-range effectiveness will be gradually determined.





Early all spaces in the College are  
designed for comfort and acoustical  
control. Furniture has been carefully  
selected with a view toward flexi-  
bility and, in some cases, multiple  
function. Ceilings are lay-in acous-  
tical tile with custom-designed, re-  
cessed lighting fixtures. Air diffusers  
are supplied by a double duct sys-  
tem from mechanical spaces on  
the floor.



The Large Group Instruction Area, which seats nearly 300, can be comfortably used by one or more smaller groups simultaneously. Smaller spaces whether administrative or teaching, are designed with the same eye toward flexibility and uncertain future needs.

COLLEGE OF EDUCATION, University of Houston. Architects: *Wilson, Morris, Crain & Anderson*. Engineers: *Walter P. Moore* (structural), *Cook & Holle* (mechanical); acoustical consultant: *C. P. Boner*; contractor: *Manhattan Construction Company*.



# DESIGN FOR LEARNING: WORK OF HARDY HOLZMAN PFEIFFER ASSOCIATES

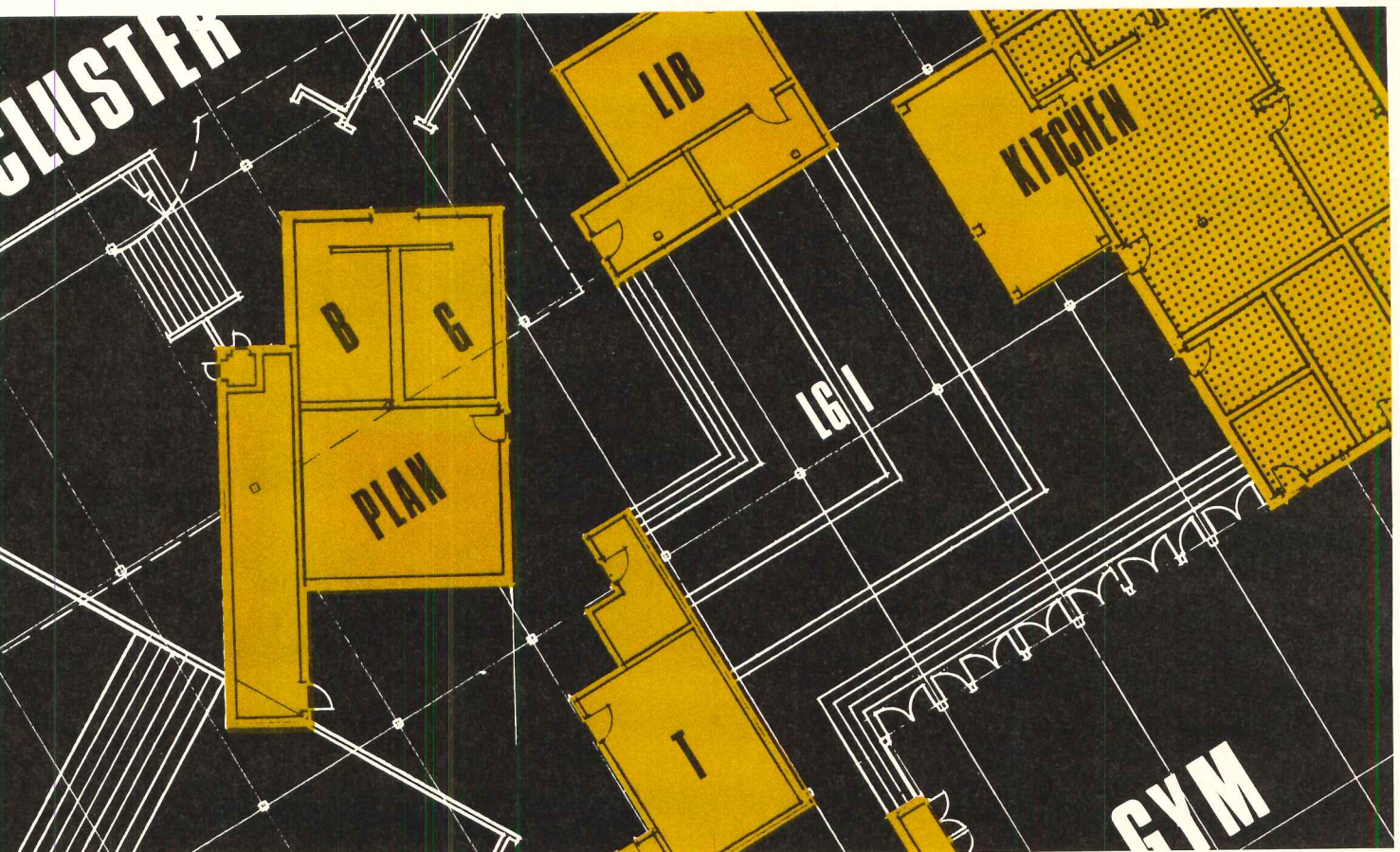
The projects on the following pages are all educational complexes—although only three can be conventionally considered as such. The elementary school, museum and firemen training center each have a formal and traditional teaching mission, but the industrial medical center does not, at least for its patients. All four projects, however, will when complete, prod, stir, arouse, excite, stimulate, exasperate and ultimately educate their users.

The buildings of Hardy Holzman Pfeiffer Associates teach as organizations of space for human interchange, for developing self-awareness, for community and for privacy. Their inventions fascinate in their essence as constructions. By using conventional materials unconventionally, and unfamiliar materials in a familiar way, the architects force their users to really see what they are looking at. They keep finding fresh contexts for old things, and time-honored contexts for new things.

The architectural game they so exuberantly play is paralleled in their methods of architectural presentation. Bored with miniaturization—they don't wish to show the client a tidy little model of his perfect little building to be—they make their mock-ups out of combinations of anything which suits them. Told that perhaps their presentation techniques overwhelm content, accused of not being serious, of trivialization, of creating curious toys, they argue that their models are for the purpose of stimulating the conversation, and for suggesting a broader range of visual values. Malcolm Holzman adds "—anyway all models are toys."

The architecture that emerges has a strong structural discipline. The bids on each building are within or under its limited budget and comparable to the national average where it applies.

Hardy Holzman Pfeiffer Associates are a small office and all the work is done by themselves and a six-man team which consists of Thomas W. Casey, Neil Dixon, Michael Franklin Ross, M. Herbert Staruch, Marvin Wiehe and Peter S. Wilson. —Mildred F. Schmertz



# 1 A NON-GRADED SCHOOL DESIGNED FOR TEAM TEACHING

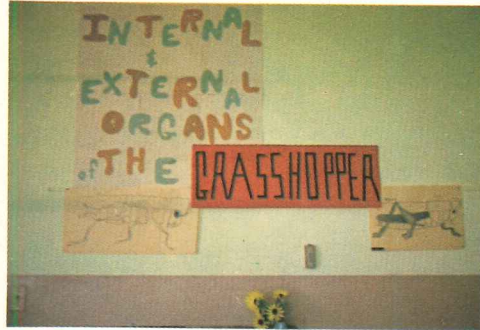


*An open plan for rural children based upon three multi-level clusters each of which function like a one-room schoolhouse.*

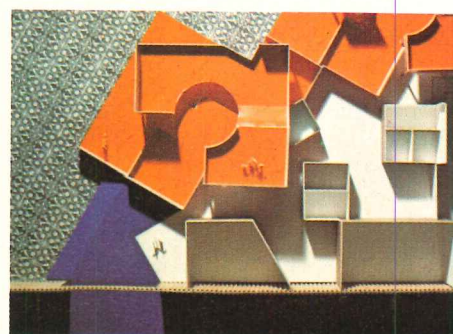
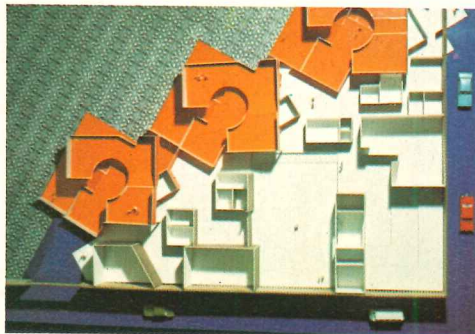
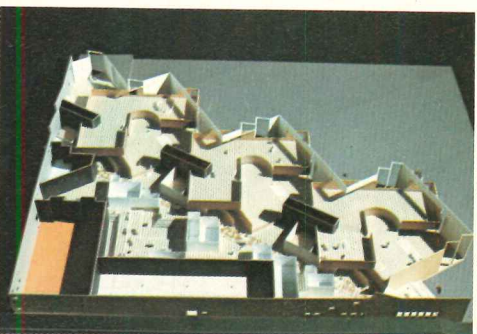
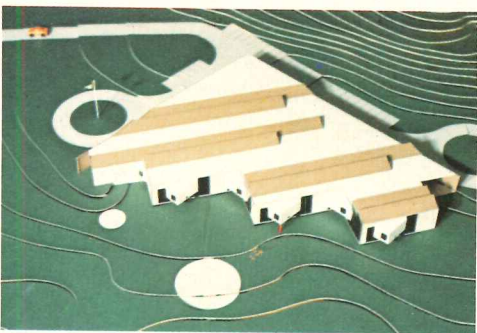
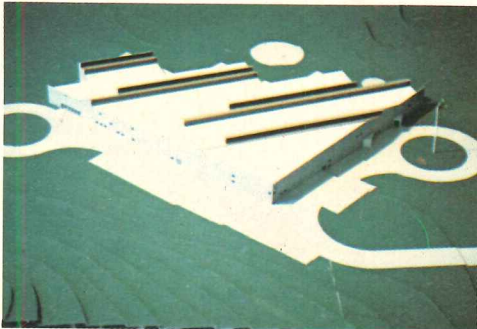
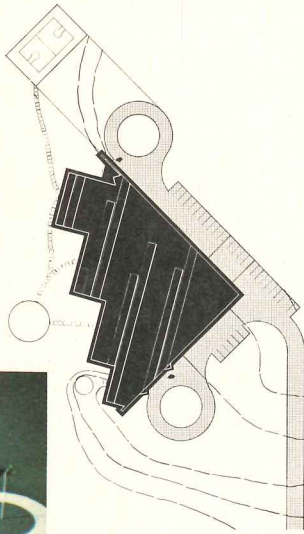
The lively model (opposite page, top) shows the typical team teaching cluster which forms the basis of Hardy Holzman Pfeiffer Associates design for the Southwest (Mt. Healthy) Elementary School. It is now under construction for the Bartholomew Consolidated School Corporation near Columbus, Indiana. The cluster model at first glance looks like one of the firm's preliminary models for a theater-in-the-round and suggests the influence of spatial ideas which have emerged from their widely known theater work. Hugh Hardy insists, however, that "our buildings don't really look alike because they are all different solutions to different programs" and it is true—if one studies it carefully—that the cluster model gradually stops appearing to be a setting for drama and begins to look like a setting for life.

team teaching on a non-graded basis. The non-graded classroom works at his own pace in each subject and is assigned to groups of varying sizes at a similar level of achievement. The implications of this teaching approach for school design are major since the concept abolishes the graded classroom as we know it and with it, the previous corridor configurations.

What would once have been the classroom area is divided into three multi-level clusters which can handle a maximum of 90 students each. The cluster areas correspond to standard academic divisions: lower primary (kindergarten through second grade), intermediate (third and fourth grade), upper primary (fifth and sixth grade), and special education classes. Within each cluster, large group, small group and individual instruction proceed simultaneously. The physical divisions between each group consist of changes in floor level, cleverly juxtaposed materials and finishes and contrasts in type and intensity of natural and artificial light.

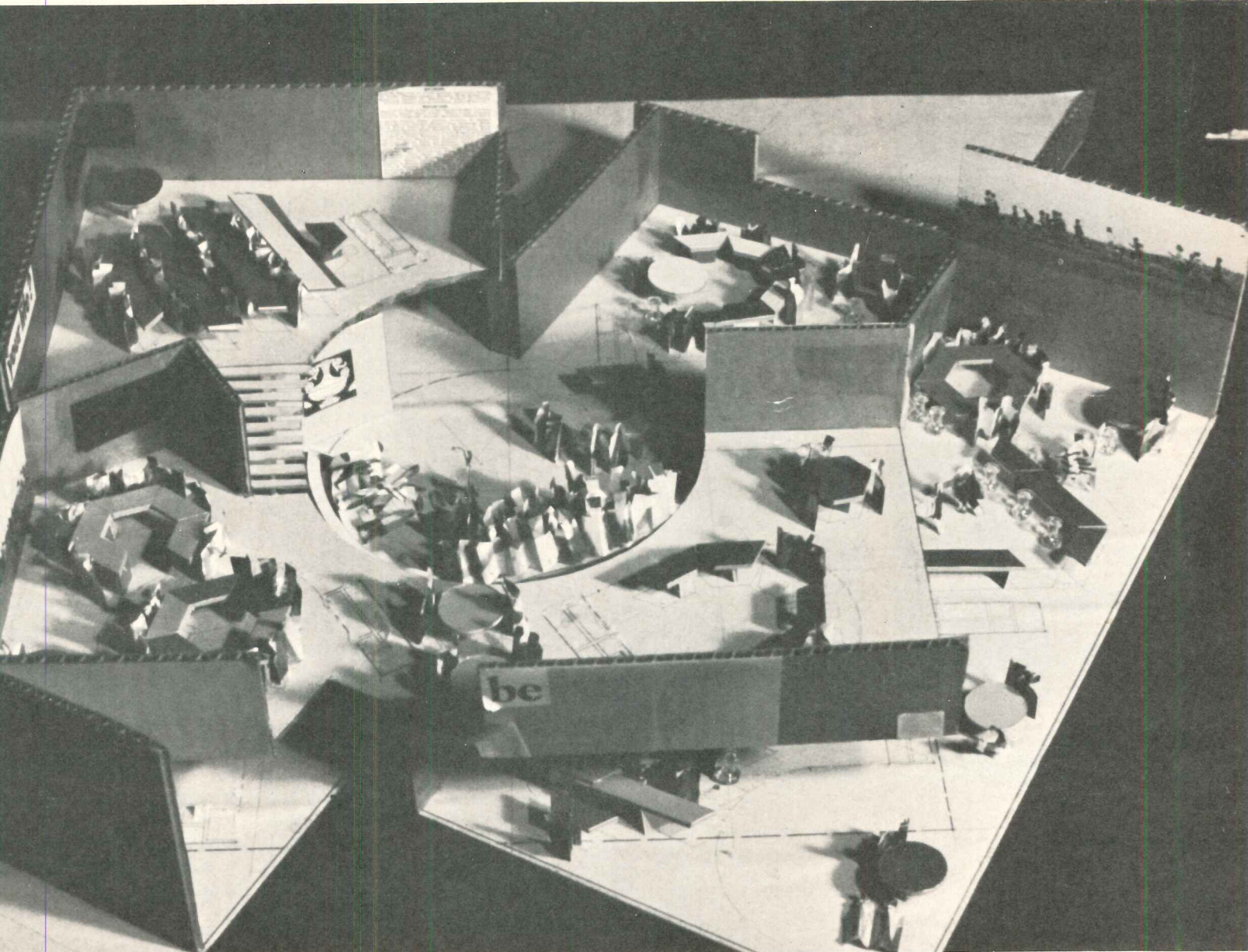


This school which occupies a sixteen-acre site is to become a part of the rural setting which appears in the top photo. The architects have tried to make it a modest addition to this scene—low lying, minimally landscaped and with its great diagonal skylights, explicitly functional like the farm buildings which are its neighbors. The educational cluster areas have metal walls which are stepped by half levels into and over the sloping site.

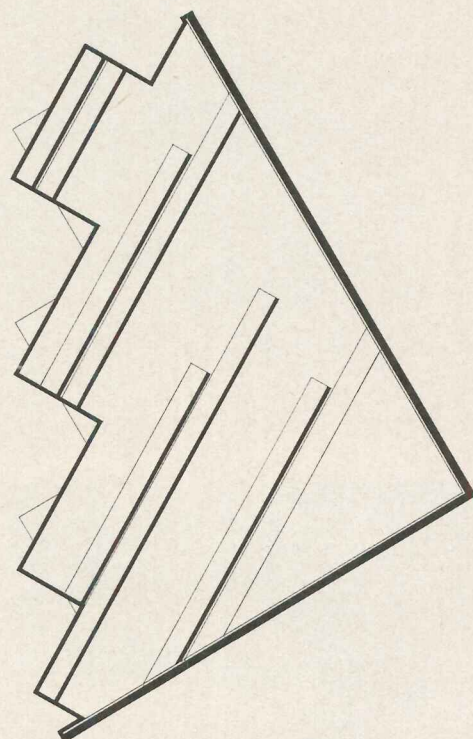
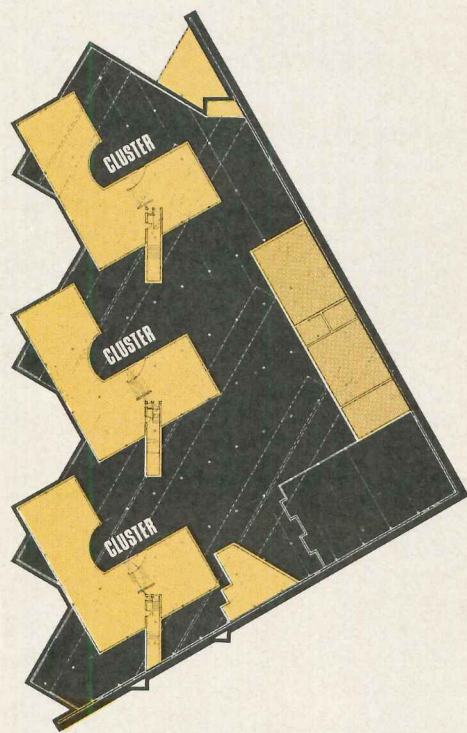
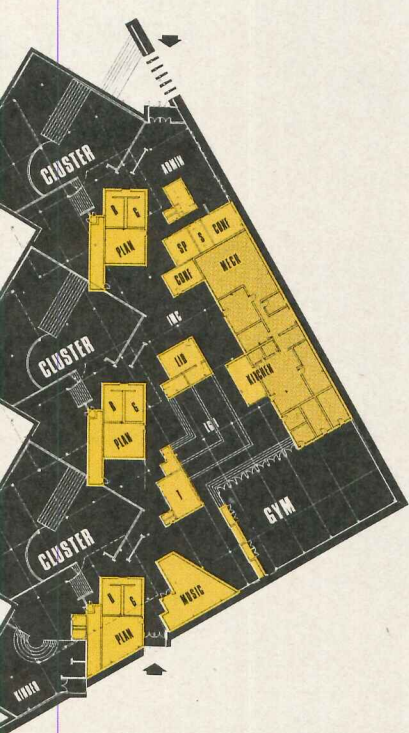


Schools are messy but the mess is fun says the second photo from the top. The model photos above and to the right show the ways in which the happy chaos will be gently ordered. At the heart of each cluster there will be a small instructional materials center containing a library reference area, TV and computer outlets and audio-visual devices. Each cluster contains a semi-enclosed planning area and home base for the teachers assigned to the cluster. An open access spine connects the three clusters and leads to the gymnasium, the large group instruction area, the principal instructional materials center and art, music, administration, service and other facilities.

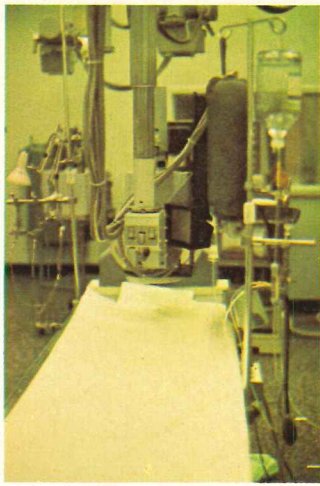




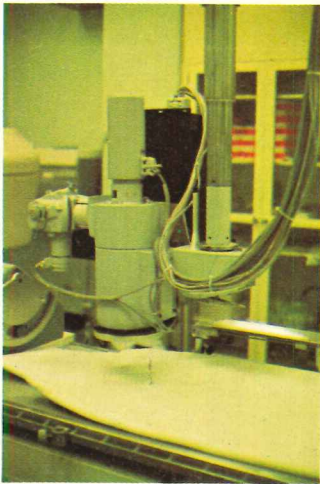
Photos by Hardy Holzman Pfeiffer Associates except as noted



# 2 AN INDUSTRIAL MEDICAL CENTER DESIGNED FOR HUMAN BEING



Unlike most new medical buildings which function primarily as antiseptic containers for their frightening equipment (left and below) this new clinic has been designed to educate and relax the patient as well as treat him.

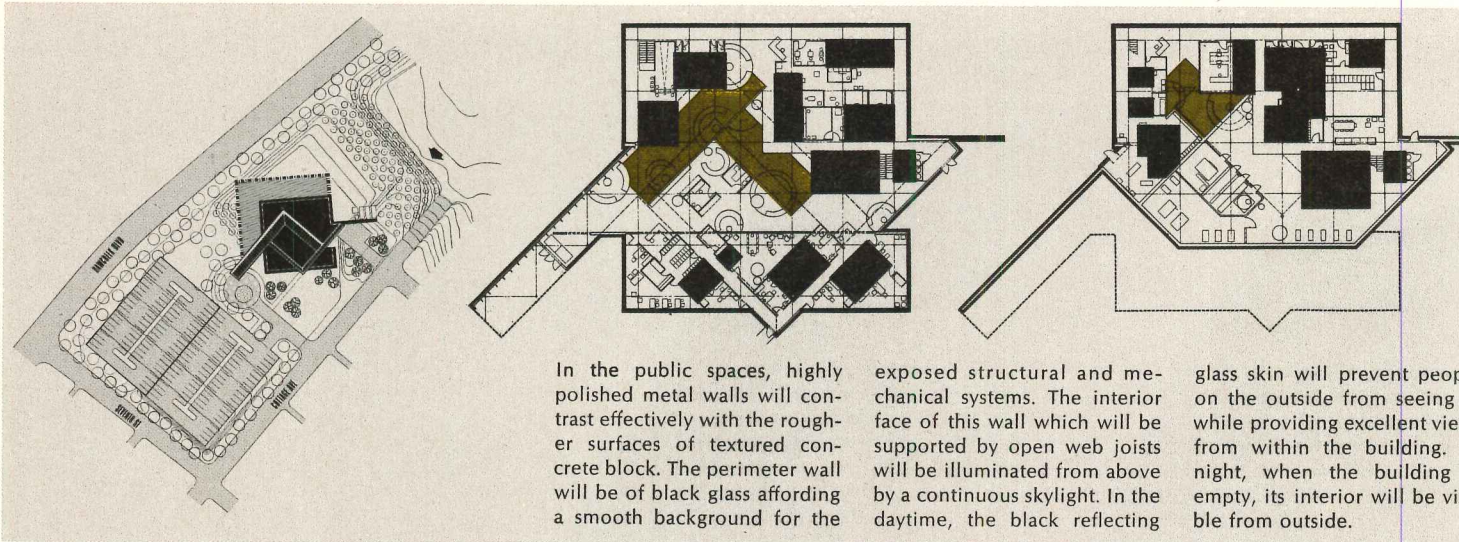


Were it not for the figures in white coats it would be hard to tell what the elegant model (opposite page) is meant to be. The remaining photographs and drawings give no additional clues and for once words are really needed to buttress the visual language of an architectural project. This is because the Columbus Occupational Health Center to be constructed in Columbus, Indiana will be like no other, and has no precedents as an image of medical treatment.

The interior planning concept of the center challenges the commonly held theory that a clinic is merely a series of individual self-contained boxes connected by corridors. During careful examination of the services the clinic would perform and the kinds of activity it would engender, the architects discovered that not all functions require the same degree of privacy. It was found that only examination rooms need the degree of aural and visual privacy provided by walls extending to the ceiling and conventional doors. Activities such

as physiotherapy, eye examination, cardio-pulmonary testing and dressing can be performed in alcoves enclosed by double height partitions and folding screens. Sight testing, weight and height recording, exercise areas and nurses stations are all open.

The architects believe that many of the activities of a medical center are essentially interesting to the waiting patient who will take advantage of the opportunity to educate himself. The laboratory area has been encased in glass but is visually open to the waiting area. The latter consists of two gently sloping ramps and a large open space which connects all the levels of the building. Circular seating pods, which can be seen in the models and plans, will be equipped with audio-visual devices to disseminate educational medical information and to record individual medical histories. The sequence of events which occur along the waiting ramps has been planned to occupy the entire duration of the waiting cycle in order to reduce boredom and anxiety.



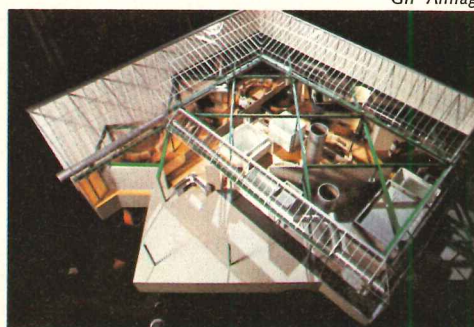
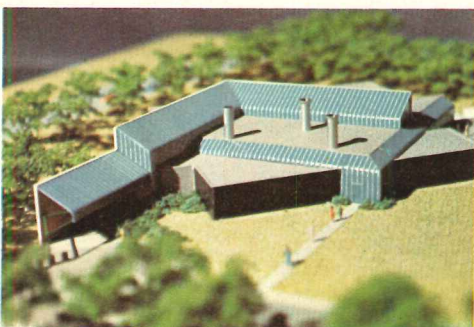
In the public spaces, highly polished metal walls will contrast effectively with the rougher surfaces of textured concrete block. The perimeter wall will be of black glass affording a smooth background for the

exposed structural and mechanical systems. The interior face of this wall which will be supported by open web joists will be illuminated from above by a continuous skylight. In the daytime, the black reflecting

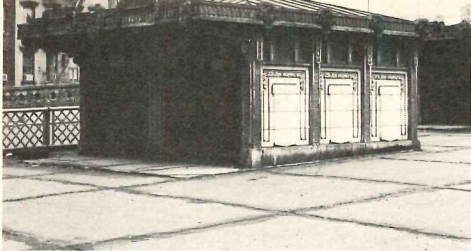
glass skin will prevent people on the outside from seeing in while providing excellent views from within the building. At night, when the building is empty, its interior will be visible from outside.

Gil Amiaga

Gil Amiaga

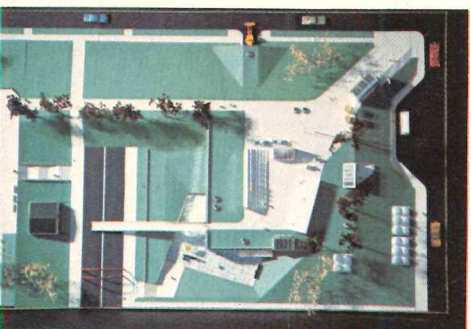
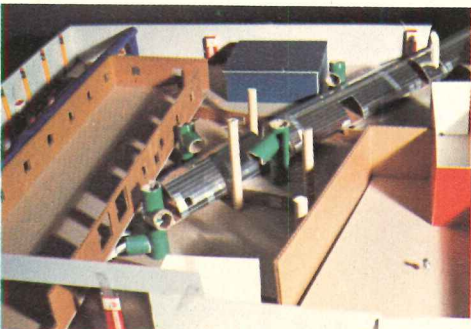
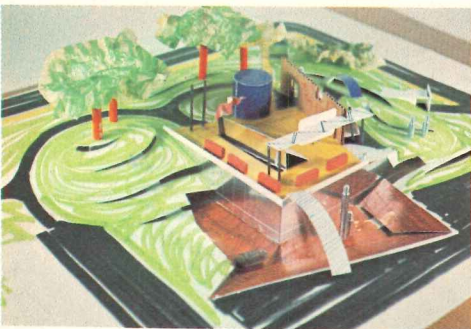
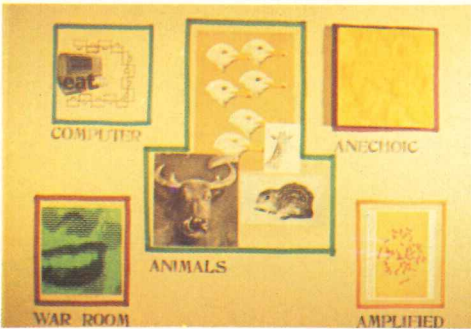






# 3 A MUSEUM DESIGNED FOR THE CHILDREN OF BROOKLYN

*Planned to serve children from all ethnic backgrounds to foster their curiosity about the world and themselves.*



Whether they are designing a school, a clinic, a firehouse or a museum, Hardy Holzman Pfeiffer Associates are hard at work in behalf of the already intellectually curious and are just as eagerly attempting to prod the bored and somnolent into awareness and energy. Architects who study even a medical clinic in its aspects as a teaching mechanism for its patients and arrange things so that the latter may learn a little medical science while they wait (previous pages), can be expected to surpass themselves as architect-teachers when they get a museum to do.

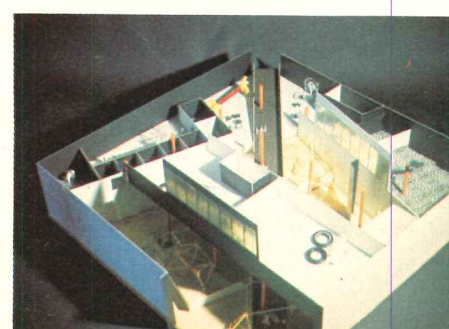
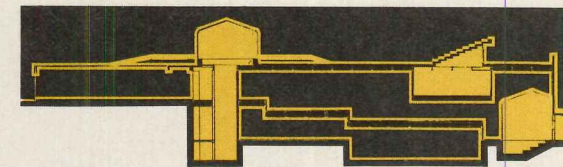
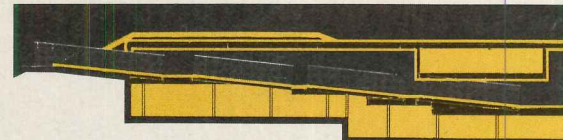
From the beginning the Brooklyn Children's Museum, designed for the New York City Parks Department, has been conceived of as a total learning experience and is being designed as such. In the architects' words the museum is not to be "a remote fortress for the preservation of the priceless and unique. Unlike the traditional museum, it must encourage active exploration and an interplay between seeing and doing. It will not be designed

as an additive series of contained and separate rooms. Rather, it will offer an open series of interlocking spaces adapted to many activities."

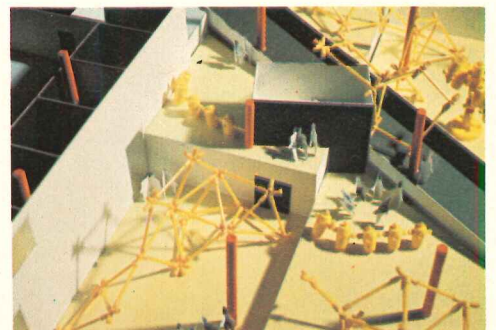
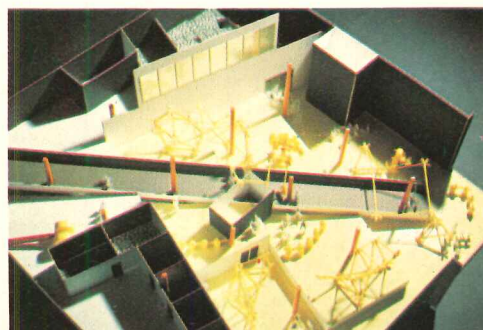
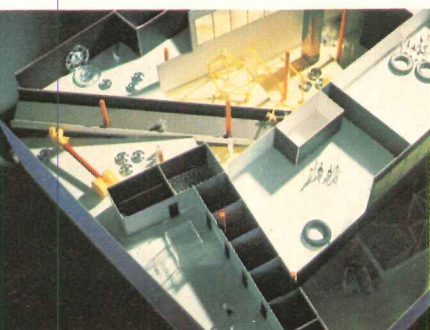
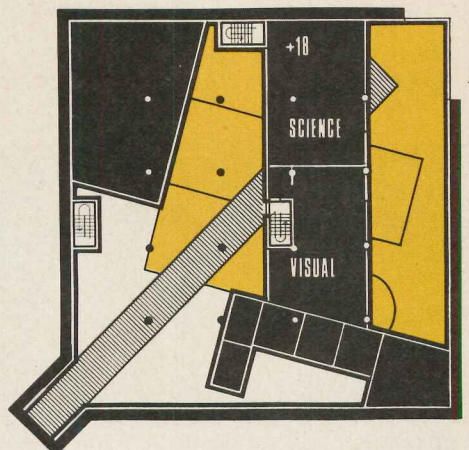
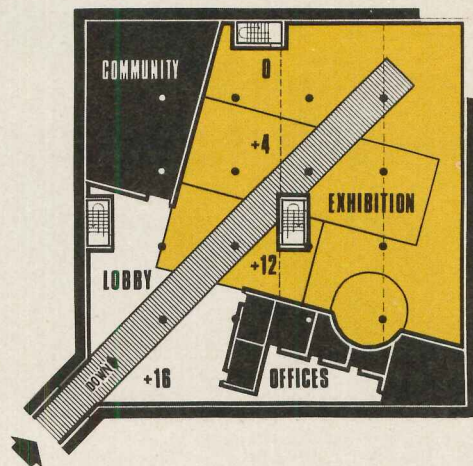
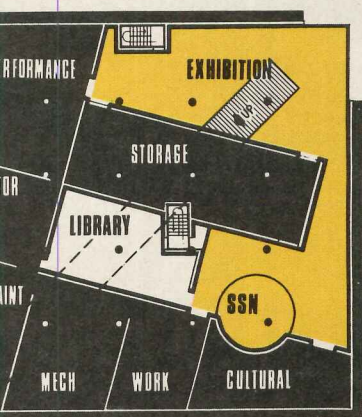
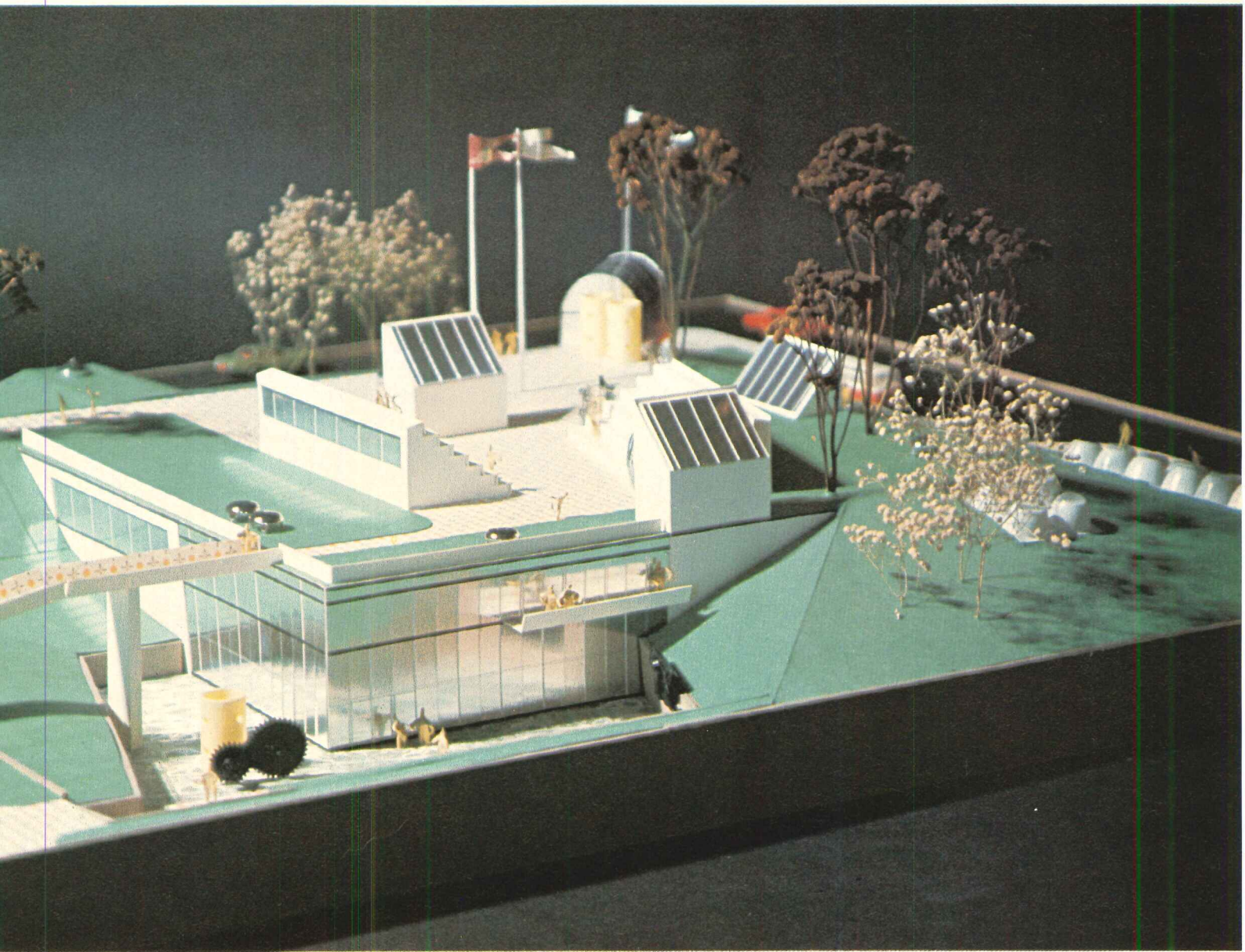
The architects are designing the first exhibit which will be based upon a broad range of concepts including those indicated in the posters (upper left). Entitled "Who Am I" it will enable the child to discover more about himself, his family, and the community.

The building is essentially a concrete box to be partially buried in Brooklyn's Brooklyn Park in the Bedford-Stuyvesant area. It supports a plateau on top which functions as a continuation of park land. The model photograph (opposite page, left) is an early one. The plateau has since been redesigned as an even more active area and will contain a number of objects "as found" such as a 19th century New York City street kiosk and a lamppost, borrowed from the Queensborough bridge (left), a porcelain steel silo, a fiberglass onion dome, a grandstand and an interstate highway bridge and sign.

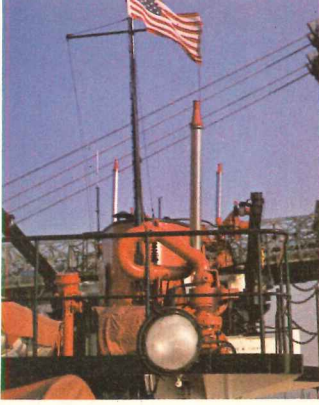
The building contains five levels framed with a light steel structure. Mechanical equipment will be exposed throughout. Access will be by half levels to a flexible unit scaffolding which contains and defines each exhibition. The workshop and administrative activities are interwoven over and around the exhibition levels. Fixed interior walls will be of glass allowing various patterns of use to be always visible. A 180-foot-long ramp descends diagonally through the exhibition space from the entrance way to the outdoor exhibition area at the lowest level.







# 4 A TRAINING CENTER DESIGNED FOR THE FIREMEN OF NEW YORK C



*A master plan which provides streets and turnarounds for learning to drive fire trucks, simulated buildings for all kinds of fire fighting, and a school for academic disciplines.*



Firehouses are fun to visit, fire fighting equipment is fascinating, and firemen have a discipline which is wonderful to watch (left). Fire fighting is also a dead earnest para-military enterprise and a training center for firemen has much in common with an army training camp.

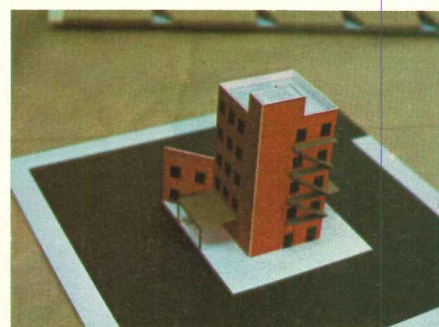
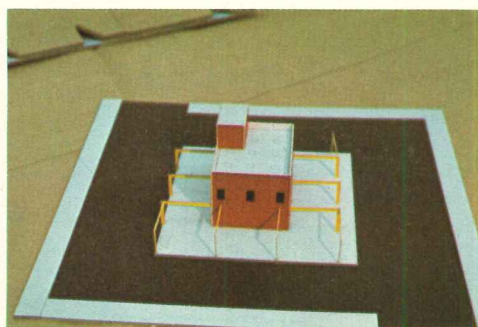
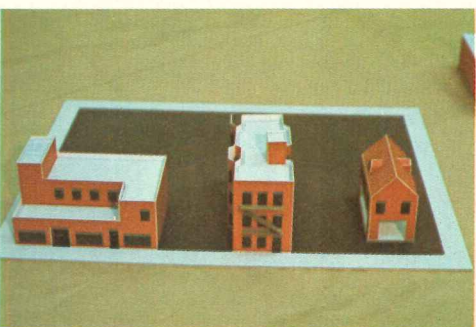
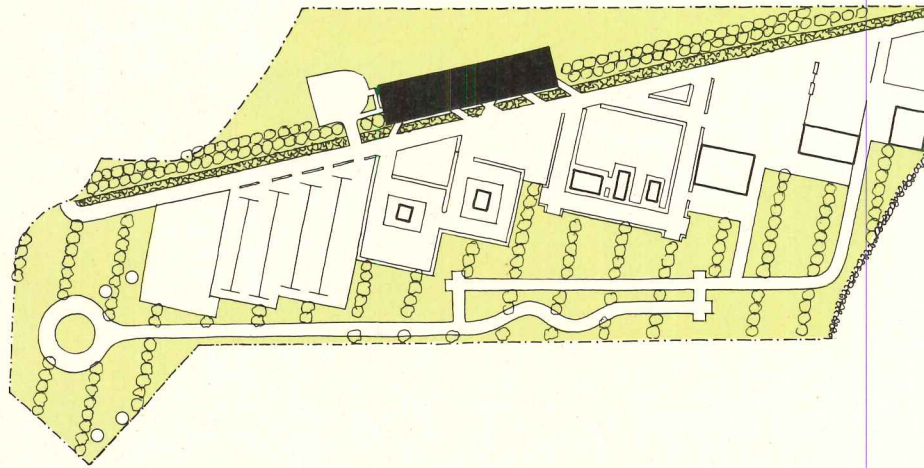
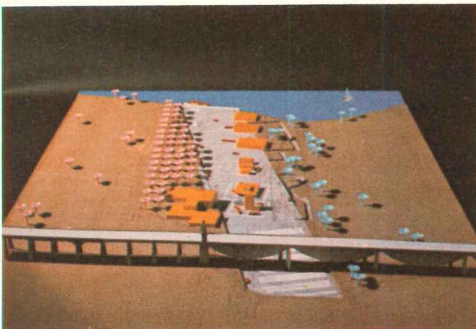
In the past, New York City's firemen went through their basic training on Welfare Island. Since the Urban Development Corporation has taken over this site for housing, it will build the New York City Fire Department a new school on Wards Island. The Firemen Training Center serves as the academic and physical training facility for all New York City firemen. Three specific activity areas have been developed to accommodate the school's varied programs: physical training, service and education and administration. The physical training facilities include the fire tower, the basic training building and the advanced training group, consisting of the replicas of a loft building, a tenement and a frame dwelling. These five

buildings can be seen in the plan and photos (below).

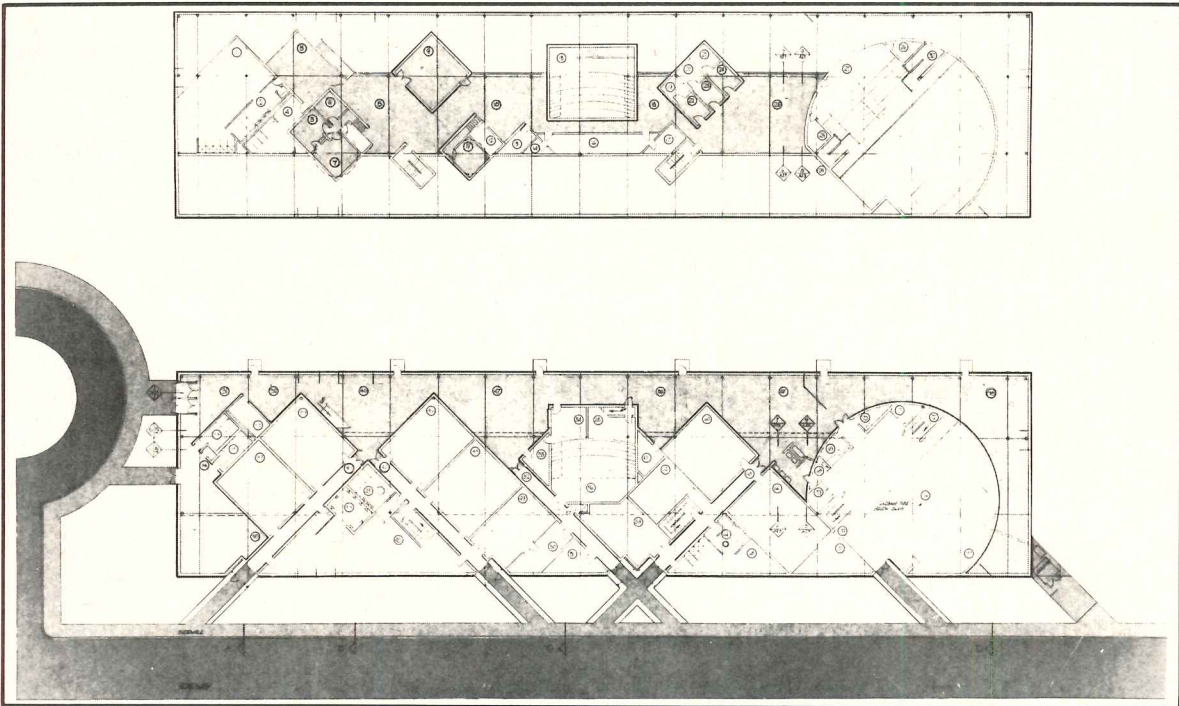
The service facilities include the mask service unit, a combined firehouse-marina facility and a garage. The education and administration building has been separated from the training and service area (as the plan indicates) and will be developed in a park-like setting as part of the over-all landscape plan. The model photo (right) of a portion of the cafe is within this building.

The over-all architectural character of the center is derived from the linear organization of the training and service buildings set within the open, hard surfaced training strip along a common spine. Landscaping and planting parallel to the strip further define this area and create a different ambience for the education and administration building, separated from the training service center by a major driveway and a sloping earth berm.

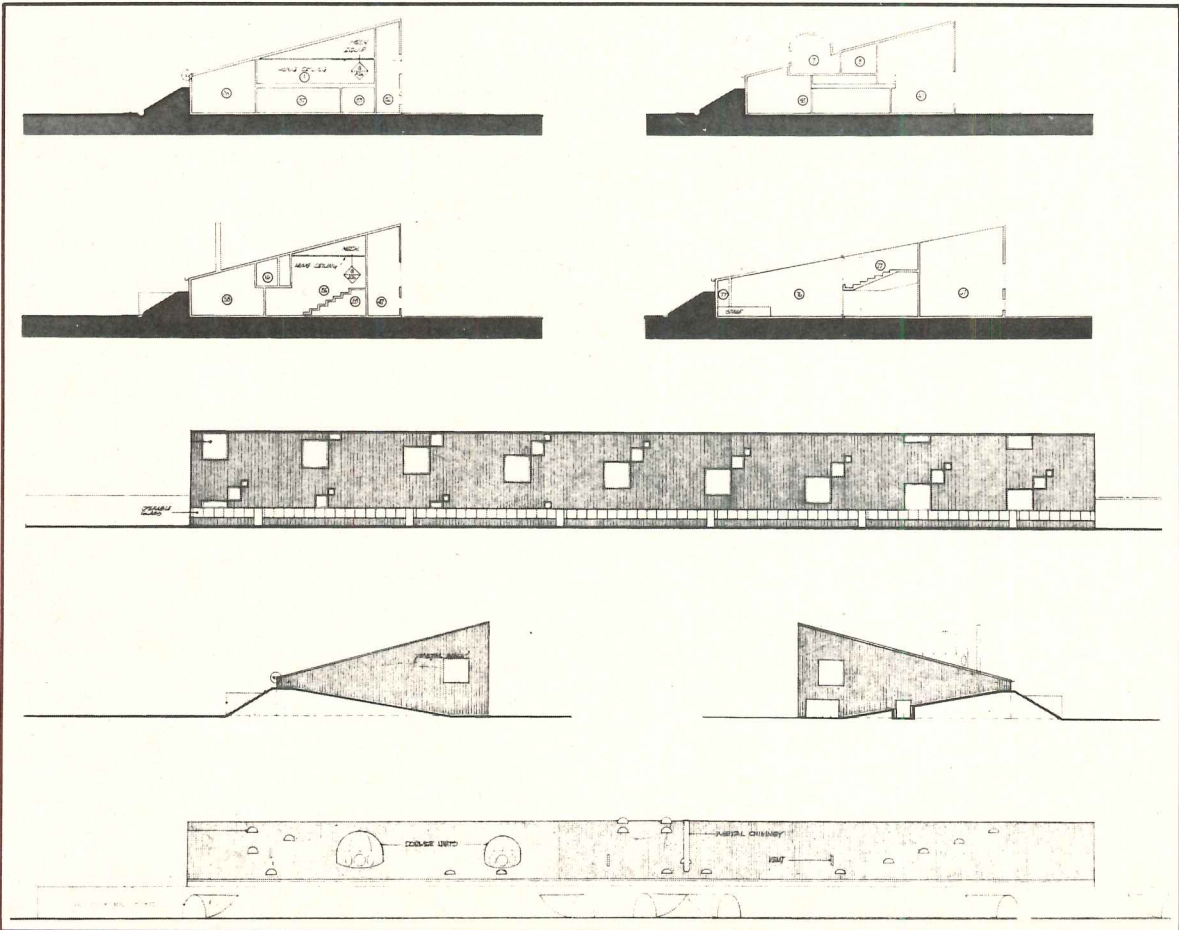
At the interface of the two distinctively different areas, pedestrian paths and sea areas will be provided.







