CHURCH OF THE COVENANT, CLEVELAND, OHIO, BY RICHARD FLEISCHMAN, INC.

INTERIORS: TWO OFFICES AND TWO SHOPS DESIGNED FOR SPATIAL DRAMA

A REPORT ON LIFE AND ARCHITECTURE IN CHINA TODAY

THREE PROJECTS BY HOBERMAN AND WASSERMAN

BUILDING TYPES STUDY: RELIGIOUS BUILDINGS

FULL CONTENTS ON PAGES 10 AND 11

ARCHITECTURAL RECORD

SEPTEMBER 1974 9 A McGRAW-HILL PUBLICATION THREE DOLLARS PER COPY

This page:

Left: Residence
Arch.: Robert O. Holm

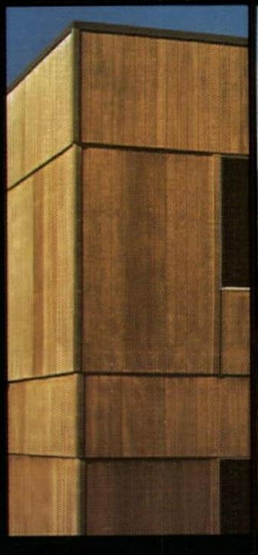
Opposite page:

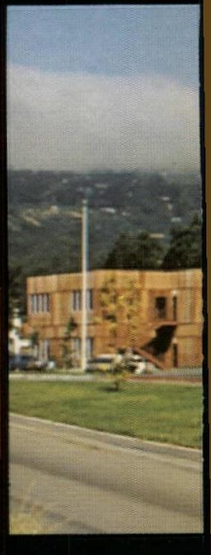
Upper left: Medical Clinic, Bakersfield, Ca.
Archs.: Badgley & Brady

Top right: Tahoe Tavern, Tahoe City, Ca.
Archs.: Bull, Field, Volkmann, Stockwell

Middle right: Auditorium, Normandale State Junior College, Bloomington, Minnesota
Archs.: Community Planning & Design Assoc., Inc.

Below: Middle School, Mill Valley, Ca.
Archs.: Wong & Brocchini & Associates
Note slip-shingle overlap application in detail below left.

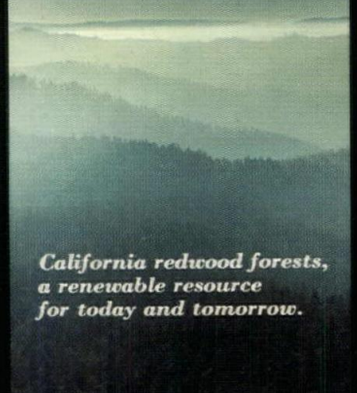




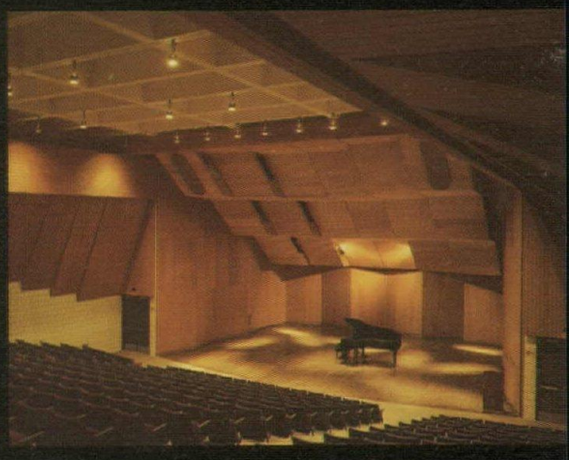
Redwood Plywood.

Not just because it's beautiful.

Because it works.



California redwood forests, a renewable resource for today and tomorrow.



Rich, natural beauty is obviously the primary reason for building with redwood plywood. Wherever it is used — commercially or residentially, indoors or out — it brings a warm visual appeal not only to the structure itself, but to the environment in which it is set.

But beyond aesthetic values, redwood plywood offers many practical advantages and economies to the architect and builder. For example, it is naturally resistant to weathering, and has a high capacity for taking and holding all kinds of finishes.

Redwood plywood, in 5/8" thickness, has earned a low flame-spread rating that qualifies it for all Class II uses in the Uniform Building Code.

Redwood plywood has an unusually high strength-to-weight ratio. It can be applied directly to studs, without diagonal bracing or building paper. It is available not only in standard 4 x 8 panels, but in 4 x 9 and 4 x 10 sizes, for greater flexibility in modular planning and installation.

Redwood plywood, like other forest products, affords high insulation value, an important factor in conserving heat and energy.

And redwood plywood offers a variety of design patterns — plain, grooved and inverted batten — with saw-textured facings that combine high surface interest and low maintenance.