The sloping roof of the education and administration building of the Firemen Training Center will be of corrugated steel. Offices, classrooms, lecture halls, public circulation and exhibits spaces occupy the ground floor and mezzanine.



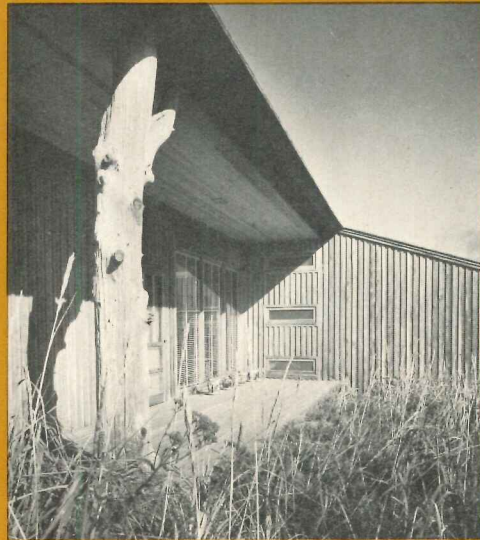
# PIETRO BELLUSCHI: THE 1972 GOLD MEDALIST

For fifty years Pietro Belluschi has been expressing his philosophy of "eloquent simplicity" in one way or another but always in deep humility and with gentle persuasiveness, through his buildings, his spoken and written words, and through his various ways of teaching. The message is so fundamental, and its delivery has been so modest and unassuming, that the importance of this approach to architecture has been understood and adopted by fewer than it warrants. Its significance now, at a time when architecture is overwhelmed with the fruits of technology and the products of free expression, takes on a new dimension of urgency.

This year Pietro Belluschi is the AIA

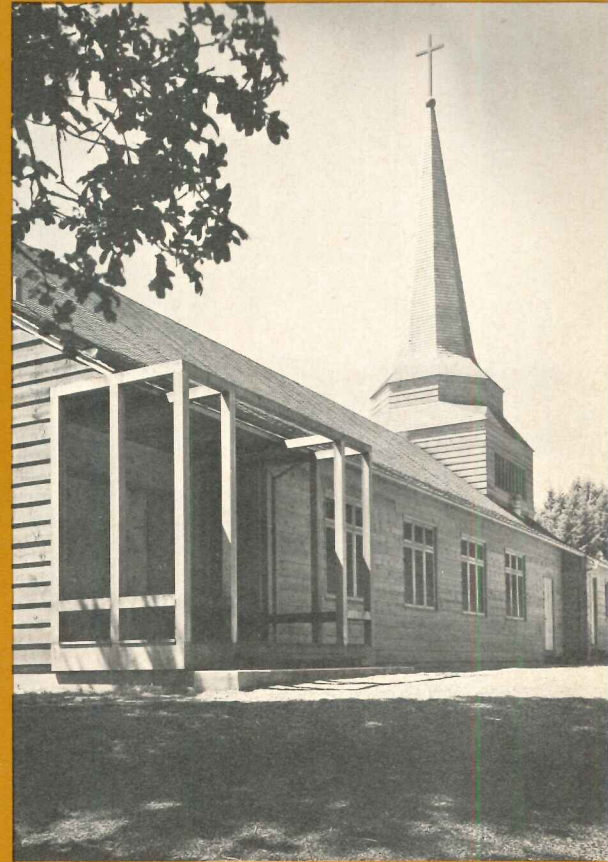
Gold Medalist, chosen for the honor for his most distinguished service to architecture, the extent of which has never been fully recorded. Since publication in 1953 of the "Northwest Architecture of Pietro Belluschi," presenting an overview of his work through 1951, there has been no survey of his work. Only through such a survey will the meaning of his philosophy—and the inseparability of his beliefs, his words and his work—become clear and his work be understood.

Belluschi reviewed his fifty years in architecture last year at an extraordinary event in the Pacific Northwest—The First Abbey Conference, at Mount Angel Abbey,



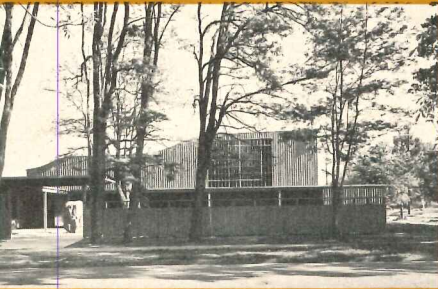
1

Dearborn Massar



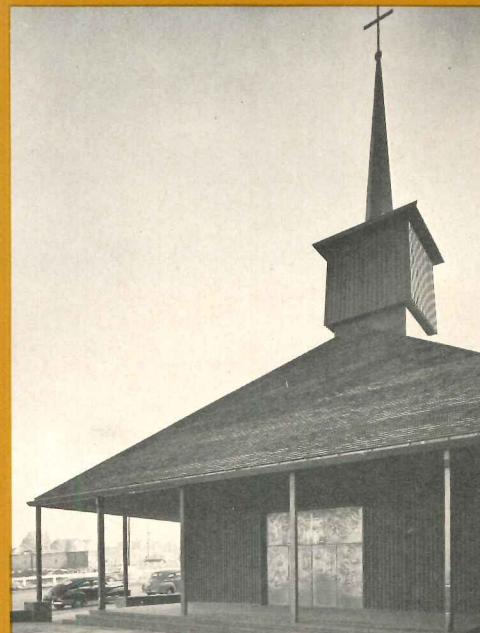
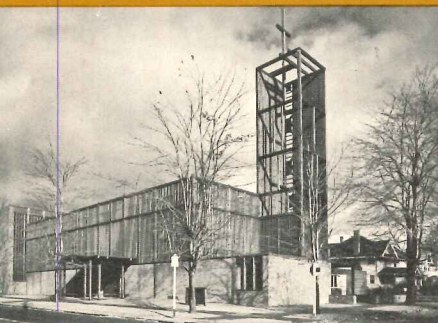
4

Erven Jourdan



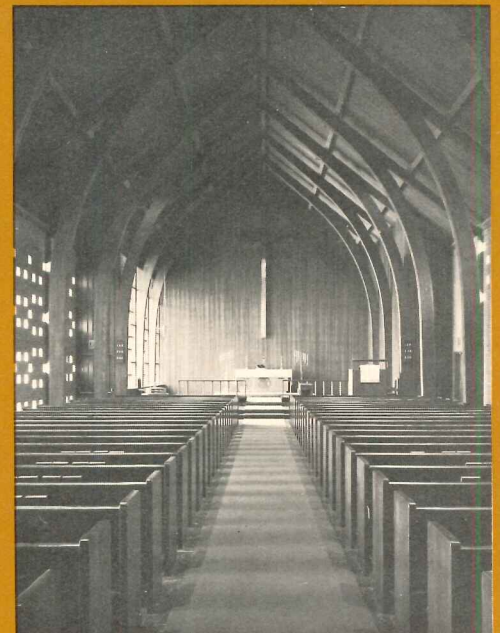
3

Dearborn Massar



6

Roger Sturtevant



7

K. E. Richardson

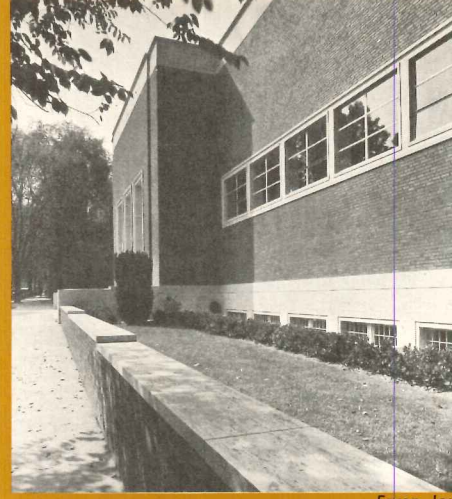
Among Belluschi's best known Northwest buildings are: 1. Kerr beach house, Gearhart, Oregon; 2. Cottage Grove, Oregon, Presbyterian Church; 3. Sutor House, Portland; 4. St. Thomas More Church, Portland; 5. Central Lutheran Church, Portland; 6, 7. Zion Lutheran Church, Portland. His varied practice in Portland included most other building types.

in his former home state of Oregon. It was a rare occasion—especially so because Belluschi at 72 saves his energy these days for design, not speeches—in its revelation of both the man and his work, of the enduring quality of his ideas, the timelessness of his beliefs, the passion and compassion that undergird his philosophy, and the “eloquent simplicity” that so expressively sums up his approach to architecture.

His early work in Oregon and Washington (pages 119 and pages 120-123, top) remains as fresh, as real, as clear in purpose today as when he produced it 30 and 40 years ago, not because he designed a “style” but precisely because he did not. He

searched for form in structure, and found it a wellspring of ideas. He probed the “facts and circumstances” of each job that came to him and from them derived his design. “The solution,” he said last year in talking of this early period and particularly of one of his favorite buildings, the Portland Art Museum (right; below), “is in the functional demand.” What the clients wanted, what the locality suggested, what the building was to be, were the “functional demands.” But his way of translating these demands into buildings was individual, a combination of sensitive awareness and clear, logical, practical good sense.

“... I believe that architectural forms



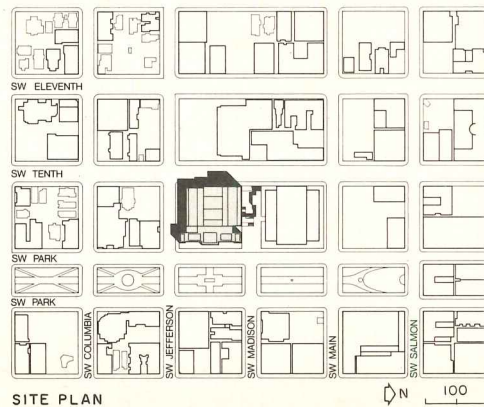
Erven Jo

## Museum buildings span forty years of Belluschi's practice

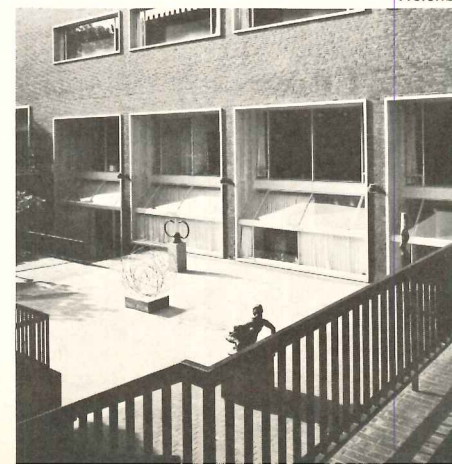
The Museum Art School and the pedestrian Mall and Sculpture Court through which it is entered, represent the final phase of the Portland Art Museum's development plan, carried out over a 40-year span by its architect, Pietro Belluschi. Architecturally harmonious with the earlier buildings, the new building (pages 120, 121, and 122) consists of three floors of studios, an auditorium located to serve both Museum and School, an exhibit gallery, and administrative offices. The landscaped Mall and sunken Sculpture Court (left, below) replace a street vacated by the city at the request of the Museum and connect with Portland's “Park Blocks,” making a fortunate and delightful addition to the city and a handsome entrance for the School. The first wing of the Museum (at top) completed in 1932 but commissioned earlier, was the first important public building for whose design Belluschi was responsible. The second wing (opposite page, top), added in 1938, more than merely meshed the two wings. It enhanced the original facilities and heightened their effectiveness architecturally as well as for display of art objects, with a large dramatically skylighted sculpture court and with innovative monitor lighting in the six new galleries it provided. Both natural and artificial lighting are important elements in design of new Art School building (opposite).



Art Hupy



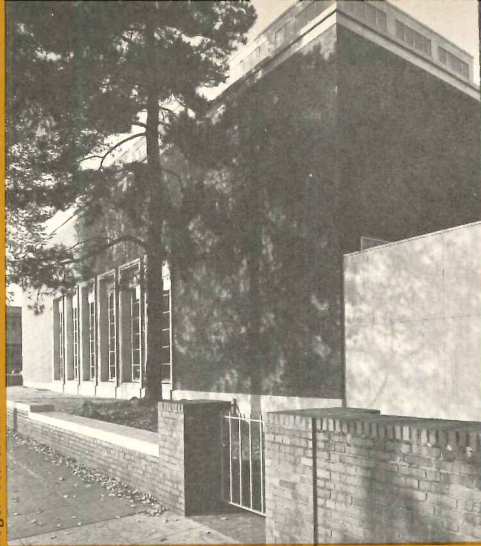
SITE PLAN



Hersh

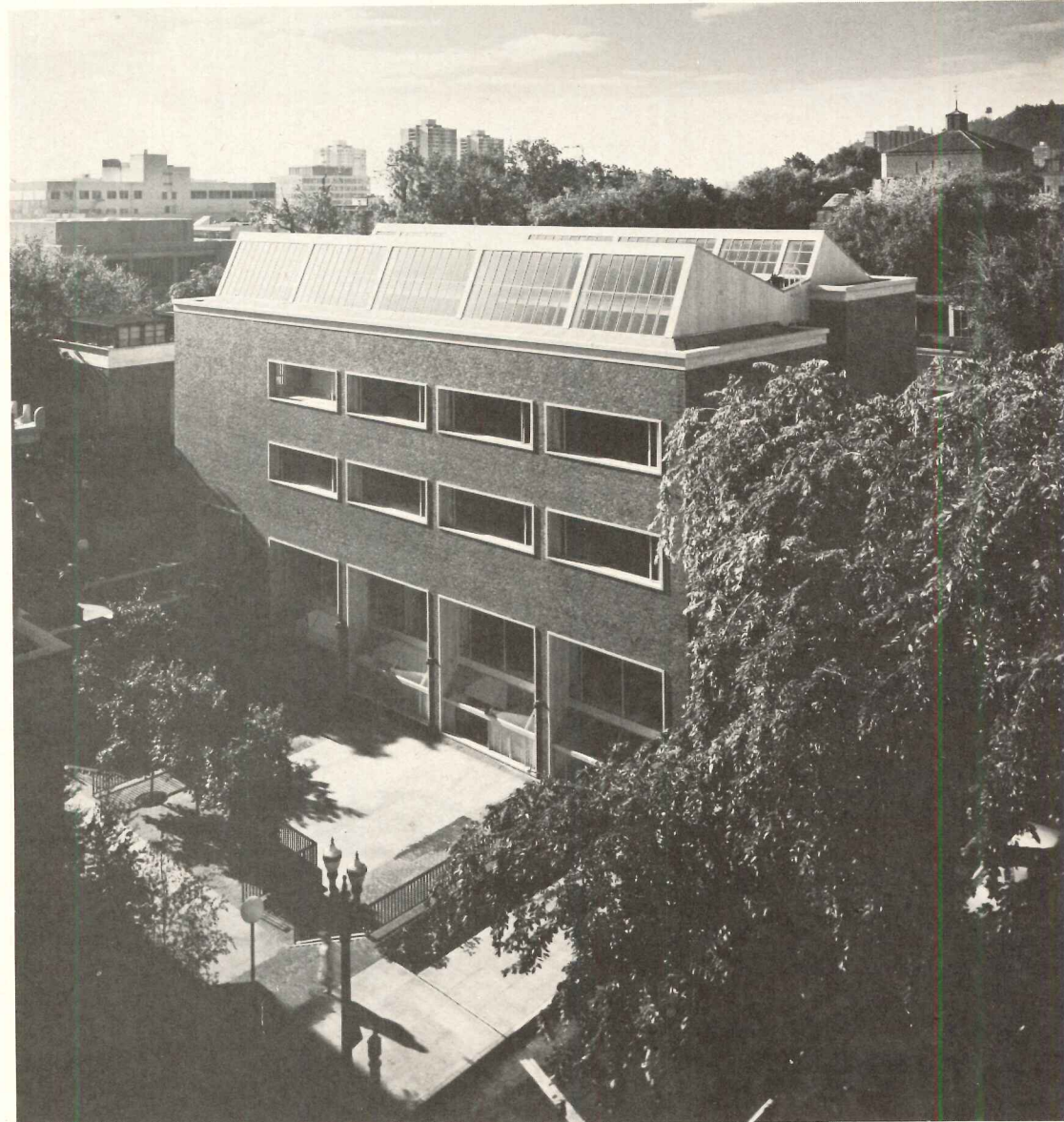
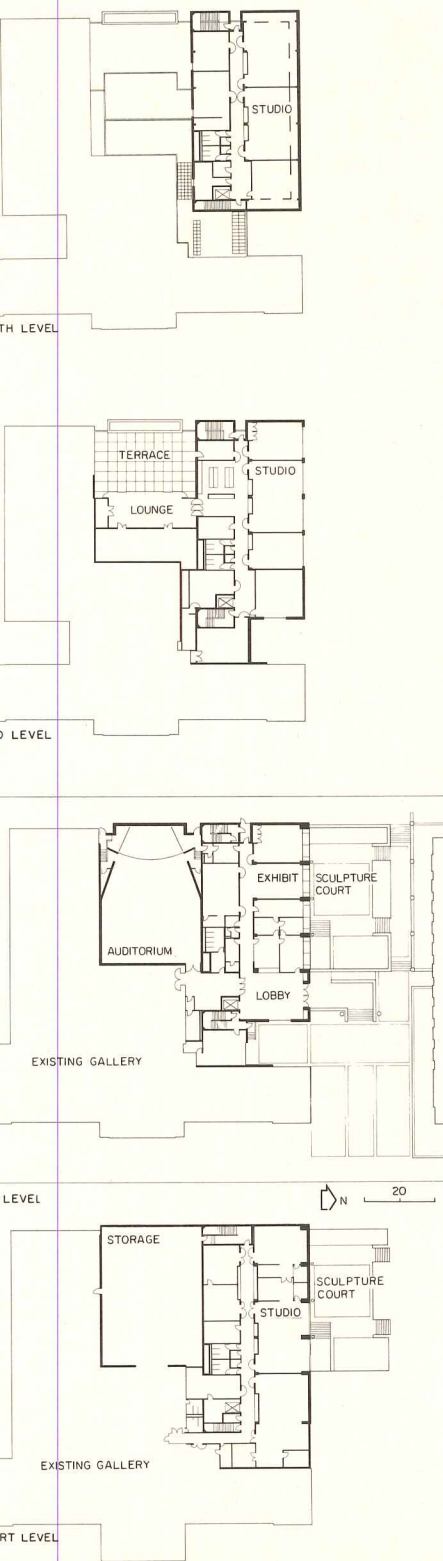


Roger Sturtevant

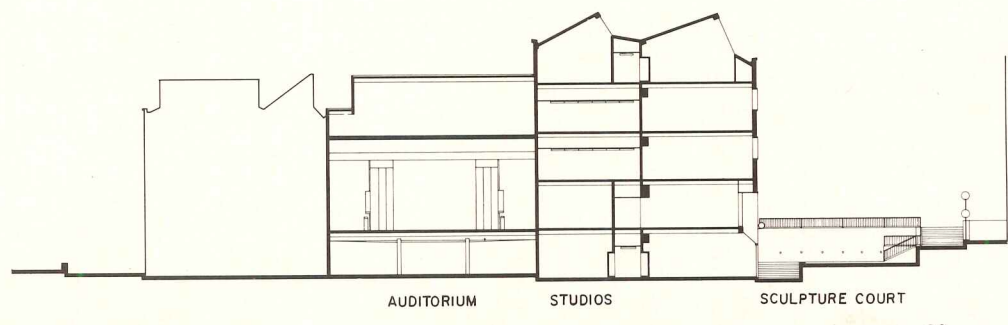


which are not born of the peculiar demands of the job to be performed, but which come out of preconceived esthetic theories alone, will be in constant danger of becoming artificial, tricky, and fashionable . . . their transitory quality will be even more evident after they have gone out of fashion . . . not only the emotions but also mind and logic must be satisfied before lasting values may emerge." (Regionalism in Architecture—Pietro Belluschi; RECORD, December 1955.)

When he first arrived in Oregon—after a year at Cornell where he received a degree in civil engineering (he already had a doctorate in architectural engineering



Hershberger

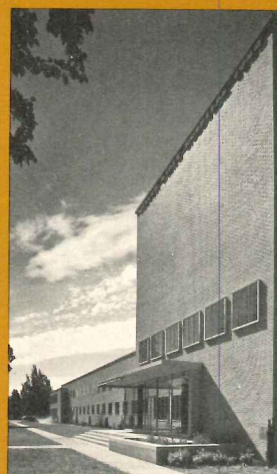


SECTION

from the University of Rome) and a year as an engineer in a mine in Idaho—he thought it “wild, unfriendly country, lacking in softness and femininity, not like the hills of Tuscany and the Roman countryside I remembered.” He especially did not like tall stands of Douglas firs, and the dark weather, so unlike his native Italy. But as he drove (in an old Ford) the plank roads of the wild coast and ferried the rivers (there were no bridges then) that emptied into the Pacific Ocean, he came to see the beauty of the place and, perhaps from this intimate experience of its natural geography, to understand in a rare way how to express this particular part of the world in his

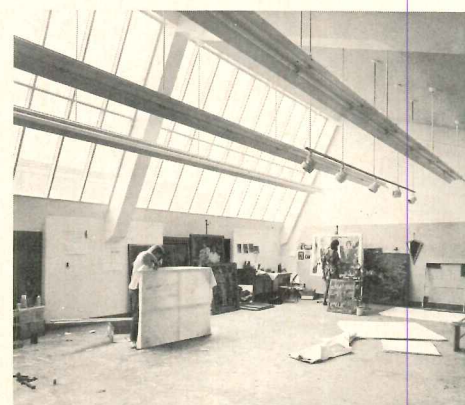
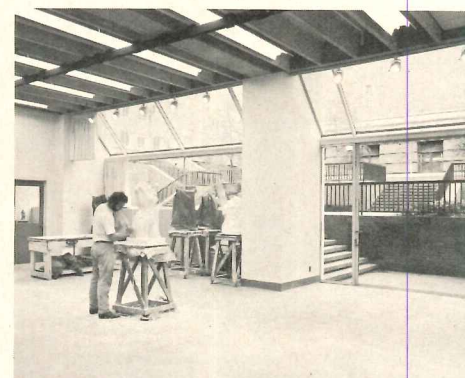


Roger Sturtevant



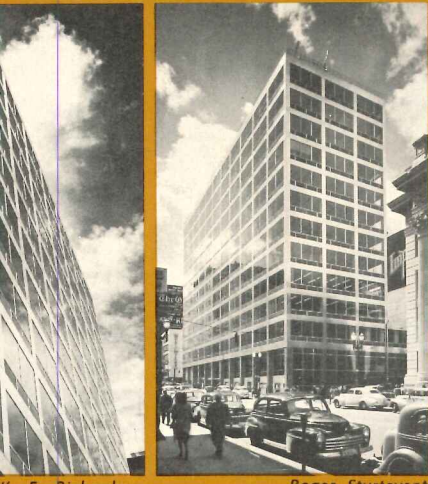
*In the 40 years since the first building was completed, the original design decisions have proved themselves, rooted as they were in the museum's requirements and not in the style of the moment. The solution was then, and it has continued to be in all of Belluschi's work, in the "functional demand," to use his terse and descriptive phrase, of the building itself.*

PORTLAND MUSEUM ART SCHOOL, Portland, Oregon. Architects: Pietro Belluschi and Wolff Zimmer Günsul Frasca Ritter—Robert Mickelson, project architect. Engineers: Stanley Z. Carlson & Associates, structural; J. Donald Kroeker & Associates, mechanical; Grant Kelley & Associates, electrical; Dames & Moore, foundation; Bolt, Beranek & Newman, acoustics. Landscape architect: Robert Peron. Graphics: McCann-Erickson Collaborative Group. Cost consultants: Hoffman Construction Company. General contractor: Contractors, Inc.



Art Hupy Photos





K. E. Richardson

Roger Sturtevant

medium, architecture.

*"Regionalism at its best cannot be measured or imposed, is not a school of thought but simply a recognition within its own sphere of what architecture is to human beings, a deep regard for their emotional demands, and this need not be forfeited even in the most practical demands of a project. . . ."*

*"It would be impossible for us to retreat or escape from a world in evolution but . . . we must believe that a society of men may gain wisdom by seeking again the things man can understand and love, and conversely by learning to love all that lives near him. . . ."*

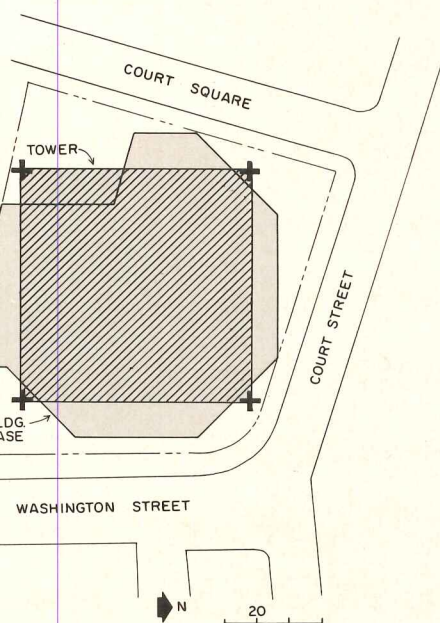
*"The plea we can make is not that we go back to what once was, not that we become romantic, but that we face creatively as free spirits and in deep honesty the complexities of our modern world, never forgetting that man is the measure of all values."* (Ibid.)

The Museum brought Belluschi his first national acclaim, though regionally he was already known for the elegant simplicity of his houses. In 1948 the Oregon State Hospital at Salem (page 122), set a new standard for humanitarian design of institutional buildings, especially for the mentally ill. But it was the Equitable (now Commonwealth) building (page 123), also

**Concept and system cooperate innovative economies**

The 41-story Boston Company building is a triumph of clarity, directness and simplicity of Belluschi's early large-scale buildings is again successfully translated, as it was in the Equitable building in 1948, to a larger scale of a high rise structure. The structural system—four corner columns and a central core, reinforced by inverted-V braces (or "wind bracing") to transmit wind loads—precisely reflects the architectural concept. Architect and engineers worked closely together from the earliest design concept, achieving through their collaboration exceptional economy in the weight of the steel (21 psi vs. 25 in conventional building), and providing Boston's first column-free office space as well as a satisfying esthetic statement. Slender intermediate columns veil V-braces on exterior

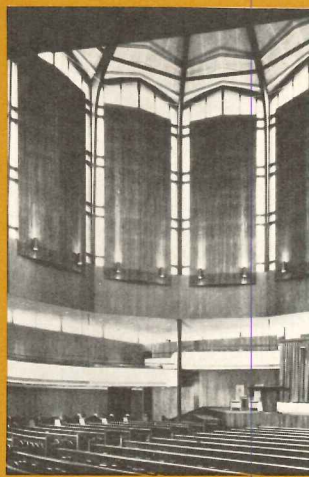
Gorchev and Gorchev



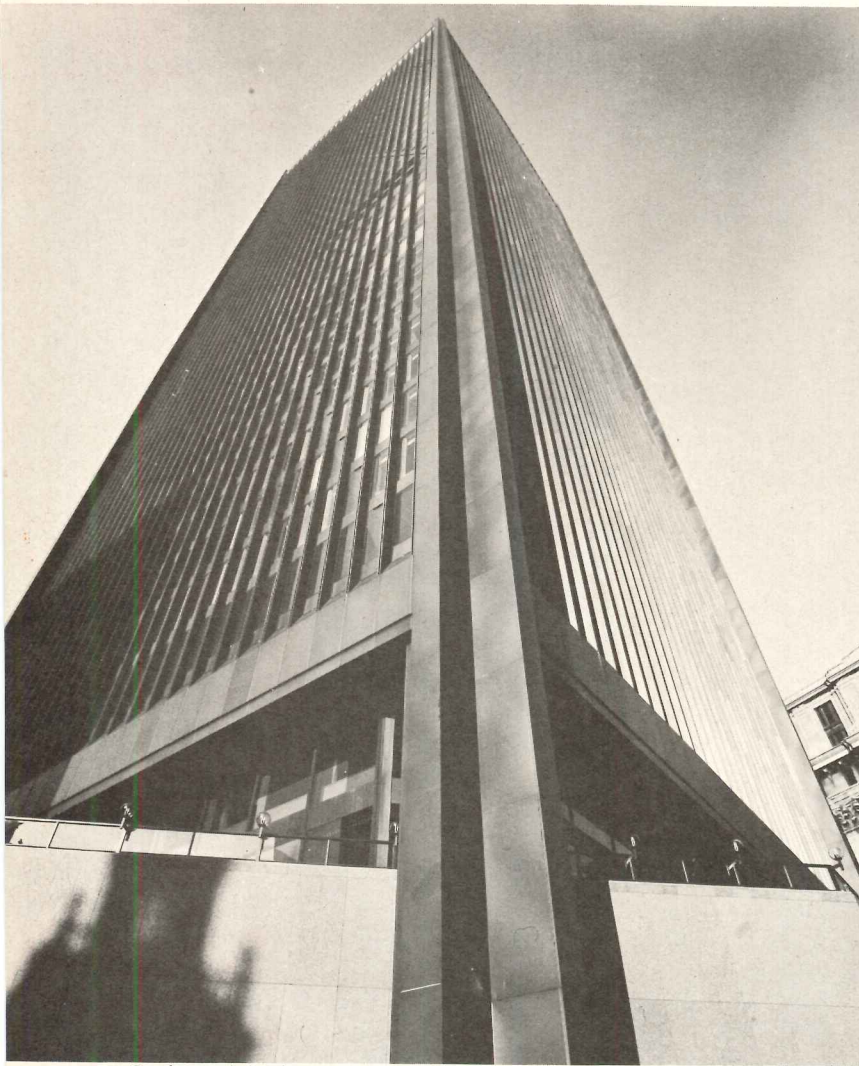
completed in 1948, in which his pioneering concepts really caught the profession's attention. It was not the first multi-story curtain wall building, but it was the first of a new generation of buildings to make use of the idea and to do so in a unique way which was at once regional and trans-regional. The gleaming aluminum sheathing which covered the reinforced concrete frame was a product in excessive supply in the Northwest after World War II, and the Equitable proposed a market for its use on structures. Its list of "firsts" is imposing. Belluschi recalled one of them, the traveling crane window washer, last year: "I got the idea from the way train windows were



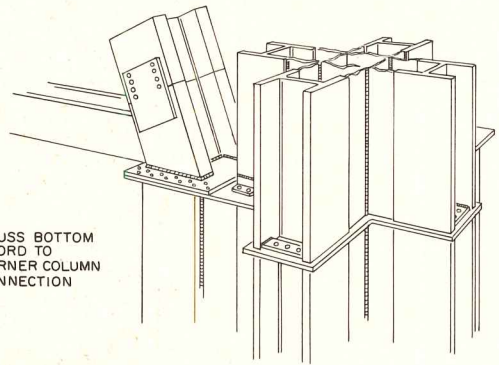
Roger Sturtevant



Joseph W.



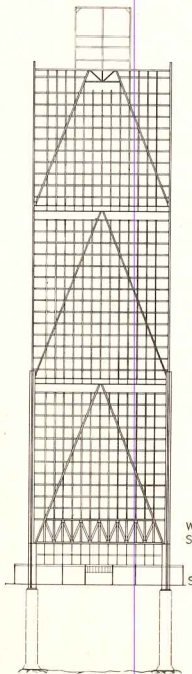
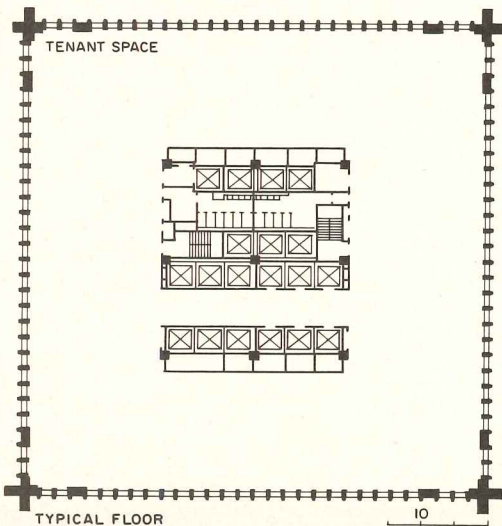
Gorchev and Gorchev



TRUSS BOTTOM CHORD TO CORNER COLUMN CONNECTION

Bronzed aluminum sheathes tapered cruciform corner columns, narrow intermediate columns, and V-braces. Tower base is faced with granite. Detail shows fourth floor truss connection to column.

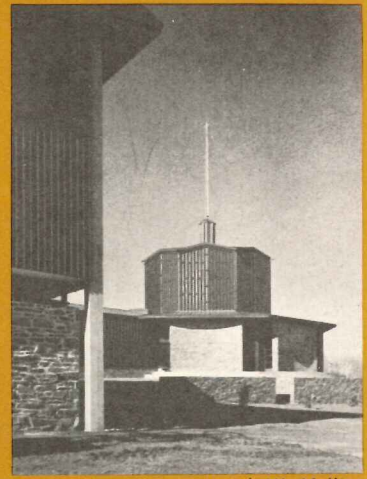
THE BOSTON BUILDING, Boston, Massachusetts. Associated architects: Pietro Belluschi-Emery Roth & Sons. Engineers: The Office of James Ruderman, structural; William A. DiGiaco Associates, mechanical/electrical; Haley & Aldrich, Inc., foundation & soils. General contractor: Aberthaw Construction Company.



ed," he said. "This device is really made the flush exterior walls of the table possible." The boldness of the concept, its direct expression, pared to essentials, is a perfect statement of Belluschi's belief that "an architect must train himself to eliminate, refine and integrate."  
 When he left Oregon a few years later to become dean of the School of Architecture and Planning at MIT, his office was acquired by Skidmore, Owings and Merrill. The era ended for him, but ahead of him, though he did not know it, were opportunities for a new and different kind of practice, a scope few architects ever envision, and the challenge he had sensed when he



Bill Engdahl, Hedrich-Blessing

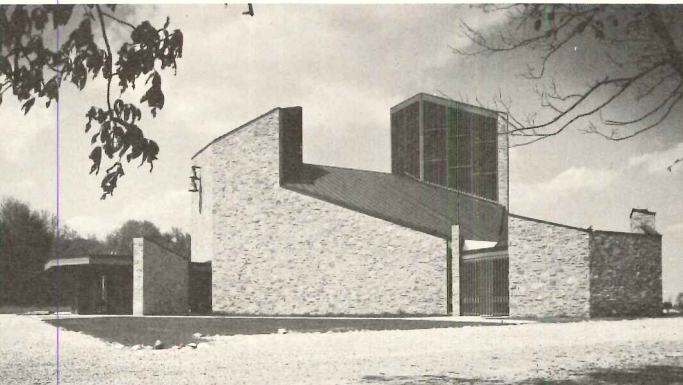


Joseph W. Molitor

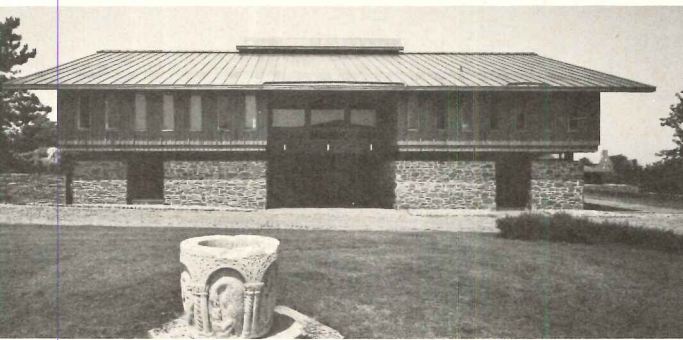
**Recent work: a miscellany of building types in many places**

Published recent work by Belluschi: 1. St. Margaret of Columbus, Ohio, Brubaker & Belluschi, associated architects; 2. Administration Building for Portsmouth Priory, Portsmouth, Rhode Island, Sasaki, Dawson & DeMay, associated architects; 3. John M.

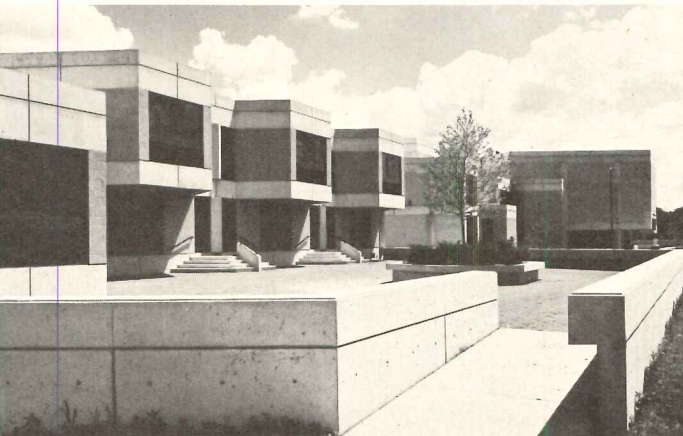
Tobin School, Cambridge, Massachusetts, also in association with Sasaki, Dawson & DeMay; 5. The Chapel, Oklahoma City University, Oklahoma, John Reid associated architect; 6. McGregor Dormitories, M.I.T., Cambridge, with The Architects Collaborative.



Charles Moor

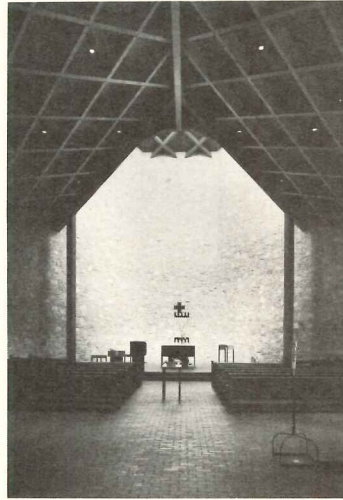


Louis Reems



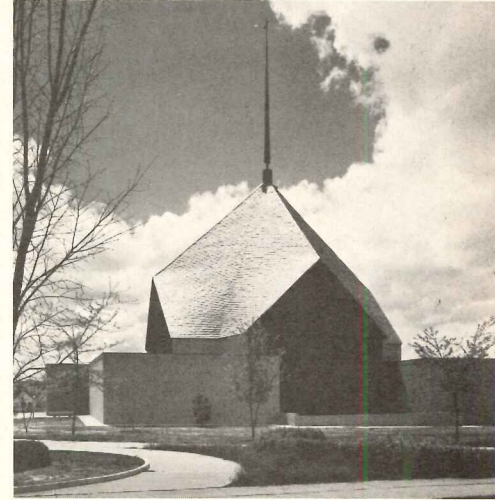
Gorchey and Gorchey

Charles Moor

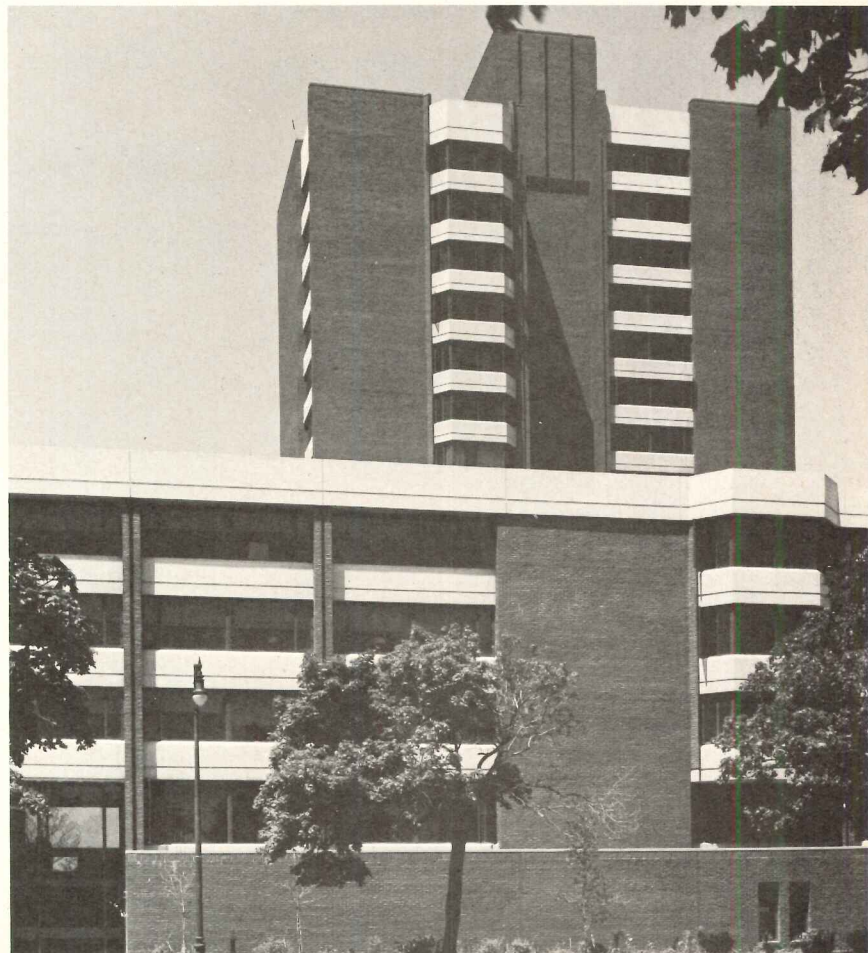


4

Michael J. Wurth



5



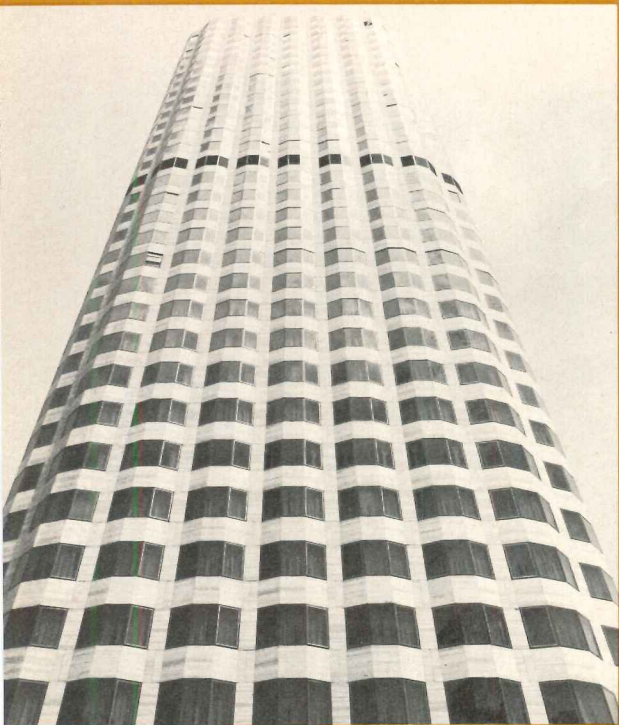
spoke at Reed College on the eve of his departure:

*"The ideals of the modern architect may be very briefly summarized thus: He must come to terms with his environment; only then can he hope to become again creative, not in the anemic method of the academy or as a hireling of the wealthy, but as a lively interpreter of the new social order and as a prophet of his age."*

During his first years as dean, he served on numerous architectural juries and advisory commissions, a new dimension to the educational career he had undertaken. Soon he was asked to consult on projects of all kinds and of great scope, in all parts of the

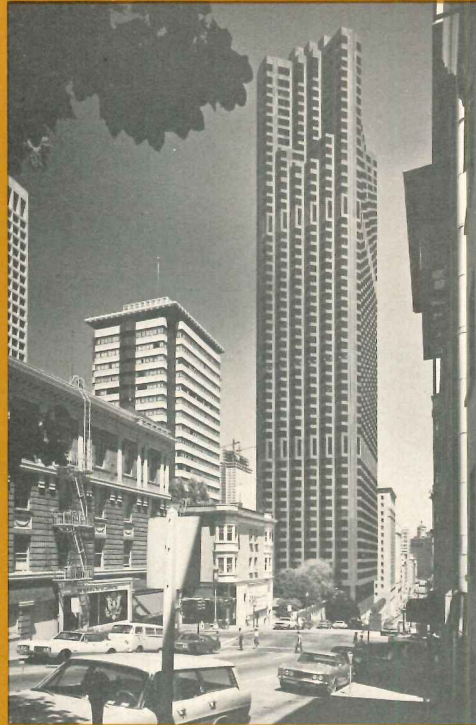
country, and abroad. But for Belluschi consulting is no tangential association; it is complete involvement with the problem. His practice became a new kind of professional service for which he was uniquely qualified. Retirement from the MIT deanship gave him the time this kind of practice required, and that new demands asked. Old clients (the Museum, the Equitable, The U.S. National Bank) wanted new buildings. New clients were numerous. In every instance, he associated with a local firm, often a young firm. His name was on churches, temples, office buildings (though on the Pan Am, it was Gropius, not Belluschi, who was primarily responsible), schools and col-

lege buildings—the list is varied and long. It is likely, however, that great as has been his contribution in the design of individual buildings, it is his work—serious, honest and practical as well as intensely creative—on projects that have affected the quality of cities by changing the concept of their pattern that will eventually be recognized for its pioneering concepts. For through "eloquent simplicity" he has brought to decision makers of all kinds—politicians, financiers, developers—his message of good design, and because his work is as good, or even better, than his word, they have listened. And all who have benefited. —*Elisabeth K. Thomas*



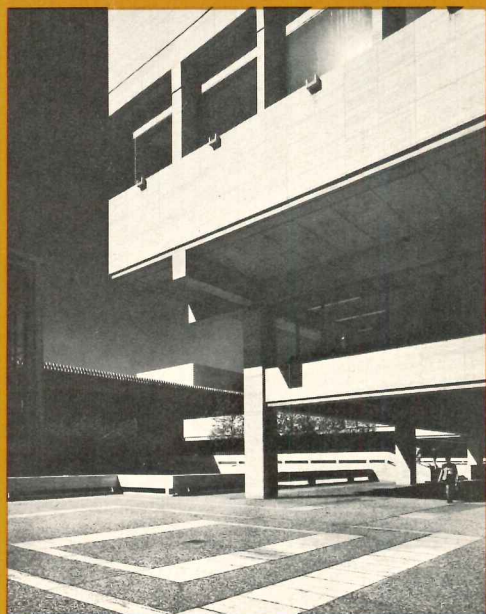
Gorchev and Gorchev

1



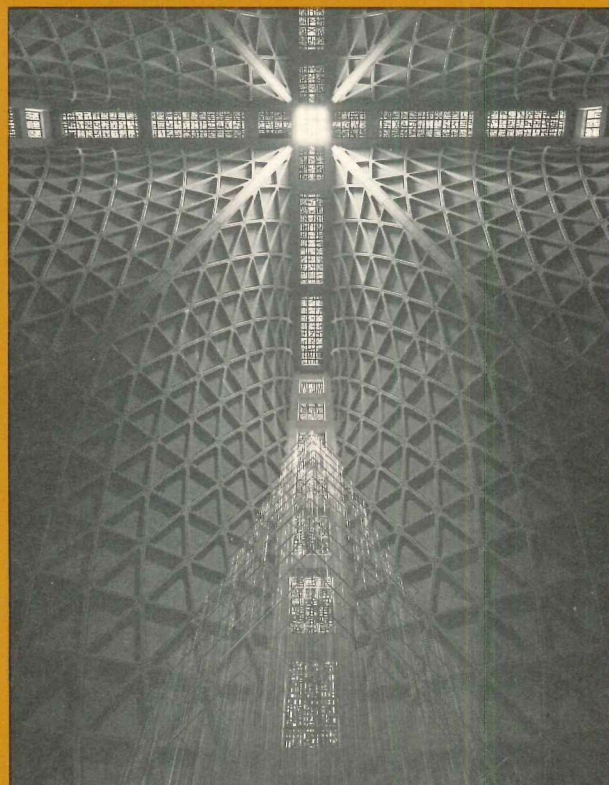
Roger Sturtevant

2



Ezra Stroller © (ESTO)

3



Morley Baer

4

Recent work, published and unpublished, includes: 1. The Stone Building, Boston, Massachusetts, in association with Emery & Sons; 2. Bank of America Headquarters, San Francisco, which Wurster, Bernardi & Emery and Skidmore Owings & Merrill were architects, with Pietro Belluschi as design consultant; 3. George M. Ewing Company, Philadelphia, architects, Pietro Belluschi, consultant; 4. Juillard School, New York, Eduardo Catalano and Helge Gerberman, associated architects; Mary's Cathedral, San Francisco, with McSweeney, Ryan & Le

Articles by Pietro Belluschi:

Architecture and Society, Address at Reed College, Portland, Oregon, December 1950. RECORD, February 1951. The Meaning of the New Architecture, Address at the National convention of the American Institute of Architects, 1953. RECORD, October 1953. On Religious Architecture, RECORD, December 1954. The Meaning of Realism in Architecture, RECORD, December 1955. Eloquent Simplicity in Architecture, Address to the 1963 National Conference on Church Architecture, RECORD, July 1963.

# CHILD CARE CENTERS

This is ARCHITECTURAL RECORD's first Building Types Study devoted entirely to child care centers. Child care centers serve many social and community purposes, but their most important job is to be places where young children grow and learn.

Child care centers are hard to design. They must be flexible, simulating, scaled for children but comfortable for adults, inviting to the community—and dirt cheap. Despite that last requirement, the buildings we have chosen have been successful in many ways. Child care centers are, by definition, resources available to working mothers; but we have included two private nursery schools which are closely involved with their communities and for which most of the architectural problems are the same—*Jonathan Hale*

*Jonathan Hale*



## CHILD CARE CENTERS: THE PROBLEMS AND THE MEANINGS

### WHO WANTS CHILD CARE CENTERS?

Child care centers have been going up by the hundred in the last few years. There are two main reasons: the entry, *en masse*, of mothers into the work force, and the still-dawning understanding that a child's earliest experiences are crucial for later ability to learn.

One reason that is missing is any real government support. There is very little Federal money for child care programs, and very little Federal guidance for designing and setting up a child care center. Few states have large-scale care programs and most have no standards for early childhood care away from home. New York City has perhaps the most extensive child care program in the country, but even there, cutbacks in state funds have brought new construction to an end and some existing services are threatened.

Nationwide, one out of three mothers of children under six works. During the time the mothers are away from home, their children are cared for by friends or relatives, by licensed child care centers (about 25 per cent), by unlicensed child care centers where children are often given minimal attention, or the children are left alone. By some estimates, 600,000 small children are left alone each day.

According to education experts, 50 per cent of a person's ability to learn is achieved by the age of four; and a stimulating environment where a child receives considerable attention can affect this ability enormously. Educators have been intuitively aware of this for decades; but during the last ten years, there has been a great increase in the amount of reliable information about how children learn. At the same time, people have been discovering the failure of schools to reach many underprivileged children. The Federal Head Start Program was started under President Johnson to help deprived preschool chil-

dren attain the patterns of thought necessary for later learning. Head Start was a relatively small program, but it continues to provide the only Federal support for school education.

### WHO OPPOSES CHILD CARE CENTERS?

Last fall, Congress passed a large-scale program of Federal support for child care centers. President Nixon vetoed the program, arguing that such a program might weaken the family structure, and arguing that the billion program was too expensive. Objections to child care centers have come from some communities because the centers would bring in the children of poor neighbors. Also, many educators believe that long hours spent away from home are hard on small children. Finally, child care can be extremely expensive. The ratio of teachers to children in the New York City program is about four times that of the city's public schools. What's more, child care centers are open from 8 a.m. to 6 p.m. and cost is \$2,500 per child per year.

An alternative to the child care center is the placement of small groups of children in private homes. At least one urban community claims success with an inexpensive plan; however, in the hands of untrained adults, a great deal is left to chance.

Private child care centers are springing up in large numbers, especially in areas such as Texas, where there is little or no government support for child care. Chains of franchised centers are run for profit at low cost to parents. Many charge as little as \$20 per week. The quality of the care varies widely, although some of the franchised centers have achieved a good reputation. Some educators insist that decent child care is impossible for less than three times \$20 and not a few balk at the whole idea of marketed child care.

## ROLE OF THE ARCHITECT WITH THE COMMUNITY

Good child care center is a real community resource. It frees mothers to work (in any way, freeing many fathers who must hold more than one job) and it gives children a solid foundation which will make it possible for them to survive in school later, in providing a much happier and more stimulating environment than they could otherwise.

The first group of child care centers in the following pages, by architect Frank Williams, in association with architect Peter Herget, were designed to make the most of their high-density inner city sites, reaching out to their neighborhoods. Under the New York City system, the community controls the completed center but does not control its design. That is determined by the Department of Social Services and by the private builder, from whom the buildings are then rented by the city and given to a community group. Within the set program, there is still room to respond to the community. On one narrow through-block site, Williams terraces his building back to provide two entrance plazas and a rough-the-block connection (page 130). On other sites, he provides inviting "front porches" (page 132).

In many poor communities, monumental or institutional buildings are a stigma and an affront by the wealthier society from which they are excluded. It is up to the architect to keep his building from having that image—no mean trick if the building is, in fact, the creation of an independent government agency.

Many architects and administrators of child care centers believe they should provide services for adults as well as children. The center on page 134 contains many community facilities, notably medical and psychiatric counselling. The center at the bottom of page 135 also contains counselling facilities. The center on page 132 includes a drug rehabilitation service. Many centers contain after-school facilities for children.

While there have been some efforts to make the small children's spaces available to adults at other times of the day, the general feeling appears to favor leaving the small-scale spaces and the children's projects-in-progress for the children alone. Furniture is, of course, far too small for adult use, but more important, daily rearrangement makes it very difficult to maintain any sort of continuity.

## WITH THE CHILDREN

A child care center must appear inviting to the surrounding community, this aspect even more important to the young children who will use it, many of whom have never been away from home. For example, it is important to avoid large blank walls along the street, and overscaled—or not clearly visible—entrances. A domestic scale

on the outside will make children feel more relaxed.

Easy access to the outdoors is a tremendous asset, and it can be provided in the city by the use of terraces opening directly from the playrooms. Special heaters near the doors can help eliminate drafts. A child care center with little or no play space at ground level can use virtually all of its roof for play (pages 130-135). There are many opportunities for the architect in traditional playground design. However, the non-architectural "adventure playground" is becoming popular among some American educators who have seen its success in Europe. Children are given raw materials and an adviser to help them and they make their own constantly-changing playground. Adventure playgrounds are usually very messy and need to be screened in, but, after all, elegance is not the point in a playground.

Young children are pretty small, but a Lilliputian scale throughout the building has been found not to be a good idea. Most educators favor a combination of small- and large-scale spaces and furniture. Photographs on pages 140-142 show some of the possible alternatives to conventional furniture, which provide, among other things, small spaces to crawl into or climb up to within a larger space. Places which are completely inaccessible to adults give small children a sense of insecurity, but they enjoy having unseen corners to go into. Several preschools use the floor as furniture. As long as the floor is carpeted and warm, children like to sit on it. Floors can include stepped sitting areas (page 140). Windows only at child height (this has been tried in at least one private nursery school) give adults a feeling of insecurity. The most successful buildings we have seen provide standard-sized doors, steps and windows (although it is desirable to keep the window sill at child level).

There is great disagreement among educators about the degree to which environment enters into education. At one end of the scale are the Montessorians, followers of the early-twentieth-century Italian educator, Maria Montessori. In a Montessori school, the facilities are everything. The child moves about freely, but everything in sight has an educational purpose. The architect can have great influence on the way the learning materials are presented, and he can make his building a learning material itself, revealing its construction (page 138) and encouraging awareness of "large" and "small," direction, color, and texture. Other educators prefer a building which provides for everyone's needs but otherwise stays out of the way. One school director told us that given the money, he would not build a more elaborate building, but would put his school on a farm with plenty of animals and plenty of land.

There is also division of opinion on how to arrange the interior spaces. Some

educators believe that children between the ages of about 2½ to 5 can get along happily in one space. A large interior space can be divided by temporary or permanent partitions. Such an arrangement has the advantage that no facilities need be duplicated, but it requires sensitive handling to avoid seeming too large. If the children are divided into smaller groups, many facilities, even interior sandboxes, can be made portable enough to be shared. It's a good idea to provide separate areas for wet and messy activities, such as water play, sandbox, and painting.

Most educators agree that the day of the pink and blue nursery with duckies and piggies on the wall is over. Playfulness is fine, sentimentality isn't.

## ... IN CONSTRUCTION

Building a child care center is an exercise in doing more with less—much less. The A-B-R Partnership, architects, used prefabricated units made by local modular builders to put up three low-cost child care centers in Denver (page 139, top). The Early Learning Center, Stamford, Connecticut (page 138), Egon Ali-Oglu, architect, was built six years ago for \$13 per square foot, using a system of precast concrete elements. In New York City, architect Frank Williams used load-bearing brick to help reduce the cost of his centers to \$20-22 per square foot in a city where school construction can run as high as \$60 per square foot. The Charlestown Playhouse, north of Philadelphia, Oskar Stonorov, architect (page 136) incorporates the stone bearing walls of an old church. The Henry Street Child Care Center, Welton Becket and Associates, architects (page 135, bottom), uses the roof of an adjoining building for a playing area. Direct remodeling is sometimes more desirable than new construction, although some schools have found it nearly as expensive. The Shady Lane School in Pittsburgh, remodeled by Paul Curtis and Roger Smith (page 140, top) was a Victorian house. The Hilltop Center, Dorchester, Mass., PARD-Team, architects (pages 141, middle, 142, top) is a remodeled supermarket with big plate glass windows that provide a link to the community.

## More information

An excellent, highly-detailed book, "Patterns for Designing Children's Centers," by architect Fred Linn Osmon, was recently prepared for the Educational Facilities Laboratories, Inc., a non-profit organization funded by The Ford Foundation. The book is available from EFL, 477 Madison Avenue, New York City, 10022, for \$2.00.

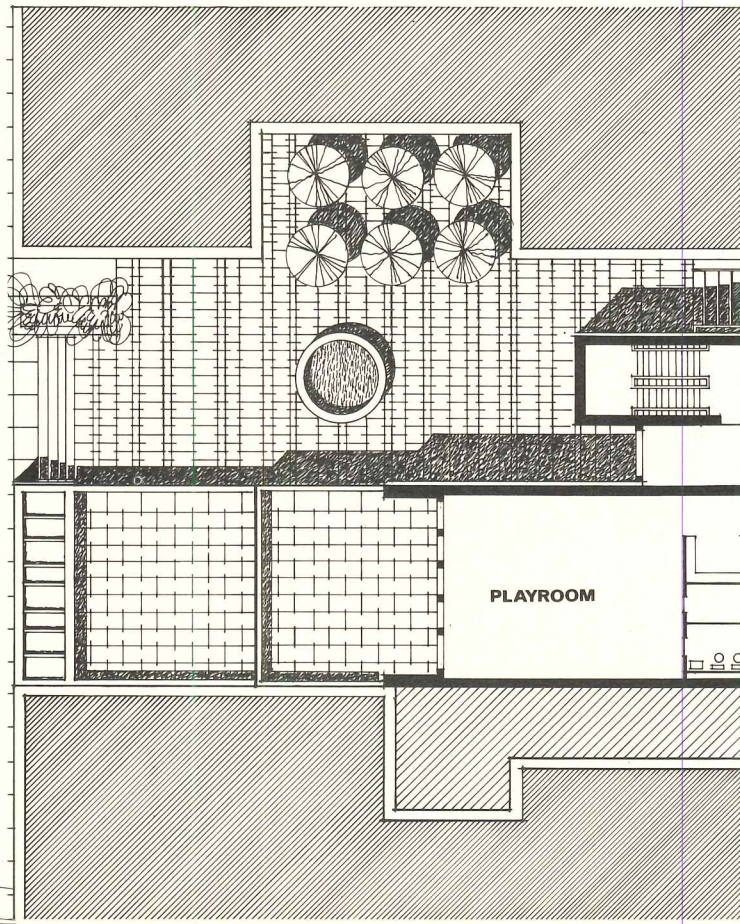
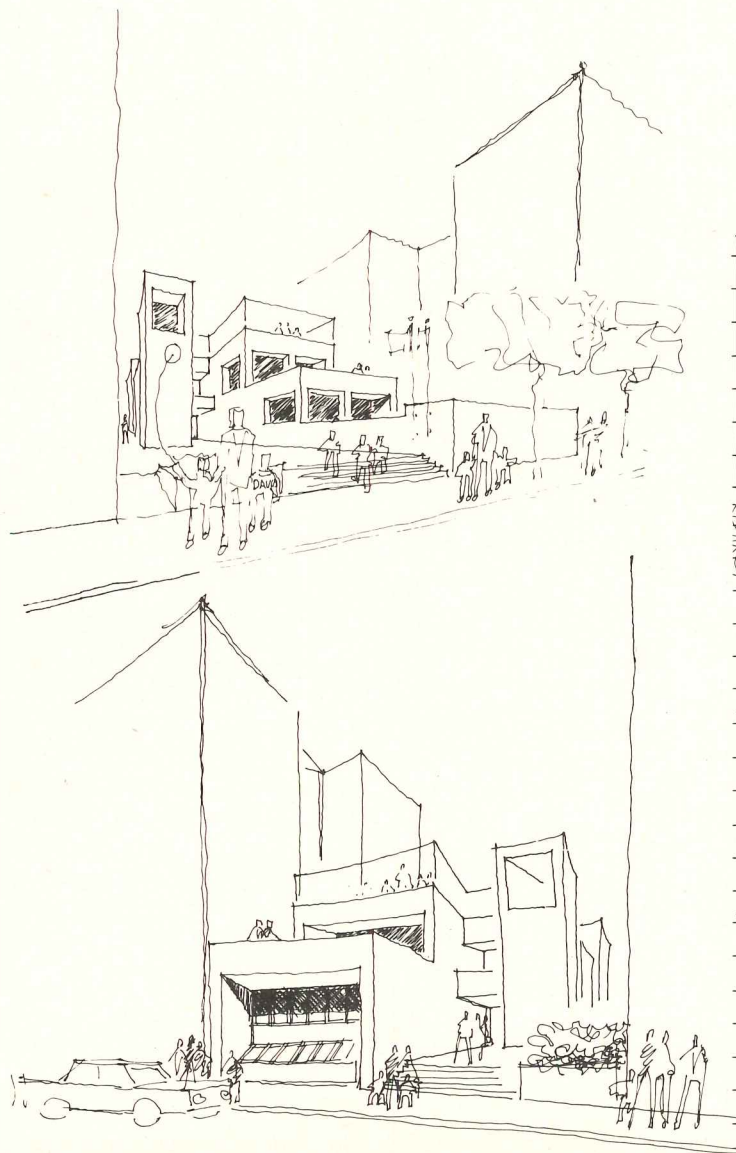
The Day Care and Child Development Council of America, Inc., in Washington, D.C., is also a good source of information for the child care architect.

# BELMONT DAY CARE CENTER, BRONX, NEW YORK

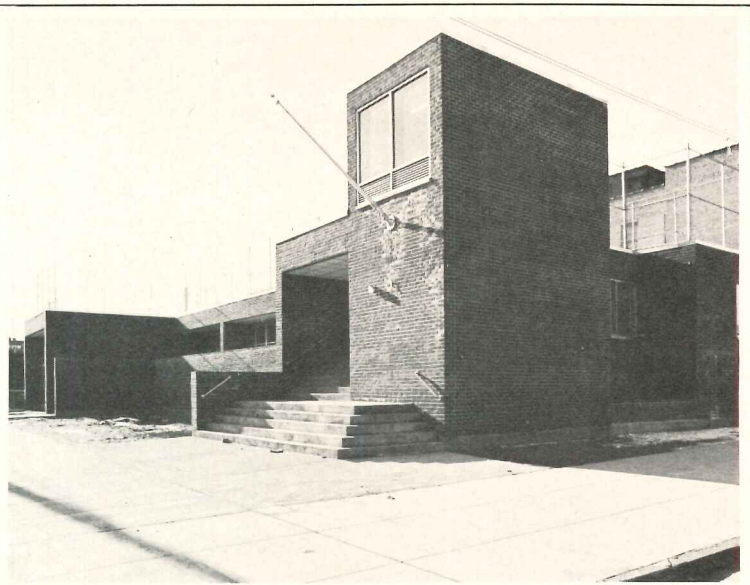
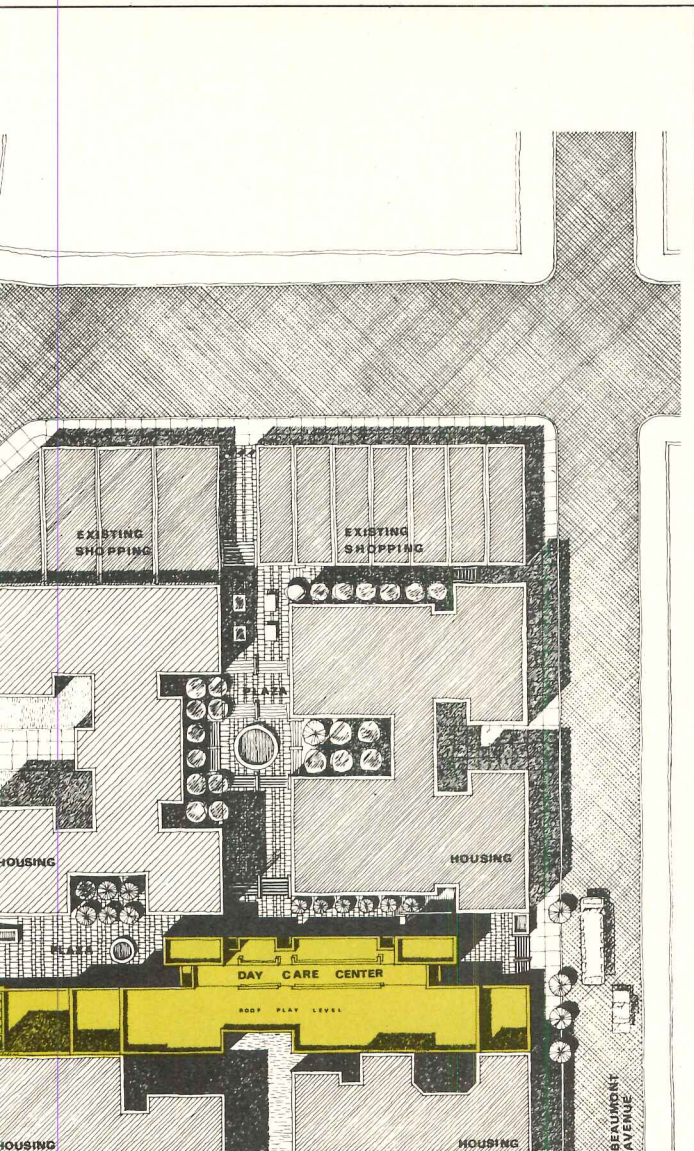
Given a standard New York City Department of Social Services program and a rock-bottom budget, architect Frank E. Williams opened a narrow site to the neighborhood, providing a through-block connection and two plazas. The site plan (opposite page) shows a proposed mid-block mini-park linked to a shopping street (top). Playrooms for 15 to 20 children each open directly onto terraces for quiet outdoor play. The roof provides a space for active play. The structure is load-bearing brick. The choice of facing materials was up to the builder, not the architect. The configuration of the building, terracing towards the street, with entrances clearly denoted by stair towers, is designed to be inviting to the community. Although the completed building falls below the architect's conception, its basic strengths are not lost.



Jonathan Hale p

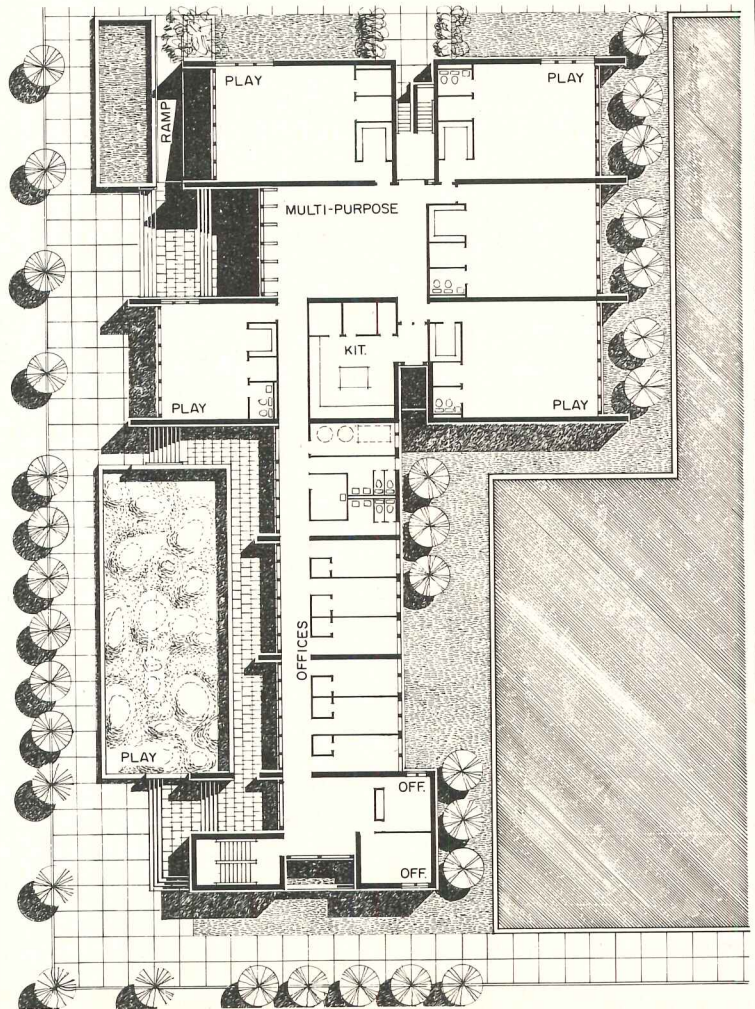
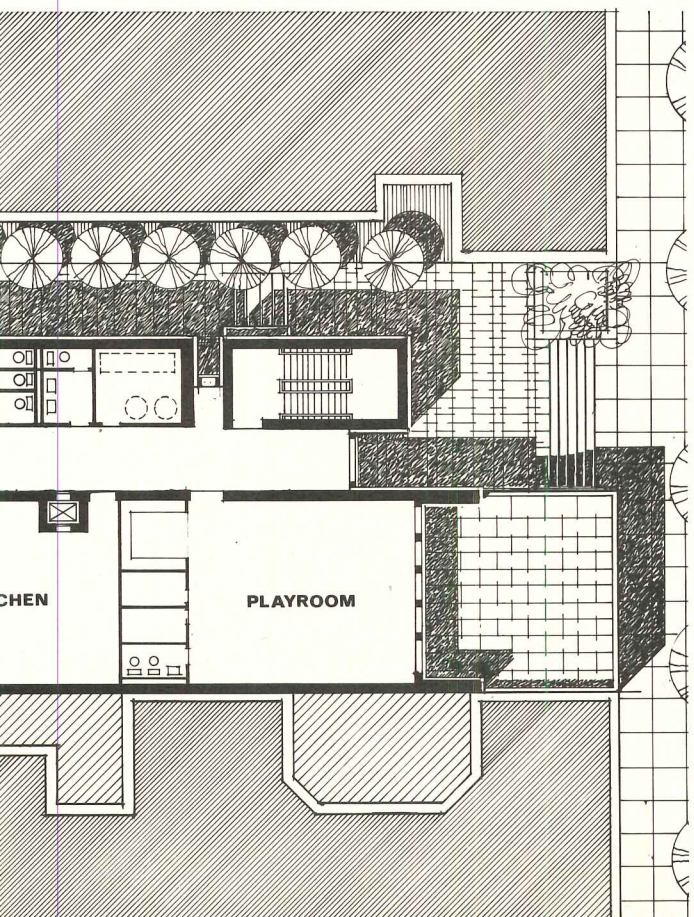






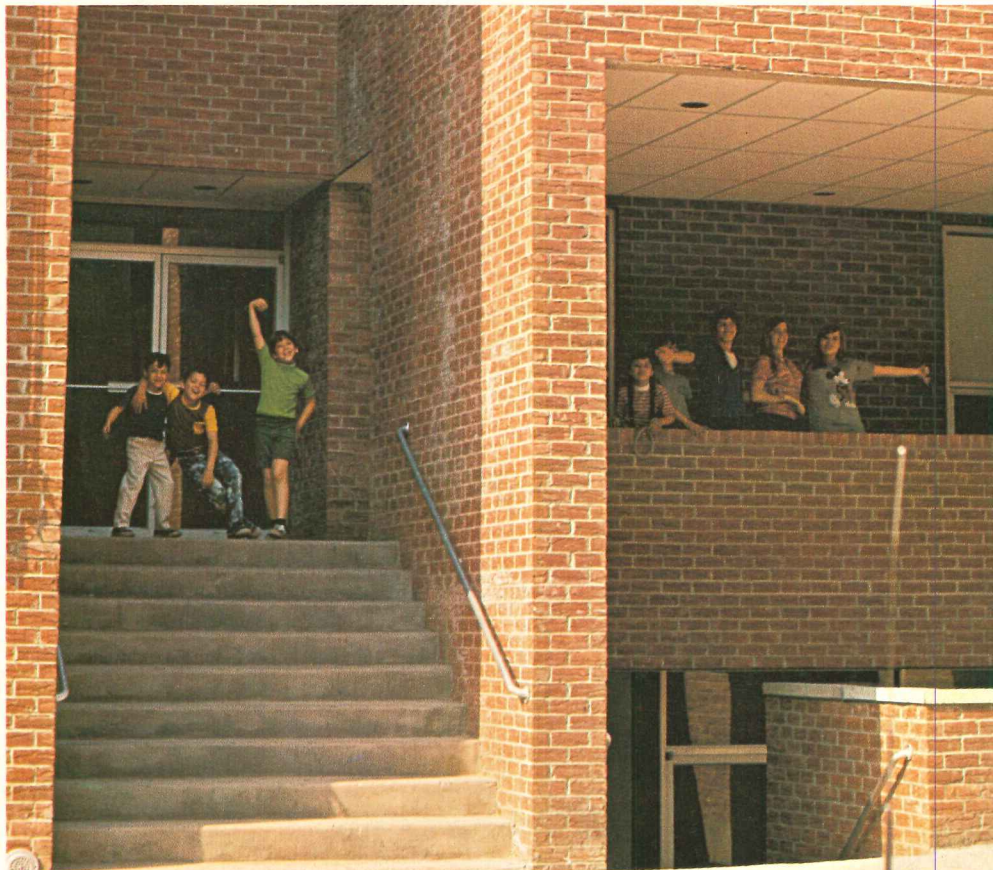
## DAUGHTERS OF AFRICAN DESCENT DAY CARE CENTER, BROOKLYN, NEW YORK

On a more congenial site, and with a very sympathetic builder, this is one of the most successful of architect Frank Williams' centers. The child care section above is an after-school center which has a separate entrance (top left in plan). Classroom arrangement is a direct expression of the New York City program, grouping community and administrative facilities for the child care section around the main entrance (bottom in plan), linked to the playrooms by a sunny gallery. An open "front porch" is an invitation to the neighborhood. This center was started by a women's organization which felt child care was the most immediately effective way they could help their community. Builders were Rentar Development Corporation.

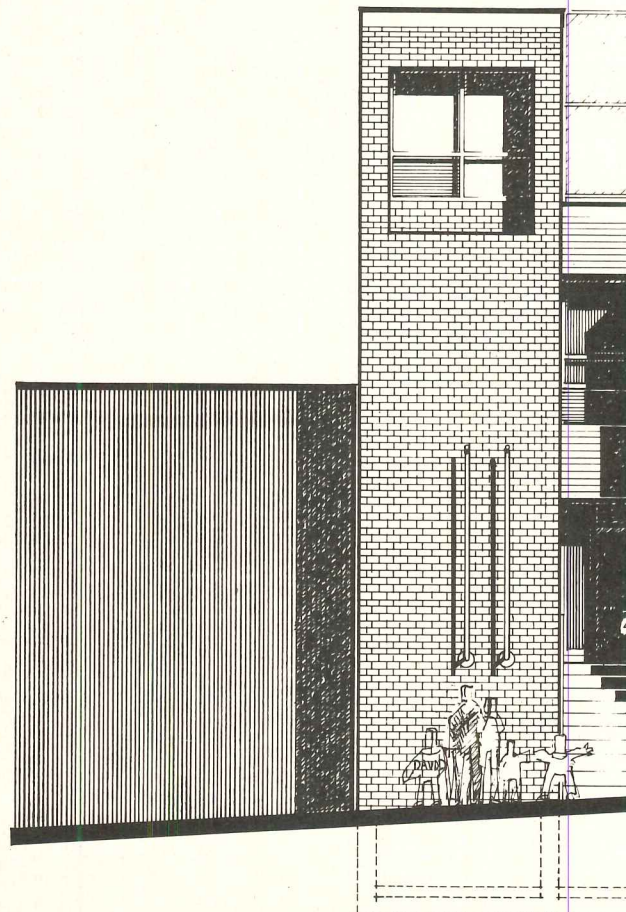


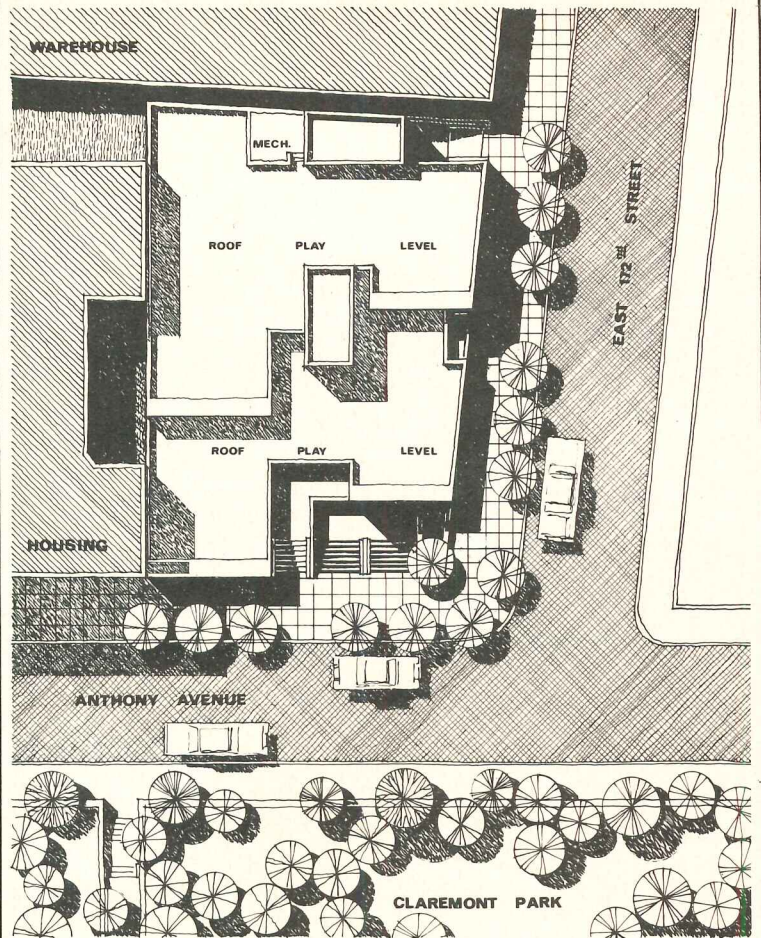
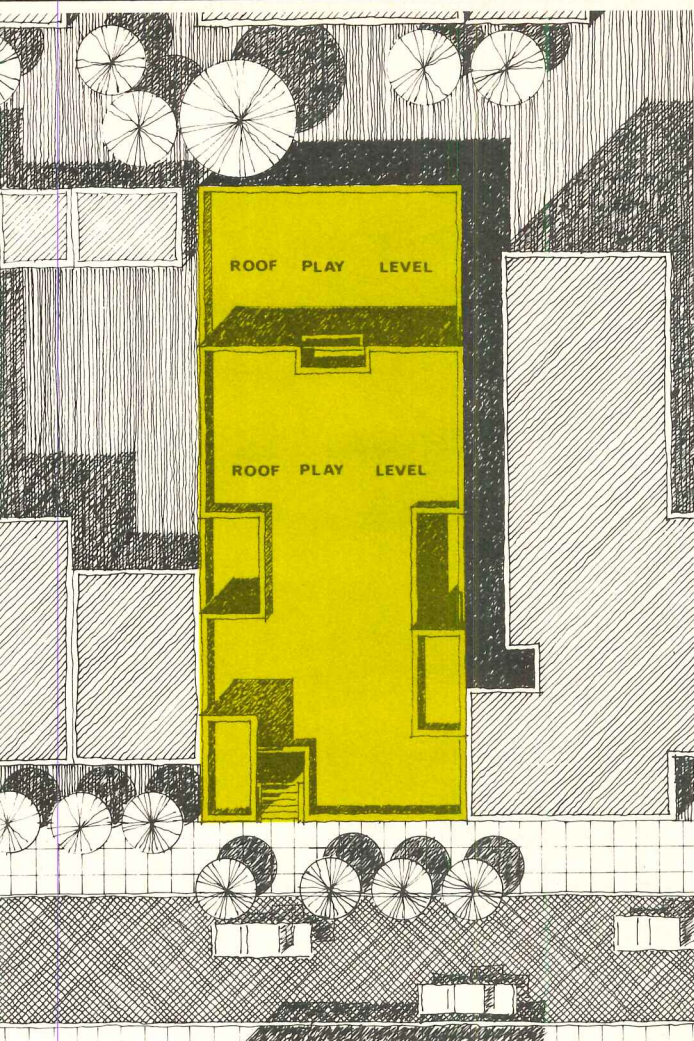
# MARCUS GARVEY DAY CARE CENTER, BRONX, NEW YORK

On a tight mid-block site, this center by Frank Williams makes the utmost use of the resources at hand. Keeping to the scale of the surrounding buildings, it provides a "front porch" on which neighborhood kids love to play. Even before it was opened, this building was a part of its community. Two playrooms open onto their own terrace. The rear was designed to make the most of neighboring gardens. Small interior terraces (below) bring light to a central multi-purpose space and also to the adjacent buildings. Typically of New York City child care centers, this is located in a healthy neighborhood which, however, has many underprivileged residents. It combines child care with other community resources, notably in this case, a drug prevention and rehabilitation facility on the lower level.



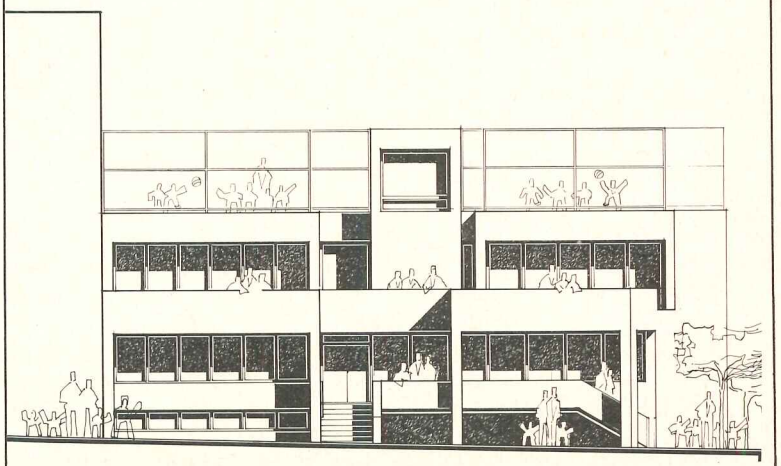
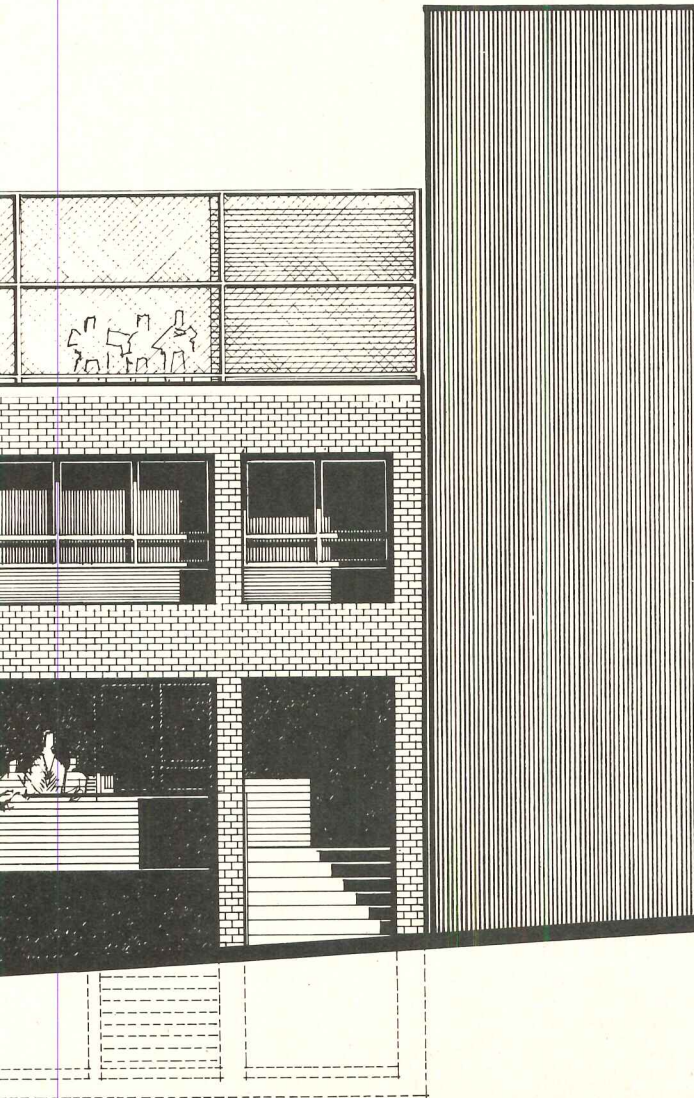
Jonathan Hale ph

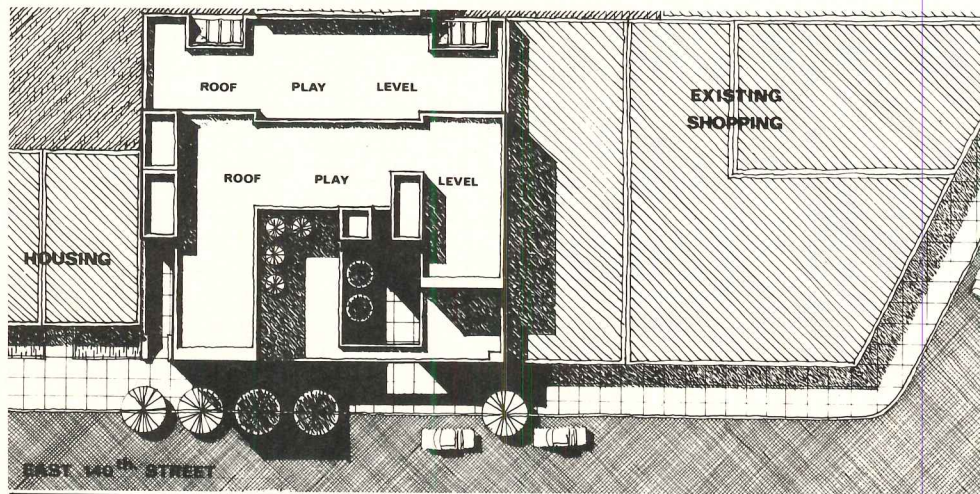
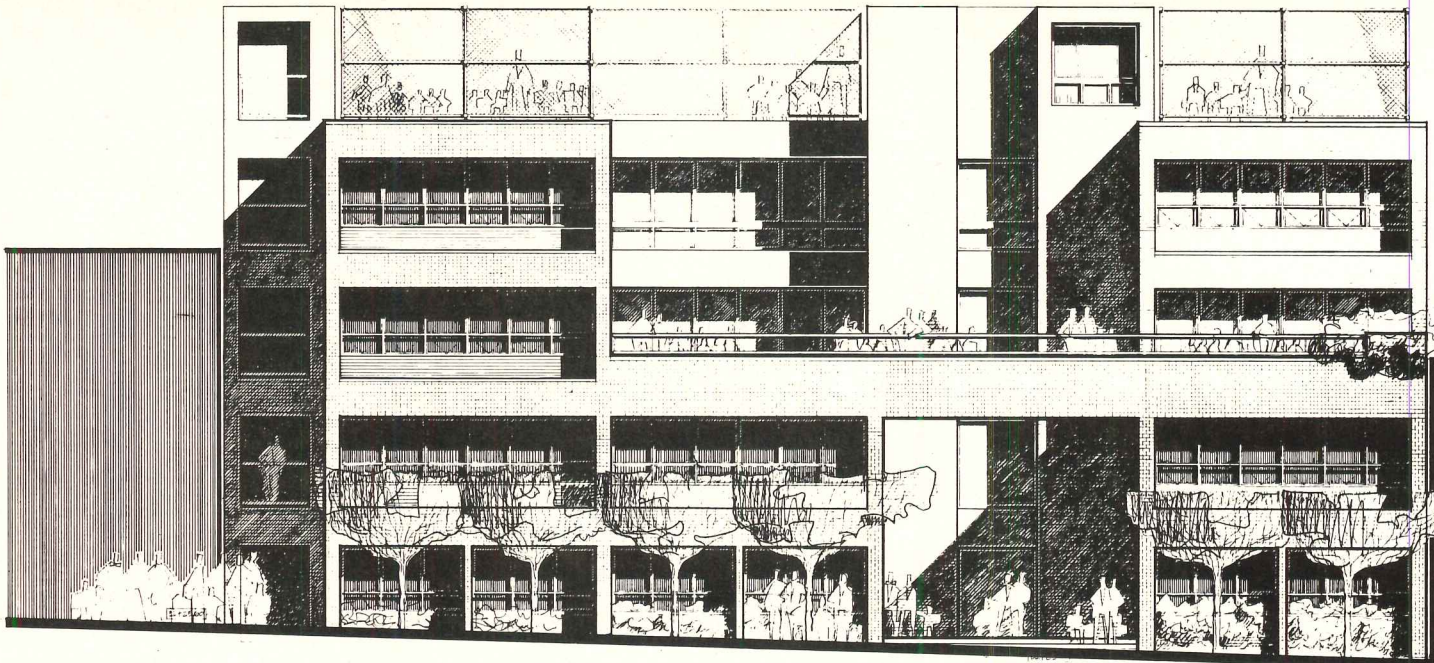




## ANTHONY AVENUE DAY CARE CENTER

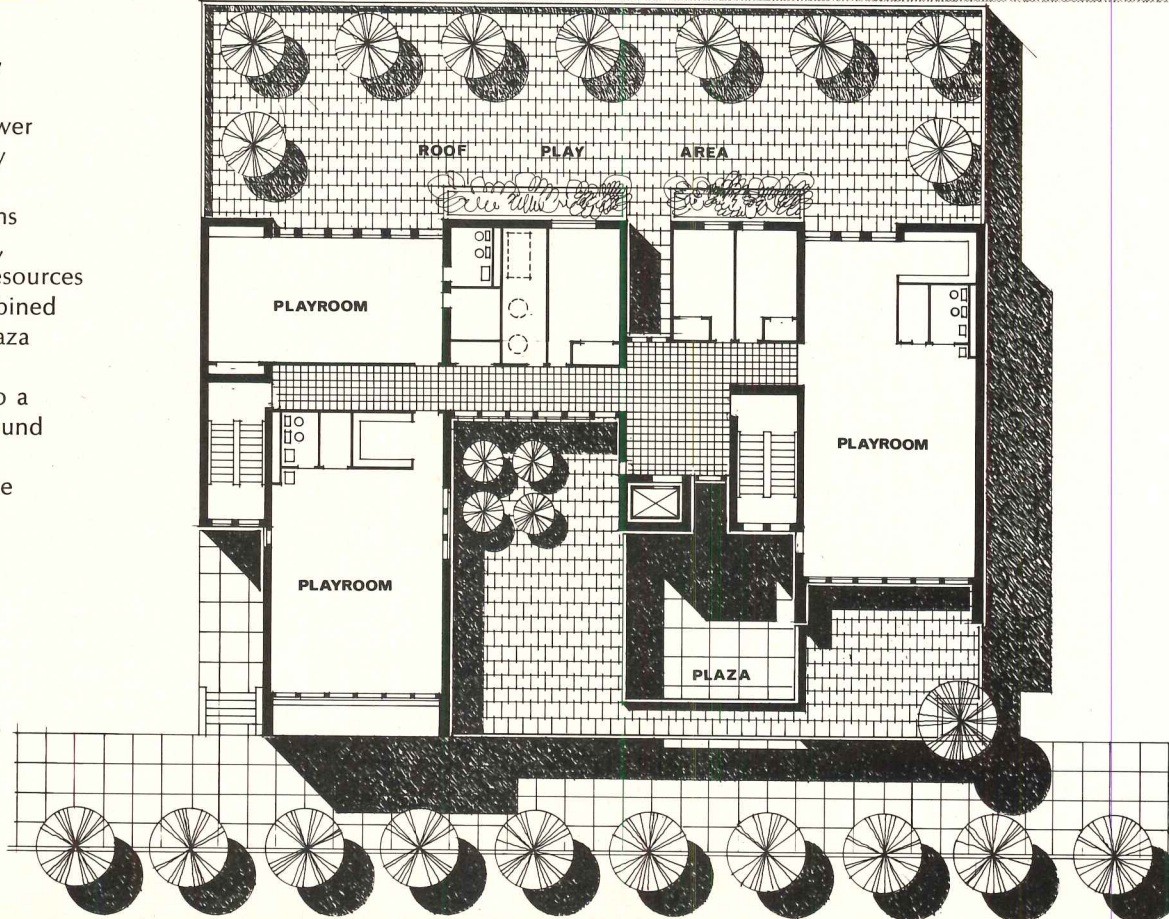
This Bronx, New York center by Frank Williams steps down toward a park across the street which, in turn slopes sharply up. Community facilities on a lower level are reached by a separate entrance. The whole corner is given over to entrances and a "front porch," making this one of the most welcoming of Williams' buildings. Williams believes that an open, accessible building will discourage vandalism, which is largely a result of alienation. But the success of such openness depends also on the center's administration. It takes courage in some neighborhoods.

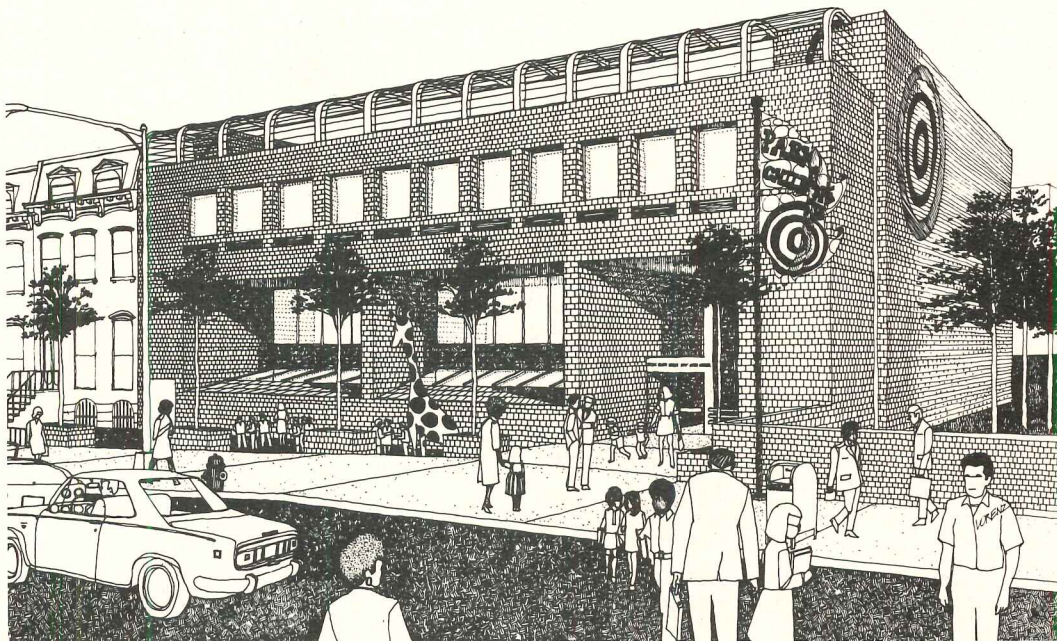




## 140TH STREET CENTER

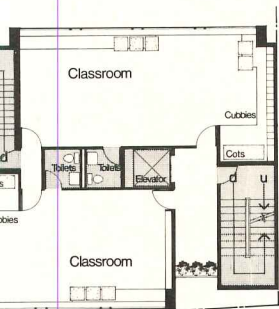
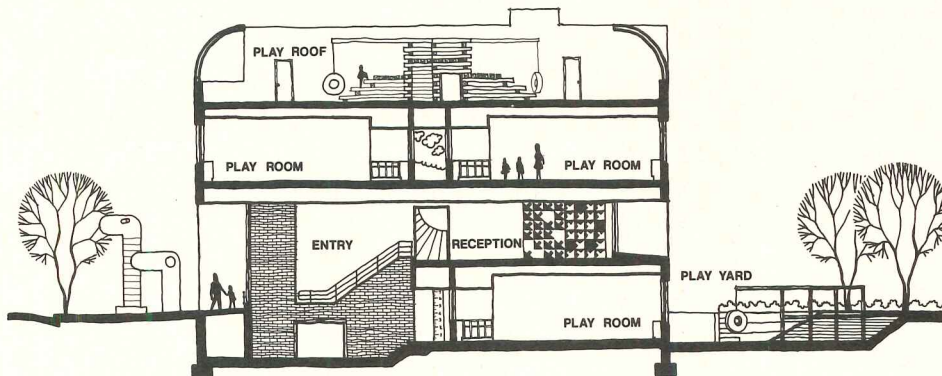
The top two levels of this Bronx, New York center by architect Frank E. Williams are a child care center. Lower floors contain a community counseling service and an after-school center. Williams believes, with many others, that as many community resources as possible should be combined with child care. A small plaza welcomes passers-by. Many playrooms open onto a roof terrace, a second "ground level" for the child-care part of the center. A terrace bridge creates an entrance portal to the plaza below. (Under construction.)