The photographs above illustrate many of these patterns in a wide range of uses. For more information on redwood plywood, write to Department P for an 8-page color booklet. Data also available in our catalogs in Sweet's Files.

CALIFORNIA REDWOOD ASSOCIATION 617 Montgomery Street, San Francisco, California 94111.

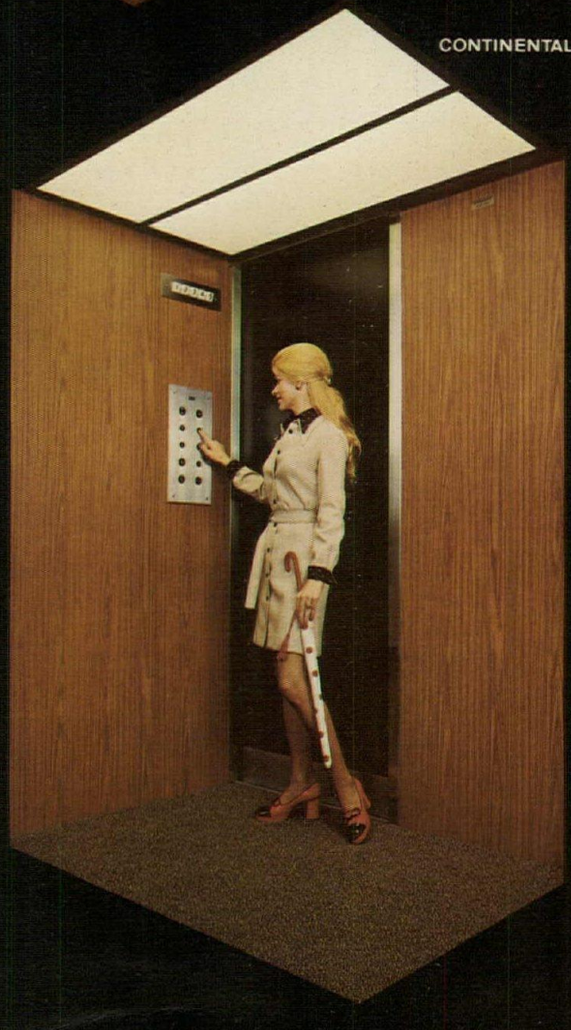
For more data, circle 2 on inquiry card

KINGSWOOD

MARQUIS

FLEETWOOD

CONTINENTAL



Dover just made it easier for you to specify elevators.

With new pre-engineered models and new cab designs.

Dover now offers four completely designed and pre-engineered Oildraulic® elevators ready to fit into your building plans.

You save on design time and delivery time. Your client saves money. And each of these elevators has options in specifications and finishing techniques to give you even wider choice.

All are designed to serve low-rise buildings of various types: apartments, office and educational buildings, hospitals, and nursing homes. With the sizes and capacities available there's probably one that will suit the needs of a project on your boards right now.

Kingswood—Our biggest pre-engineered model. Capacity of 4000 lbs., car platform size 5'8" wide by 8'8" deep. Designed to accommodate hospital beds, stretchers, other medical equipment.

Marquis—Center-opening doors for quick passenger movement. Capacity is 2500 lbs., car platform 7' wide by 5' deep. Plastic laminate walls or select from a wide variety of colored and wood-grained removable wall panels.

Fleetwood—Capacity of 2000 lbs., car platform 6'4" wide by 4'7" deep. Choose either plastic laminate or removable panel walls. Stainless steel or wood-grain handrail. Single-slide doors, right-hand or left-hand.

Continental—For light-traffic situations. Capacity 1500 lbs., car platform 5'2½" wide by 4' deep. Single-slide right-hand door. Plastic laminate or removable panel walls.

Dover's pre-engineered Oildraulic elevators are manufactured to our uniform high quality standards. And that's your best guarantee of an elevator system that will give years of dependable, trouble-free service.

For complete specifications and detail drawings of Dover's time-saving pre-engineered elevators, Oildraulic and Traction, write Dover Corporation, Elevator Division, Dept.A–9,P.O. Box 2177, Memphis, Tennessee 38101. In Canada: Dover/Turnbull.

DOVER DEPENDABILITY
It's better in the long run.

DOVER

For more data, circle 3 on inquiry card

Letters to the editor

Thank you for your July 1974 Editorial which reminded my associates and me of our position in the "World of Architecture."

The equalitarian approach over the years has been so appalling that it has reached into our every day "life style" (note: cliche).

The public impression (or lack of it) has been a direct result of our humble attitude. There is nothing humble about what we do and pride of profession, yes, and even ego should become a part of *our* "style."

It was not until I started working overseas many years ago that the pride in one's accomplishments was restored.