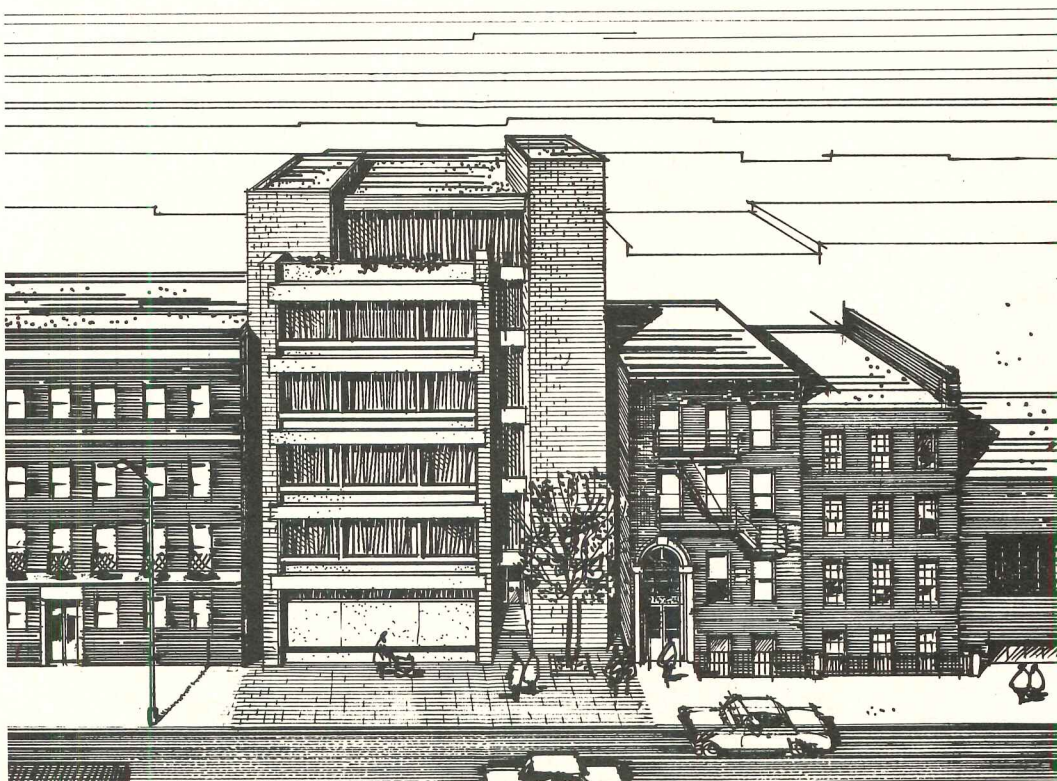
**PARK SLOPE NORTH**

**Child Development Center**  
 This Brooklyn, New York center, designed by Beyer Blinder Belle Architects, has a program similar to those of the preceding centers. Its financing is through the state. The center is scaled to surrounding row houses. Back yard play space complements a roof play area.  
 Designer in charge: John H. Beyer, Principal architect: Yogesh Sethi, Project architect: Joseph Tybporowski. (Under construction.)



**HENRY STREET CHILD CARE CENTER**

Alton Becket and Associates designed this Manhattan child care center for the famous Henry Street Settlement. The roof of the adjoining building serves as play area and supplements a large ground level play yard behind the center. Space for community counseling is also included. The structure is steel with brick facing to fit in with older existing buildings on either side.





Jonathan

## CHARLESTOWN PLAYHOUSE, CHARLESTOWN, PENNSYLVANIA

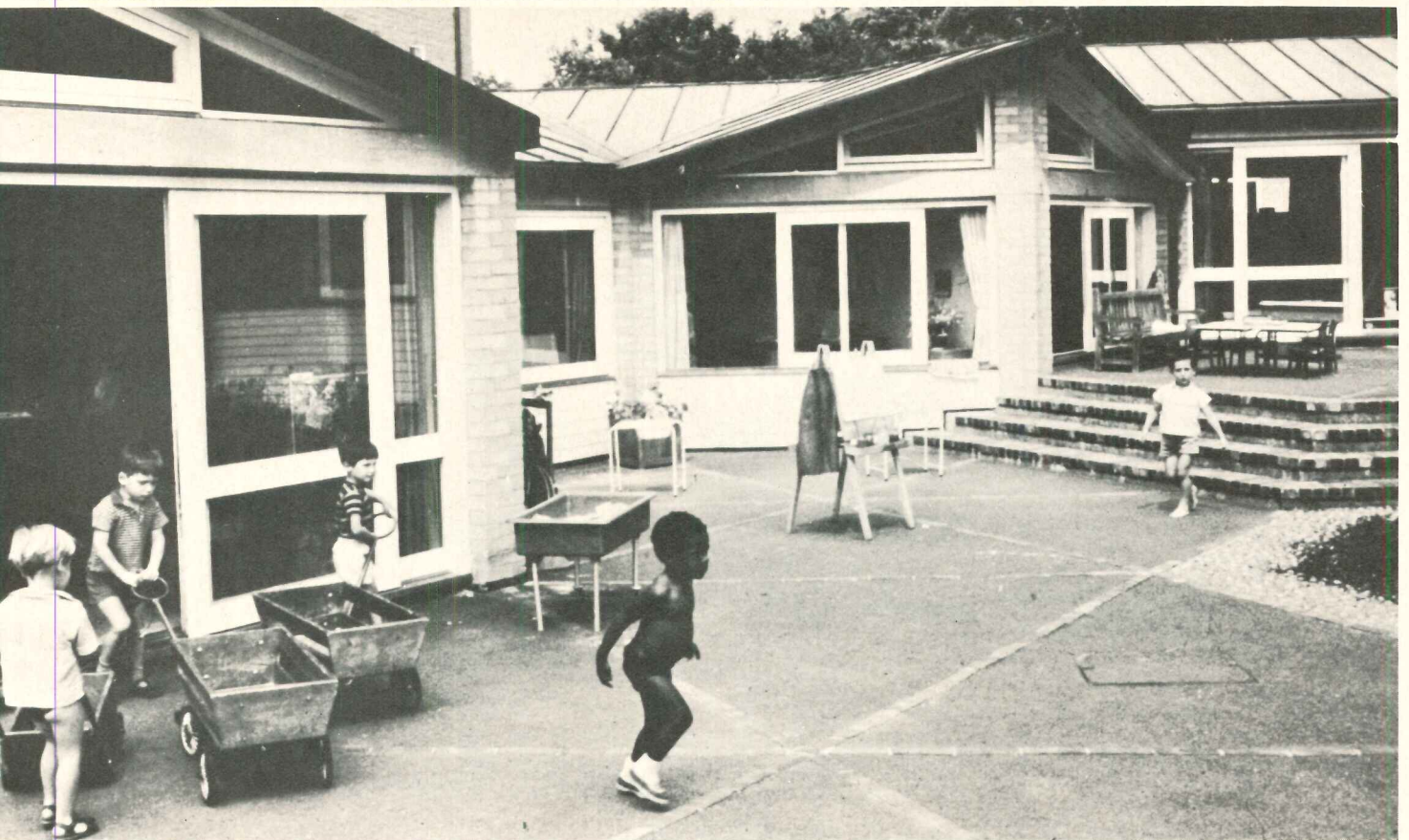
The late Oskar Stonorov designed the Charlestown Playhouse in 1937, using the bearing walls of an old church. Mrs. Stonorov still runs the Playhouse, a private nursery school which has always had close ties to its community. The location is a large wooded hillside north of Philadelphia. Over the years, Mr. Stonorov designed additions—always clear and simple and full of light. But in 1964, Mr. Stonorov, writing about the Playhouse, said, "I am sure that the architectural form of a nursery school has not yet been developed. . . . Such a building must have the ability for improvisation to a degree non-existent today. . . . Various age groups from two to five might be housed in spaces which have different scales." The Playhouse does contain a wide variety of spaces, from a two-story glass-walled central room to small rooms which cantilever out from the second level (right, above). It is at ease with its surroundings and informal inside without being dull.



Jonathan

Roberta Reich

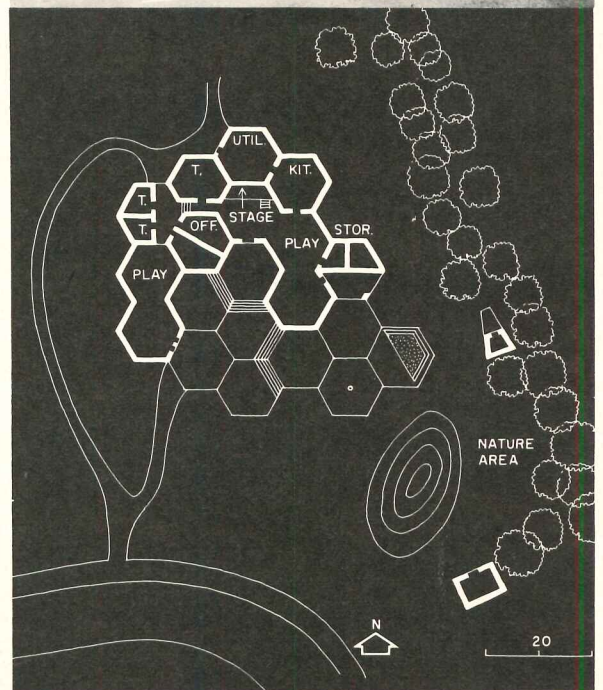
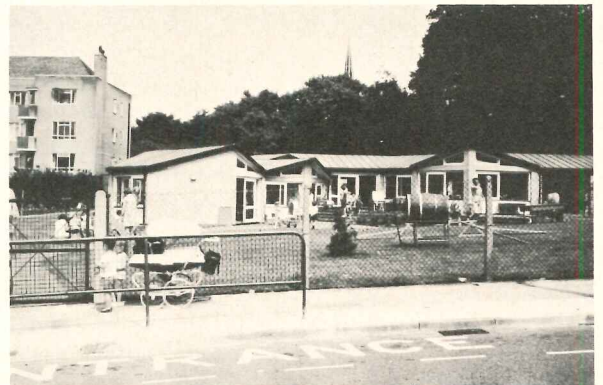




Robert Utzinger photos

## FULWICHWOOD NURSERY SCHOOL, LONDON, ENGLAND

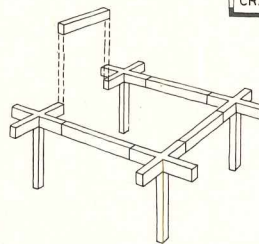
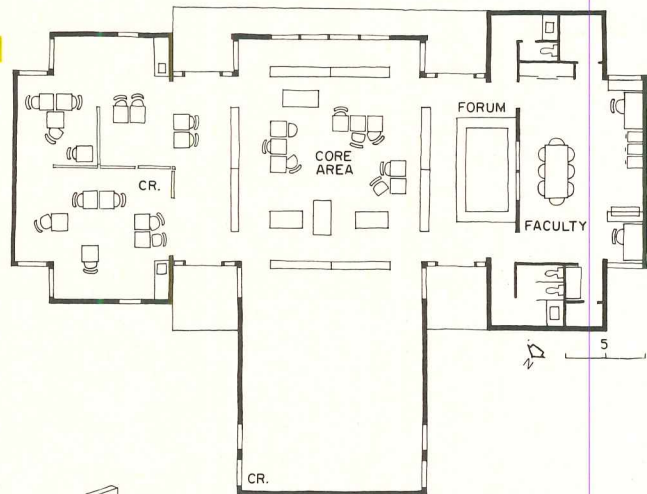
careful scaling, planning and use of materials reveal a deep concern for the children in this assured and straightforward design by architects Stillman and Eastwich-Field, FRIBA. England and Scandinavia are far ahead of the United States in child care awareness; however, this facility, which cost about \$1,000,000 to build in 1966, is more expensive than most English preschools. The 60 children aged 3 to 5 in each of the daily sessions are not divided into groups, but move freely through the building, whose hexagonal spaces provide variety and reduce the scale. Structure is brick and concrete; ceilings are wood plank and electrically-heated floors are covered in resilient tile. Window sills are low, and the sliding doors provide easy access to the outside play area, where a popular feature is a hill of earth excavated during construction.





## EARLY LEARNING CENTER, STAMFORD, CONNECTICUT

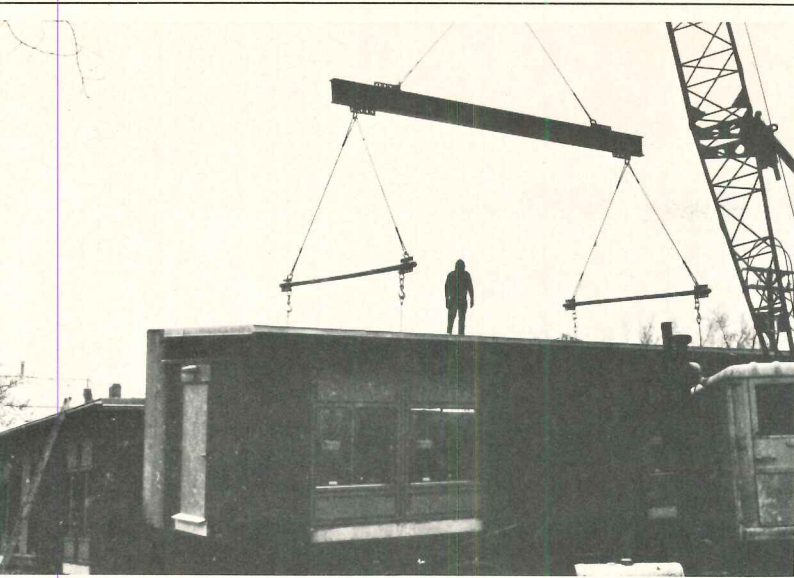
Architect Egon Ali-Oglu designed the Early Learning Center of precast concrete elements, cutting costs to \$13 per square foot in 1966. It is a private community-oriented nursery school with a modified Montessori program. Children 2½ to 5 use an undivided space containing a skylighted central area filled with learning materials, which the school's director, Mrs. Margaret Skutch, compares to a Mexican market place. The carpeted floor is the furniture in this area—dark gray to hide dirt and set off the bright-colored materials. There is also a stepped seating area. Shelves are painted boards on concrete blocks. Children walk directly out to the play area whenever they want. A non-carpeted area (left in plan) is for wet activities. Interesting colors, objects and textures abound. Windows are tinted brown, fixtures are incandescent for warm light. Slightly older children have their own wing (bottom of plan), recently designed by Paul Curtis and Roger Smith into a series of varied multi-level spaces.



Jonathan Hale photos







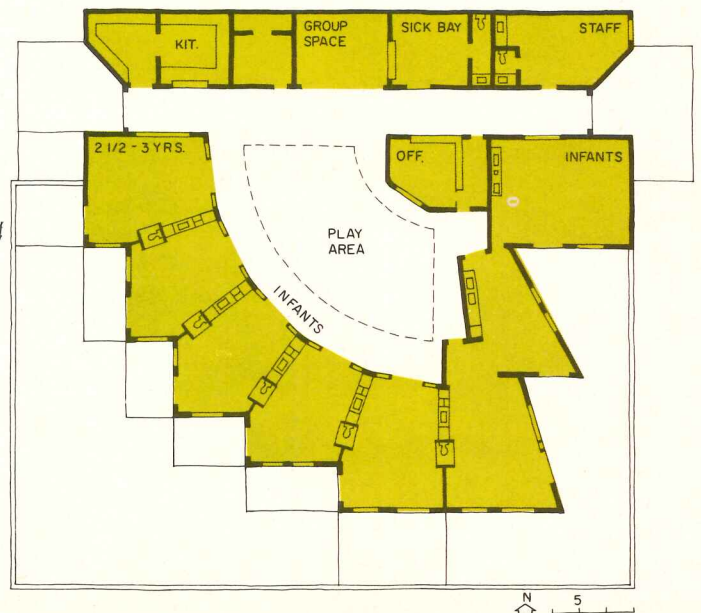
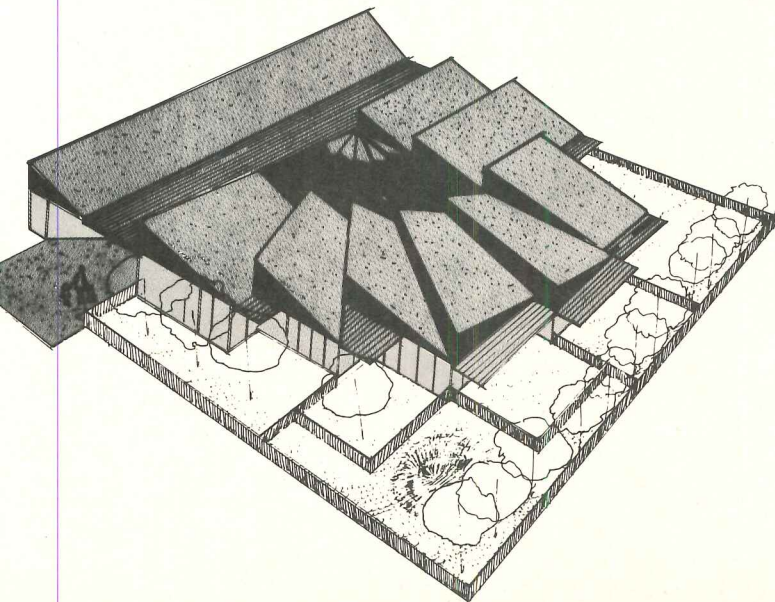
## THREE DENVER CHILD CARE CENTERS MADE OF MODULAR UNITS

The program called for a temporary facility that could be moved in two to five years, so the A-B-R Partnership, architects, designed a demountable modular building. Denver has at least two modular builders, one in the community to be served, and one nearby, both employing people who would benefit directly from the center. Eventually, the center, funded by Model Cities, expanded into three centers, two in Denver's black ghetto, one in a Chicano neighborhood. As the architects put it, "the design and site development concepts are basic at best"; but this form of construction opens many possibilities.

## PROTOTYPE INFANT CENTER FOR CALIFORNIA MIGRANT WORKERS

California migrant workers have a life expectancy of 38 years. A large reason for this average is the very high death rate among children under five. In migrant communities, child care centers can have tremendous importance. The design below, by Sanford Hirshen and Partners, architects, is the result of a highly-detailed study made under a grant from the Rosenberg Foundation. Care is provided

for new-born babies to three-year-olds—32 children in all. Storage units and glass partitions separate groups acoustically but not visually. All playrooms open outside. The center uses prefabricated trusses for the roof spans and a foam core wall panel system made by the Production Technology Corporation, a non-profit organization set up to train migrant workers in factory skills.





George Zi

## GOOD IDEAS

The following three pages show details from several child care centers—suggestions which aren't likely to show up in any program, but which can add a great deal to the way a place feels and the way it is used.



George Zimbel

## OR AS FURNITURE

Children and teachers find many ways to use carpeted, open areas. In a new building, the steps can be sunken; in a remodeled building the steps can be built on platforms. In the Shady Lane school in Pittsburgh, designed by Paul Curtis and Roger Smith, which was originally a Victorian house.



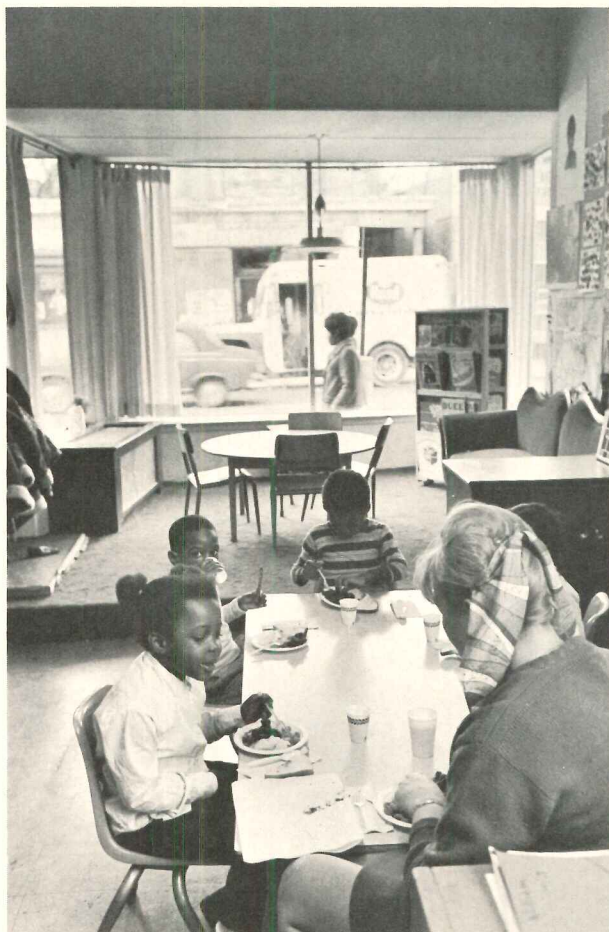
George Zimbel

## INDOOR TREE HOUSE

By the designers of the indoor cave (photo, left) but for the Shady Lane school in Pittsburgh. Such areas should not be inaccessible, nor completely invisible, to adults.

## INDOOR CAVE

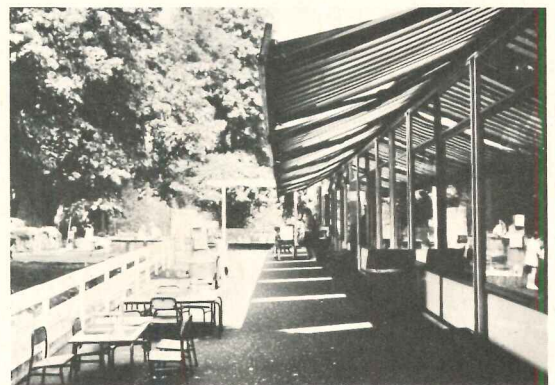
Children enjoy special places to crawl into (left) but the spaces need to be open enough so the children can still be in contact with the room outside—and they should have more than one entrance. This is the CLC Good Hope Road Center for Children, Washington, D.C., remodeled from a store by Paul Curtis and Roger Smith with Margaret Schuch, whose Early Learning Center appears on page 138.



George Zimbel

## CONTACT WITH THE STREET

The big plate glass windows in the Hilltop Center, Dorchester, Massachusetts, give the children a lot to look at and make the community aware of the center. The center was a supermarket, remodeled for child care by PARD-Team, architects, Sam Mintz, architect-in-charge. The atmosphere is relaxed but stimulating. A big red plush Victorian couch sits next to the window (rear, right).



Robert Utzinger

## AWNINGS

A way of taking off the institutional hard edge. All the playrooms in this English child-care center (above) open onto the terrace. Highgate Nursery School, London, England.



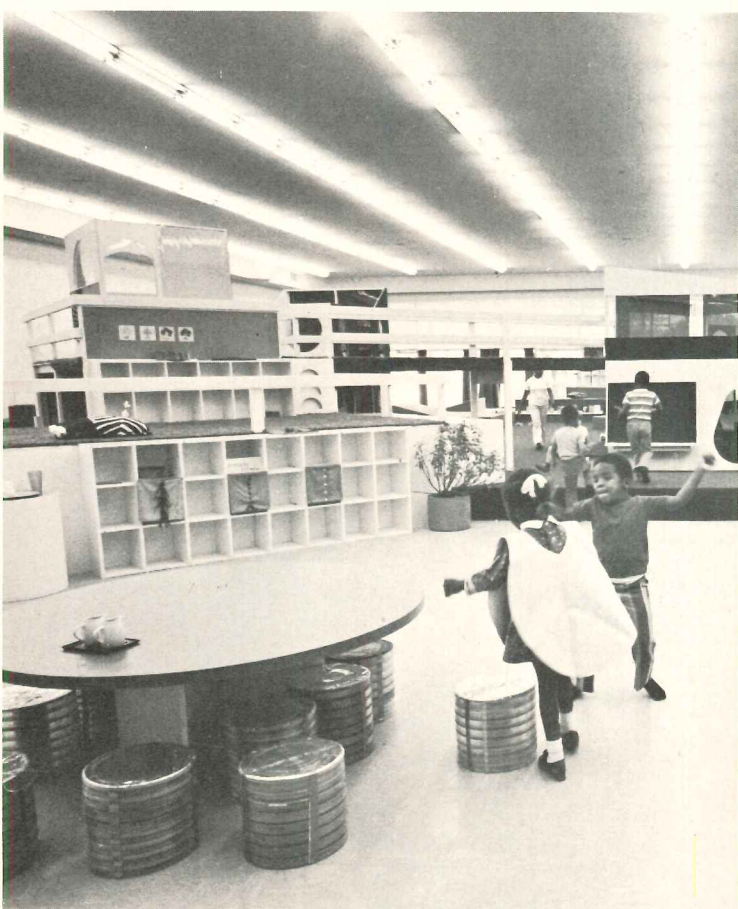
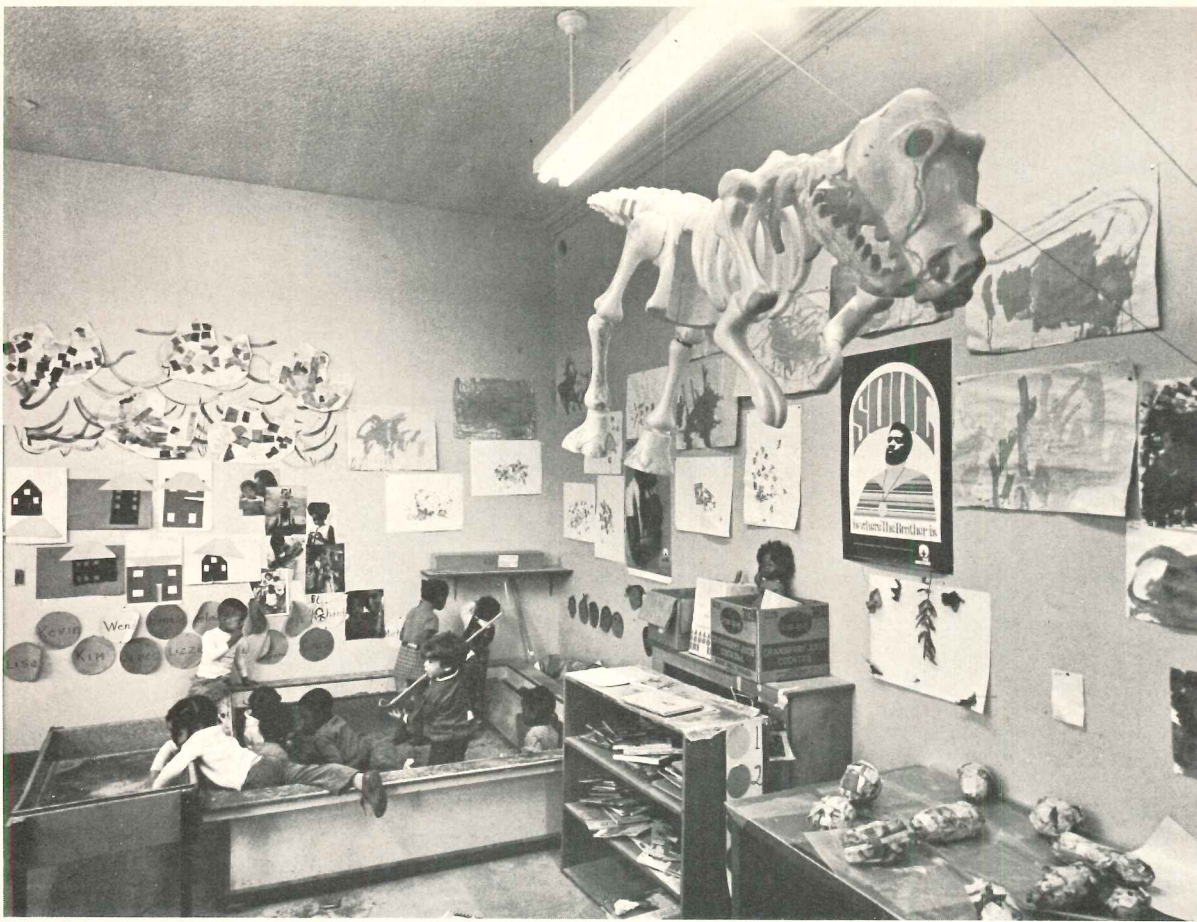
Jonathan Hale

## PLAY SCULPTURE

This one is at the Charlestown Playhouse, Charlestown, Pennsylvania, a nursery school originally designed by the late Oskar Stonorov in 1937 and expanded by him over the years (see page 136).

"You can't have too much stimulation in a child care center," say some educators. Others would disagree. It's hard to quantify that, but it's important to note that most of the materials in this room come from objects used by the children. A lot of bright colors or sophisticated supergraphics, by contrast, might or might not be stimulating. The children are playing in an indoor sandbox. Photo by George Zimbel at the CLC Good Hope Road Center for Children, Dorchester, Massachusetts. PARD-Team, Architects, Boston, Massachusetts.

George Zimbel



George Zimbel

**MAKE YOUR OWN FURNITURE**

The seats in this picture are computer reel cans stacked to different heights for users of various sizes—a brainstorm of Margaret Skutch (page 138). The CLC Good Hope Road Center for Children, Washington, D.C. (see also page 140).

**FLOORS FOR INFANTS**

The floors in the infant area of this Swedish child care center are sheet vinyl with a cushioned backing. Low covered mattresses are used as furniture. Hendriksdalsberget Barnstuga ("child cottage") Stockholm, Sweden.

Robert Utz



## A system's disciplines become clear as an architect works with it for two high-rise dormitories

A factory-precast system replaced a conventional steel-framed building when the system was offered at the same cost, and the architect determined there could be added functional advantages and reduced time from design through construction.



Dallas photos

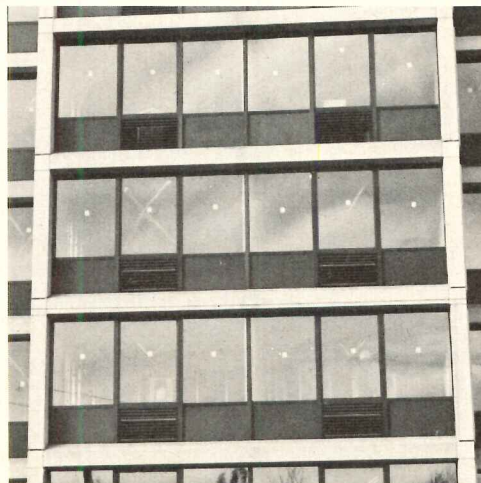
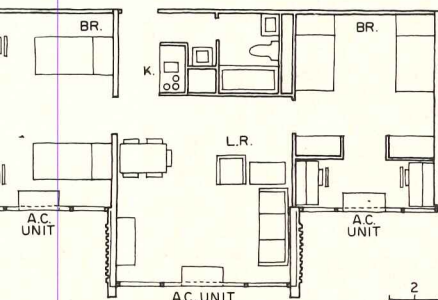
Nearing completion on the University of Delaware's Newark campus are two high-rise dormitory buildings constructed with the Bison factory precast concrete system that has been highly successful in England. The system used for the dormitories, designed by Charles Luckman Associates, has precast, load-bearing exterior and interior walls, 27-ft prestressed concrete planks, and an aluminum and glass infill between precast spandrels.

Several European industrialized housing systems, of which the Bison system is one, are being franchised in the U.S. and Canada. While only a few projects, using several of the systems, have been completed so far, a modicum of experience has accumulated, and, importantly, the disciplines of the industrialized housing process, based upon the concept of factory-produced structural components, are beginning to be understood. Further, the professionals who have worked with these systems are getting an idea of what these systems can and cannot do.

### Proposed originally in steel, the structure was switched to the precast system

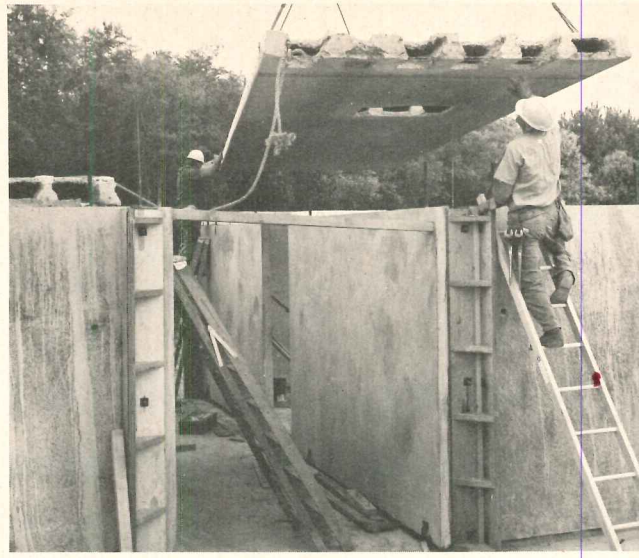
University of Delaware housing officials decided to take the private developer route in getting their dormitories built, and sponsored a competition whose entries were judged on the basis of quality of architectural concept and cost. The winning entry was that of Ogden Development Corporation, headed by Charles Luckman, in a joint venture with Frederic G. Krapf and Son, Inc., Wilmington general contractor. A \$10.5-million contract was let for the two dormitory towers and a 27,000 sq ft student commons, the project being designed to accommodate 1,300 students. The towers have 375,000 sq ft and incorporate 255 one-bedroom apartment units and 197 two-bedroom units.

The Ogden Development Corporation-Krapf joint-venture's original proposal was for a conventional steel-frame design. Shortly after winning the contract they learned that they could obtain the industrialized concrete system without an increase in cost, while at the same time





The building shell uses bearing walls and prestressed slabs. The 8-ft-wide slabs are cast and prestressed in a continuous bed and cut apart after the concrete sets. Exterior wall panels are faced with white architectural concrete in a fluted pattern, outlined by smooth spandrels and corners. They are of sandwich construction with a core of foamed polystyrene insulation, and an inner layer of ordinary concrete. Through joints between wall panels are protected from the weather by the rain-screen technique—a baffle set in grooves of adjacent panels keeps out rain while equalizing pressure. Panels and planks were erected using a tower crane with maximum weight of panels being 10 tons.



gaining some square footage in the apartments. The proposal for supplying the system's concrete units was made by Strescon Industries, Inc. of Baltimore. Further, the system promised improved acoustical privacy, interior finishing and maintenance.

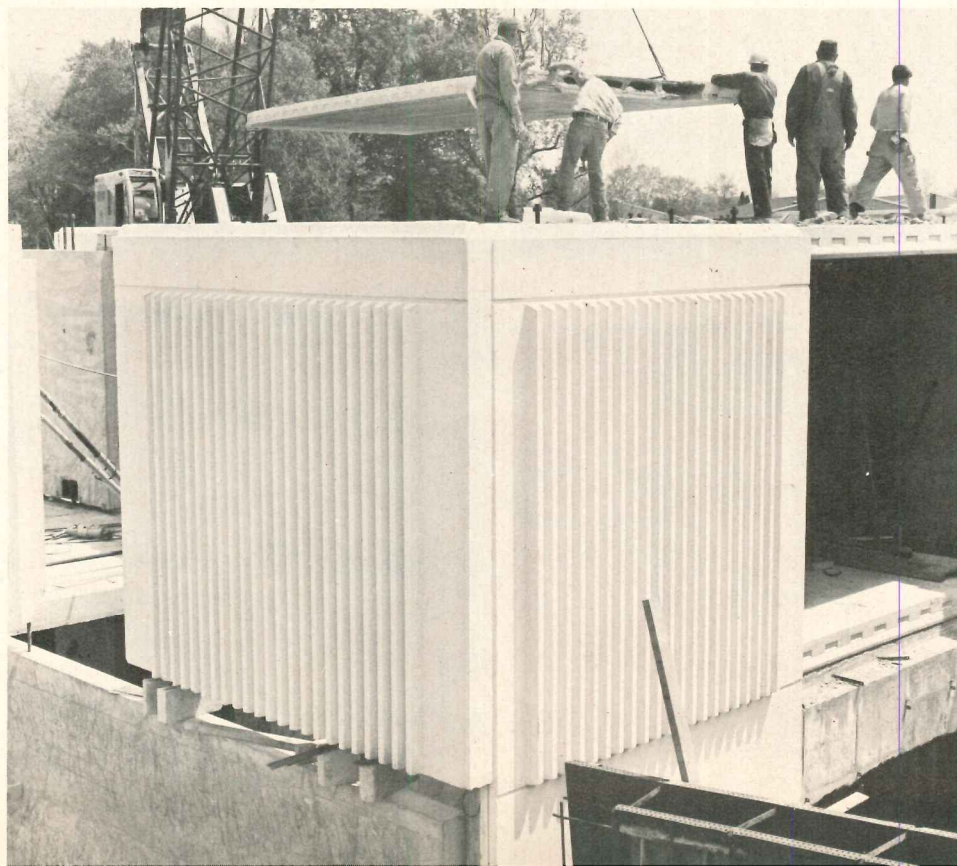
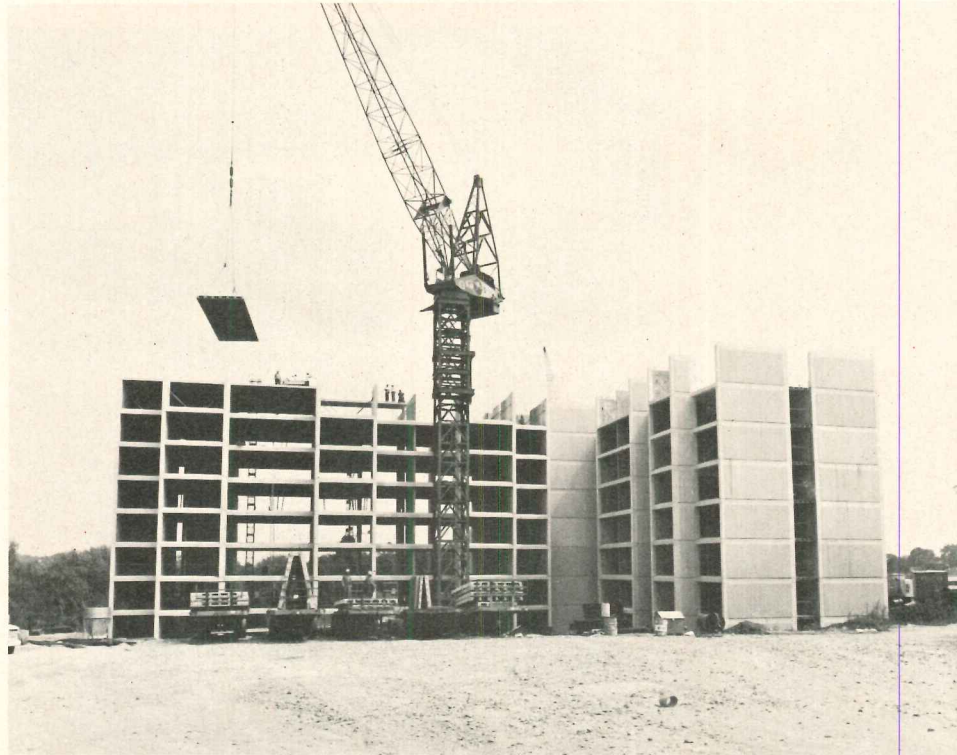
The same basic floor plans as originally worked out were retained, with the exception that one-bedroom and two-bedroom apartments were grouped so that bearing walls would align across the short dimension of the plan, a condition preferred by the structural engineers for shear-wall design. Also, the depth of the floor plan was adjusted to match the 8-ft-width module of the floor planks.

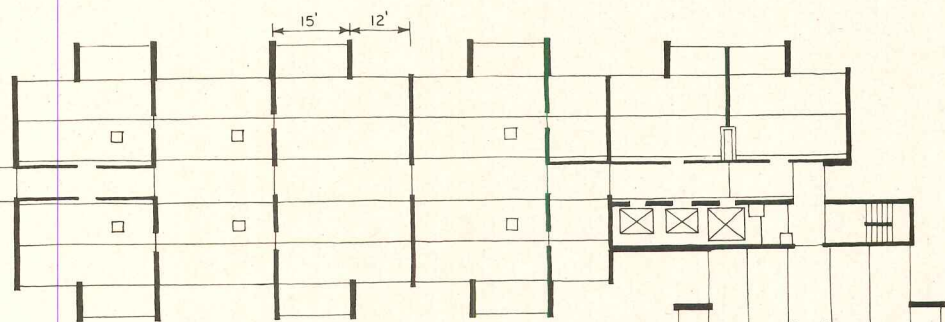
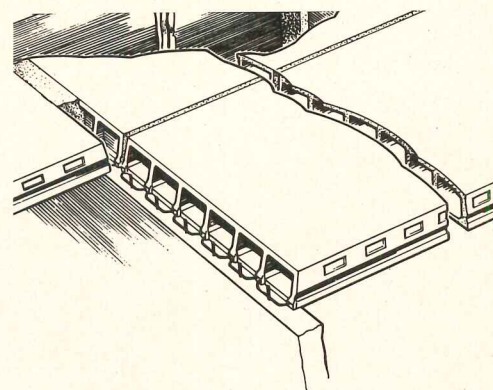
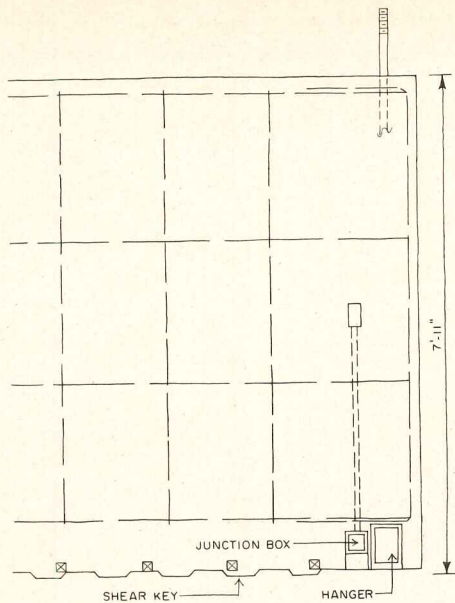
Because the floor plans were changed only to this extent, the architect found that a much larger variety of wall panels was required than would have been the case if the concrete system had been selected at the start, and the floor plans laid out considering the nature of the system. The variations consisted mainly of different types of panel connection details, different reinforcing patterns, slight differences in dimensions, etc. Over half of the panels on a typical floor had some variation, even though minor. But the original plans were retained because redesign would have cost both time and money.

The collaborative efforts of those participating in the project have paid off in terms of high-quality appearance as well as in construction time—the structure was erected at a rate of one floor per week per building. This meant that the plumbing and electrical trades were inside for their work—which was done conventionally on site—much sooner.

For the architect, the Luckman firm sees a reduction in the number of working drawings required. Of course he still must prepare the floor plans; perhaps detail an infill curtain wall, and do normal interior detailing for bathrooms, kitchens, door bucks, etc.

But, the architect and structural engineer found—as others have—that the checking of shop drawings on a building that has not been done before takes considerable time. Of course, if the same sys-



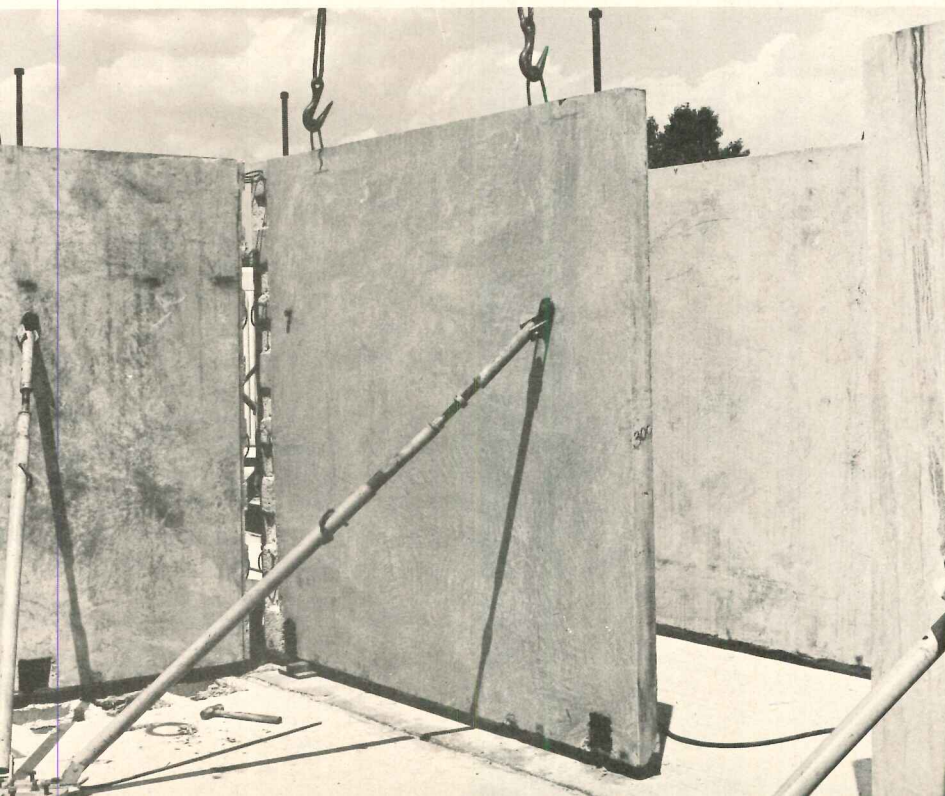


aded rods in wall panels  
e two main purposes: 1)  
are used for leveling of  
panels; 2) they take tensile  
s created by wind forces in  
e panels. The hanger box  
ides continuity from a rod  
e panel to those in panels  
e and below. The hanger  
s also serve as means for  
ling. Bottoms of panels  
shear keys to transmit  
s to the floor diaphragm.  
ical boxes are cast in the  
ls as seen above. After  
els are leveled, drypack  
rete is put underneath.

Wall panels are supported by spider braces until planks are set, and corner joints poured.

Bearing walls support floor planks which are 27-ft long except for projected areas, where they are 15 ft. Planks at corridors use "stretched-out" point supports at the corners. These panels have a solid ring of concrete around the perimeter to minimize deflection and to transmit loads in shear.

Openings in the floor slabs for plumbing and ducts sometimes required special support and/or reinforcement.



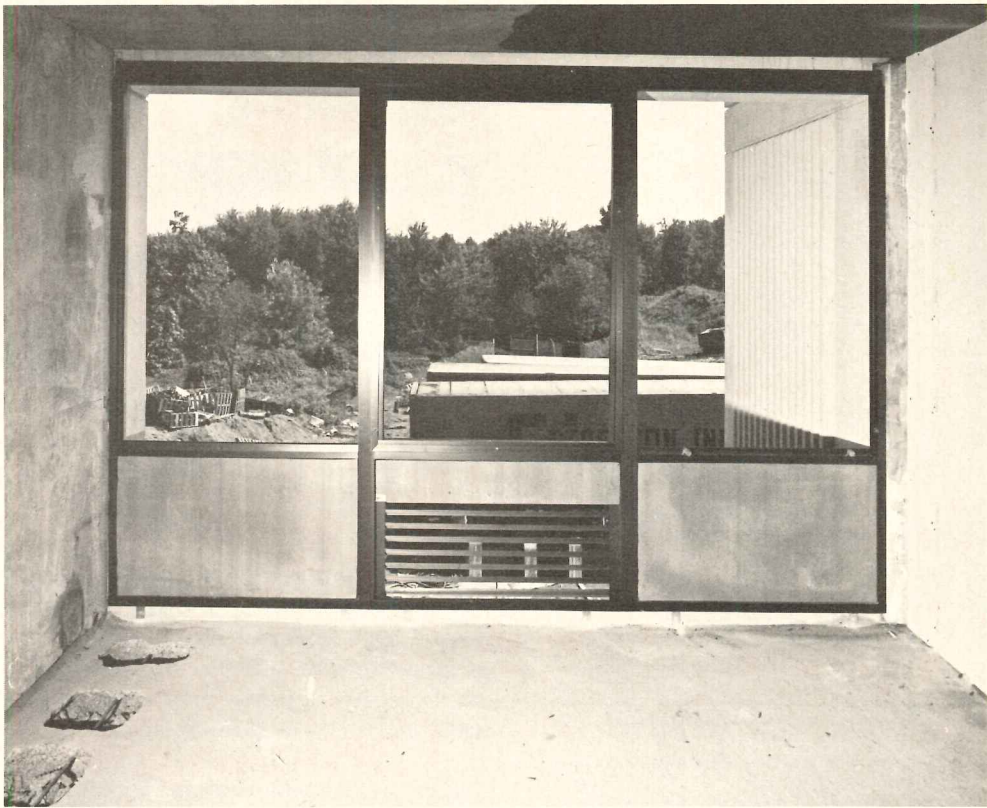
tem is used again by the same architect and engineer, they will have familiarity with various details. This familiarity, however, will not be of much help if different industrialized systems, with different details, are used on succeeding jobs.

#### Details were worked out to accommodate piping, ductwork and wiring

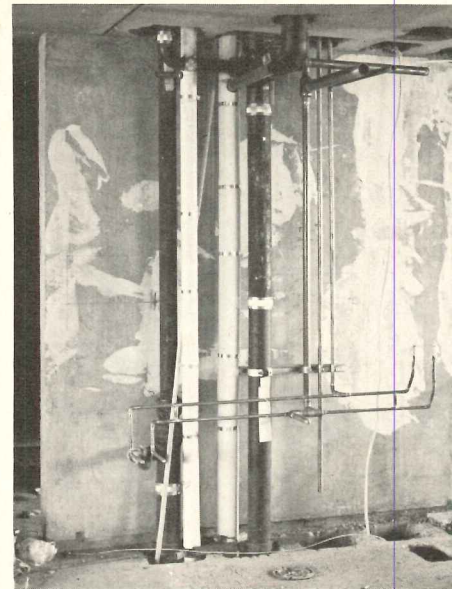
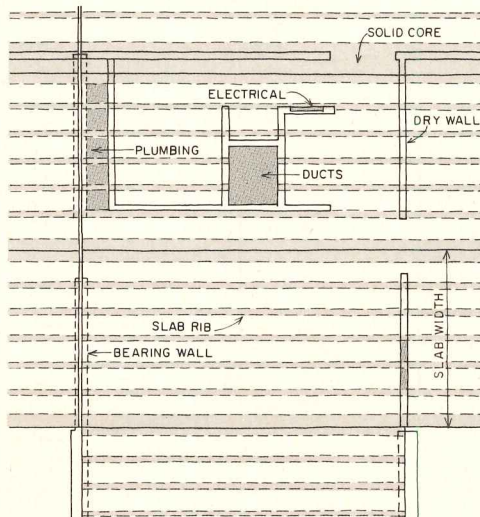
Heating and cooling of the apartments is by room air conditioners that have electric resistance heaters, so the only ductwork required for apartments is for kitchen and bathroom exhaust. Penetrations were provided in the floor planks for passage of pipes and ducts. The prestressed slabs, 8-in. thick, 8-ft wide and 27-ft (or 15-ft) long, are hollow-core, ribbed units. Some openings were provided by putting block-outs in the continuous forms. In other cases, they were cut out after the concrete had set and the slabs cut to length.

For small penetrations needed for the plumbing wall, the structural engineer permitted a series of openings across the width of the slab made by cutting out top and bottom surfaces, but preserving the ribs intact. In some cases openings were made by stopping a slab short of a bearing wall, the slab being supported by a steel collar. In such cases the slab was stiffened at the end by chopping out the top part of the slab and filling the void with concrete. Where large openings were required, the engineer allowed a maximum of two ribs to be cut (see drawing, page 146). Additional shear reinforcement was provided in the area where the opening was to be cut so that load would be transferred to the other ribs.

No wiring is run within the wall panels or the floor slabs. Because of the long span of the slabs, and the need for only occasional shear walls along the corridors, many of the partitions could be dry wall, with wiring being run within these. Where outlets were needed in bearing walls, the wire was run in a recess at the bottom of the walls made as the drypack under the walls was tamped. The recess was covered by a metal plate held by clips fastened to wooden plugs cast in the panels.



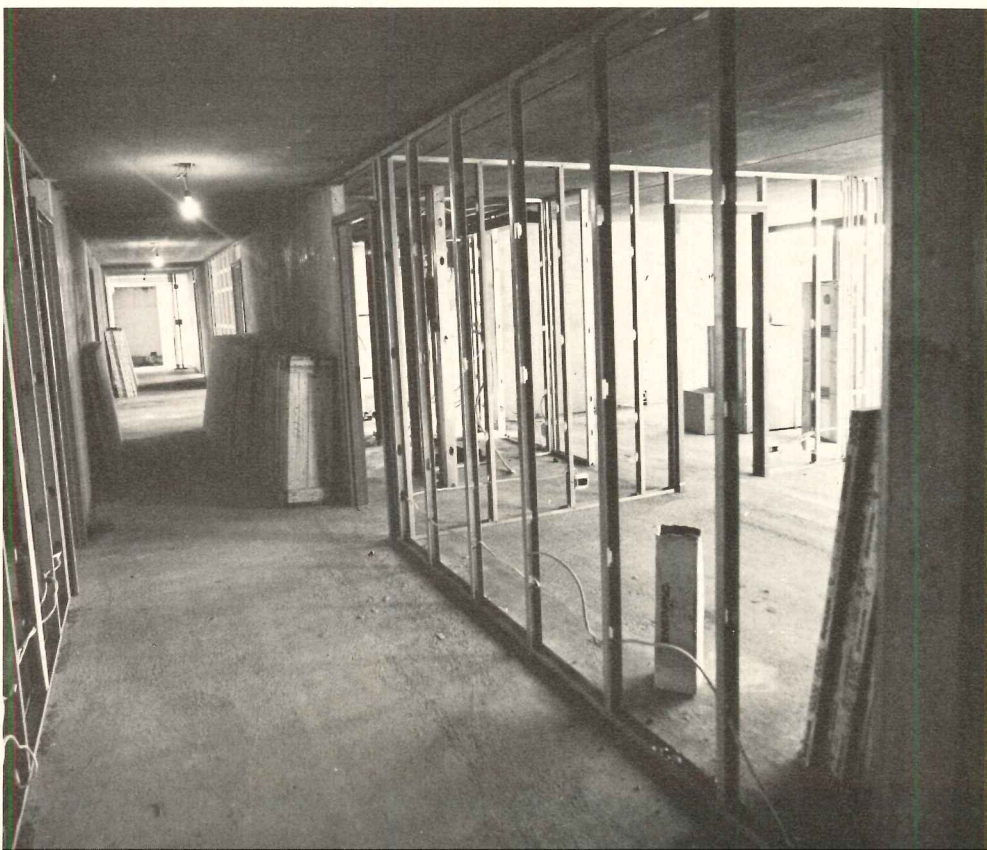
The drawing shows the types of openings provided in the floor planks for penetration of ducts, plumbing, and electrical risers. Planks with the large opening had to have additional reinforcement in that area. Room air conditioners with electric heating elements are used to maintain thermal comfort—thus, the louvered area for the air-cooled condenser. Because of the long spans and design of corridor planks, considerable lengths of dry-wall partitions were possible, making it easy to run flexible electrical cable.



Wind resistance had to be thought carefully to minimize stresses and shear wall action had to be dependent upon to resist wind loads because it was not possible to create a moment-resisting frame by tying bearing walls together across corridors with dropped beams—a connection the architect wanted to avoid. (This connection could not be worked out within the shallow 8-in. depth of the slabs. In any event, it would have been difficult and expensive to develop moment-resisting walls. Wind stress analysis was made by the engineers—Severud, Perrone, Sturm, Banderet—using a computer program.

Because of the L-shaped plan, the shear walls had to be carefully located to avoid an eccentric condition with respect to the center of "stiffness" of the building. Eccentricity would have greatly increased the wind moment which would have overstressed the shear walls. The structural engineer avoided this condition by judiciously placing shear walls along the corridor and by utilizing a long shear wall at the elevator core.

The wall panels are connected to each other in the vertical direction by means of 1-in. diameter rods. Depending upon the dead load, and the particular location of the panel in the building, the panels may be put in tension by wind load, or they may be always in compression. When tension forces may occur, the rods are continuous from top to bottom, being anchored to the foundation, and tied from one panel to another by means of steel hanger bolts set in the panels, with nuts being turned down on the threaded rods to secure them. When a compressive condition exists, steel angles—which cost less than the hanger bolts—come attached to the wall panels and the rods are needed only for erection, leveling and stability.



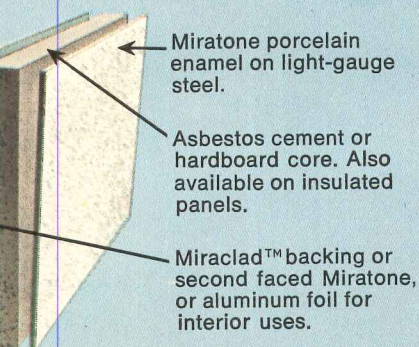
RESIDENCE HALL HOUSING, University of Delaware. Architects: Charles Luckman Associates; structural engineers: Severud Associates; mechanical engineers: Cosentini Associates; electrical engineers: Eitington & Schlossberg Associates; joint venture developer: Ogden Development Corporation and Frederic G. Krapf and Son, Inc.





## Nature's match. The newest beauty of Mirawal® porcelain-enameled panels.

Miratone Porcelain Enameled Panel



Miratone porcelain enamel on light-gauge steel.

Asbestos cement or hardboard core. Also available on insulated panels.

Miraclad™ backing or second faced Miratone, or aluminum foil for interior uses.

Natural earthtones and quarry stone are boldly matched in this latest success of porcelain enameling.

Mirawal's Miratone Building Panels.

They've a totally new look. They have unique four-color mottled textures ranging from nature's rich hues to bright commercial contrasts, achieved from combinations of four frits.

Bolder than conventional stipple patterns, the porcelain has a deep richness in matte, lustre or combined finishes. Fired to cold-rolled steel, it is stain and weather-resistant—beautiful on exterior

ors or interiors, modest or monumental.

To see Miratone samples and color range—plus others in today's line of building panel types, colors and facings—write Kaiser Mirawal, P.O. Box 38S, Port Carbon, PA. 17965.

We'll show you a beautiful panorama.

**KAISER  
MIRAWAL**

# Caradco give

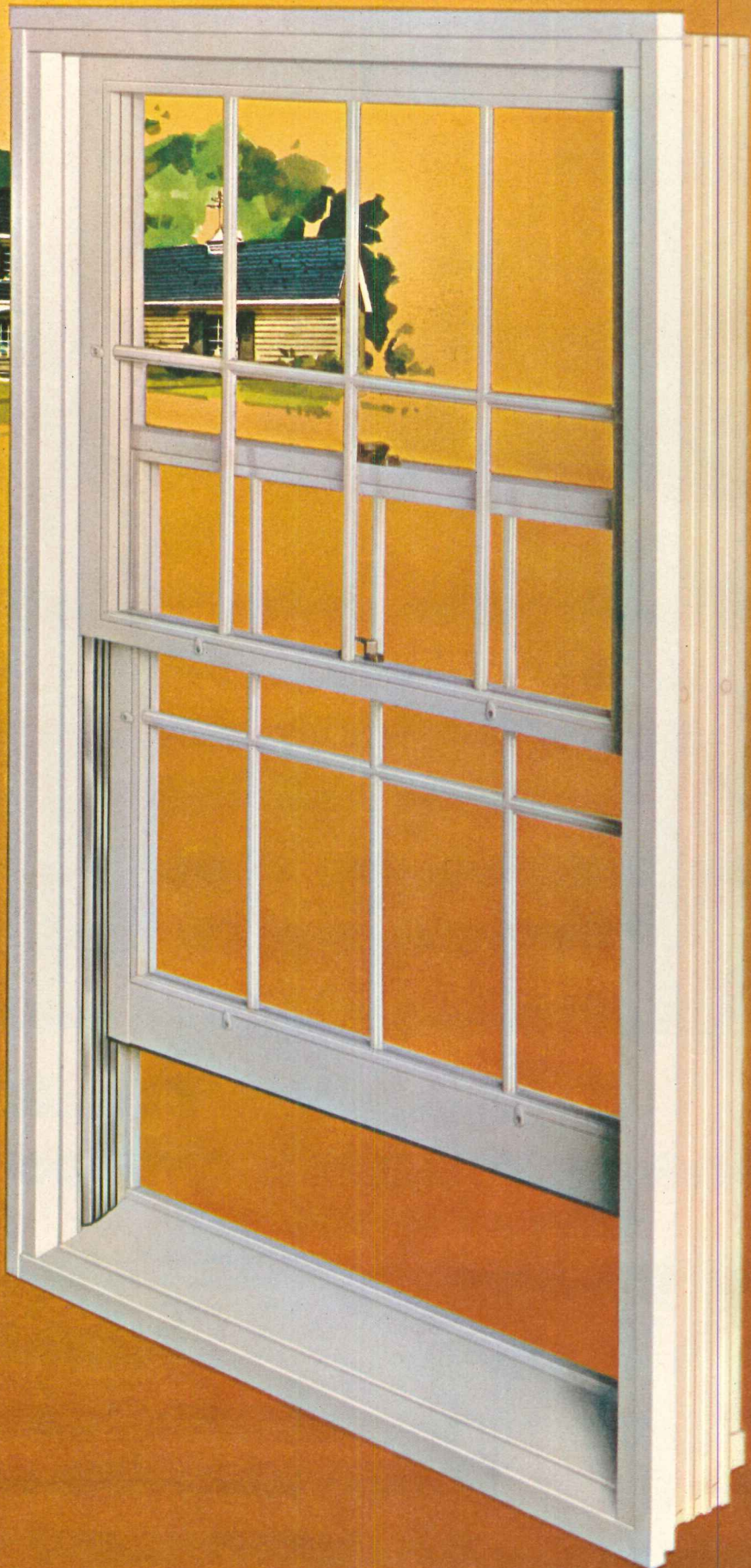
## OUR C-100: THE ECONOMY WINDOW PACKAGE



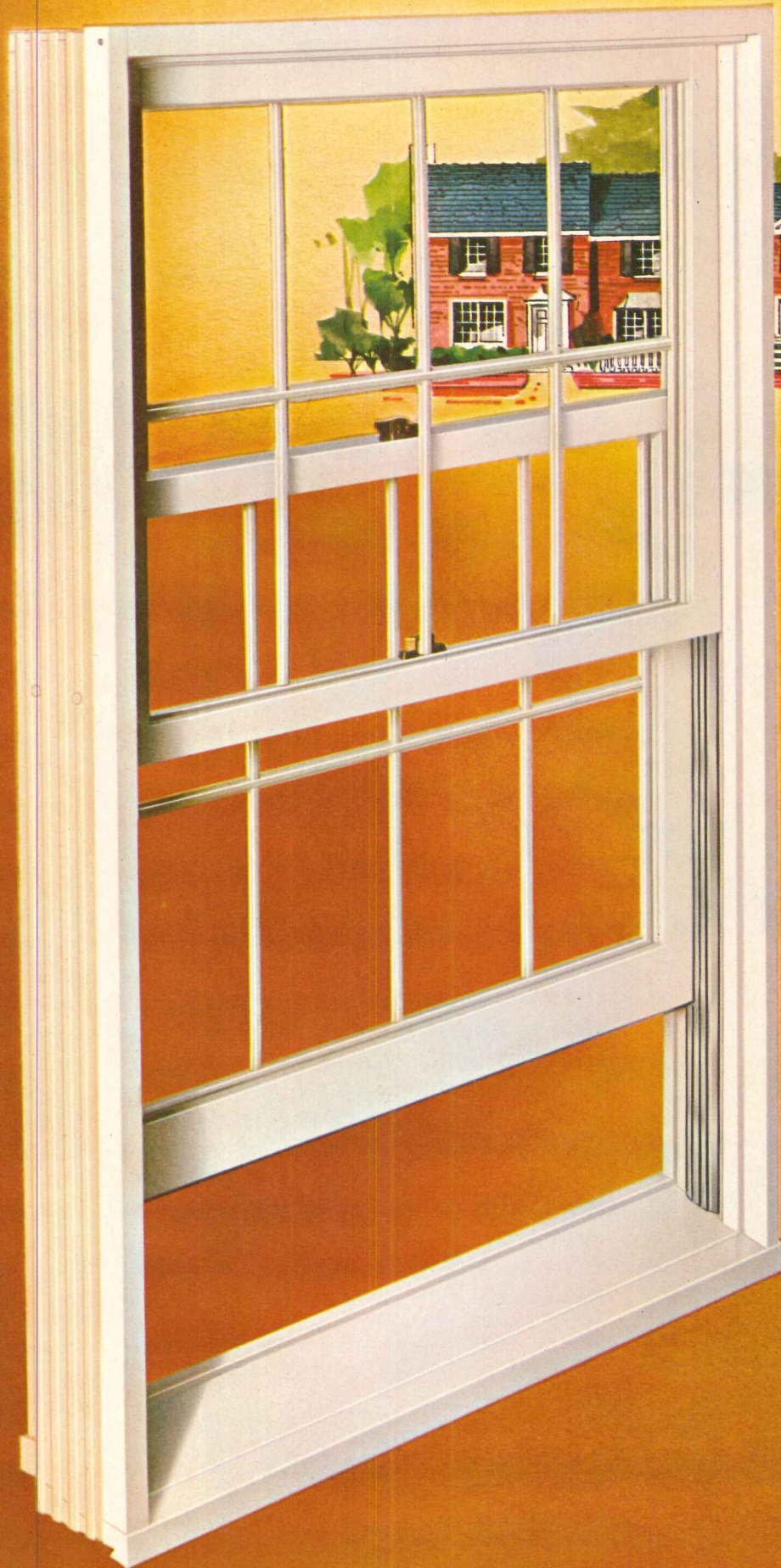
Before C-100' came along windows could be a pain. Like having to climb ladders or not being airtight. Our C-100' did away with such nonsense.

*The sash lifts out* for easy inside cleaning, then snaps back *weathertight*. What keeps it tight is something you get only from

Caradco: *stainless steel weatherstripping* with proven trouble-free performance. So you can forget call-backs, enjoy *reduced on-site labor costs*. Factory treated and primed, too. It looks great. And it's a complete package—grilles, storm panels and screens. Now the clincher: C-100' carries a competitive price. No wonder so many builders are switching to Caradco.



# you a choice



## OUR PF-C100: THE PREFINISHED WINDOW PACKAGE



Here's the window that put an end to painting and clean-up expense. Our PF-C100<sup>®</sup> is *completely prefinished*. We clad the frame in vinyl to give *maintenance-free protection*. The sash is every bit as carefree. Outside, it's covered with a 4-step finish that outlasts conventional finishes two or three times. Inside, it's wood-toned stabilized to resist water and soil—you refinish only to change tone or color. And only Caradco gives you *vinyl gasket glazed insulating glass*. It all adds up to a lot more window for your dollar.



THE WINDOW AND  
DOOR PEOPLE

Dubuque, Iowa 52001

Eastern Assembly Plant,  
Hainesport, New Jersey  
Ohio Assembly Plant,  
Columbus, Ohio

For more data, circle 69 on inquiry card

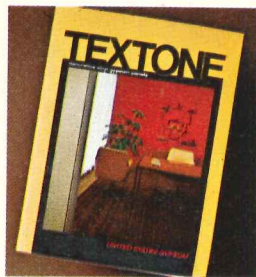


## How to make hard-wear walls handsome.

**TEXTONE\* Gypsum Panels** in new textures and colors put it all together for you. Touch tells the story of deep, deep textures that feel as real as they look. Twenty-seven colors and textures give you the latitude you need to create the unusual in decorator walls for stores, display salons, offices — any commercial application where walls must take a beating. **TEXTONE Gypsum Panels** are made of tough, washable vinyl, prelamated to **SHEETROCK\*** gypsum wallboard. Matching moldings are available. And panels work perfectly with **U.S.G.** wall systems, including **USG® Demountable Partitions**.

New colorful descriptive literature amplifies the exciting **TEXTONE** story. For your copy, contact your **U.S.G.** Representative; or write to us on your letterhead for sample swatches. 101 S. Wacker Dr., Chicago, Illinois 60606, Dept. AR-42

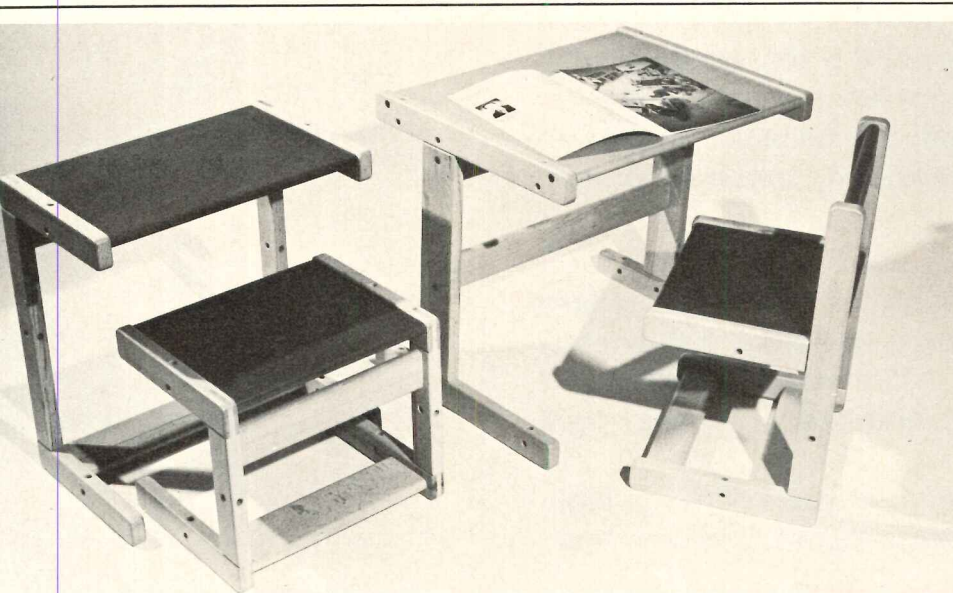
\*Reg. U.S. Pat. Off.



**UNITED STATES GYPSUM**   
BUILDING AMERICA

For more data, circle 70 on inquiry card

For more information circle item numbers on Readers Service Inquiry Card, pages 215-216



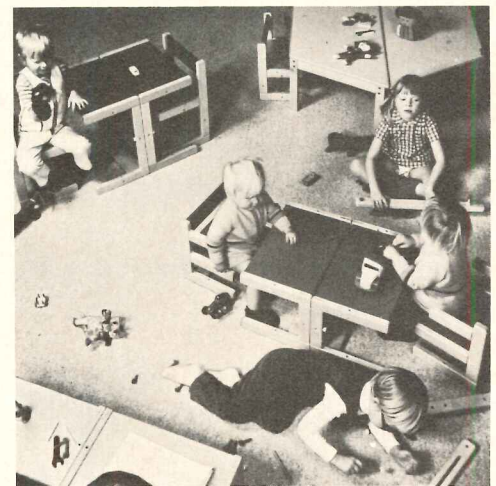
**CHILDREN'S FURNITURE** / This line designed for day care centers includes chairs, stools, desk/chair sets, and tables and benches for use by groups of children. All basic units are constructed of beechwood. The desk/chair sets, color-coded by age group, offer a range of five sitting heights.

The line, developed in Scandinavia by Lars Gunnar Johanson, is a combination of quality

furniture and educational toy. Separate pieces can be joined with plastic screws and bolts to make play structures. The furniture is designed for pre-school youngsters from ages one to seven.

Skandi-Form, Inc. is introducing the furniture to the U.S. market under the name Skandi-Land. ■ Skandi-Form, Inc., Washington, D.C.

Circle 300 on inquiry card



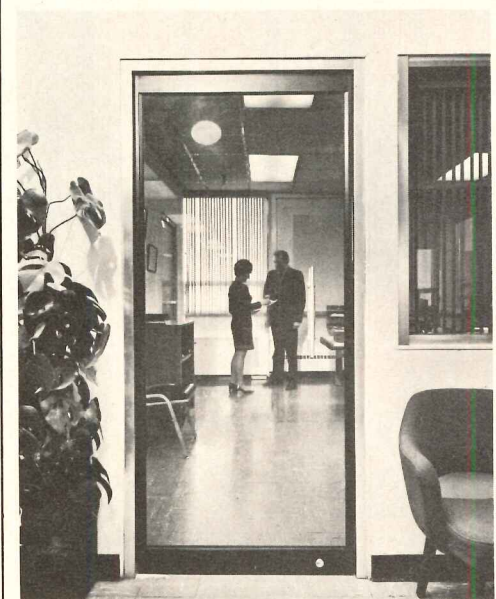
**DECORATIVE CERAMIC PANELS** / Single piece, paint-free modular sizes up to 6 ft by 4 ft are available for facade or interior wall cladding, as well as flooring applications. Only 5/16 in. thick, the panels weigh less than 3½ lbs per square foot and are available in factory cut modular sizes of 2 ft by 2 ft, 2 ft by 1 ft, 1 ft by 1 ft, and in 6-in., 12-in., and 18-in. strips. ■ Amsterdam Corp., New York City.

Circle 301 on inquiry card



**HOTEL SECURITY SYSTEM** / The problem of lost or stolen keys is eliminated by remote electronic changing of any or all room lock combinations, thereby invalidating a room's door lock combination upon guest checkout and creating a new combination and key for arriving guests. Should a guest report a lost key, a new combination and key can be issued immediately. Pass keys are issued a unique code. Their use can be individually monitored, recorded and traced to the employees they have been issued to. The entire mastering system can be remotely changed without removing door locks or changing guests keys. ■ Instrument Systems Corp., Jericho, New York.

Circle 302 on inquiry card



**ALUMINUM DOOR** / This entrance is designed for applications where more glass and less metal is required. Door has very thin stiles with screw-spline mechanical joinery through the stile into the rail. Features include rugged corner construction. Doors are available with clear anodized finish or hardcoat colors. ■ Amarlite/Anaconda, Atlanta.

Circle 303 on inquiry card  
more products on page 156

# If you haven't seen the Flexalum Venette<sup>®</sup> yet, here's your chance to see 16,400 of them.

The IDS Center's soaring expanse of glass represented a unique opportunity for Venette . . . not just because of the impressive number of blinds needed, but because Venette's ultra-slim one-inch louvers are so beautifully unobtrusive when viewed from across the street.

Or, across the room.

And because Venette virtually vanishes when open, tenants of the upper floors of the 51 story tower will enjoy magnificent, unobstructed views of Minneapolis, while easily maintaining fingertip control of solar heat, glare, and interior/exterior light balance.

Why not look at the blind that's earning consistently high scores with architects, space planners, building owners and tenants?

Like the IDS Center — a case where one look was worth 16,400.



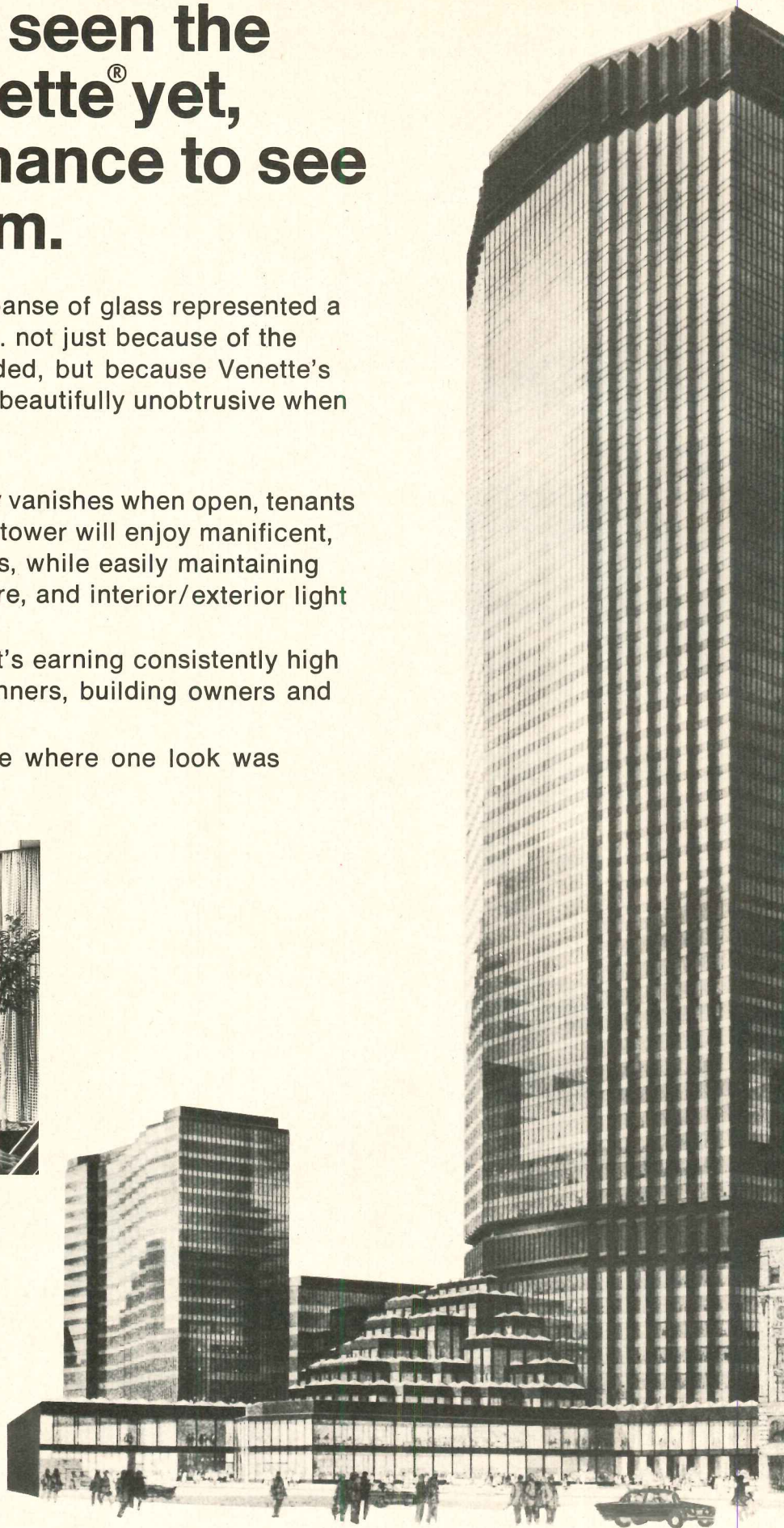
Model IDS suite shows Venettes installed at pre-set angle.

**Architect:** Philip Johnson & John Burgee, New York City.

**Owner:** IDS Properties, Inc., a subsidiary of Investors Diversified Services, Minneapolis, Minn.

**Gen. Contr.:** Turner Construction, Chicago, Ill.

**Venetian Blind Contr.:** Julian Shade, Inc., Milwaukee, Wisc.



Listed in Sweets, Spec-Data, or write Alcan Aluminum Corporation, 100 Erieview Plaza, Cleveland, Ohio 44114

ALCAN ALUMINUM



For more data, circle 71 on inquiry card

# When he's old enough for the Hall of Fame, coatings made with KYNAR 500® will still be batting 1.000

When his name is on one of those bats, finishes based on KYNAR 500® will still retain their true color for 20 years plus.\* And that's a long, long ball game. In spite of attack by sun, weather and pollutants.

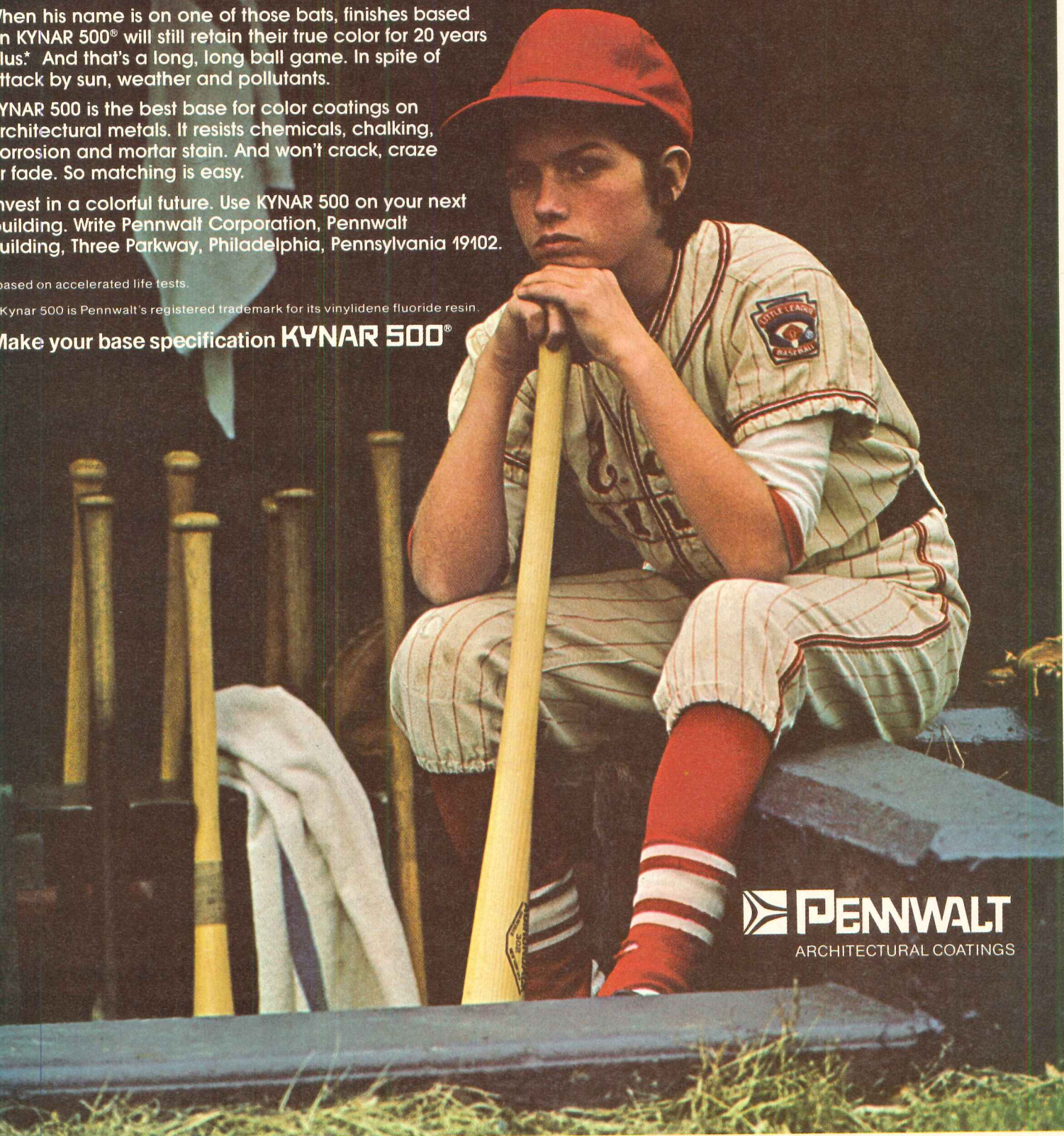
KYNAR 500 is the best base for color coatings on architectural metals. It resists chemicals, chalking, corrosion and mortar stain. And won't crack, craze or fade. So matching is easy.

Invest in a colorful future. Use KYNAR 500 on your next building. Write Pennwalt Corporation, Pennwalt Building, Three Parkway, Philadelphia, Pennsylvania 19102.

\*Based on accelerated life tests.

Kynar 500 is Pennwalt's registered trademark for its vinylidene fluoride resin.

Make your base specification **KYNAR 500®**



**PENNWALT**  
ARCHITECTURAL COATINGS

# PPG SOLARBAN<sup>®</sup> TWINWINDOW<sup>®</sup> INSULATING GLASS

How a PPG Glass minimizes HVAC costs and keeps a student body comfortable

All the students live comfortably at the Sander Residence Complex of the University of Cincinnati. And University officials are comfortable with the minimal equipment and operating costs of the heating and cooling system. All because the architect chose to use PPG's *Solarban 575 (3) Twindow* Insulating Glass for the building's exterior.

The *Solarban Twindow* Units provide thermal comfort summer and winter. They also significantly reduce solar glare.

Of course, the Units also proved to be practical from an economic standpoint. The architect says: "We have proved time and again that in air conditioned buildings, the selective use of insulating glass pays for itself before the building is occupied by the resultant reduction in heating and cooling equipment alone. The reduced operating cost becomes an important and continuing bonus 'on the house.' The *Solarban Twindow* Units ensure all this and, in addition, give us an answer to shading glare."

Another "plus factor" is the great reflectivity of the Units. They present a mirrorlike facade that changes as often and dramatically as the sky tones and clouds. "It takes the building away from being a piece of static architecture. And . . . we're greatly pleased that it is so colorful."

See PPG about Glass Conditioning\* for your next building. Early in the design stages. There's a PPG Glass that you can use as an active design medium to meet esthetic considerations, help solve environmental control problems, and contribute to a significant cost savings for your client. Write PPG Industries, Inc., One Gateway Center, Pittsburgh, Pa. 15222.

## PPG: a Concern for the Future

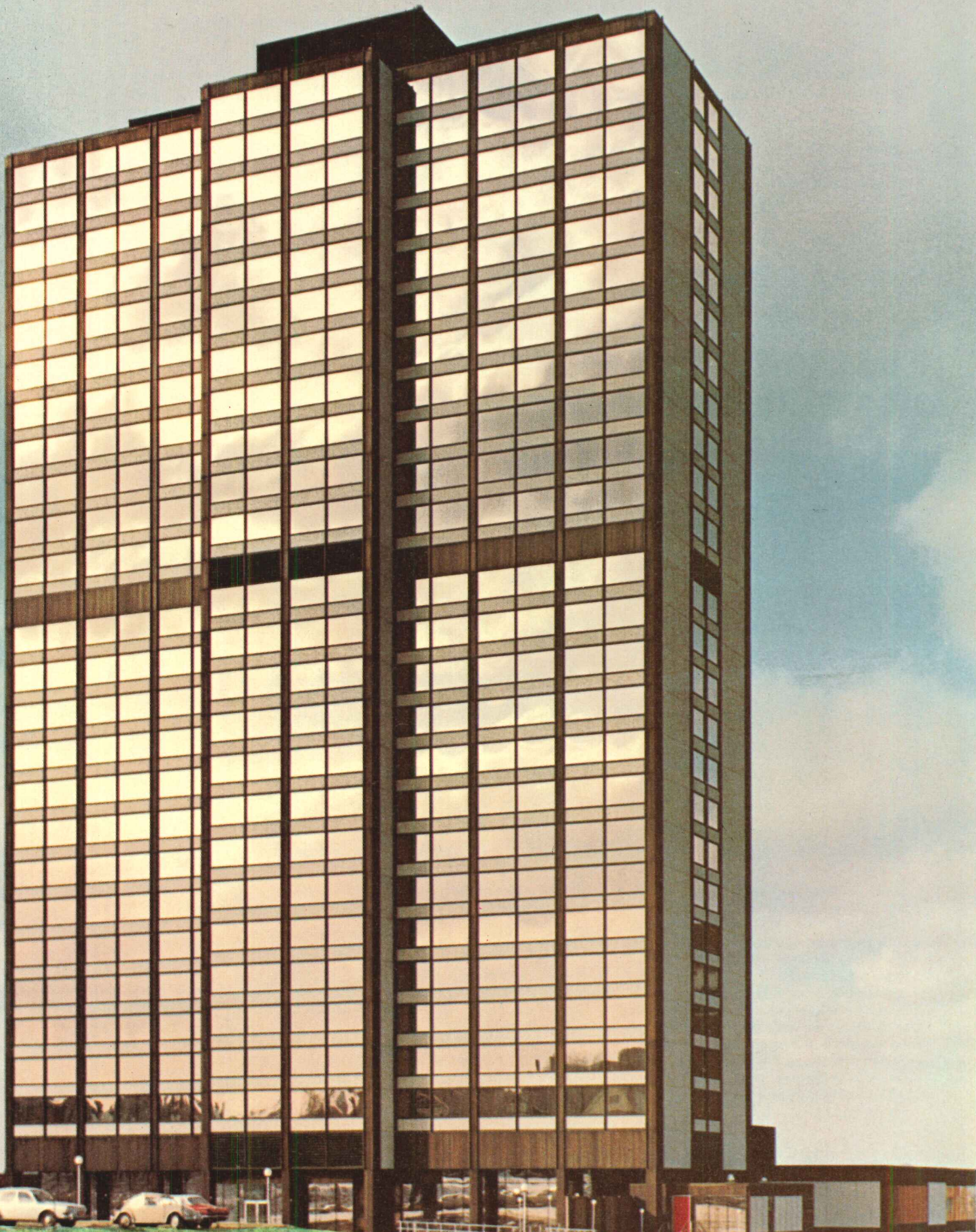
For more data, circle 124 on inquiry card

\*Glass Conditioning is a service mark of PPG Industries, Inc.

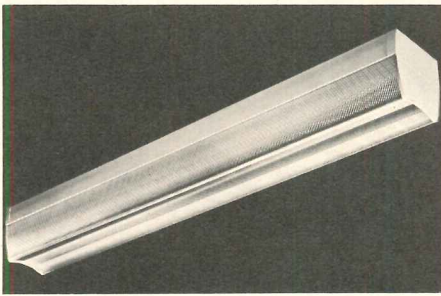




er: University of Cincinnati,  
incinnati, Ohio  
tect: Woodie Garber, Hughes and  
ociates, Cincinnati, Ohio



continued from page 151



**FLUORESCENT LUMINAIRE** / Injection-molded lens with a prismatic pattern inside and out produces a precisely controlled twin-beam distribution pattern designed to eliminate veiling reflections and glare. ■ Lighting Products Inc., Highland Park, Ill.

Circle 304 on inquiry card

**EMERGENCY EYE/FACE WASH** / Designed for first-aid treatment in the event of industrial accidents, unit features newly designed shields to assure greater precision of flow from the aerated water projectors. ■ Speakman Co., Wilmington, Del.

Circle 305 on inquiry card



**HONEYCOMB-CORE STEEL DOORS** / Feature include sound insulation and exceptional rigidity. Phenolic resin-impregnated core provides a door surface strong enough to support up to 35 lbs pressure per square inch. Rigidity is comparable to that of a door constructed with I-beams placed at narrow-spaced intervals. Pioneer Industries, Carlstadt, N.J.

Circle 306 on inquiry card

**ROLL-IN REFRIGERATORS** / Cabinets feature vinyl plastic exterior and interior surfaces. Cabinet walls are insulated with at least three-inch-thick fiberglass. Other features include automatic interior lighting and oversized refrigeration coils to provide proper cabinet temperature and ensure 80 per cent relative humidity. ■ McCall Refrigerator Corp., Chicago.

Circle 307 on inquiry card

**INSTITUTIONAL SEATING** / Fiberglass sculptured shell is available in a range of colors. Nylon fabric or vinyl upholstery is optional. Shells can be mounted on free-standing legs or pedestal bases. ■ Clarin Corp., Chicago.

Circle 308 on inquiry card

**ROTATING SUNDECK** / The unit rotates slowly and can be occupied or vacated while moving. Two chaise longues and a central cocktail table are offered with the deck. Unit is designed for both commercial and residential use. Fiberglass deck is available in a range of colors. ■ HM International, Spring Valley, Calif.

Circle 309 on inquiry card

**VINYL ASBESTOS TILE** / The company's complete line of commercial tile now features self-adhesive backs. After old tile is taken up and the subfloor cleaned and scraped, protective paper is stripped from the backing and tile is laid down. ■ GAF Corp., New York City.

Circle 310 on inquiry card

**PLASTIC FIRE-RETARDANT BUILDING FITTINGS** / Williams-Bermuda Corporation manufactures the fittings which, used with Koppers Company polyester resins, are competitively priced with metal counterparts, and can produce substantial savings in installation costs due to one-piece designs. ■ Koppers Co. Inc., Los Angeles.

Circle 311 on inquiry card

more products on page

# Window Replacement Is A Complicated Problem... The NUPRIME SPECIALIST Has A Simple Solution.



Every building has characteristics that can complicate window replacement. Season-all's NUPRIME SPECIALIST will study problems unique to your particular building and solve them simply—while satisfying your budget requirements.

Maintaining original building design is important when renovating an older building. Our NUPRIME SPECIALIST makes sure new windows blend esthetically with existing architectural design. None of the building's quaintness and charm need be lost because of new windows. To prove it, our professionals

will supervise a free sample installation giving you the opportunity to see NUPRIME windows actually installed in your building.

Working with contract engineers and architects, our NUPRIME SPECIALIST can modify and customize the windows to meet strict job specifications. And, he sees to it that the work is completed without greatly disrupting your daily routine.

Our NUPRIME aluminum replacement window is a great product—let our NUPRIME SPECIALIST work with you.

**season-all.**  
**NUPRIME**

Season-All Industries, Inc. Indiana, Pa. 15701  
412-463-3531

SEASON-ALL  
**25**  
YEARS

A472

For more data, circle 74 on inquiry card



**UNMISTAKABLE VALUE.** A unique series of fifty official medals honors America's largest cities. Struck in solid sterling silver by the Franklin Mint, this set was available only to the mayors of these cities and a limited number of collectors. There's value in every Jamison door, too . . . in quality construction, dependable performance, Jamison service.

## Architects who value Value specify Jamison cold storage doors

One of the extra values in doing business with Jamison is Jamison service—the industry's most comprehensive assistance program—developed to help save you time and avoid problems.

**DESIGN ASSISTANCE.** It's available in every section of the U.S. and it's yours whenever you need it. Jamison maintains a network of branch offices where Jamison field engineers stand ready to assist you in writing specifications, mak-

ing door selections, and solving problems.

**REFERENCE MATERIAL.** Extensive, informative data covers every aspect of door selection, installation, and operation. Yours for the asking.

Jamison is the largest and most experienced producer of cold storage doors in the world. Jamison doors are finest in quality and best in design.

If it's value you want, you'll

specify Jamison cold storage doors every time. A branch office is near you. Consult your SWEET'S FILE or write to Jamison Door Co., P.O. Box 70, Hagerstown, MD 21740

**COLD STORAGE DOORS BY**  
**JAMISON**

JAMISON DOOR CO • HAGERSTOWN, MD 21740



# You're looking at Sound Control

Shatterproof Sound Control Glass doesn't look different, it just sounds different. Quiet, peaceful, relaxed.

Take a good look. Sound Control is serious business. Without it . . . health is endangered, productivity falls off, vacancies occur, and businesses are forced to re-locate.

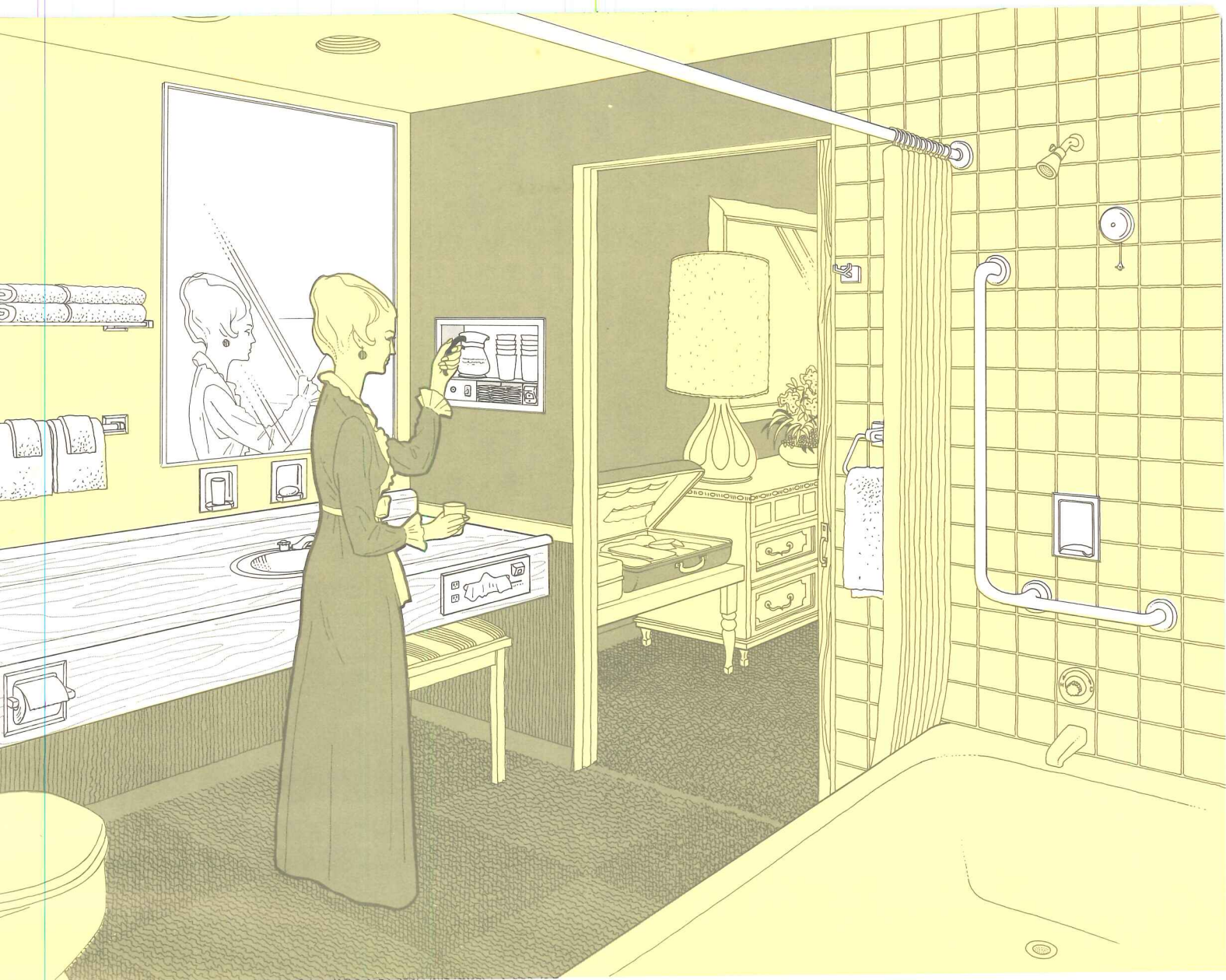
With it a building has everything going. Especially when Sound Control is combined with other Shatterproof functions such as Heat and Cold Protection, Solar Rejection, Glare Reduction, Security and Safety. And reduced operating costs.