For many years I have carried a news report about Mr. Wright, which has always amused me, but also reminded me that Architects are special people, and their contributions are a part of our life in these United States. For Mr. Wright never forgot (nor let anyone else forget) who he was.

Bravo to an Editor who tells it like it is.

E. Araben, president
E. Araben Associates, Inc.
Architects and planners

Your Editorial July 1974 is great. I'm sick too of gloom peddlers.

Bill Caudill
CRS

The Editorial in your magazine's issue of July 1974 was cogently presented as a critique on our architectural profession nationally. We need to be more positive in our relations with the public, and we should not baby certain minority groups nor should we scold ourselves as Mr. Wagner has indicated.

It is believed that we will gain more respect by concentrating on the best methods and use positive attitudes to promote our professional work and ourselves.

George Stephen Lewis,
AIA, CSI, KT, GSMP
National "Legislative Minuteman"
for the AIA

Hooray!

Good Editorial in the July issue. Hope it hits home.

Relta Gray
Bozell & Jacobs/Pacific
Management consultants

The Miami-Dade Community College-Downtown article was great! Very well put together and nice words.

Edward G. Grafton, AIA
Ferendino/Grafton/Spillis/Candela

While I was recently visiting my brother (a practicing architect in Cincinnati), he brought the December, 1973 issue of ARCHITECTURAL RECORD to my attention. Of course, he knew that I live in one of the new towns featured in that issue. As my wife and I read the articles on new towns, we were able to focus on a bothersome aspect of our life in Park Forest South. We are living now—in the present tense—in a community of the future.

The descriptions of the new towns are liberally sprinkled with verbs in the future tense. The articles speak of plans and projections. I'm sure that this emphasis of the future is appropriate for your readers, but it is hard for this layman to feel comfortable with such terms.

Regardless of my personal feelings toward living now in a community of the future, I am convinced that the success of the planned communities will depend to a great degree on how successfully architects and planners can enable residents of these communities to pursue the desirable life during the development period. If the present trend toward scarcity of land, fuel, drinking water and building materials continue, planned communities may soon become a matter of necessity rather than desirability. Until that time, however, the viability of a planned community will depend upon its ability to attract and hold individual and corporate citizens. To do so, it must offer its residents some clear advantages over neighboring communities. Newness, by itself, is short-lived. Thus the new community and its developers are faced with the problem of providing both the expected services and amenities and the new town advantages before there is an adequate tax base to support them. In the absence of these services and amenities, there is little incentive for residents to stay. A forest of For Sale signs hinders both the social development of the town and the marketing of new construction.

The mercantile establishment of Park Forest South includes a bank, a gas station, an ice rink and several convenience shops, but no supermarket. A town of 5,000 (and growing) should be able to easily support a supermarket. One is planned, but its projected size is too large for the Village now. Soon, we'll need the larger store. Meanwhile, we have to drive 4 to 8 miles each way to buy groceries and the Village loses the sales tax revenue it needs to provide the expected municipal services. We also lose the community identification which a local store can help to establish. While this example may be unique to Park Forest South, it illustrates the kind of problem which a new town may encounter, and which must be solved if the new town is to succeed.

I would like to suggest that a brief discussion of what might be called the present/future dichotomy would be an appropriate epilogue to your Building Types Study on new towns. The matter of developing the new town in such a way as to make it a desirable community during its growth period seems to be an important aspect of the planning process. If you feel that such a discussion would be in order, and if you feel that the experience of one who lives in a new community and who has served in its government would be illuminating, I would be happy to contribute to it.

Bruce P. Bardes
Park Forest South, Illinois

Calendar

SEPTEMBER

17-18 Seminar on How to Market Professional Design Services, Newark, N.J. Sponsored by Architectural Record. Contact: Building Industry Development Services, Suite 104, 1301 20th Street, N.W., Washington, D.C. 20036.

22-25 Fifth Annual Apartment and Condominium Conference, Nob Hill Complex, San Francisco. Sponsored by the National Association of Home Builders. Contact NAHB Convention and Meeting Department, 15th and M Streets, N.W., Washington, D.C. 20025.

OCTOBER

2-6 Twenty-fifth anniversary meeting of the National Trust for Historic Preservation, Portland, Ore. Contact: National Trust for Historic Preservation, 740-748 Jackson Place, N.W., Washington, D.C. 20006.

7-9 Third Annual Architects in Industry Seminar, LaCoquille Executive Seminar Center, Palm Beach, Fla. Sponsored by the AIA. Contact: Maurice Payne, AIA, 1735 New York Avenue, N.W., Washington, D.C. 20006.