In clear and tones of bronze and gray as well as subdued reflective tones of bronze, gold, gray, and chrome . . . in the largest quality sizes in the industry.

For a deeper look at Sound Control write for our Sound Control Brochure. Shatterproof Glass Corporation, Dept. 101B, 4815 Cabot Ave., Detroit, Michigan 48210. Phone: 313 / 582-6200.

**Shatterproof**  
GLASS CORPORATION *Architectural Division*

*For more data, circle 76 on inquiry card*



## FOR HOTEL BATHROOMS AND RESTROOMS... BOBRICK HAS ALL THE EQUIPMENT

To simplify planning and unify design, Bobrick offers everything from vanity tops and beverage centers for guest bathrooms to toilet compartments for public restrooms. More than 500 recessed and surface mounted stainless steel washroom accessories... designed with hotels in mind... for convenience and safety of guests and for ease of maintenance by house-keeping staff.

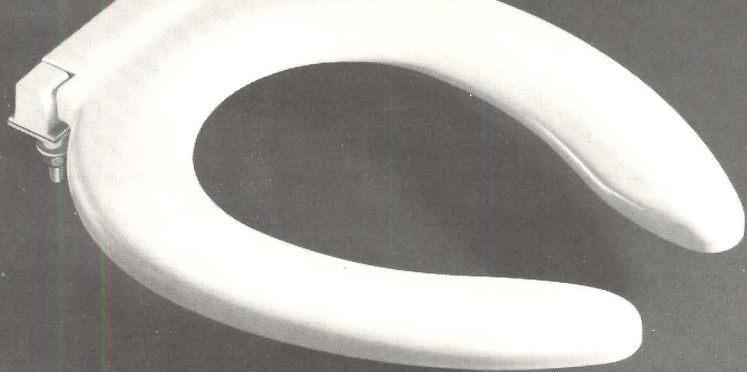
**Laminated Plastic Toilet Compartments,** entrance screens and urinal screens that defy corrosion and graffiti. Compartments have concealed stainless steel hardware with attractive flush front appearance and steel reinforced pilasters for extra strength. Lavatory Vanity Tops with integral back splash can be equipped with a choice of bathroom accessories for guest convenience.

An extra dimension of quality, unified design and simplified planning are readily achieved from one source... Bobrick.

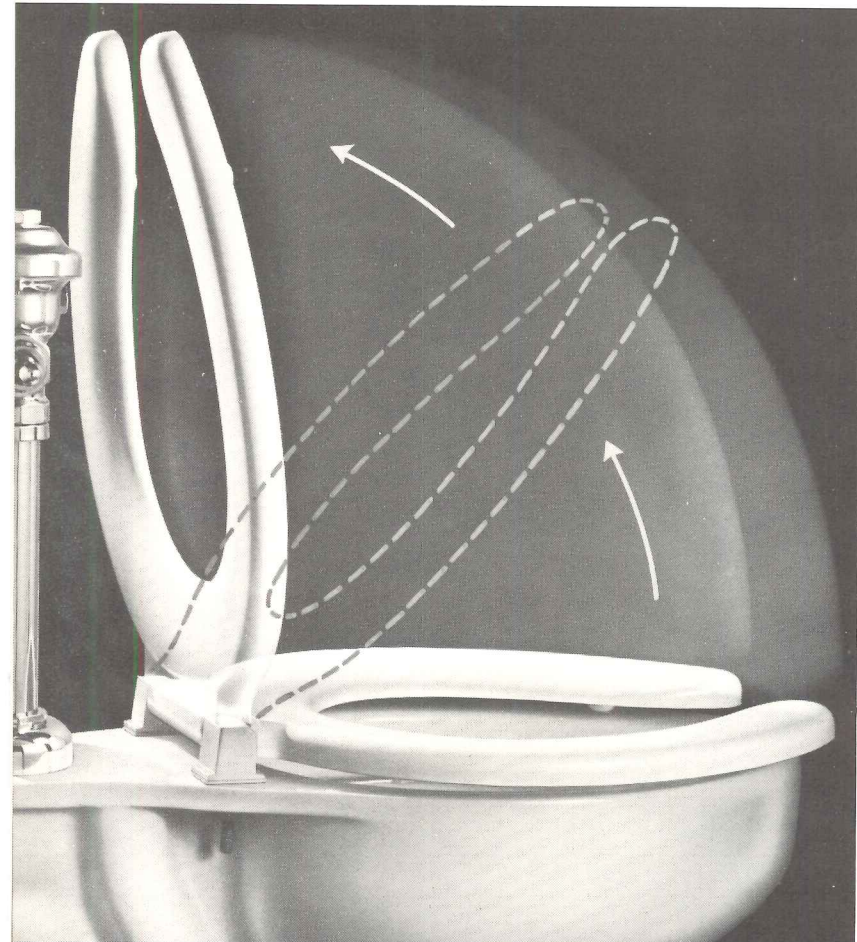
**Yours for the Asking... New Hotel Washroom Equipment Planning Guide** This helpful guide provides a comprehensive check list for all equipment needed in hotel guest bathrooms, public restrooms, lobbies, corridors and other wash-up areas. Write to: BOBRICK, Architectural Service Dept., 101 Park Ave., New York, New York 10017.

**BOBRICK**

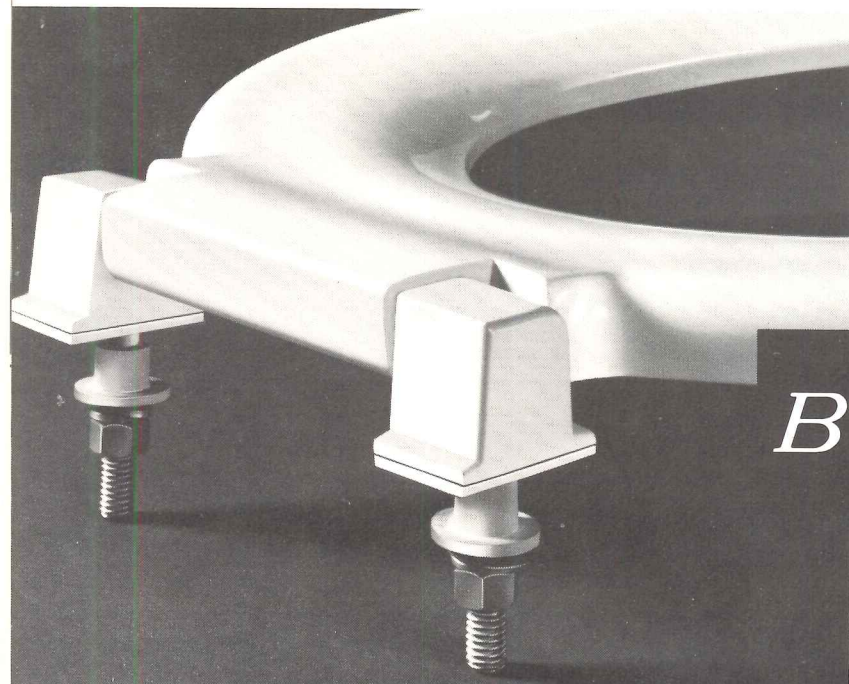
NEW YORK • LOS ANGELES • TORONTO  
Since 1906 Designers and Manufacturers  
of Washroom Equipment



New Beneke NSR features clean line, functional beauty.



When not in use, seat automatically rises to upright position.



Soft-spring hinge mechanism is completely enclosed and protected.

# Unique, new self-raising seat design by Beneke!

This is the new Beneke NSR self-raising seat . . . a solid plastic, virtually indestructible product with a unique, ultra-dependable hinge design. The hinge is mechanically superior in every way. The pre-set, soft-spring mechanism never needs adjustment. It is compact and completely enclosed for easier housekeeping and sanitation. When not in use, the seat automatically, slowly raises itself to an upright position. A built-in "check" prevents damage to tank or flush valve. The Beneke NSR has metal posts and strip-proof nuts to attach securely and stay that way! Available in regular and extra heavy-duty institutional models with open front for elongated and regular bowls. It's another example of Beneke leadership in all types of water closet seats. Write today for complete details.

**BENEKE**

CORPORATION

*the new idea people!*

Columbus, Mississippi • Chicago • New York  
Washington, D. C. • San Francisco • Toronto • Paris

For more data, circle 84 on inquiry card

For more data, circle 85 on in



Unretouched Photograph/Summitville

## QUARRYETTES...

IF YOUR BUILDING HAS A FLOOR...  
OR A WALL... OR A BUDGET

... you'll find extruded Quarryettes provide all the qualities provided only by genuine ceramics along with super economy... in many cases under \$1.20 a sq. ft. *installed*... that's far less than many products that wear out. Available in modular 1" x 1" x 1/4" or 2" x 2" x 1/4" and a wide range of natural earth colors and blends of colors. Quarryettes (*Miniature Quarry Tile*) may be your best answer to problems of beauty and budget in every kind of building. Check Sweet's or ask your ceramic tile contractor for the full story.

*Summitville*® TILES INC.  
Summitville, Ohio 43962

MEMBER: TILE COUNCIL OF AMERICA, INC. / PRODUCERS COUNCIL



When modern buildings go up, qualified electrical contractors go in . . . with the ready capability, latest equipment, specialized experience to install electrical systems correctly. Systems for heating. Cooling. Lighting. Communications. Systems adding up to the building's modern Electro-environment. It's an environment of comfort, convenience, efficiency and esthetic appeal for the people who will live or work inside for years to come . . . thanks to the qualified electrical contractor.

He'll safely satisfy a new building's power distribution needs, and keep pace with needs as they change. Many factors contribute to the ready

capability he can put to work for your benefit. Among them, he has the best-trained manpower, the work-force flexibilities and the awareness of local codes to keep electrical problems from developing. To keep all electrical systems functioning efficiently. Economically. Reliably.

And remember: when he installs electrical systems, he *guarantees* electrical systems . . . for one full year. A qualified electrical contractor takes a lot of pride in his work. And you can count on it.

National Electrical  
Contractors Association  
Washington, D.C. 20036



**The electrical  
promise of  
tomorrow needs  
the  
electrical  
contractor  
of today.**

New construction. The building won't be complete until a qualified electrical contractor provides for its modern Electro-environment.



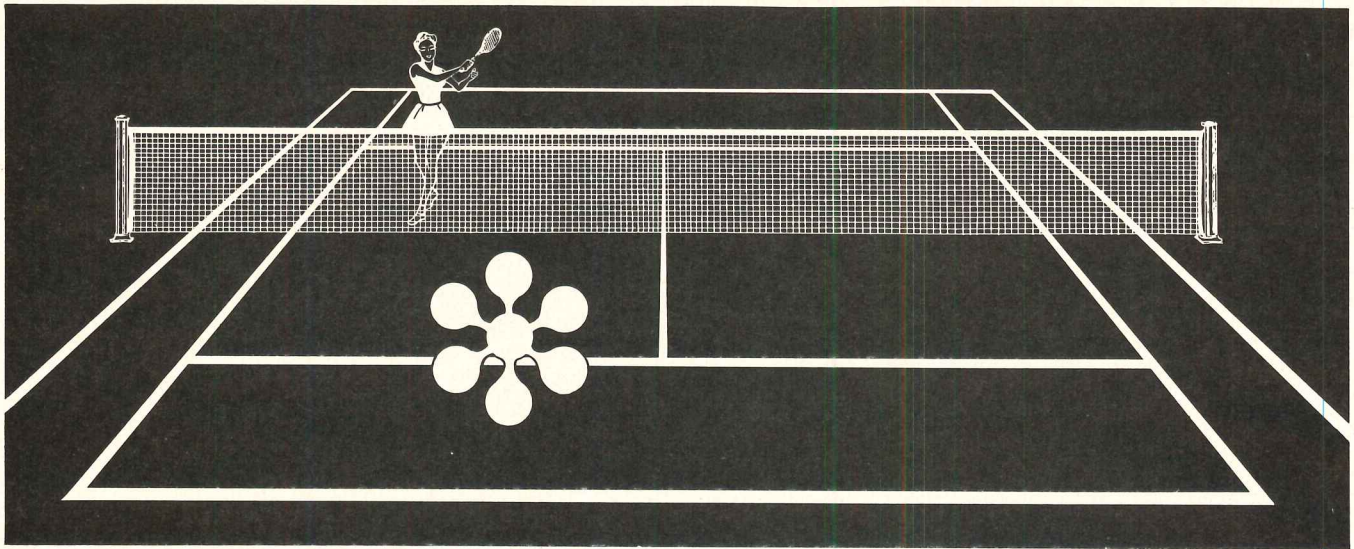
# Bright ideas



Now you can select quality washroom accessories on a systems basis, just as you specify Bradley Washfountains and showers. Bradley's expertly crafted accessories reflect the clean, functional lines of today's contemporary structures. They allow you complete design freedom. And conserve space and reduce maintenance. Towel dispensers, waste receptacles, mirrors and shelves are only a few of the many accessories Bradley offers. Others include soap dispensers, napkin vendors and disposals, toilet tissue holders, seat cover dispensers, and related equipment. It's the complete line for commercial, industrial, institutional, and public buildings. From Bradley. The washroom systems specialists. Bradley Washfountain Co., Washroom Accessories Division, Dept. A, P.O. Box 321, Moorestown, N. J. 08057.

# from Bradley!





## \* Vynatex® 23 puts color here

### Grass Green, Concrete Gray, Brick Red

Now you can have all-weather tennis courts in these distinctive colors, or combinations, at practical cost.

Vynatex 23, applied to blacktop or concrete courts provides a vinyl-tough, long-lasting surface. It's color-fast, assures truer bounce, reduces heat radiation, eliminates glare. Won't mark tennis balls. Makes every game more fun.

And, this economical new vinyl coating is highly weather resistant. It actually makes courts last longer. Requires minimum maintenance. Easy to clean.

Protects your pavement investment . . . beautifully.

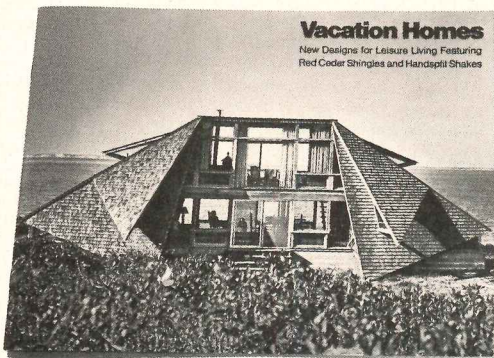
Write for  Specification VA-S1 for Vynatex applications on existent blacktop courts.  VC-TC for use on concrete courts.  G-TC Guide Specification for use in construction of new courts (at about half the cost of many composition courts).

Performance Products **MAINTENANCE® INC.**  
W.O. OSTER, O.H.I.O. #4691

See catalog in Sweets • Distributor-Applicators in Principal Cities

For more data, circle 87 on inquiry card

Send us 25¢,  
we'll send you 20 new  
vacation home ideas.



### Red Cedar Shingle & Handsplit Shake Bureau

5510 White Building, Seattle, Wa. 98101

Please send me your 16-page, full-color brochure of new ideas in vacation homes, including an elegant "gold rush" cabin, a remodeled caboose, a dramatic glass and cedar beach home. I enclose 25c for handling.

Name \_\_\_\_\_

Address \_\_\_\_\_

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

AR

For more data, circle 88 on inquiry card

# Massey

back  
you  
up.

All the way. Take the Polaris chair. It backs you up with a one-piece, moulded plastic back. Strong. Safe. And good looking. And it stays that way. For a long time. Massey backs you up with comfort. Two inches of foam with every back. And a thick foam cushion over the springs of the seat. Then they back you up with a nice little extra. Complete architectural, engineering and design assistance.



**S** FOR REFERENCE SEE SWEET'S ARCHITECTURAL CATALOG FILE 12.5 MA.

You're always  
Sitting Pretty with . . .  
**Massey**  
seating CO.  
NASHVILLE, TENNESSEE 37208

For more data, circle 89 on inquiry card

# KINNEAR ROLLING DOORS



THIS LARGE CRANE OPENING IS COMPLETELY CLOSED WITH KINNEAR MOTOR OPERATED DOORS.



MOTOR OPERATORS OPEN THE DOORS BY ACTUATING SEQUENCE TYPE ELECTRIC CONTROLS.



POWER OPERATED INTERMEDIATE POSTS AUTOMATICALLY RAISE AFTER DOORS OPEN.



WITH POSTS OUT-OF-THE-WAY, THE OPENING IS COMPLETELY CLEARED — UNOBSTRUCTED.



OPERATING THE "CLOSE" BUTTON REVERSES THE OPER-

handling the unusual with  
the usual **KINNEAR**  
Efficiency —————

Whether large or small — vertical, horizontal or sloped — no matter what the size or configuration of the opening, Kinnear Rolling Doors are custom-built to handle the *Unusual* with the *Usual* Kinnear efficiency everytime! The 100 ft. wide crane opening shown\* is typical. Five separate doors in conjunction with four movable mullions — all motor equipped — are interlocked to operate in proper sequence at the touch of a single control.

When fully opened the crane-way is "all clear" since the door curtain is coiled overhead — completely out-of-the-way. In operation, its rugged construction will withstand rough day-to-day wear and tear. And when closed, it's literally a galvanized steel wall that repels all elements. Weatherproof, fireproof and literally vandal-proof! Besides these benefits, Kinnear continues to meet the test of time with the design leadership that has won universal door preference for the past 75 years. This is further backed up with Kinnear's "Registered" Life Extension Policy and a nationwide service organization.

When you need imaginative engineering "know-how" for protective closures of any size, consult your nearest Kinnear Representative or write us today!

Kinnear also manufactures Rolling Fire Doors, Rolling Grilles, Rolling Counter Shutters, RoL-TOP Overhead Doors of Steel, Aluminum, Fiberglass and Wood and Power Operators.

\*OWNER ILLINOIS CENTRAL RAILROAD  
WOODCREST SHOP — HOMewood, ILL.  
135 EAST ELEVENTH PLACE  
CHICAGO, ILLINOIS 60605

DESIGNERS AND ENGINEERS  
ALFRED BENESCH AND COMPANY  
10 WABASH AVENUE  
CHICAGO, ILLINOIS 60603

GENERAL CONTRACTOR  
W. E. O'NEIL CONSTRUCTION CO.  
2751 NORTH CLYBOURN AVENUE  
CHICAGO, ILLINOIS 60614



## KINNEAR CORPORATION and Subsidiaries

1860 FIELDS AVENUE, COLUMBUS, OHIO 43216

FACTORIES:

COLUMBUS, OHIO 43216 • SAN FRANCISCO, CALIF. 94124

CENTRALIA, WASH. 98531 • TORONTO, ONT., CANADA

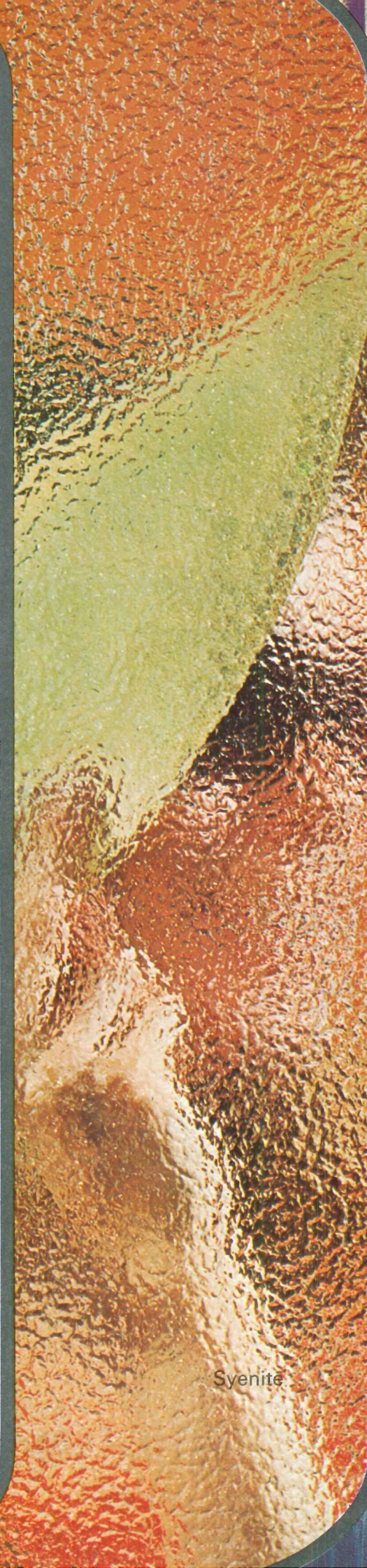
OFFICES AND REPRESENTATIVES IN ALL PRINCIPAL CITIES



Serving Men in Business Since 1905



Hylite



Syenite

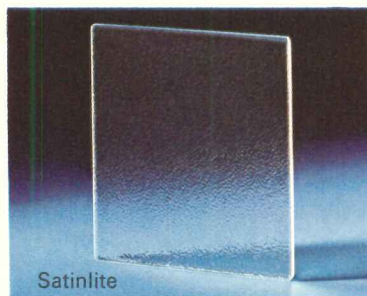


Pluralit

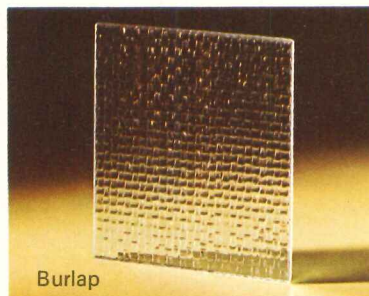
Selections  
that give  
imagination  
full sway

MISSISSIPPI  
PATTERNED GLASS

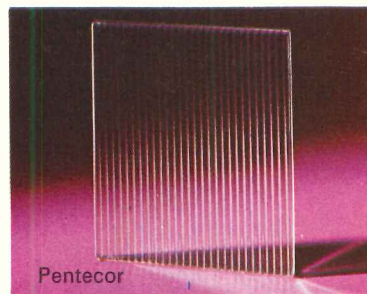
Let light work for you through patterns that give every object exciting new angles of interest. Panels and partitions reveal the passing view. But textures blend with lights and colors to soften the image and give design emphasis. Mississippi patterns by CE GLASS give refreshingly new concepts to windows and walls. Obscure patterns are available to give privacy to any desired degree. CE GLASS has the wide range selections so there's never a limit. Imagination can have full sway whether for contemporary or traditional, or for strictly functional or highly decorative purpose.



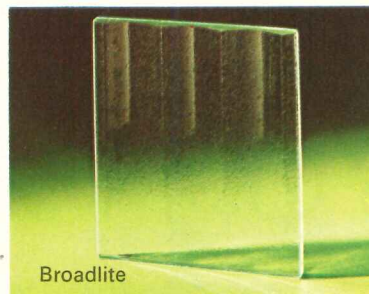
Satinlite



Burlap




Pentecor



Broadlite

Mississippi patterned glass by CE GLASS is available from leading distributors of quality glass in the principal cities of the United States and in Canada from Canadian Pittsburgh Industries, Ltd., Glass Division. For further information or samples, contact our office nearest you or write CE GLASS, 825 Hylton Road, Pennsauken, N. J. 08110 or call 609-662-0400.

See our catalog in Sweet's 

**CE GLASS**

For more data, circle 91 on inquiry card

Smooth Rough

# Bank Uses Matching Mount Airy Granite Over Span of 56 Years!

Here's proof-positive of the long lasting and matching beauty of Mount Airy Granite. It was a wise choice for the exterior of the Citizens and Southern National Bank, Augusta, Georgia in 1913. It was a perfect match for remodeling in 1952, and again in 1969 Mount Airy Granite was used in an addition.

More and more architects recognize the limitless design possibilities, durability, and timeless beauty of Mount Airy Granite. For complete details, write today.

**North Carolina  
Granite Corporation**  
Mount Airy, North Carolina 27030

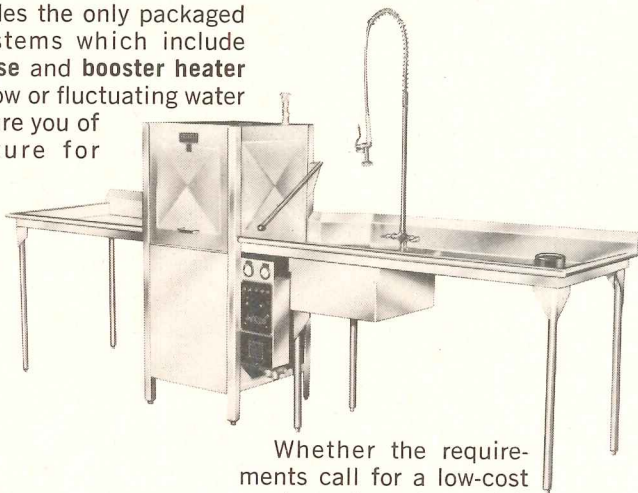


The Citizens and Southern National Bank, Augusta, Ga. Architects and Engineers: Jones and Fellers. Contractor: Clarence Mobley Contracting Co., Inc. Stone Setting Contractor: Georgia Marble Setting Co.

For more data, circle 94 on inquiry card

## Specify the complete commercial dishwashing system.

Jackson provides the only packaged dishwashing systems which include **built-in power rinse** and **booster heater** which eliminate low or fluctuating water pressure and assure you of 180° temperature for final rinse.



Whether the requirements call for a low-cost packaged system with capacity of 950 dishes per hour to conveyor dishwashers with capacity of thousands of dishes per hour — Jackson has the proper system.

Our Engineering Staff is available to supply you with complete information and technical data.

**For complete details, contact:**

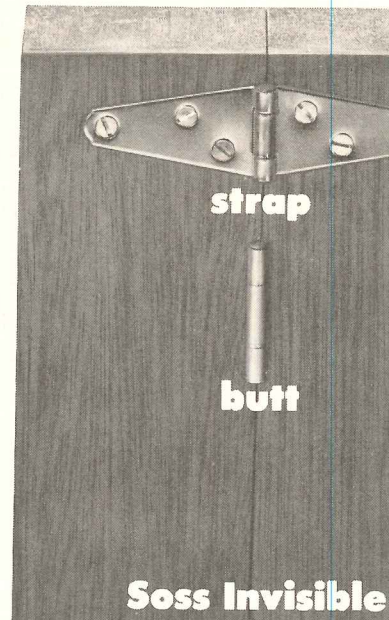
**JACKSON PRODUCTS COMPANY**  
Dept. AR-4 Box 9275, Industrial Park  
Tampa, Florida 33604

An Alco Standard Company • The Corporate Partnership<sup>®</sup>  
813-971-6262 Telex: 52-615

For more data, circle 95 on inquiry card



## Pick the hinge that hides



Compare the Soss look of invisibility with any strap or and you'll choose The Soss Invisibles. These amazing hinges when closed to blend with any decor. With The Soss Invisibles you can create room, closet, or cabinet openings which are free of hinges or gaps . . . the perfect look for doors, doorwall bars, stereos, or T.V.'s. The Invisibles are extra strong, work 180 degrees, and are reversible for right or left hand operation. For listing in Sweet's or write for catalog: Soss Manufacturing Company, Division of SOS Consolidated, Inc., P.O. Box 8200, Detroit, Michigan 48213.



For more data, circle 96 on inquiry card



## Make a beautiful entrance with Republic stylable standard doors.

Get a custom look . . . but for a fraction of the cost of custom-made doors.

Get it by specifying Republic stylable standard doors for your next apartment, institutional, or commercial building.

You'll get the exact light and louver treatment you wish. That's because your nearby Republic distributor can modify our basic door design right in his own warehouse. To you, that means no long delays or extra costs for "specials."

And you can choose from 36 door sizes and 8 standard styles, all prime-coated or prepainted in one of 19 popular colors.

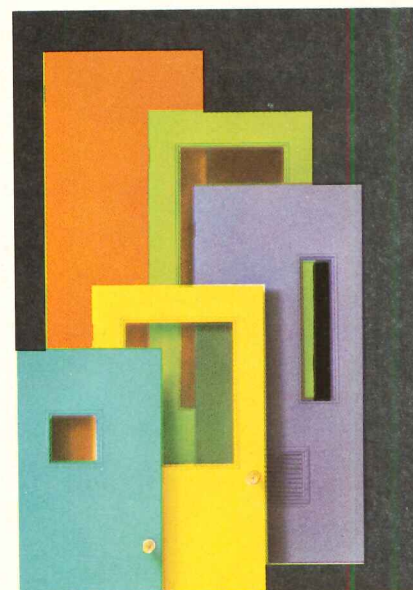
Plus, when the doors are delivered, they're ready to hang or erect. No planing, notching, or mortising is needed on any

Republic door-frame-and Frame-A-Lite stick system. That's because they're made to exacting tolerances.

They're made strong and quiet, too, thanks to a honeycomb inner structure. Fact is, we think our doors are so great that we use them in THE ENVIRONMENTAL HOME, Republic's new residential building system that uses prefabricated steel panels and components that lend themselves to mass production and easy on-site assembly.

Like more information? Contact your Republic distributor. He's listed in the Yellow Pages under "Doors-Metal."

Or, send for a free copy of our Architectural Products Manual. Write Republic Steel Corporation, Manufacturing Division, Youngstown OH 44505.



**Republicsteel**  
Manufacturing Division



For more data, circle 97 on inquiry card

# Design out water hammer. Specify Wade Shokstops.

Water hammer is the shock caused by the sudden build-up of energy when a quick closing valve suddenly stops the flow of water in a piping system.

Specify Wade Shokstops to solve the problem.

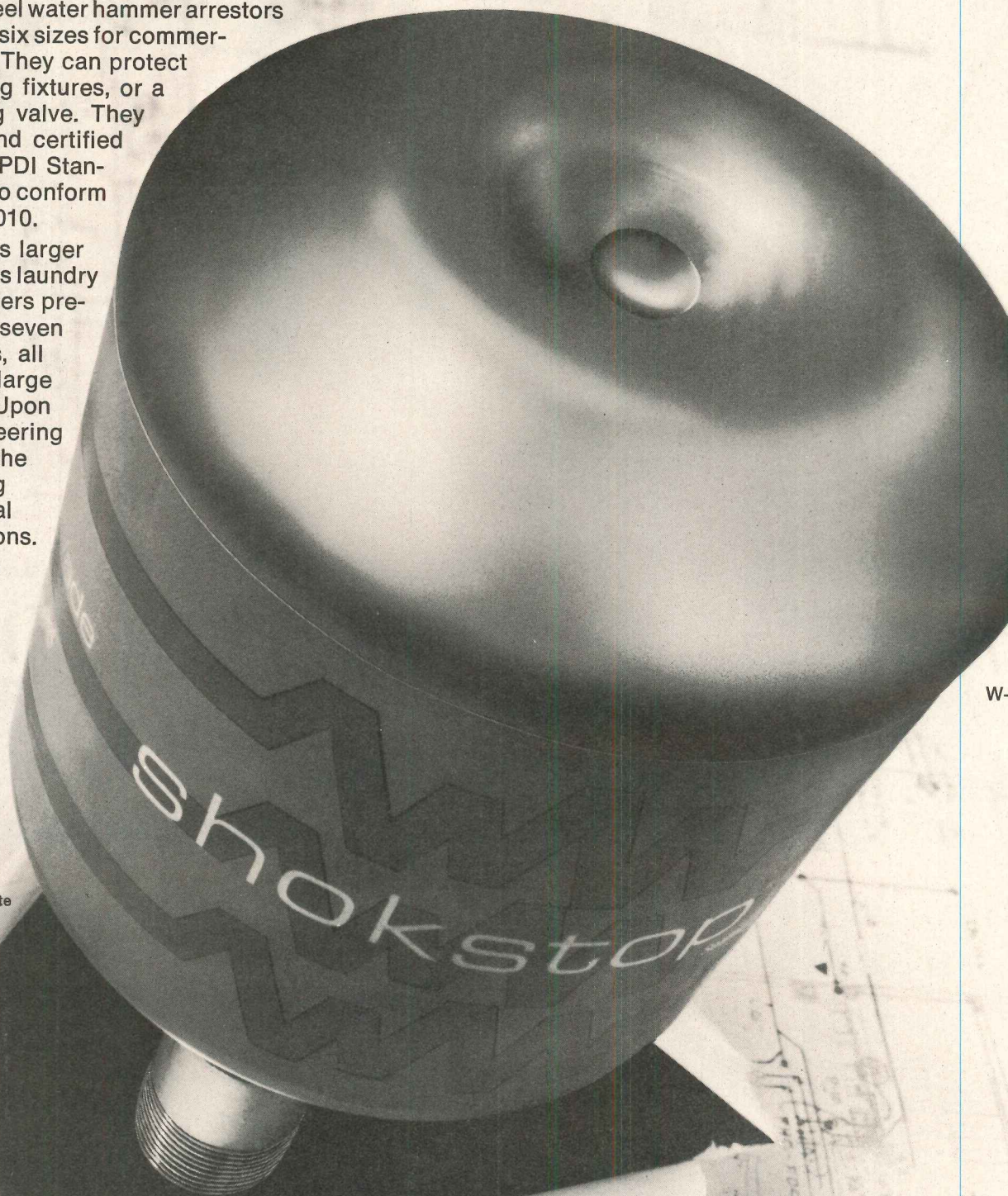
These stainless steel water hammer arrestors are manufactured in six sizes for commercial piping systems. They can protect batteries of plumbing fixtures, or a single quick closing valve. They have been tested and certified in accordance with PDI Standard WH-201 and also conform to ASSE Standard 1010.

For piping systems larger than 2 inches (such as laundry machines), Wade offers pre-pressurized units in seven sizes and capacities, all designed to absorb large amounts of energy. Upon request, Wade Engineering will size and locate the units for large piping systems or for special equipment applications.

So design out the problem. Put Wade Shokstops in the specs.

For your new Wade Shokstop Specification Manual, write Box 2027, Tyler, Texas 75701.

Member,  
Plumbing and Drainage Institute  
© 1972 Tyler Pipe



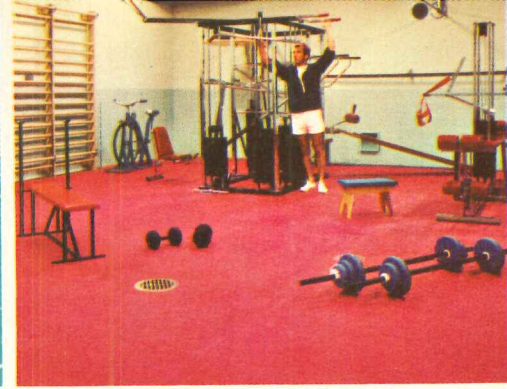
*"Wade stainless steel Shokstops shall be installed as shown on the mechanical engineering plans or shall be sized and located in accordance with Plumbing and Drainage Institute Standard WH-201."*

For more data, circle 98 on inquiry card

**Tyler  
Pipe**  
Subsidiary  
Tyler Corporation







# Robbins SPORT-TRED<sup>®</sup> is the any-color synthetic surface ... indoors and out

It's also the one that's solid vinyl—superior to laminated vinyls and filled urethanes. It won't fade, change color, shrink, absorb stains or show undue wear patterns under normal use. Over one million square feet have been sold coast to coast.

Architects, coaches, players and school and club officials praise its appearance, playability, versatility, durability. Court markings are applied with special compounded paints that stay on without scuffing or smearing.



**Robbins**

**SPORT-TRED<sup>®</sup>**

**SEND COUPON FOR FULL INFORMATION AND FREE SAMPLE.**

Robbins SPORT-TRED, Box 16902-AR, Memphis, Tenn. 38116  
Please send me a free sample and full information on Robbins  
SPORT-TRED synthetic athletic surfaces.

Name \_\_\_\_\_

Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

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

**Robbins**

Division of Cook Industries, Inc. **CI** World Leaders in Athletic Floors

# Honeywell clears the air about computers in centralized building control systems.



Delta's computer is a peripheral option. An add-on . . . same as any other standardized Delta module.

**Our Delta 2000 automates building operation with or without our computer. We'll recommend the computer only if you really need it...then program it to slash building operating costs!**

Some buildings need a computerized control system, some don't. Honeywell can help you either way.

You see, we build both!...the automation system and the computer. We can help you decide...by evaluating your building, its special problems, and management needs...not just hardware.

Sometimes we won't recommend it. For a large building or small, we don't have to recommend a computer to justify our investment. The basic Delta does so much

more than conventional automation systems, sometimes our computer isn't needed.

And we'll tell you so.



For instance, what does your client really require in an automation system? One-man environmental control? Fail-safe equipment status reporting? Automatic start-stop scheduling? Fire and security monitoring?

Those basic functions don't really use a computer's high-speed calculating talents. Nor can they justify a computer's extra cost. Delta 2000 handles all that (and a lot more!) without a computer. It was designed that way right from the start.

### **Management by objective.**

But what are your client's other objectives? Maximized energy savings? Predictive electrical demands? Maintenance scheduling? Daily efficiency reports, and other decision-making information?

Here our minicomputer can really help... now, or later on. It can join forces with our basic Delta system to move up from automated building control to automated building management. When needed, as needed.

### **Cost-shared software programs ready to go.**

Just select what you need from Honeywell's growing library of fully-documented software routines. Modular programmed solutions that eliminate costly start-from-scratch, trial-and-error programming...proven, risk-free.

Think of our minicomputer as part of the total Delta system...an electronic assistant for your client's building management team.

By giving you the choice, Honeywell takes the risk out of choosing your next building automation system...with, or without a computer.

### **Management by objective.**

It's one more way Honeywell helps. We have a new booklet that gives you the full story. Call us for it. Or write: Honeywell, Commercial Div., G2118, Minneapolis, Minnesota 55408.

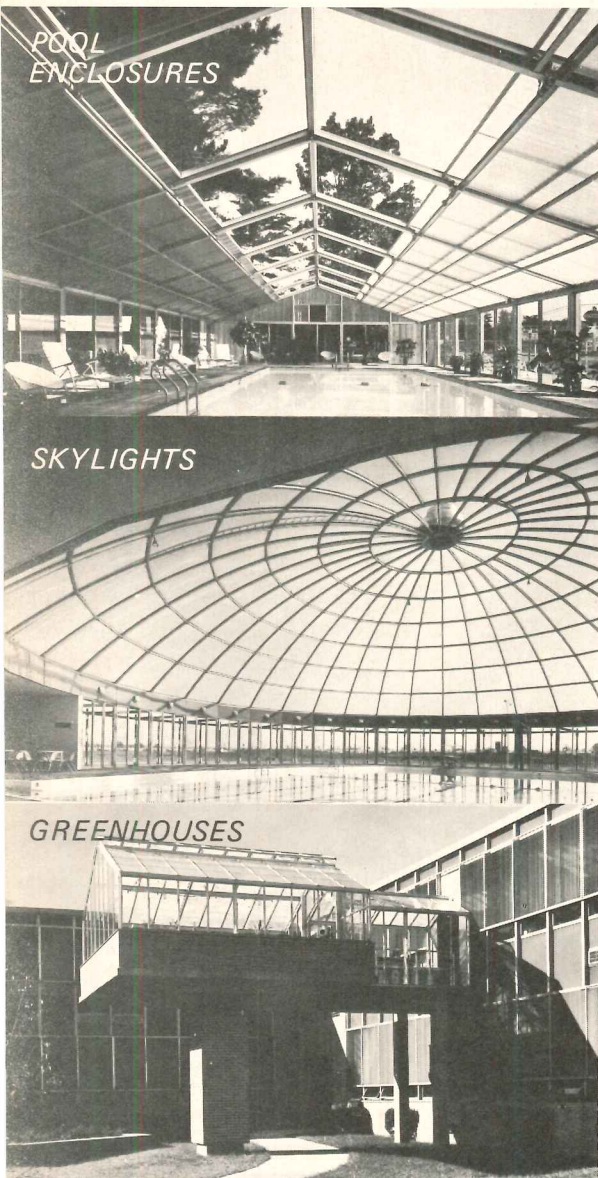
# **Honeywell**

The Automation Company

*For more data, circle 100 on inquiry card*

# We Didn't Discover Natural Light.

We just know a lot of ways to make good use of it!



- Like indoor/outdoor pool enclosures for year-round swimming.
- Like custom skylights for malls, recreation areas, foyers.
- Like horticulturally correct environments for teaching and research.

May we help you with design projects involving the use of natural light?

See us in Sweet's



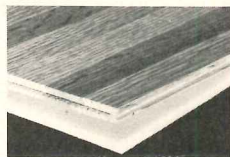
**ICKES-BRAUN GLASSHOUSES, INC.**  
P. O. Box 147, Deerfield, Ill. 60015  
Representatives in principal cities.

For more data, circle 101 on inquiry card

## PRODUCT REPORTS

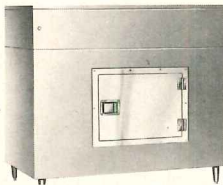
continued from page 174

**WOOD FLOORING** / Tile's backing is made of closed cell foam that deadens sound, and meets New York City's apartment building code standards for impact sound control. Seven finishes are available. ■ Tibbals Flooring Co., Oneida, Tenn.



Circle 318 on inquiry card

**VERTICAL ICE STORAGE BINS** / Two new models feature stainless steel lining, foamed-in-place polyethylene insulation, drip-proof, heavy-duty door design, and large doors for easy ice removal in small or large quantities. ■ Crystal Tips Ice Equipment, McQuay Perflex Inc., Minneapolis.

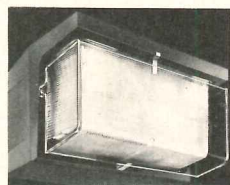


Circle 319 on inquiry card

**NON-WOVEN FABRICS** / A thermoplastic bonding system results in a series of materials with controlled ranges of liquid and air permeability selected chemical resistance properties, and a high level of mechanical behavior. They can be sewn, dyed, printed and embossed, and are compatible with water-repellent and fire-retardant finishes. Applications include air and liquid filtration, backing for carpet underlays and coating substrates. ■ J. P. Stevens & Co., Inc., New York City.

Circle 320 on inquiry card

**LIGHTING FIXTURE SHIELDS** / Polycarbonate product is available with the company's line of prismatic mercury vapor fixtures, and is available in three sizes. Shields are said to be vandal-proof, and will not yellow. ■ Stonco Lighting, Union, N.J.

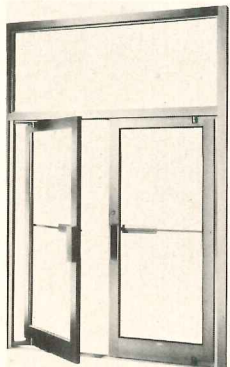


Circle 321 on inquiry card

**ONE-STEP WALL SYSTEM** / Concrete is poured into strong, lightweight aluminum forms fitted with patterned fiberboard, steel reinforcing rods and 4-ft boards of the manufacturer's 1½-in. thick plastic foam, laminated to ⅝-in. gypsum wallboard. End product is a complete, insulated, finished wall in one step. ■ Amspec Inc., Columbus, Ohio.

Circle 322 on inquiry card

**MANUAL BALANCED DOORS** / Features include a 1¾-in.-wide entrance framing. The balanced pivoting mechanism features self-aligning pivots at all points of rotation and a spring-cushion backstop. Closers are concealed and have adjustable closing and latching speeds. The doors have adjustable pile weathering on all four sides for maximum resistance to air and water infiltration. ■ Kawneer Co., Niles, Mich.



Circle 323 on inquiry card

more products on page 195

# 2 Great Ways to Achieve Seating Flexibility

With MOD-LOK. Elegantly simple. Comfortable. Beautifully finished in natural Danish beech wood. Choice of upholstery coverings. Interlocking and stacking.



Century II  
MOD-LOK  
MODULAR SEATING



Or with Archbold Seating. Strong. Lightweight. Laminated Danish beech wood finish or select from vinyls and fabrics for cushions. Easy to stack. Optional interlocking hardware available.

ARCHBOLD Seating

WRITE FOR FULL DETAILS  
**SAUDER**  
DESIGNARE  
INTERNATIONAL  
200 HORTON STREET STRYKER, OHIO

For more data, circle 102 on inquiry card

# This new circuit breaker offers greater protection for people

Square D introduces an entirely new concept in circuit breakers. It is the first practical and economical device that significantly reduces the hazards of line-to-ground faults to both people and equipment.

The new Qwik-Gard™ circuit breaker combines branch circuit overload and short circuit protection with ground fault protection in one compact unit that occupies the same space as a standard QO® circuit breaker. In addition to the QO protection for overloads and short circuits, ground faults are detected and interrupted by sensing an imbalance between line and neutral current in the individual

branch circuit. A current imbalance as low as .005 amperes (5 milliamperes) will cause the Qwik-Gard to trip.

This amazing new unit is available in 15, 20, 25 and 30 ampere ratings for 2 wire, 120V ac circuits with or without an equipment ground. Qwik-Gard circuit breakers fit into existing or new QO load centers, or NQO panelboards. Bolt-on units are available for NQOB panelboards. Since branch circuits are protected individually, a problem on one circuit will not interrupt the power to other circuits.

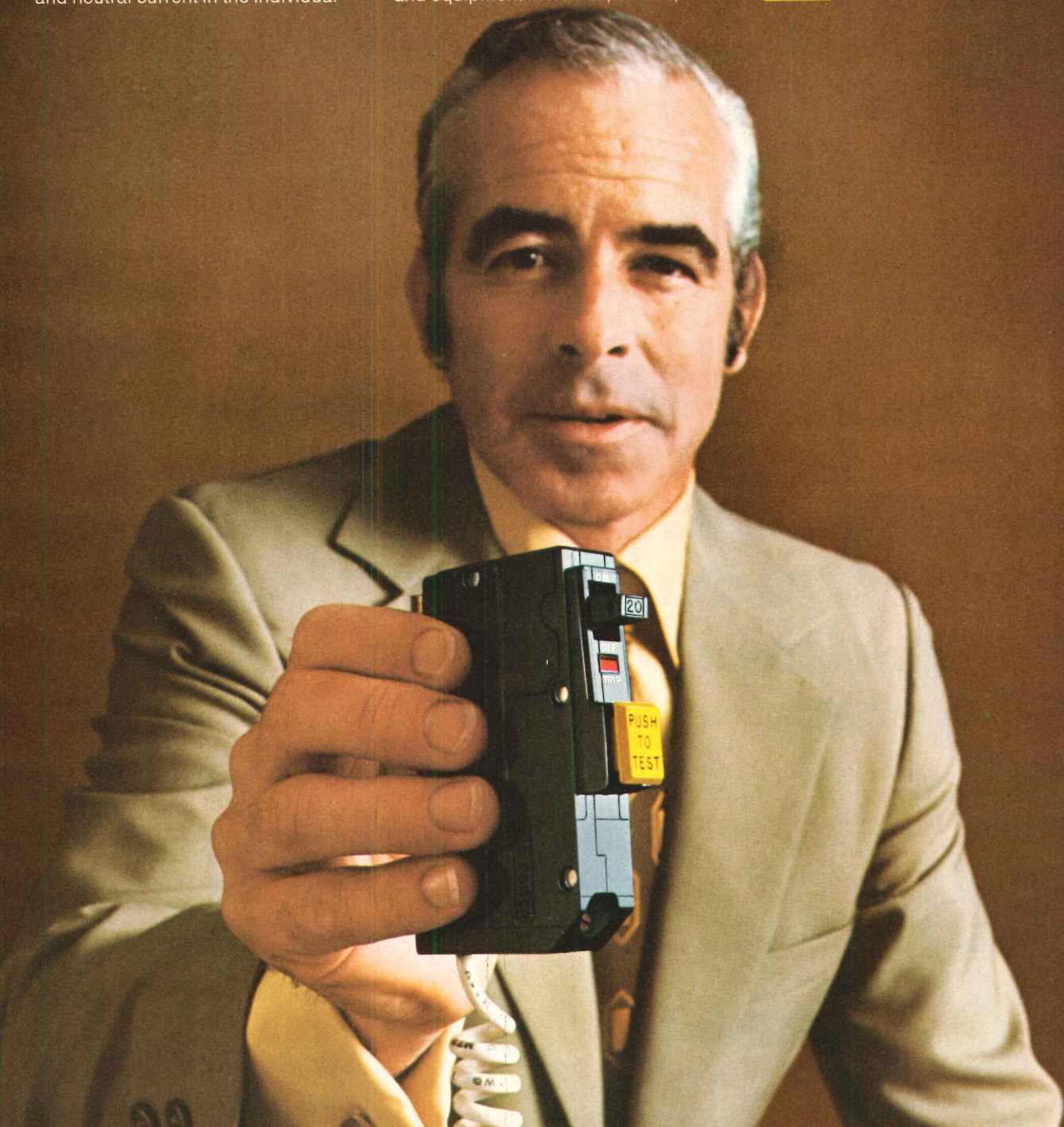
Qwik-Gard circuit breakers are designed to protect circuits, people and equipment in homes, offices,

factories and swimming pool areas and on construction sites. They are UL listed and meet the requirements of the 1971 National Electrical Code. Qwik-Gard breakers also have the exclusive Visi-Trip® indicator you find on Qwik-Open® breakers. It's a highly reflective red flag that springs into view through a window when the breaker trips. For further information, contact your nearby Square D field office or write Square D Company, Dept. SA, Lexington, Kentucky 40505.

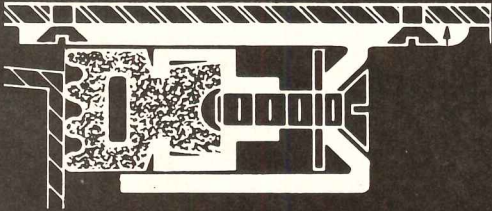


**SQUARE D COMPANY**

*Wherever Electricity is Distributed and Controlled*

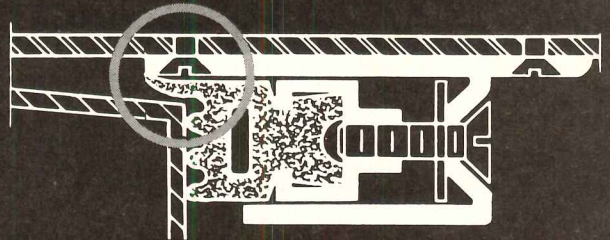


## Our Old Design

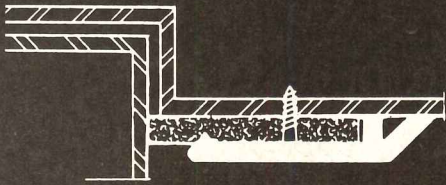


**Head and Jamb Sound Seal No. 170.** Basically excellent weatherstrip seal but sound penetrates where insert moves.

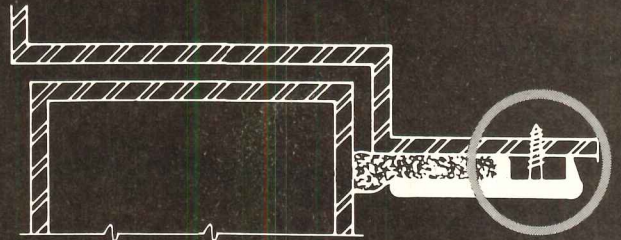
## Our New Design



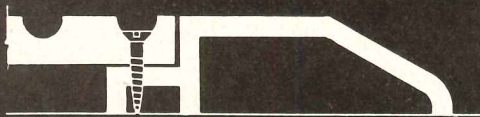
**Head and Jamb Sound Seal No. 170.** Neoprene projection, compresses against housing, eliminates sound penetration when insert is adjusted. Excellent weatherstrip seal modified to compensate for sound in 45 decibel range.



**Head and Jamb Weather Stripping No. 139.** Screw penetrates Neoprene, makes adjustment difficult. Retainer will tilt if screwed too tightly. 1¼" dimension will not fit on 1" stop.



**Head and Jamb Weather Stripping No. 314.** Support leg keeps housing straight. Screw does not contact Neoprene; adjustment is easy. 7/8" dimension allows fit on 1" stop. Housing is 34% heavier.



**Saddle Assembly.** Assembly must be fastened by drilling and tapping through plate into support section. Difficult to set level. Expensive to install.



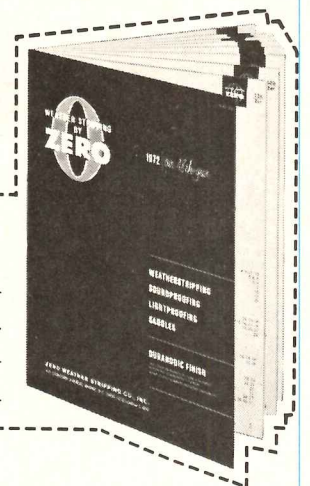
**Saddle Assembly.** Interlock between plate and support section eliminates drilling and tapping. Secure fit guaranteed. Easy installation.

# Zero's weatherstripping isn't just an improvement over everyone else's. It's even an improvement over our own.

If you want the benefit of these and other improvements in weatherstripping, soundproofing and lightproofing materials, don't specify "Zero or equivalent." There is no equivalent! The only way you can be sure you get exactly what you — and your job — call for is to specify "Zero." By the style number in our new, 1972 catalog. Send for your copy today.

**Zero Weatherstripping Co., Inc.**  
415 Concord Ave., Bronx, N.Y. 10455  
*GENTLEMEN: Please send me your 1972 catalog*

Name _____	Position _____
Company _____	
Address _____	
City _____	State _____ Zip _____



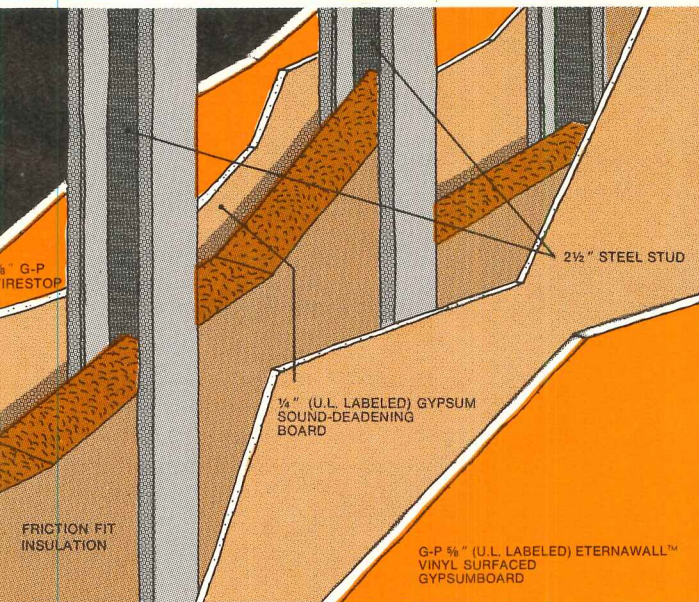
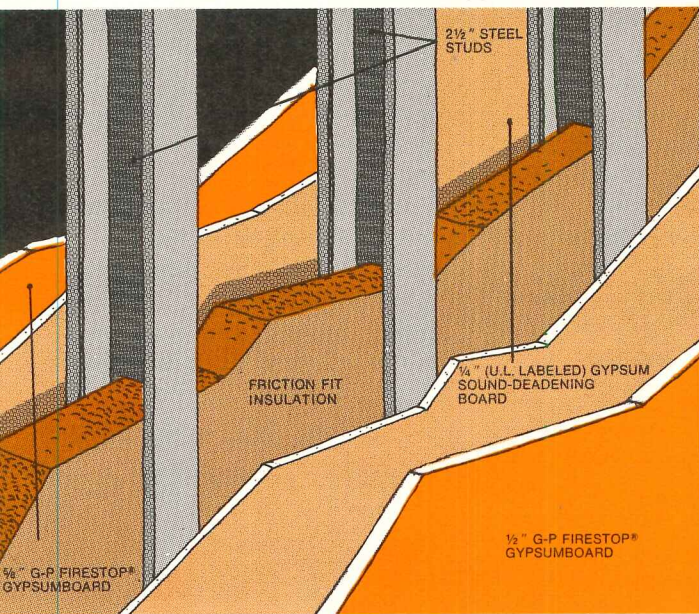
**Zero Weather Stripping Co., Inc.**

415 Concord Avenue, Bronx, N.Y. 10455 / (212) LUdlow 5-3230

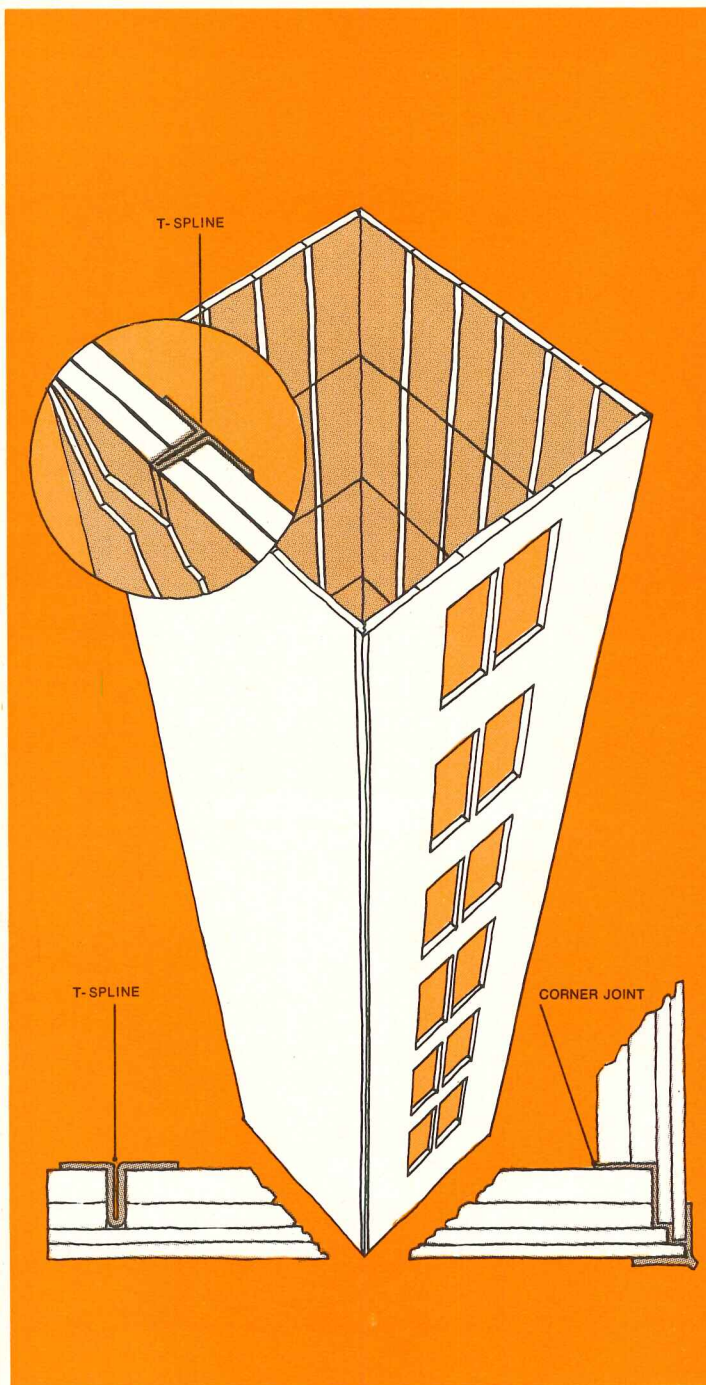
For more data, circle 104 on inquiry card

# G-P has the answer to economical fire and sound control in high-rise construction.

**Party Wall.** With G-P's party wall system, you get an STC of 50 and a one-hour incombustible fire rating. First erect 2½" steel studs and then install 2½" fiber glass insulation. Then, on both sides of the studs, G-P's ¼" (U.L. labeled) Gypsum Sound-Deadening Board is attached. Applied to the Sound-Deadening Board is G-P's ½" FIRESTOP® gypsumboard. Easy! Fast! Inexpensive!



**Corridor Wall System.** This economical wall system gives you an STC of 54 and a one-hour fire rating. On the interior side of 2½" steel studs with fiber glass friction-fit insulation, G-P's ¼" (U.L. labeled) Gypsum Sound-Deadening Board is attached. Then, G-P's 5/8" FIRESTOP® gypsumboard is applied to the Sound-Deadening Board. On the corridor side, G-P's 5/8" (U.L. labeled) Eternawall™ is attached to the Sound-Deadening Board. And you've got a corridor that's tough. Colorfast. Stain and abrasion resistant. And beautiful.



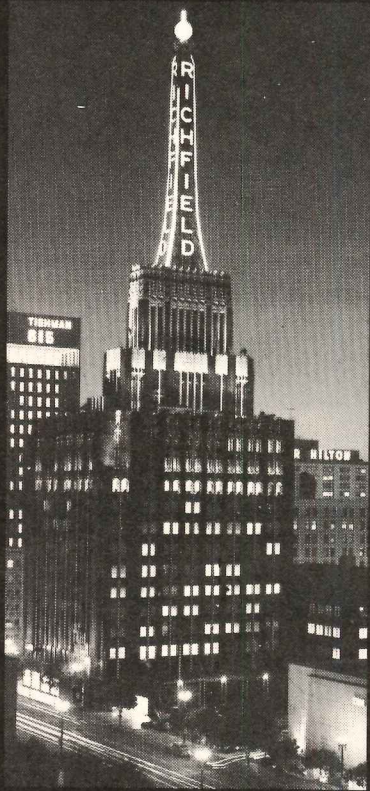
**Shaft Liner.** G-P's new Shaft Liner system weighs only 10.5 lbs. p.s.f. compared to 34 lbs. p.s.f. or more for masonry shaft walls. Prelaminated panels are easily installed in top and bottom runners with a T spline placed between panels. This system installs from the shaft exterior so construction is speeded up. In addition, temporary shaft enclosures are eliminated. G-P's shaft wall gives you a 2-hour fire rating. And saves you money and space in building core construction.

## Georgia-Pacific

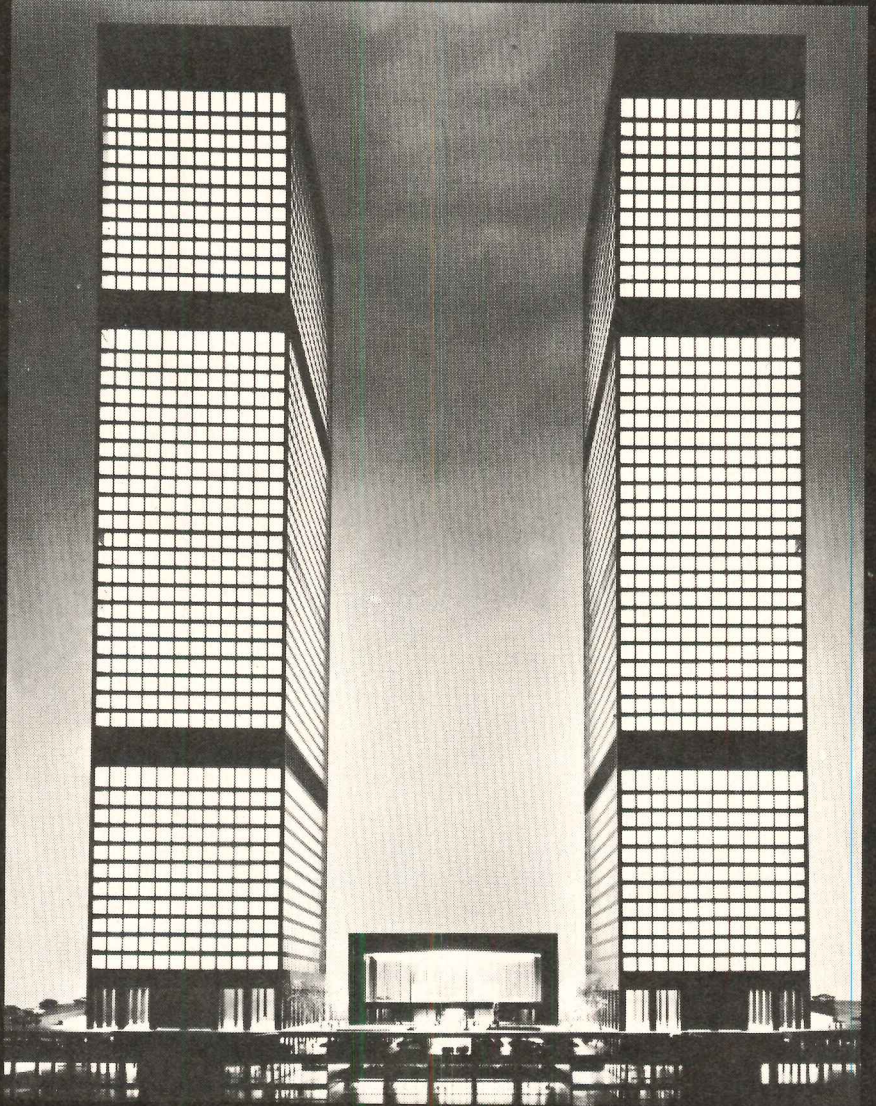
Gypsum Division  
Portland, Oregon 97204



In 1958 they sealed the old Atlantic Richfield headquarters with LP® polysulfide polymer.



In 1971 they demanded that the new Atlantic Richfield headquarters be sealed with LP® polysulfide polymer.



It always makes sense to ride a winner.

Case in point: the spanking new Atlantic Richfield Plaza whose designers and builders specified that it be waterproofed with a sealant based on Thiokol's LP® polysulfide polymer.

The reason for their decision? A polysulfide-based sealant has proven to be a winner. In fact, it has been doing just that for the past 14 years at Atlantic Richfield's former headquarters building nearby in downtown Los Angeles.

The choice, then, was both obvious and logical. Why not go with a sealant that had successfully withstood years of punishment in an environment that often contains more than its share of corrosive pollutants?

But, at Thiokol we don't rest on past accomplishments alone. Granted, sealants based



on our polymer have performed flawlessly for more than 20 years. Yet that doesn't stop us from continuing a Seal of Security Program which aims to see that they'll last even longer in the future.

So ride with a winner. Specify a sealant based on Thiokol's polysulfide polymer. It won't let you down over the long haul.

For more information, including detailed comparisons between sealants based on Thiokol's LP® polysulfide and eight other kinds of sealants, write: Dan Petrino, Thiokol Chemical Corporation, P.O. Box 1296, Trenton, N.J. 08607.

*Thiokol*

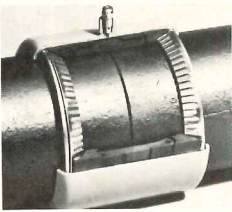
For more data, circle 114 on inquiry card



continued from page 182

**AGGREGATE SIDING PANELS** / Exterior grade plywood, fireproof asbestos board, or Homasote structural insulation board are used as substrates. Panels can be ordered pre-cut in shapes made to specific dimensions. Aggregate is available in various sizes and colors. Modular Materials, Inc., South Plainfield, N.J.  
*Circle 324 on inquiry card*

**COUPLING** / Steel outer collar holds a rubber sleeve pressurized to 100 lbs/sq in., and a ring of stainless steel teeth at one end of the coupling. Hydraulic pressure combined with the force of the steel teeth forces the two pipe-ends together. ■ Canron Ltd., Montreal 113, Quebec, Canada.  
*Circle 325 on inquiry card*



**AUTOMATIC COLLECTION UNIT** / Designed for waste removal, unit converts a waste and garbage depository to an automatic system that removes waste and garbage from the bottom of existing chutes to a central collection terminal. The system provides for linking each chute to a common automatic tube line leading directly to a discharge terminal. It is particularly designed for use in high-rise apartment houses and office buildings. ■ ECI Air-Flyte Corp., Fairfield, N.J.  
*Circle 326 on inquiry card*

**METER SOCKET EQUIPMENT ASSEMBLY** / Unit is particularly well-suited for apartment complexes where minimum floor space is available. Each assembly is 20 in. wide by 40 in. long and will accept four 8-gang meter stacks mounted two front and two back for a total of 16 meters. Additional free-standing assemblies can be added. ■ Federal Pacific Electric Co., Newark, N.J.  
*Circle 327 on inquiry card*

**TRANSITION DOOR** / Designed to provide access through finished floor, door is provided with a 3/16-in. molding to receive carpeting. Installation is accomplished through concealed hinges which allow close tolerances on all sides between door leaf and frame. ■ The Door Co., New Haven, Conn.  
*Circle 328 on inquiry card*

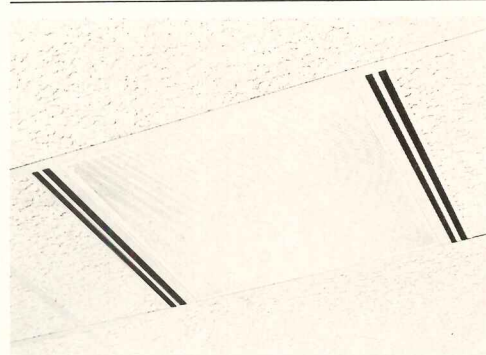


**INTERCOMMUNICATION SYSTEM** / In addition to two-way voice communication, unit is capable of distributing background music and special programs from a record player, radio receiver, or tape deck. Utilizing add-on modules, central station's capacity can be increased to serve remote stations. An all-call for emergency has automatic priority over all program material being distributed. ■ Bogen Div., Lear Corporation, Inc., Paramus, N.J.  
*Circle 329 on inquiry card*

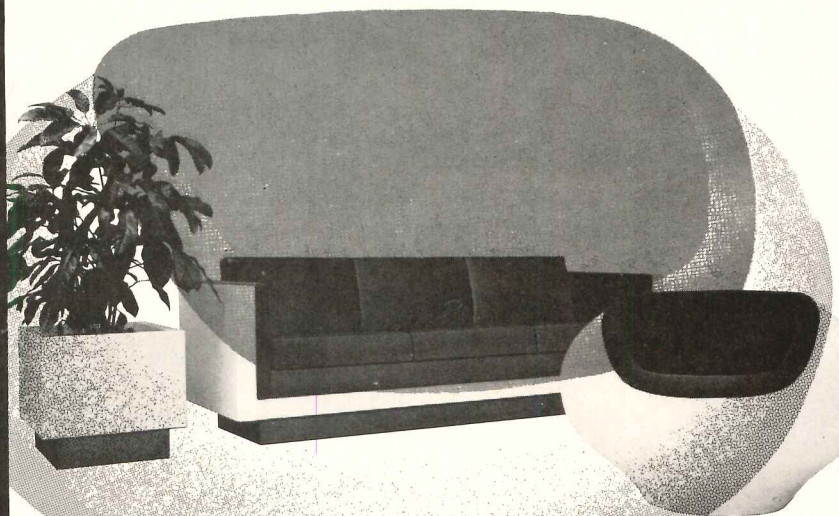
**WASTE COMPACTOR** / This electromechanical unit is said to cost significantly less than other comparable commercial compactors on the market. No installation is required; unit plugs into any 115 volt outlet ready for use. Unit features 25-second operating cycle, eye-level controls, safety interlocks, a mobile bag holder with a full 6-cu.-ft.-capacity, one-year warranty on parts and labor, and compaction ratio ranging from 5:1 to 8:1 depending on type of refuse. ■ ARS, St. Clair Shores, Mich.  
*Circle 330 on inquiry card*



**HIGH-INTENSITY DISCHARGE LUMINAIRE** / Air handling capacity is a new feature, permitting ceiling design flexibility in commercial areas. ■ Holophane Co., Inc., New York City.  
*Circle 331 on inquiry card*



# Discover Cramer



**and you discover imagination in fiberglass**

Your choice of 10 designer colors in sofas, club chairs, round chairs, benches, end tables, cocktail tables, planters.

For literature call (913) 621-6700 or write



**CRAMER INDUSTRIES INC.**

625 Adams Street, Kansas City, Kansas 66105  
 A Subsidiary of OLIX INDUSTRIES INC.

Chicago Merchandise Mart Showroom 1197  
 Sweets Interior Design File—Section F3a

For more data, circle 115 on inquiry card



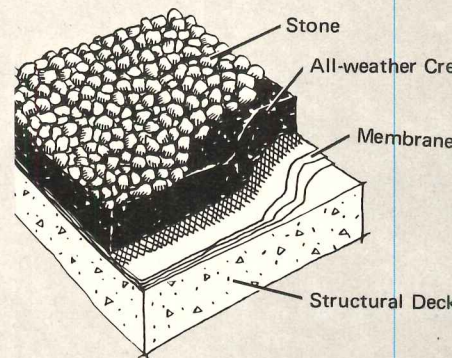
# can you do this to your roof deck and still not puncture the membrane?

You can if it's protected with the All-weather Crete Insul-top system! This insulation applied over the waterproof membrane will protect it from normal accidental puncture (also from freezing and from extreme temperature cycling). It reduces expansion and shrinkage to a minimum. All-weather Crete can be sloped to drains and contoured around and over projections to provide positive water drainage.

In short, this system protects the membrane keeping it "alive" and waterproof for years! A different system? Certainly.

Consider this concept in your next project. Write for the 16 page technical booklet "Designing a Leak Proof Roof". Silbrico Corporation, 6300 River Road, Hodgkins, Illinois 60525, (312) 735-3322.

You may change your entire thinking about roof decks!



 **All-weather Crete® Insul-top System**



For more data, circle 116 on inquiry card

## OFFICE LITERATURE

For more information circle selected item number on Reader Service Inquiry Card, pages 215-216.

**OFFICE FURNITURE** / A complete line including console desks, elevated consoles, work stations and tub files is presented in a catalog. The elevated console features a working wall providing flexible storage and privacy. ■ Kwik-File, Minneapolis.  
*Circle 400 on inquiry card*

**GLASS** / Extensive lines for 1972 are presented in a brochure. Product categories include clear heat-absorbing drawn sheet glass, figured and glass, float glass, and non-reflection and glass. ■ Glaverbel, Inc., Manhasset, N.Y.\*  
*Circle 401 on inquiry card*

**LABORATORY FURNITURE** / Steel modules are discussed in an 18-page bulletin. A variety of units, worktop materials, and fixtures is included. ■ Fisher Scientific Co., Pittsburgh.\*  
*Circle 402 on inquiry card*

**ELEVATOR EMERGENCY SERVICE** / Designed primarily for buildings with unattended elevators, the system is initiated by a key switch or heat- or smoke-sensing device. Operation automatically returns elevators back to a previously designated area where passengers may leave safely. ■ Otis Elevator Co., New York City.\*  
*Circle 403 on inquiry card*

**SLAB CONSTRUCTION** / An 8-page brochure explains how slabs are cast and lifted. Details of the system is possible with a structural steel building or a bearing wall structure. ■ Star Construction Corp., San Antonio, Tex.  
*Circle 404 on inquiry card*

**ACRILIC WALLBOARD** / Designed for the factory-built housing industry, panels are available in four textured colors. Features include a Class 1 flame spread rating of 20, crack-resistance and low maintenance. ■ Georgia-Pacific Corp., Portland, Ore.\*  
*Circle 405 on inquiry card*

**POLLUTION CONTROL** / Compilation of the most current terms and guidelines for air pollution control are given in a 17-page manual. Several pages are devoted to definitions of air pollution control standards, technical terms and equipment. ■ Vari-Systems, Inc., Cleveland.  
*Circle 406 on inquiry card*

**ANTIBACTERIAL SURFACING COMPOSITIONS** / Floor-surfacing compositions provide protection against corrosive chemicals, solvents, food-processing waste and meat fats. Wall compositions are designed for hospital operating suites, bathrooms, and shower rooms. ■ Crossfield Products Corp., Compton, Calif.\*  
*Circle 407 on inquiry card*

**STAND-UP LAMINAR FLOW CLEAN AIR SYSTEM** / Hardware consists of a main unit and separate mask aspirator. Especially designed for operating room use, system removes virtually all airborne particles 0.3 microns or larger, including dust and pathogenic organisms. System was designed and manufactured by Agnew-Scott, Inc. ■ DePUY, Warsaw, Ind.  
*Circle 408 on inquiry card*

**FASCIA AND SPANDREL PANELS** / An abestos PVC alloy sheet product described in a 4-page brochure features non-combustibility, high strength, and a wide range of colors and surface effects. ■ Continental Oil Co., Kaykor Div., Fairless Hills, Pa.  
*Circle 409 on inquiry card*

**SWIMMING POOL DESIGN** / The use of ceramic mosaics and glazed ceramic tile in swimming pools is discussed in a 12-page booklet. Text includes pool planning, design, and maintenance considerations. Newest NCAA, YMCA, and AUU standards covering dimensions, markings, ladders and overflow systems are given. ■ American Olean Tile Co., Lansdale, Pa.\*  
*Circle 410 on inquiry card*

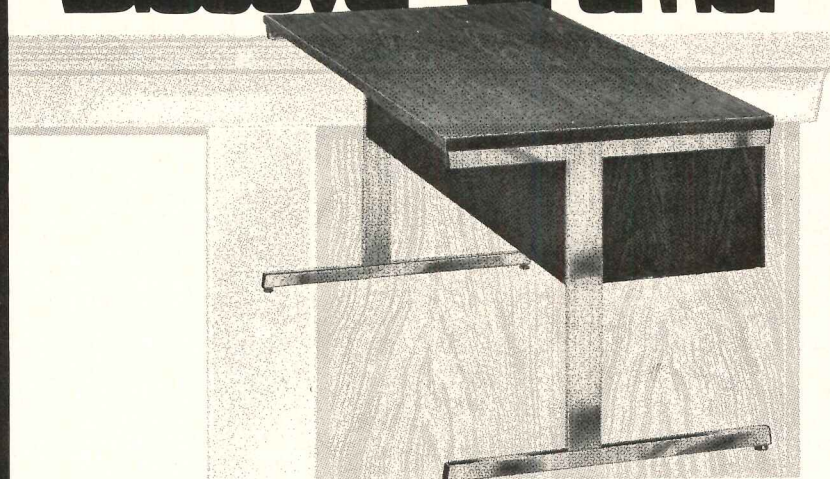
**ANIMAL DETERRENT BARRIERS** / A complete line of stainless steel bird, climbing animal and intruder deterrent barriers is described in a 4-page brochure. Barriers can be used on buildings, fences, transformers, walls, utility poles and all projections. ■ Nixalite Company of America, Rock Island, Ill.  
*Circle 411 on inquiry card*

**WALL FABRIC** / Features include unobstructed passage of sound or sound dampening when used with standard sound-absorption materials, flame-resistance, and easy maintenance. ■ Mel-tex, Div. of Wendell Fabrics, New York City.  
*Circle 412 on inquiry card*

\* Additional product information in Sweet's Architectural File

more literature on page 200

## Discover Cramer



and you discover Motiva — with unequalled variety in work stations.

For reception area all the way to senior executive offices, Motiva offers a collection of sixty-three different desks and twenty-three different credenzas — each designed to save floor space. And each with coordinated filing systems. Motiva is ideal for office landscaping or open office. For literature call (913) 621-6700 or write



**CRAMER INDUSTRIES INC.**

625 Adams Street, Kansas City, Kansas 66105  
A Subsidiary of OLIX INDUSTRIES INC.

Chicago Merchandise Mart Showroom 1197  
Sweets Interior Design File — Section F3a

For more data, circle 117 on inquiry card

# It's time to think about total carpet performance.

By now you're familiar with all the various man-made carpet pile fibers and the advantages they offer. When you specify carpet for man-made fiber performance, do you get it all the way from the carpet surface to the backing?

As an important producer of man-made carpet fiber, Phillips Fibers knows the value of total carpet performance. To help you get total man-made fiber performance, Phillips Fibers has engineered Loktuft® carpet backing with many of the same important features you look for in the face fiber.

Like stain resistance. So when stains are cleaned out of the carpet, they do not wick back later from the backing to the face of the carpet.

Like light weight for less load and easier handling while maintaining maximum durability.

Like resistance to moisture, mildew, rot and insect damage. Greater stability. Shrink resistance.

Loktuft backing installs neatly, efficiently. It lays flat. Doesn't pucker or bubble. Resists ravelling. Cuts cleanly. Seams can be butted almost invisibly.

Made with Marvess® olefin, a Philips 66 fiber, Loktuft serves equally well indoors and outdoors.

If you're interested in total carpet performance, ask your carpet resources for Loktuft backing in the carpets you specify. It's available in types engineered specially for primary, secondary and unitary (single) carpet backing use.

## Loktuft®

A PHILLIPS 66  CARPET BACKING

PHILLIPS FIBERS CORPORATION, GREENVILLE, S. C., A SUBSIDIARY OF PHILLIPS PETROLEUM COMPANY, PRODUCERS OF: MARVESS® OLEFIN, QUINTESS® POLYESTER, PHILLIPS 66® NYLON AND LOKTUFT® CARPET BACKING. MARKETING OFFICES: P. O. BOX 66, GREENVILLE, SOUTH CAROLINA 29602. TELEPHONE (803) 242-6600; 1120 AVENUE OF THE AMERICAS, NEW YORK, NEW YORK 10036. TELEPHONE (212) 697-5050. \*REG. T.M. PHILLIPS PETROLEUM COMPANY.

*For more data, circle 118 on inquiry card*



*"Vinyl is vinyl."*



**-Don't you believe it!**

Vicrtext, the pioneer, has developed unique manufacturing techniques that guarantee a quality product. Our specially impregnated colors won't "wear off." You get extra protection against mildew in our especially-treated fabric backings, our vinyls, our adhesives. Excellent in unusually high risk areas (acids, etc.), Vicrtext standard finishes make spot- and stain-removal easy and fast.

In addition, you're sure of Class "A" (or better) Fire Hazard classification, a broad one-year guarantee against manufacturing defects—and the Industry's widest range of original patterns, uncommonly decorative, in hundreds of colors.

For your Practical Specification, call Vicrtext Vinyl Sales.

**L. E. CARPENTER**

AND COMPANY



A DAYCO COMPANY

964 Third Avenue, New York, N.Y. 10022 • (212) 355-3080  
Mill: Wharton, N.J. • In Canada: Gulf Oil Canada Ltd.

# MICROZINC 70

the new pre-weathered  
titanium alloy  
architectural sheet metal.



GREENEVILLE FEDERAL SAVINGS & LOAN • GREENEVILLE, TENNESSEE  
Architect: Boyd & Arthur • Roofing & Sheet Metal: Hicks Sheet Metal Co.

Microzinc 70 gives the architect a new esthetic dimension in commercial and institutional roofing design. It's pre-weathered—the natural oxidation has been accelerated. The beautiful non-reflective grey patina complements wood or masonry.

You don't have to paint Microzinc 70. The natural, non-corrosive film makes it especially resistant to sea air and industrial atmospheres. It heals itself if scratched or marked. The coating is not artificial and therefore will not peel, crack, blister, chalk or fade.

Microzinc 70 cannot stain and therefore will not produce run-off blemishes as do many metal roofing materials.

This new zinc-titanium alloy can be used in direct contact with mortar or concrete without special protection. It is easily formed and soldered using standard sheet metal practices.

And to top it off, Microzinc 70 is less expensive than most of the other long-life quality, roofing metals.

Write for the new Microzinc 70 booklet which includes comparative properties plus design details for batten and standing seam roofs, valley flashing, gutters, fascias and gravel stops. We will also send you a sample of the pre-weathered metal so that you can examine the color and finish of Microzinc 70 for yourself.



**BALL METAL & CHEMICAL**

DIVISION OF BALL CORPORATION  
GREENEVILLE, TENN. 37743

Thinking about a pneumatic waste collection system?

Thinking about a pneumatic waste collection system?

Think about:

## TRANS-VAC SYSTEMS



designers of

Pneumatic Transport & Waste Collection Systems for handling soiled linen or trash (or both).

fast • efficient • sanitary



WASTE COLLECTION POINT

- SHREDDER
- BALER
- COMPACTOR
- INCINERATOR



Simplified Illustration

used in:

### ● hospitals

Ideal for new hospital construction, major additions or renovations . . . or can also modify existing gravity chute systems for lateral transfer of material.

### ● high-rise structures

Ideal for high-rise structures such as hotels, motels, large office buildings, apartment complexes, dormitories and institutions.

### ● large recreational developments

Ideal for large recreational projects, amusement parks, sports complexes and stadiums.

Space saving TRANS-VAC Systems utilize idle wall and ceiling space for placement of chutes and conveyor pipes. Piping may also go above or below ground, over roof tops, along outside walls and into basement area. Separate collector hoppers located in laundry room and trash collection area automatically deposit loads of transported material on signal from central control panel.

TRANS-VAC Systems offer completely integrated systems for Pneumatic Transport, Shredding, and Waste Disposal — all fully automatic. Each system individually engineered and backed by 47 years experience in pneumatic conveying and waste disposal technology.

Write or phone Dept. AR for further information and/or design assistance. See our Catalog 10.28/TR in SWEET'S 1972 Architectural File.



Since 1925—Solving Difficult Problems for Industry

TRANS-VAC SYSTEMS

A Division of MONTGOMERY INDUSTRIES INTERNATIONAL

2017 THELMA ST. • P.O. BOX 3687 • JACKSONVILLE, FLORIDA 32206

TELEX 56292

PHONE 904-355-5671

OFFICE LITERATURE

continued from page 197

**WINDOW COVERINGS** / Louver drapes constructed of sound-absorbing extruded rigid polyvinyl chloride are described in a 4-page brochure. Specifications are included. ■ Louver-Drape, Inc., Santa Monica, Calif.

Circle 413 on inquiry card

**ROOF PROTECTION SYSTEMS** / Designed to restore asphalt built-up roofs and prevent costly replacements, systems employ high-performing, static, cold-applied emulsions with or without membranes to provide optimum results at minimum costs. Products to reinforce flashings, edgings and all components above the roof line are included. ■ The Tremco Co., Cleveland\*

Circle 414 on inquiry card

**WATER-BASE COATINGS** / According to the company, coatings can be applied to rusty steel and combine the latest developments in latex chemistry with the protective properties of lead pigmentation to form a heavy-duty rust-inhibitive system. ■ Subox Coatings, BASF Wyandotte Corp., Carlstadt, N.J.

Circle 415 on inquiry card

**WATER COOLERS/FOUNTAINS** / A recent catalog features a complete line of water coolers, drinking fountains and emergency safety equipment models. Included are polyester and stone drinking fountains available in five colors; a stainless steel fountain available with extended base for wheelchair patients; and an eye-face wash model designed for research and development labs. ■ Sunroc Corp., Glen Riddle, Pa.\*

Circle 416 on inquiry card

**HEATING/VENTILATING EQUIPMENT** / A recent 40-page publication describes a line of heating, air tempering and energy recovery systems. Indexed topics include door and space heating, fresh air systems, and the latest advances in rotary air-to-air energy exchange equipment. ■ The Wing Co., Linden, N.J.

Circle 417 on inquiry card

**MOVABLE CABINETRY SYSTEMS** / A line of cabinets, dividers and accessories designed for open plan schools is described in a catalog. Features include flexibility, interchangeability and multi-functional use. ■ Grade-Aid, Nashua, N.H.\*

Circle 418 on inquiry card

**CERAMIC TILE** / Features of a new wall tile with a wispy, billowing design on a white matte glazed background are described in literature. Six colors are available. ■ United States Ceramic Tile Co., Canton, Ohio.\*

Circle 419 on inquiry card

**FABRIC WALL COVERING** / Five designs imported from Sweden are illustrated in a 4-page brochure. All designs are washable, and yarn-dyed before weaving to produce woven effects. ■ Van Arden Products Corp., Hicksville, N.Y.

Circle 420 on inquiry card

\* Additional product information in Sweet's Architectural File

more literature on page 209

◆ For more data, circle 121 on inquiry card

advertisement

# FOR THE RECCO

## CHARLES A. LINDBERGH

comments on special assistance for specific writers.

The biggest problem facing the specifier of institutional casework is lack of knowledge of what products are available. He knows a specification will not be upheld unless he can properly answer any and all questions to the complete satisfaction of the owner or contractor. Where can he turn for the most reliable information?

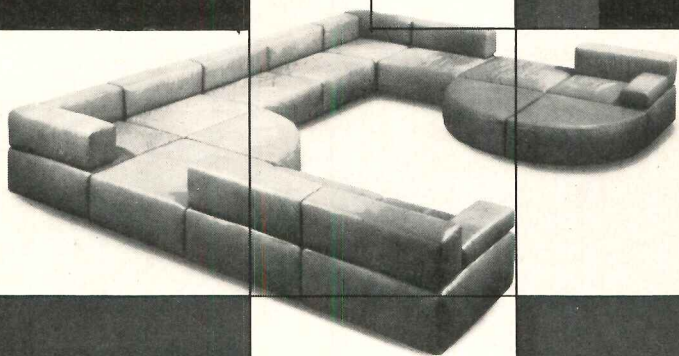
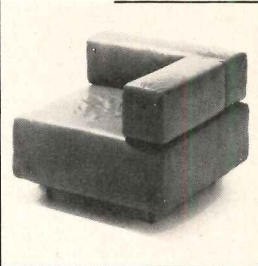
The most comprehensive specifications on institutional casework have been written by a specialist consultant for a leading manufacturer of metal casework. Prepared in the format prescribed by the Construction Specifications Institute, these specifications can be used *in statu quo* as a master for any project and should therefore be available on tape for ready reference.

In addition to thorough specifications on materials and construction, there are provisos in this document which virtually protect the specifier from accepting an unqualified manufacturer or inferior workmanship. For example: specifications concerning proof of experience; proof of financial ability to fulfill the contract; written certification regarding materials and workmanship; and the submission of color-matched samples.

Approved by the AIA, these specifications may be obtained by sending your request to James R. Products Division of AVM Construction, 178 Blackstone Avenue, New York, town, N.Y. 14701.

For more data, circle 122 on inquiry card

For more data, circle 123 on inquiry card



Here is CUBO, designed and manufactured by Harvey Probbler. The look is loungy — soft, squashy, casual, comfortable — ideal for composing imaginative seating clusters in lounges, lobbies and living rooms. CUBO is based on a square seat module with floating back and arm elements locked securely in place with concealed steel connections. Dust-trap pockets between seat and back are entirely eliminated. If ever necessary, CUBO's covers can be changed in a matter of minutes.

CUBO is made of steel reinforced 'self-skinned' urethane foam, clad in a puffy coat of dacron. The Probbler formulated urethane is inherently fire retardant and self-extinguishing (ASTM-1692 test method). Design and construction patents are pending.

CUBO's legs are deeply recessed to avoid scuffing and for easy floor maintenance. For slippery floors, we have rubber couplers that prevent the units from separating. Or, CUBO clusters can be bolted to ebonized wood bases. CUBO tables come in seven sizes and two heights to align with either seats or backs, and in a broad range of durable finishes. We will be pleased to send you literature. Why not drop us a note on your professional letterhead.

Harvey Probbler Inc., Factory & Offices:  
Fall River, Mass. 02722 ■ Showrooms:  
New York, 979 Third Avenue; Chicago,  
638 Merchandise Mart ■ Sales Offices:  
Boston, Los Angeles, Miami, Washing-  
ton, Atlanta, Detroit, Houston, Seattle,  
San Francisco

**probbler**

# Introducing the new Andersen Perma-Shield Gliding Window





## Is this the window that has everything?

It's a fair question. After all, this new line of Andersen Perma-Shield Gliding Windows incorporates all our accumulated experience in window design and construction. We gave it a lot of thought, improved and refined it through many stages, and gave it thorough field tests before we were satisfied.

So we think that architects, builders and users will all be more than pleased with this, our latest window.

But does it have everything? Before you answer, glance down the summary of features below; send for more detailed information—ask for a demonstration, if you like. We think we've come close. See if you agree.

① Perma-Shield! No painting inside or out. Both frame and sash are stable wood completely covered with a rigid vinyl sheath. No corner joints in frame. Sash corners are welded to form leak-proof joints.

② Sill tank. For added weathertightness under severe conditions of exposure, an integral vinyl dual sill has been built in to drain any moisture to the exterior.

③ Welded insulating glass eliminates need for storm windows. Snap-in rigid vinyl glazing bead eliminates glazing compound on exterior.

④ Weatherstripping is rigid vinyl for maximum weathertightness... factory applied.

⑤ Weathertight, vinyl-sheathed sash. Wood core factory treated with preservative for stability and insulation. Adjustable, chrome-plated steel glides in bottom rail for smooth, easy operation.

● Neat, trim frame is compatible with traditional, colonial or contemporary design. And it matches other Andersen Perma-Shield Windows and Gliding Doors.

● Screen is easy to install and remove from inside. White Perma-Clean® aluminum frame needs no painting. Screen strikes are part of exterior frame—no hardware to apply or lose.

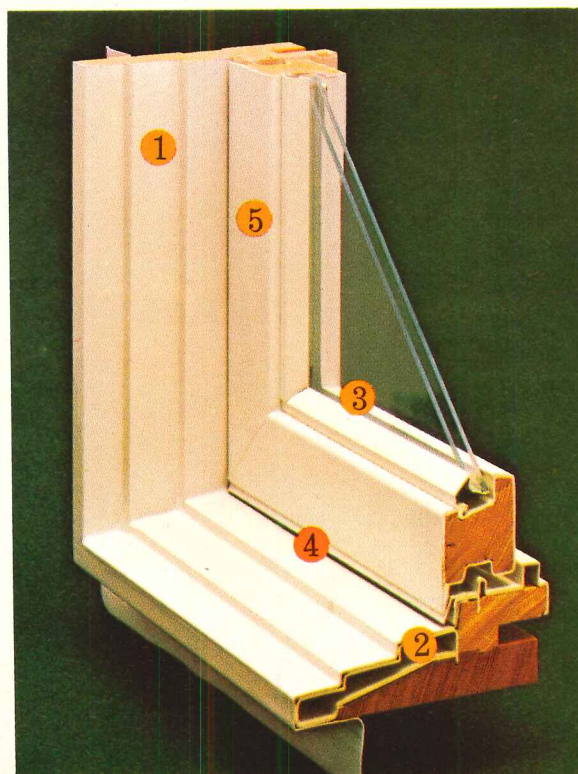
● Weatherstripping of wedge-shaped rigid vinyl and neoprene on meeting stile reduces dust, air, noise, heat and cold leakage to minimum.

● Removable sash. Both stationary and operating sash can be removed for cleaning from inside by releasing securing screws. This safety feature prevents accidental release of either sash.

● Attractive handle operates spring-loaded rods for positive locking of windows at top and bottom. All factory installed.

Perma-Shield Gliding Windows are available in eleven basic sizes suitable for commercial and residential applications.

Like more information on Andersen's new Perma-Shield Gliding Windows? There are five ways to get it: from your Sweet's File (Section 8.16 An), from your Andersen dealer or distributor, by using the Reader Service Card in this publication, or by mailing the coupon.



AR-42

Please send me details on your new Andersen Perma-Shield Gliding Windows.

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

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

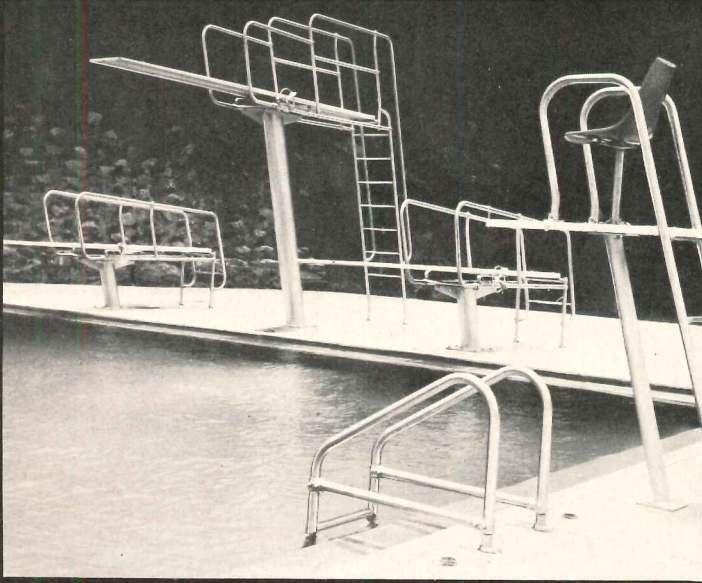
Send to Andersen Corporation  
Bayport, Minnesota 55003

**Andersen Windowalls®**  
ANDERSEN CORPORATION BAYPORT, MINNESOTA 55003



For more data, circle 73 on inquiry card

# Let us help you meet the exciting challenge of designing better pools.



Paragon matched deck equipment at Sprain Ridge Pool, Greenburg, N.Y. Architect: Vollmer Associates, N.Y.C.

Today more than ever, designing pools challenges the skill and imagination of the most creative Architect and Engineer. The widespread development of new products and new construction techniques permits unusual latitude and flexibility for the inventive Architect in the creation of residential, institutional, school and commercial pools.

For nearly two decades KDI Paragon has shared its engineering expertise with Architects helping them exercise their ingenuity and achieve design goals while staying within budget. Paragon understands your language and the problems you face in building pools. Contact us. We'll give you straight answers and sound advice and usually an immediate solution to your problem.

KDI Paragon is one of the world's leading manufacturers of quality deck equipment, filtration systems, underwater lighting and observation windows. We make over 500 professionally-engineered products used in, on and around pools.

See our Catalog in Sweets or Write:

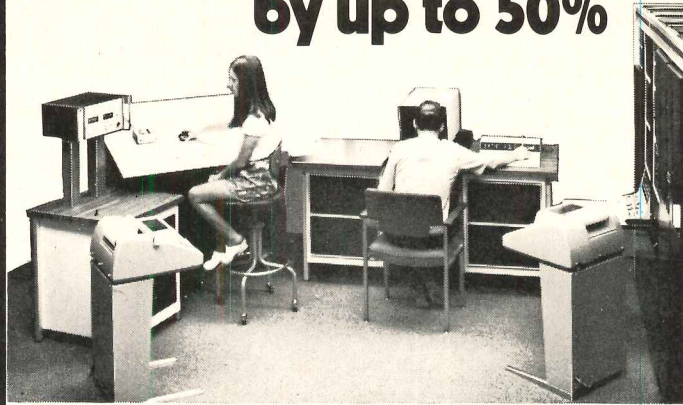
**KDI Paragon Inc.**



MFRS. OF QUALITY DECK/UNDERWATER EQUIPMENT  
12 Paulding St., Pleasantville, N.Y. 10570 • 914-769-6221

For more data, circle 125 on inquiry card

## Slash drafting costs by up to 50%



### Improves accuracy...Expands capabilities

SKETCHPREP produces final ink-on-vellum drawings from rough sketches... automatically. It also extracts data for bills of materials, wiring and plumbing, heating and air conditioning runs, etc., and file the drawings and data on magnetic tape for future rapid recall and update.

SKETCHPREP is revolutionizing the drafting field as automation revolutionized manufacturing. For information, call or write: Dimensional Systems, Inc., 393 Totten Pond Road, Waltham, Mass. 02154. Telephone: (617) 890-5534.



**dimensional systems**

*A subsidiary of astrosystems, inc.*

For more data, circle 126 on inquiry card

## A NEW DIMENSION IN PROFIT FOR YOUR CLIENT

Billy Casper's

**GOLFOMAT**



**REAL GOLF PLAYED INDOORS**

It's what you put into it...that counts! Put a golf course IN your next building! GOLFOMAT is real golf played indoors with regulation free-flying balls using all clubs with the same force and finesse required outdoors. Thanks to computerized electronics and optics, players can drive, chip, and putt the internationally famous greens of Pebble Beach, Doral, and Congressional Country Clubs. Imagine...Golf...365 days a year! If the apartment or condominium you are designing is looking for a real "inside" plus...consider GOLFOMAT. Your client will have a unique advertising message that will give him a strong competitive advantage in his selling. GOLFOMAT is flexible...will fit existing as well as proposed buildings.

Golfomat... The "In" Recreation for '72!

For Complete Information  
Call or Write

**BILLY CASPER  
GOLFOMAT**

Division of EMC/Electronics & Manufacturing Corp.

816 N. St. Asaph St., Alexandria, Va. 22313  
Phone (703)-549-3400

For more data, circle 127 on inquiry card

# ONE BROOKHOLLOW PLAZA - DALLAS, TEXAS

Sixteen floors of Span-Deck on a precast concrete structural frame. Sophisticated in engineering concept, simple in its execution, Brookhollow Plaza proves that imagination and a few extra hours in planning can save days and dollars in execution.

Span-Deck is a hollow-cored, prestressed concrete, dimensionally precise "plank"; ideally suited for modern techniques of off-site material fabrication and fast on-site erection.

How did Span-Deck stack-up in Dallas? Beautifully.



**ARCHITECT:**  
Paul Rudolph,  
New Haven, Conn.

**ASSOC. ARCHITECT:**  
Harwood K. Smith,  
Dallas, Texas

**STRUCTURAL ENGINEER:**  
Sepp Firnkas, Boston, Mass.

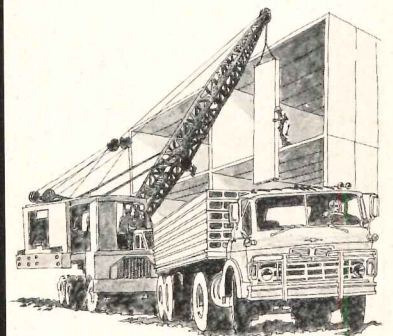
**GEN'L. CONTRACTOR:**  
Hayman-Bryant-Andres,  
Dallas, Texas

**OWNER:**  
Brookhollow Corp.,  
Dallas, Texas

**SPAN-DECK PRODUCER:**  
Texas Industries,  
Arlington, Texas

**FOR FURTHER INFORMATION:**  
CONSULT  
SWEETS' ARCHITECTURAL  
FILE 3.4/SPA

## How Span-Deck stacks up in Dallas



**spandeck**®  
an idea to build on

IN MAY, ARCHITECTURAL  
RECORD'S IDEA ANNUAL

## RECORD HOUSES AND APARTMENTS OF 1972

1972 will be another boom year for the housing market. F. W. Dodge predicts that nearly 2.5 million housing units will be built at a cost of \$32 billion.

In mid-May Architectural Record's *Record Houses and Apartments of 1972* offers a timely opportunity for manufacturers of quality building products to exert year-long influence on those architects and builders who are at the forefront of the housing boom. It will reach all major groups of specifiers and buyers in this market:

- over 41,000 architects and engineers who are verifiably responsible for 87 per cent of the dollar volume of all architect-planned residential building.

- 20,000 of the nation's foremost builders qualified by Sweet's on the basis of annual building activity to receive the Light Construction File.

- (at your option) 5,000 leading interior design offices qualified by Sweet's to receive the Interior Design File

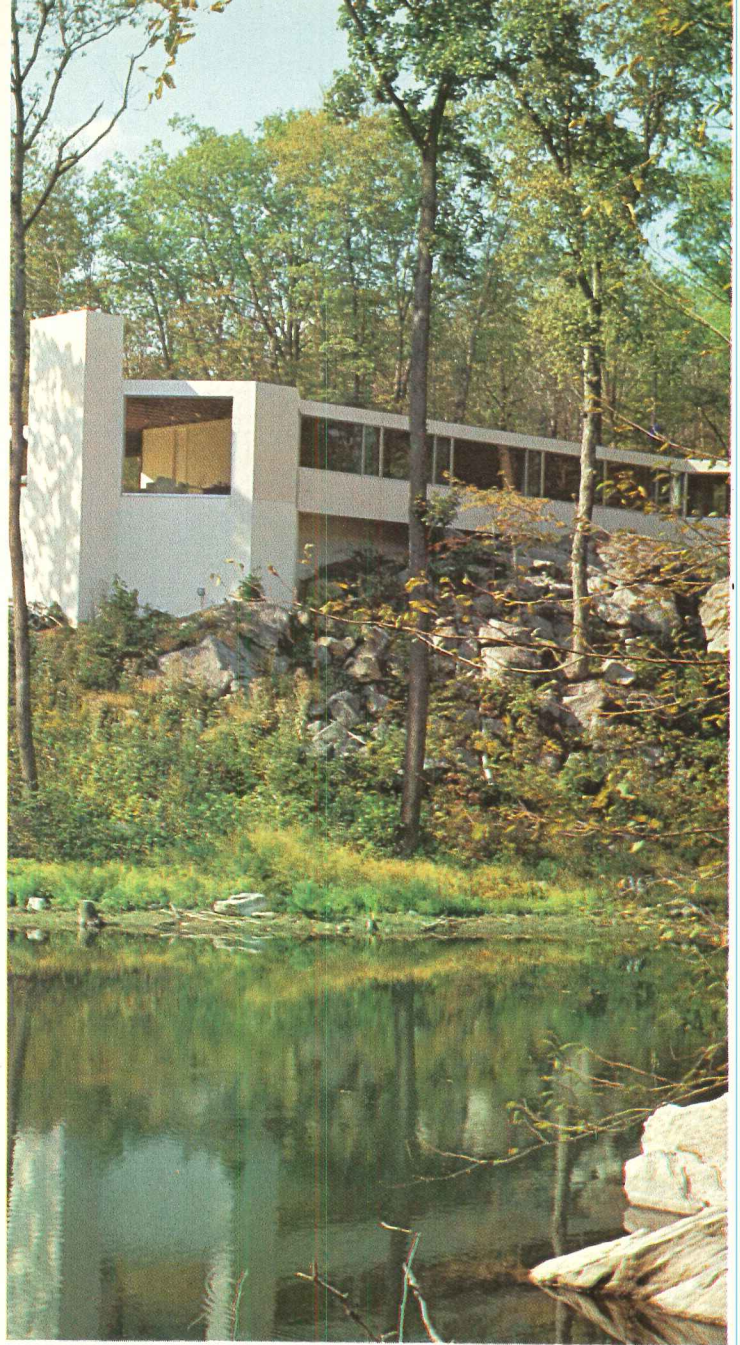
- in addition, bonus bookstore distribution to an influential segment of the house building and buying public.

*Record Houses and Apartments* offers two very special advantages:

**The issue has the longest working life of any issue of any architectural magazine! Architects refer to it five, ten, even fifteen years after publication.**

**Advertisers in *Record Houses and Apartments* earn a lower rate for all their advertising in regular issues of *Architectural Record*.**

Don't miss it! April 15th is the deadline.



**HARSHAW CHROMONYX BLACK CHROMIUM** opens a new world of decorative design in plated finishes. Already being used on appliances, furniture, builder's hardware, lighting, plumbing fixtures, and architectural trim, ChromOnyx offers exciting possibilities for products requiring decorative and corrosion resistant finish. A chromium deposit on a molecular structure altered to give a rich, warm black with a deep, soft reflectivity. Electroplated by traditional methods. Durable, permanent and corrosion resistant. Six-page folder on request. The Harshaw Chemical Co., 1945 97th St., Cleveland, Ohio 44106



For more data, circle 129 on inquiry card

**VPI PLASTICS, INC.** new catalog presents a complete line of solid vinyl floor products in new-trend colors for total design coordination. Specially Featured Micro-Squared tile ensures a practically seamless floor and is ideal for both contract and residential installations. Wall tile of beautiful appearance and superior workability that is guaranteed not to shrink when installed with VPI #300 adhesive. See Sweet's Architectural File 9.23 or mail card.



For more data, circle 130 on inquiry card

**PORTABLE SOLID WASTE AND RECYCLING COMPACTORS** and systems from The Tony Team, Inc. includes four models and great versatility. Pollution Free™ compactors bale, bag and compact all types of wastes and refuse, wet or dry. Machine capacities range from .8 C. Y. to 4½ C. Y. of loose waste at 10 to 1 compaction ratio . . . operate on low amperage, 110-V 60 cycle service. For hospitals, hotels, schools, colleges, restaurants, office and apartment bldgs. Simple adaptation to chute-type disposal systems. Spec sheets and literature available from: The Tony Team, Inc., 7399 Bush Lake Road, Mpls., Minn. 55435.



For more data, circle 131 on inquiry card

**FREE SAMPLES CONTOUR T-LOK SOLID VINYL** exterior siding. Specifications, full-color literature offered by Mastic Corp. Literature describes maintenance-free solid vinyl siding. Never needs paint—solid color clear finish. Does not dent like metal. Does not support combustion. Does not show new mars, scars, abrasions. Carries all major building code approvals. Accepted by HUD. Meets FHA Material Release 1508A. Available in variety of designs, patterns, colors. Mastic Corporation, Dept. AR-4, 130 S. Taylor St., South Bend, Ind. 46701.

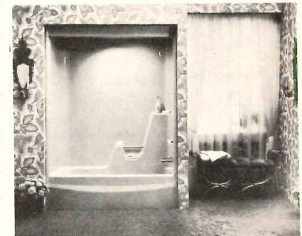


For more data, circle 132 on inquiry card

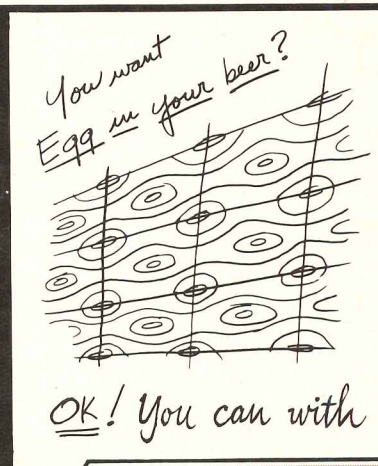
**NEW HOUSING SYSTEM AVAILABLE NATIONALLY**—"Planned for people," Vista-Space is the result of the coast-to-coast experience of 40 American and Canadian firms which produce and erect buildings using precast, prestressed concrete components. In addition to architectural versatility and widespread availability, Vista-Space features economical construction, speedy occupancy, acoustical privacy, plus desirable security from fire with reduced insurance costs. Write for the new VISTA-SPACE brochure, Precast Systems, Inc., Chicago (Rosemont), Ill. 60018.



"Fiberglass bathroom fixtures will be standard in ten years . . .," according to a national trade magazine. Universal-Rundle—the pioneer in introducing fiberglass fixtures to home builders—is now the leading manufacturer of fiberglass tub/shower units. Consult SWEET's Architectural and Light Construction Files for U/R's complete catalog of bathroom fixtures. For a full-color brochure on U/R fiberglass fixtures, write Universal-Rundle Corporation, 217 North Mill Street, New Castle, Pa. 16103.

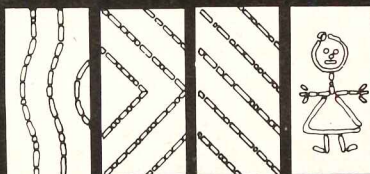


For more data, circle 133 on inquiry card



## New Designs Unlimited UNITS

An exclusive new process provides nearly unlimited flexibility for creating custom face designs. Textured patterns and accents on the wall are truly unlimited, using the Manufacturer's standard faces, or the designer's own new faces . . . This latest addition to our popular DESIGN SERIES widens significantly your selection of 3-dimensional interest in sculptured shapes — shadows and highlights in subtle shadings or bold contrasts — for creative opportunities with color, texture, form, scale and pattern!



Wave Vee Slant (R or L) Raggedy Ann



"Slant" (R & L) combined in wall above.



**POSITION WANTED**

**Architect—Manager NCARB CS1 25 years** experience including specification work. Licensed Florida, Georgia, California. Presently with well-known Los Angeles A. & E. firm. Desires to relocate S.E. United States, prefer North Carolina. Seeking responsible position best utilizing abilities. Married, one child. Resume on request. Reply PW-7330, Architectural Record.

**Architect: NCARB, AIA, CSI, 43, married,** excellent references. 17 years experience with government, educational, medical, industrial, commercial, religious, projects of values to 20 million, with firms of 20 to 200 men. Emphasis: Specifications, drawings, building technology, contracts, problem solving, public shooting, office management. I seek greater responsibilities, opportunities, and compensation, with aggressive, contemporary firm. PW-7492, Architectural Record.

**Need somebody who can take responsibility?** Architect, NCARB certificate, 18 years commercial, industrial, meat-packing experience, last 12 years in own office. Left holding lien on bankrupt multi-million project. Want to relocate, join small architectural office on salary or incentive basis. Write for full details. PW-7490, Architectural Record.

**Architect, Ohio registration. Desires high** quality residential design position. PW-7268, Architectural Record.

**EMPLOYMENT SERVICE**

**Career Builders, Inc., Agency—Complete range** Architectural and Interior Design placement under the direction of Ruth Hirsch, Apprentices to Senior Designers and Project Architects. Professional screening and personalized service. References checked, 501 Madison Ave., New York, N.Y. 10022, PL 2-7640

**SPECIAL SERVICES**

**Lighting Design Service Fixture Layouts;** written specifications. Churches, banks, offices, schools floodlighting; street lighting. Special fixture design; sketches, working drawings to satisfy art form and engineering function reflectors; precise beam control; prototypes per diwm or job. Short or long term. Robert M. Edwards, Jr., Haddam Quarter Road, Durham, Conn. 06422 (203) 49-8272.

**BUSINESS OPPORTUNITY**

**Public Relations professional with 15 years'** experience handling top architectural clients recently gave up Madison Avenue hoopla to operate modest, personalized one-man service. I am seeking one or two clients, large or small, requiring expertise in publicizing projects nationally or locally, brochures, reports, speeches, all writing assignments. Retainer or project basis. Please reply to PW-5225, Architectural Record.

**FILMSTRIP AVAILABLE**

**Architects: Now available for meetings, new** DuPont filmstrip, with scenaria, describing commercial carpet fibers, carpet backing and constructions. An excellent primer for carpet specifications. Dukane projector requires rental (Dukane distributors list provided). Write: DuPont, Dept. ARC, Textile Fibers, Centre Rd. Bldg., Wilmington, Del., 19898, Attention: W.F. Morris.

**SELLING OPPORTUNITY AVAILABLE**

**Manufacturer's Representatives—Dynamic** manufacturer proprietary Radiant Acoustical Ceiling Systems has exclusive territories available in the following general trading areas: Chicago, Saint Louis, Richmond, Colorado, Kentucky, Texas, and Florida. Established product lines used to heat, cool and quiet new hospitals, educational, public and office buildings. Lucrative growth opportunity if you have successful track record in promotional sales to architects and consulting mechanical engineers. Experience in heating and cooling very desirable. Write International Environment Corporation, 2740 East County Line Road, Ardmore, Pennsylvania 19003.

**Representatives wanted with high quality** luxury experience to sell large and unique collection of scenic (mural) panels with broad acceptance by architects, specifiers, designers for government, hotels, banks, restorations, executive offices, restaurants and institutions. Liberal commission with protected exclusive territories: Baltimore, Boston, Buffalo, Cincinnati, Cleveland, Dallas, Detroit, Houston, Kansas City, Milwaukee, Minneapolis, Philadelphia, Pittsburgh, St. Louis, Washington, D.C. RW-7682, Architectural Record.

**Manufacturers Reps wanted by long estab-** lished aluminum metal pan acoustical ceiling tile manufacturer with new and proven items to merchandise. Looking for agents who call on architects for our "Spec" items; and general contractors, acoustical contractors, lumber yards, building supply houses, etc., for our "Direct Sale Items". Many territories open. Commission basis. Flexible agency policy. No stock to carry. Write to Simplex Ceiling Corp., 663 Fifth Avenue, New York, N.Y. 10022.

## Classified Section Non-Display Order Form

To place a non-display advertisement, fill out this form, including your name, street address, city & state with ZIP code, attach it to a separate sheet containing your advertising copy, and mail it to:

ARCHITECTURAL RECORD / P.O. BOX  
12  
NEW YORK, N.Y./10036

Rates: \$3.80 per line, minimum insertion ten lines, six words to a line, box number counts as one additional line. Display rates on request.

Payment Enclosed \$ . . . . .  Bill me

Use Name & Address  Use Box No.

Advertisement to appear . . . . . time(s)

.....  
Signature

**LAMINATED PLASTIC /** A high-pressure decorative-product which reportedly incorporates a higher degree of fire resistance than other types of laminated plastic is described in a 4-page brochure. The ability of the material to meet code regulations depends upon the facing, substrate, application method, and bonding adhesive. Panels are offered in velvet, luster and textured finishes. ■ Consoweld Corp., Wisconsin Rapids, Wis.\*

Circle 421 on inquiry card

**PORCELAIN-ON-STEEL PANELS /** UL 1½-hour fire-rated panels with polyurethane, polystyrene, perlite and fiberglass cores are described in a 16-page brochure. Interior and exterior applications and detailed specifications are included. ■ AllianceWall Corp., Alliance, Ohio.

Circle 422 on inquiry card

**SKYLIGHTS /** A complete custom-designed line is presented in a recently published catalog. Technical data and specifications are included. ■ EPI Architectural Systems, Inc., Pittsburgh.

Circle 423 on inquiry card

**CHURCH FURNITURE /** A complete line of church seating and chancel furniture is presented in a catalog. Types of pews and styles of pew ends are discussed. ■ Endicott Church Furniture, Winona Lake, Ind.

Circle 424 on inquiry card

**LAMINATED STRUCTURES /** A 16-page brochure describes the company's full service capabilities in the design, engineering and construction of glued laminated wood structural systems. Beams, arches and columns are illustrated in commercial and institutional applications. ■ Koppers Co., Inc., Pittsburgh.\*

Circle 425 on inquiry card

**TEXTILE-FACE WALL COVERING /** A contract folio for architects, specifiers and designers contains samples of 10 patterns in 323 colorways, as well as complete technical specifications and photos. ■ Combeau, New York City.

Circle 426 on inquiry card

**PIPE RAILING SYSTEM /** Pre-anodized, standardized parts, pipe, and accessories comprise the system. Product was designed to make available anodized aluminum pipe railings with "strength comparable to that of steel and yet at little more cost than painted, galvanized steel railings." ■ Reynolds Metals Co., Park Ridge, Ill.\*

Circle 427 on inquiry card

**MASONRY CONCRETE /** A full line of products including structural, screen, split and profile block is described in a brochure. Data sheets contain design and technical information. The company's facilities and capabilities are discussed. ■ Smithtown Concrete Products Corp., Smithtown, N.Y.

Circle 428 on inquiry card

**FLOORING ACCESSORIES /** A recently published catalog presents a complete line of rubber and vinyl stair treads, cove base, carpet edging, reducer strips, stair nosing and risers. ■ Johnson Rubber Co., Middlefield, Ohio.

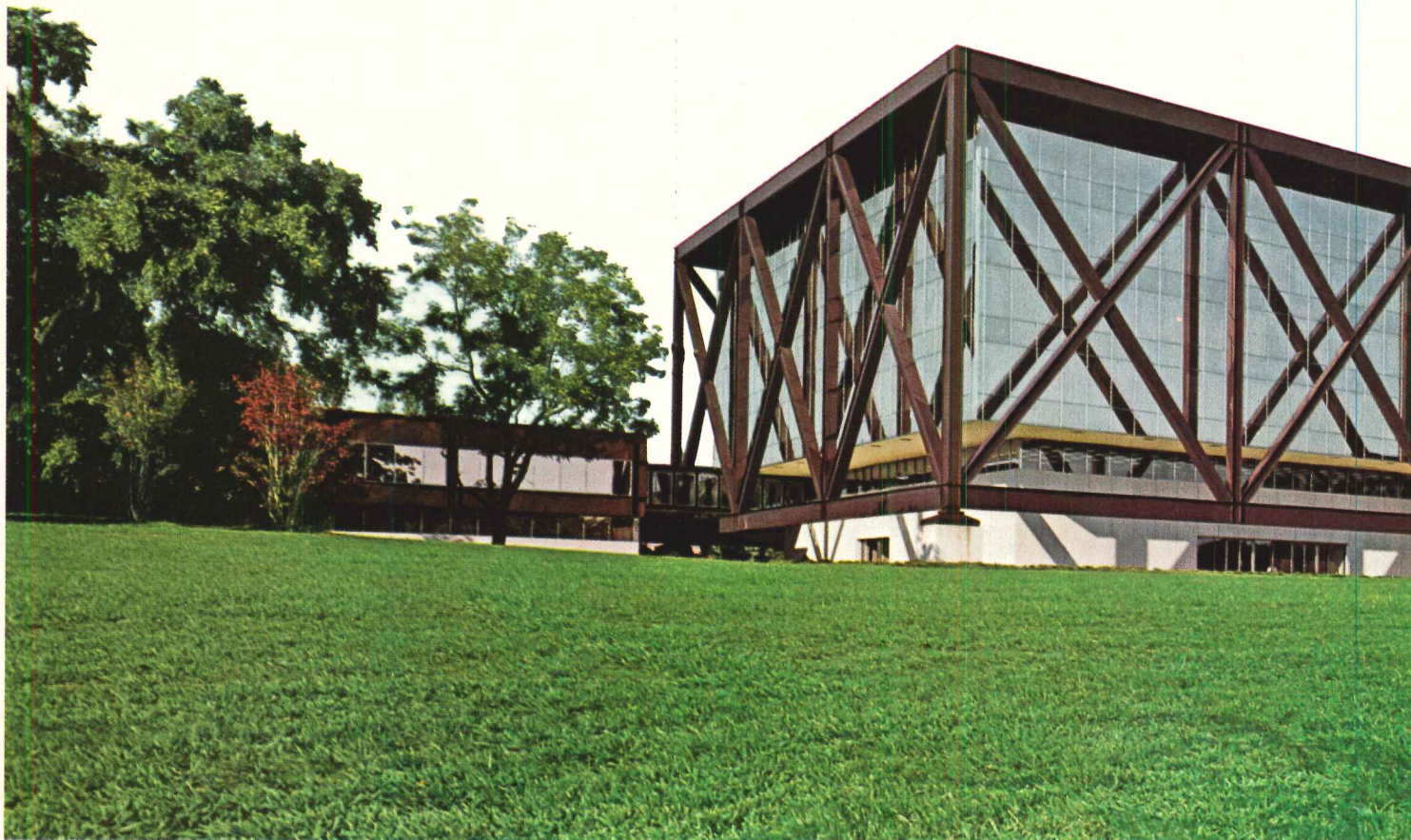
Circle 429 on inquiry card

# A Bold Corporate Look

Exposed steel, mirror glass and a park-like setting are the distinctive and highly visible elements of Burlington Industries' bold new Corporate Offices at Greensboro, North Carolina.

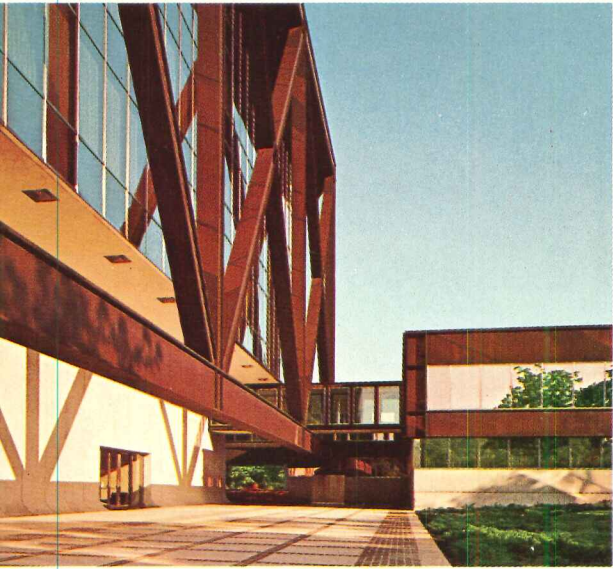
The requirements for a structure which would project the owner's corporate identity and provide maximum flexibility were handsomely met by steel—used both structurally and aesthetically.

The complex is comprised of two distinct structural systems. The dominant six-story tower of exposed painted steel trusses and reflective glass, houses executive and staff functions. The tower is 152' square with a welded, steel-framed central core housing its services. The top four floors are suspended by hangers from the roof grid while the lower two floors are supported by columns on a caisson foundation. Surrounding the tower on





# efined in Steel



three sides and connected to it by three pedestrian bridges is a bolted, steel-framed, three-story structure which houses corporate, departmental and divisional offices and auxiliary functions.

Exposed steel in the trusses and in the 5/16-inch plate facia around the low-rise structure

re painted a dark earthen hue.

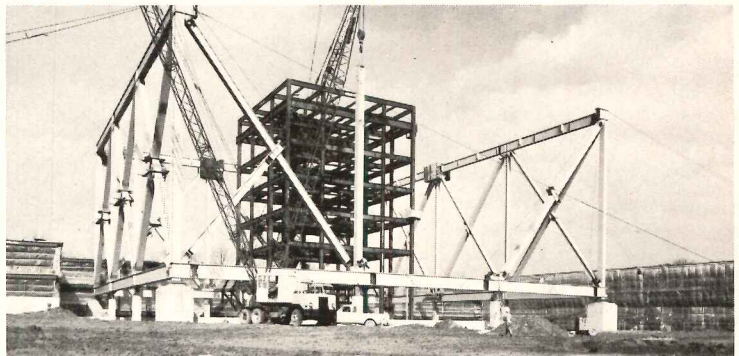
Studies to determine the materials to be used indicated that steel would be the most economical system to satisfy both functional needs and the strict timetable that was set for completion of the structure.

For more detailed information, we'll be happy to send you a copy of our new Structural Report titled Burlington Industries Corporate Offices (ADUSS 27-5084-01). Contact a U.S. Steel Construction Marketing Representative through your nearest USS Sales Office or write: U. S. Steel, 600 Grant St. (ADUSS 7451), Pittsburgh, Pa. 15230.

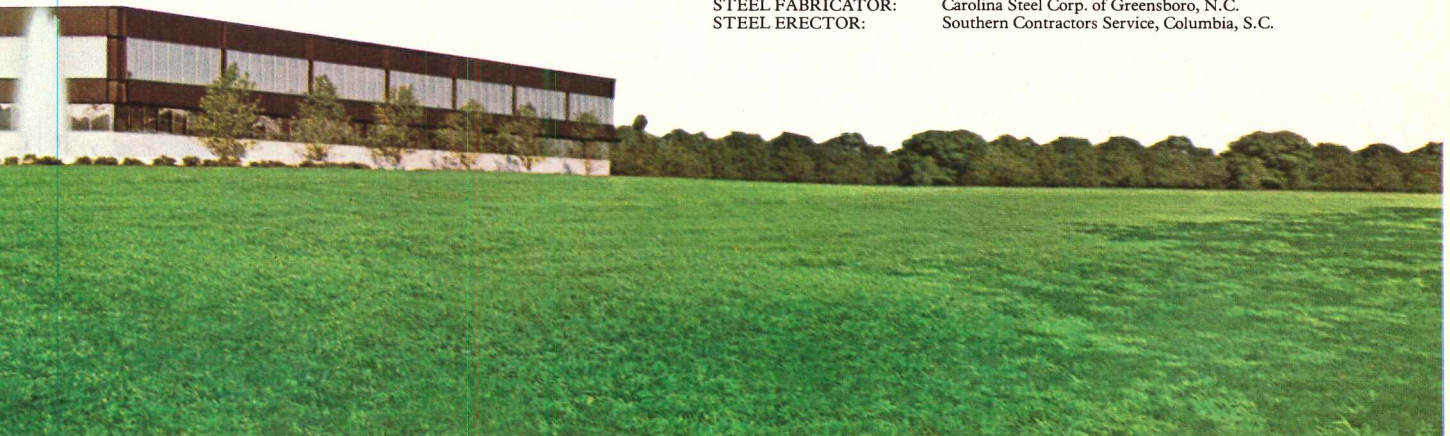


**United States Steel**

TRADEMARK



OWNER: Burlington Industries, Inc.  
ARCHITECT/ENGINEER: Odell Associates Inc., Charlotte, N.C.  
GENERAL CONTRACTOR: North Carolina Division, Daniel International Corp., Greensboro, N.C.  
STEEL FABRICATOR: Carolina Steel Corp. of Greensboro, N.C.  
STEEL ERECTOR: Southern Contractors Service, Columbia, S.C.



# ADVERTISING INDEX

Pre-filed catalogs of the manufacturers listed below are available in the 1972 Sweet's Catalog File as follows.

- A Architectural File (green)
- I Industrial Construction File (blue)
- L Light Construction File (yellow)
- D Interior Design File (black)

## A

Aerofin Corp.	33
A Alcan Aluminum Corp.	152
A-I AllianceWall Corporation	95
A-I-D Allied Chemical Corp., Fibers Div.	27
All-Steel Equipment Inc.	23
A-I-D Aluminum Co. of America	60-61
D American Enka Corp.	52-53
American Laundry Machinery Industries	90
A American Olean Tile Company	185
A-D American Seating Co.	30
A Amweld Building Products Div.	86
A-L Andersen Corp.	202-203
Architectural Record	206
Argos Products Co.	71
A-I-L-D Armstrong Cork Co.	49
A-I ASG Industries Inc.	54
AVM Corporation Jamestown Products Division	200
A-L Azrock Floor Products	3rd Cover

## B

A Ball Corp.	199
A Bally Case & Cooler, Inc.	59
A Beneke Corporation	166
Bethlehem Steel Corp.	20-21
A Bobrick Corporation, The	161
A-I Bradley Washfountain Co.	169
Bruning Co., Charles	214
A-D Burke Rubber	32-3
A-I Burns & Russell Co.	207

## C

A-L Cabot, Inc., Samuel	71
A-L Caradco Division of Scovill Mfg. Co.	148-149
A-D Carpenter & Co., L. E.	199
Chrysler Corp., Airtemp Div.	68-69
A-I Clark Door Co., Inc.	55
A Cold Spring Granite Co.	2nd Cover-1
Columbus Coated Fabrics	15
A Combustion Engineering—C-E Glass Division	172-173, PB 7
Commercial Carpet Corporation	81
D Cramer Industries, Inc.	195, 197
A Crouse-Hinds Company	28-29

## D

A Dap Inc.	6-7
A Dempster Brothers, Inc.	193
Dimensional Systems, Inc.	204
A Dover Corp., Elevator Div.	34
A-I Dow Corning Corp.	31

## E

Eastman Kodak Co.	24
Electric Energy Association	72-73
Emhart Corp.	96
Executone, Inc.	43

## F

Fife, Inc., Richard	26
A Follansbee Steel Corp.	70
A-L-D Formica Corp.	22

## G

A-I-L-D General Electric Co.	56
A-I-L-D General Electric Co., Large Lamp	38-39
A-I-L-D Georgia-Pacific Corporation	191
Golfomat	204
A Granco Steel Products Co.	62
A-I Grefco Inc., Building Products Div.	42
GTE-Sylvania, i/C Lighting	88-89

## H

Hager Hinge Company	186-187
Harshaw Chemical	207
A Haughton Elevator Company	25
A hc Products Co.	189-190
A-I-L-D Hercules Incorporated	91
A-I Hillyard Chemical Co.	82
Holophane Co., Inc.	67
Honeywell	180-181

## I

Ickes-Braun Glasshouses Inc.	182
Itek Corp.	50

## J

A Jackson Products	176
Jamestown Products Division AVM Corporation	200
A Jamison Door Co.	157
Jay Norris Corp.	PB 11
Jute Carpet Backing Council, Inc.	71

## K

A-I-L-D Kaiser Aluminum & Chemical Corp.	147
A KDI Paragon	204
A-I Keene Corp., Sechrist-Lighting Div.	2-3
A-I-L Keystone Steel & Wire Co.	17
A-I Kinnear Corp.	171
A-I Kohler Co.-Electric Plant- Standby	79
A-D Krueger Metal Products Co.	87

## L

LCN Closers, Inc.	76
A-I-L Libbey-Owens-Ford	84-85
Lyon Metal Products	PB 5

## M

Magee Carpet	11 to 14
A Maintenance, Inc.	170
A Massey Seating Co.	170
Mastic Corp.	207
A McQuay Division—Perfex, Inc.	75
Medusa Portland Cement Co.	83

## N

National Electrical Contractors Association	168
A-I-L-D National Gypsum Co.	183-184
A Nor-Lake, Inc.	188
North Carolina Granite Corp.	176
L Norris Industries	32-1
A Norton Door Closer Div.	19, 164

## O

A-I Onan Division, Onan Corporation	64
A Otis Elevator Co.	18
A-I-D Owens-Corning Fiberglas Corp.	44-45, 51

## P

A Pella Rolscreen Co.	159-160
Penn. Grade Crude Oil Assoc.	PB 9
Pennwalt Chemicals Corp.	153
Phillips Fibers Corp.	198
A Pomona	185
A-I-D PPG Industries Inc.—Coatings & Resins	192
A-I-D PPG Industries, Inc. General Industries Finishes	32
A-I-D PPG Industries, Inc. Commercial Glass	154-155
Precast Systems	207
Probbler, Inc., Harvey	201
A Pyrotronics Inc.	92-93

## R

RCA Mobile Communications Systems	PB 3
A-I Red Cedar Shingle & Handsplit Shake Bureau	170
A Republic Steel Corp.	177
A Robbins Flooring Div.	179
A-L Rohm and Haas Company	175
Rohn Mfg. Co.	94
Russwin, Div. Emhart Corp.	96

## S

A Sanymetal Products Company, Inc.	80
A Sargent & Company	63
Sauder Designare International Inc.	182
A Season-All Industries, Inc.	156
A-I Shatterproof Glass Co.	158
A Silbrico Corp.	196
A-I Sloan Valve Company	4th Cover
A Soss Mfg. Co.	176
A-I Span-Deck Mfg. Assn.	205
A-L Speed Queen, Div. of McGraw-Edison Co.	165
Square D Company	182A
A Standard Conveyor Co.	164
A Summitville Tiles, Inc.	167
Sweet's Catalog Service	213

## T

Teledyne Post	PB 2
A-I Thiokol Chemical Corp.	194
Tony Team	207
A Trans-Vac Systems Div.	200
A Tremco Mfg. Co.	40-41
Trinity White, General Portland Cement Co.	57
Tyler Pipe Industries	178

## U

A-D United States Gypsum Co.	150
A-I United States Steel Corp.	210-211
Universal Rundle	207
A-L Uvalde Azrock	3rd Cover

## V

Viking Corporation	164
Vinyl Plastics	207
Vollrath Co.	77

## W

W. A. Sheaffer Pen Co.	PB 9
Walker/Parkersburg Div. of Textron Inc.	16
A Watson Mfg. Co.	174, 188
Wells Fargo Bank	32-2
A-I-L Weyerhaeuser Company	8
A Wide-Lite Corporation	162-163

## Z

A-I Zero Weather Stripping Co., Inc.	182B
A-L Zonolite Division	58



# A useful new directory in Sweet's!

• Consultants • Services • Contractors

Check Section 1.1 in the first volume of your 1972 Sweet's Architectural Catalog File—you'll find an informative new Directory of specialized services required in your day-to-day operations: design services, support services, and contracting services—all indexed and informatively detailed according to scope of service, unique capabilities, notable clients/projects, and geographic area served.

When you contact a firm from the Directory, why not mention that you found them in Sweet's . . . they'd like to know.

## Sweet's Division

McGraw-Hill Information Systems Company  
330 West 42nd Street, New York, N.Y. 10036

### ARCHITECTURAL RECORD

McGraw-Hill, Inc., 330 West 42nd Street, New York, New York 10036  
Advertising Sales Mgr.: Louis F. Kutscher (212) 971-2838  
Eastern Sales Mgr.: Donald T. Lock (212) 971-3583  
Central Sales Mgr.: Robert G. Kliesch (215) 568-6161  
Advertising Services Mgr.: Joseph R. Wunk (212) 971-2793  
Marketing Services Mgr.: Elizabeth Hayman (212) 971-2858  
Research Mgr.: Camille Padula (212) 971-2814  
Classified Advertising: (212) 971-2557

#### District Offices:

**Atlanta** 30309  
Edward G. Graves, 100 Colony Square, 1175 Peachtree St., N.E.  
(404) 892-2868

**Boston** 02116  
607 Boylston St., (617) 262-1160

**Chicago** 60611  
Robert T. Franden, Edward R. Novak, 645 N. Michigan Ave.  
(312) 664-5800

**Cleveland** 44113  
Willis W. Ingersoll, 55 Public Square, (216) 781-7000

**Dallas** 75201  
Dick Grater, 1340 Republic National Bank Building  
(214) 747-9721

**Denver** 80202  
Harry B. Doyle, 1700 Broadway, (303) 266-3863

**Detroit** 48226  
Richard D. Thielmann, 2600 Penobscot Bldg., (313) 962-1793

**Los Angeles** 90017  
Richard R. Butera, 1125 W. Sixth St., (213) 482-5450

**New York** 10036  
Donald T. Lock, Ted Rzempoluch, Michael M. Wood, 330 W. 42nd St.  
(212) 971-3583

**Philadelphia** 19103  
Robert G. Kliesch, George T. Broskey, 6 Penn Center Plaza  
(215) 568-6161

**Pittsburgh** 15222  
Edward C. Weil, 4 Gateway Center, (412) 391-1314

**St. Louis** 63011  
Richard Grater, Manchester Rd., (314) 227-1600

**San Francisco** 94111  
Richard R. Butera, 425 Battery Street (415) 362-4600

#### Overseas Offices:

**Brussels**  
Galerie Porte de Namur, 22-26, Chaussee de Wavre  
1050 Brussels, Belgium

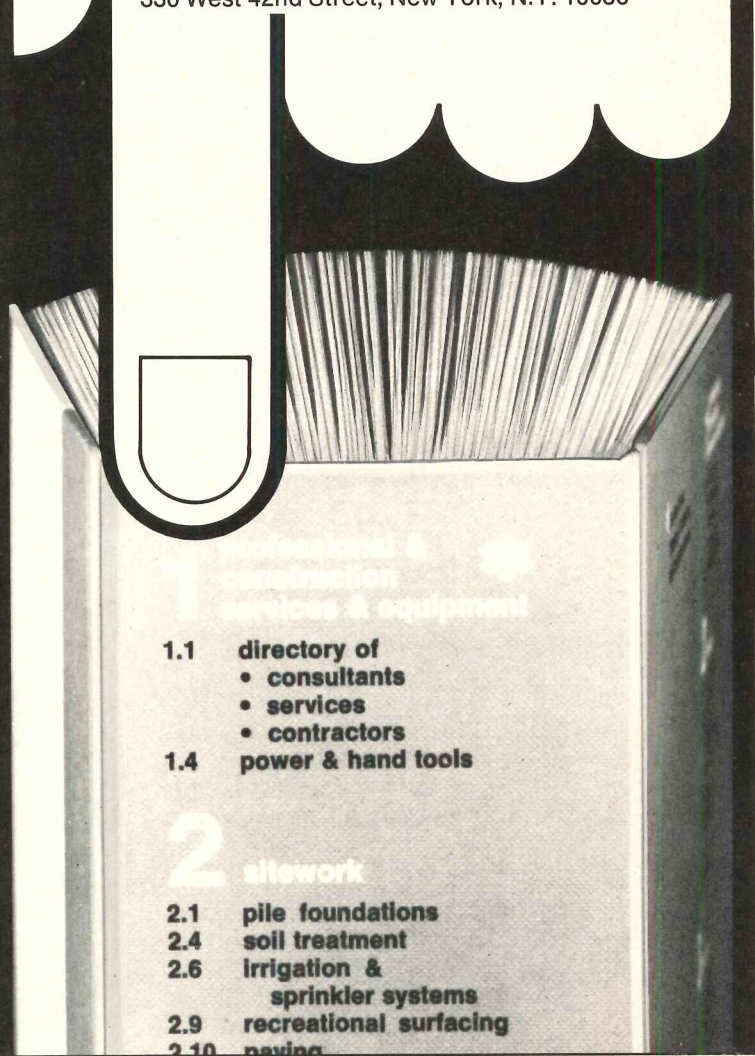
**Frankfurt/Main**  
Elsa-Brandstroen Str. 2, Frankfurt/Main, Germany

**London**  
34 Dover Street, London W.1, England

**Milan**  
Via Baracchini No. 1, Milan, Italy

**Paris**  
17, rue Georges Bizet, 75 Paris 16<sup>e</sup>, France

**Tokyo**  
2-5, 3-chome, Kasumigaseki, Chiyoda-ku, Tokyo, Japan



1.1 directory of  
• consultants  
• services  
• contractors

1.4 power & hand tools

2 sitework

2.1 pile foundations  
2.4 soil treatment  
2.6 irrigation & sprinkler systems  
2.9 recreational surfacing  
2.10 paving

# Here's an idea as fresh as a daisy.

## New odorless convenience copier for fast engineering check prints.

Now your entire drafting department can breathe easier! That's what Bruning's PD-80 can do for your drafting and check print operation.

No ammonia, no venting problem. That's the beauty of the remarkable Bruning PD Process.

That—plus the PD-80's compact design (64" x 13 1/2" high) — means you can put it anywhere. Make quick check prints right where you make your drawings. No long walks, no long waits. Whether you make just a few prints a day, or dozens, the PD-80 will really pay off in the valuable time it saves your busy draftsmen.

The fast, high-quality PD-80 is the only odorless convenience engineering copier. Turn it on, feed tracings at once, get finished prints in seconds.

Your local Bruning man is ready to show you the remarkable PD-80 in action in your drafting room, using your tracings. And to show you how easy it is to put this cost-cutting machine to work for you on an attractive rental plan. With no capital investment, no long-term commitment.

Call our office nearest you. Or contact us at 1555 Times Drive, Des Plaines, Ill. 60018.

Once you've had a whiff of this great new idea in check printing you'll want a PD-80 in your drafting room as soon as possible.



# BRUNING DIVISION

ADDRESSOGRAPH MULTIGRAPH CORPORATION



For more data, circle 135 on inquiry card



# Azrock—the almost perfect floor...

## for Hospitals

Azrock vinyl asbestos tile serves more hospital requirements more perfectly than any other type of flooring. Yet it costs less than half as much as it did 20 years ago. And today it's a better floor. Here's why you can specify Azrock with confidence:

- Styled to coordinate with contemporary interiors
- Long lasting durability
- Fire safe, will not support combustion
- Shock proof
- Easy, economical cleaning and stain removal
- Resilient underfoot comfort
- Lowest motion resistance
- Non-allergenic, mildew proof, no odor retention
- Exceeds federal specifications
- Low-cost maintenance
- Low initial cost

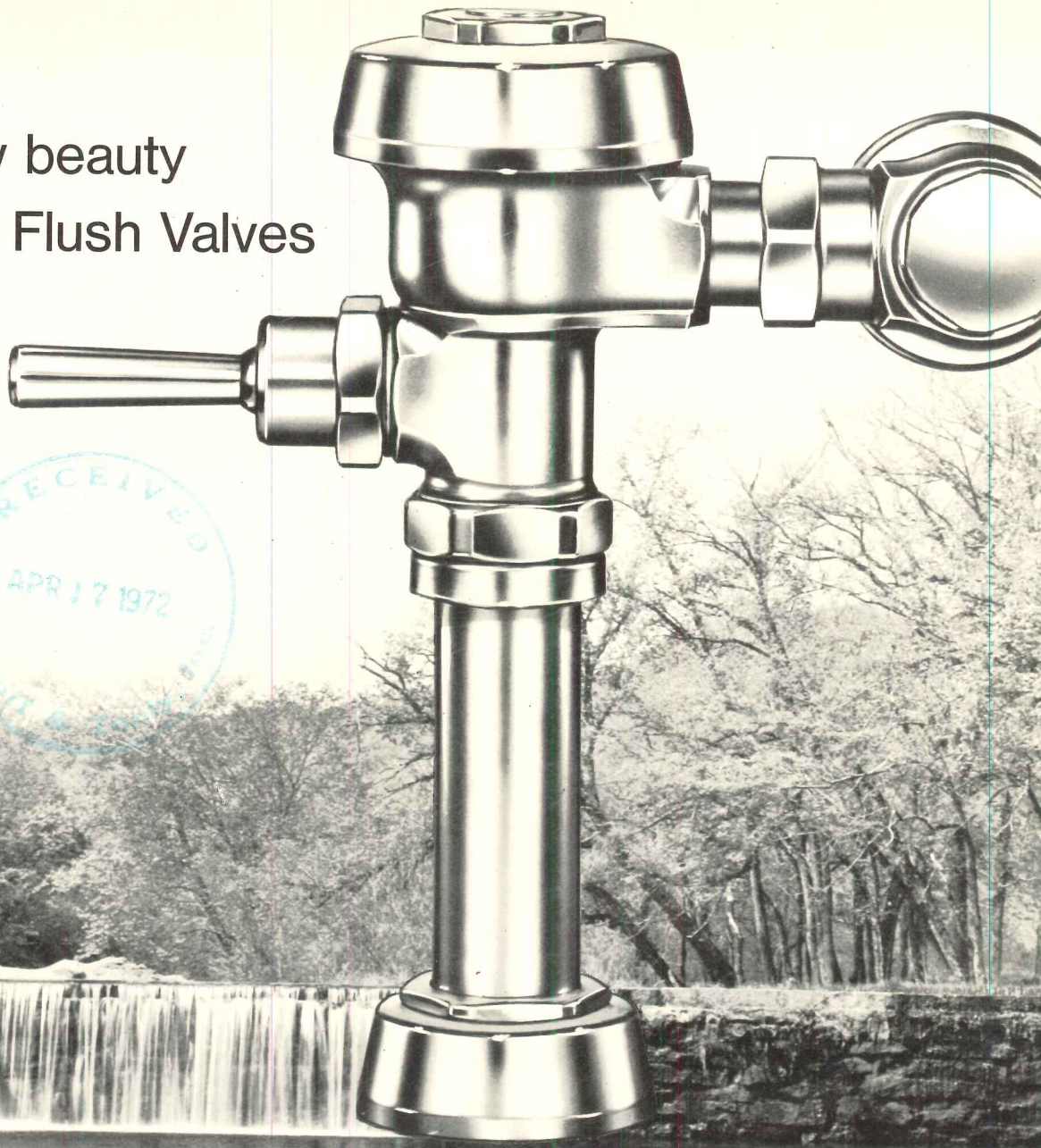
More vinyl asbestos tile is used in hospitals than any other kind of flooring. Keep patients and staff safe and comfortable with low-cost Azrock vinyl asbestos tile—the best floor for hospitals.

*Floor shown: Thru-Onyx, one of over 150 colors and styles.*

the vinyl asbestos  
floor tile people



# The new beauty of Sloan Flush Valves



Sloan Flush Valves are now dramatically restyled. Totally new contours shape their beauty in the elegant simplicity of classic design.

And this new regal appearance complements the traditional quality that has sustained Sloan Flush Valve leadership for more than sixty years.

To make sure your new building has the best in quality with beauty unsurpassed, specify Sloan Flush Valves—as most people do.



**SLOAN VALVE COMPANY**  
10500 Seymour Avenue,  
Franklin Park, Illinois 60131

*For more data, circle 137 on inquiry card.*