10-11 Seminar on How to Market Professional Design Services, San Francisco. Sponsored by Architectural Record. Contact: Building Industry Development Services, Suite 104, 1301 20th Street, N.W., Washington, D.C. 20036.

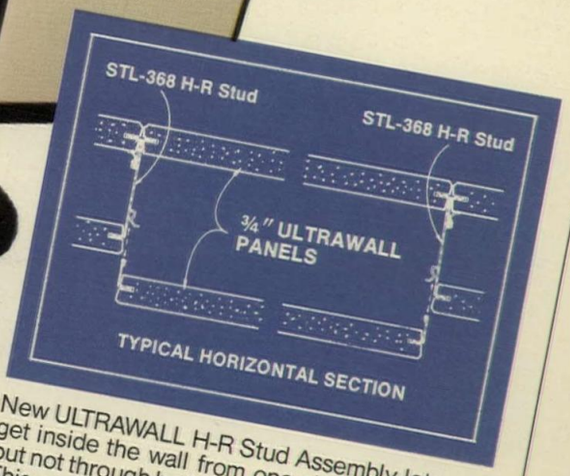
15-17 National Member Conference, The Producers' Council, Antlers Plaza Hotel, Colorado Springs, Col. Contact: The Producers' Council, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036.

18-19 Designers' Saturday, tour of 24 contract furniture showrooms, New York City. Contact: Designers' Saturday, P.O. Box 1103, FDR Station, New York, N.Y. 10022.

ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, ARCHITECTURE and WESTERN ARCHITECT AND ENGINEER)

September 1974, Vol. 156, No. 4, Title® reg. in U.S. Patent Office copyright© 1974 by McGraw-Hill, Inc. All rights reserved. Copyright not claimed on front cover and editorial four-color separations. 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, August, and October 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 (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage.
EXECUTIVE, EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: 1121 Avenue of the Americas, New York, N.Y. 10020. Other Editorial Offices: 425 Battery Street, San Francisco, Cal. 94111; 1249 National Press Building, Washington, D.C. 20004
PUBLICATION OFFICE: 1221 Avenue of the Americas, New York, New York 10020. Second class postage paid at New York, New York 10001 and at additional mailing offices.
OFFICERS OF McGRAW-HILL PUBLICATIONS COMPANY: John R. Emery, president; J. Elton Tuohig, executive vice president-administration; David J. McGrath, group publisher-vice president; senior vice presidents: Ralph Blackburn, circulation; John B. Hoglund, controller; David G. Jensen, manufacturing; Gordon L. Jones, marketing; Jerome D. Luntz, planning & development; Walter A. Stanbury, editorial.
CORPORATION OFFICERS: Shelton Fisher, chairman of the board and chief executive officer; Harold W. McGraw, Jr., president and chief operating officer; Wallace F. Traendly, group president, McGraw-Hill Publications Co., and McGraw-Hill Information Systems Co.; Robert N. Landes, senior vice president and secretary; Ralph J. Webb, treasurer.
SUBSCRIPTIONS: Subscriptions solicited only from architects and engineers. Position, firm connection, and type of firm must be indicated on subscription orders.
CHANGE OF ADDRESS or subscription service letters should be forwarded to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 430, Hightstown, N.J. 08520. Provide 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: $10.00 for architects, engineers and other individuals in the fields served, all others $22.00. Other countries: $25.00 to architects, engineers; others $35.00. Single copies $3.00. GUARANTEE: Publisher agrees to refund 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 Construction, 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 allowed for as follows: Western Section 32-1 through 32-4. POSTMASTER: Please send form 3579 to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 430, Hightstown, N.J. 08520

New ULTRAWALL® Partition System Stud Assembly gives access from either side without sacrificing security.



New ULTRAWALL H-R Stud Assembly lets you get inside the wall from one side or the other, but not through both sides at the same location. This new idea allows all the accessibility you need to make plumbing or electrical repairs, yet maintains security between offices.

It's just one of many *exclusive* features you get with ULTRAWALL Movable Partition Systems. ¾" panel thickness gives the rigidity of permanent walls, yet costs no more than competitive systems. Simplified design concept, prefinished panels and trim make installation easier, faster. One-hour fire, 42 STC ratings as is, with 48 to 50 STC systems available. Choice of bank rail, cornice height or ceiling height with maximum glazing possibilities. New door frame that's self-mortising and reversible, accommodates any hinge location; no need to specify rights or lefts.

Truly, ULTRAWALL has it all for you in ultra looks, too. Concealed attachments. Flush installation. No battens. Tough vinyl surfaces. Choose from 27 colors and 5 patterns.

Get specifics from your U.S.G. Technical Representative. Or write to us at 101 S. Wacker Dr., Chicago, Ill. 60606, Dept. AR–94.

UNITED STATES GYPSUM
BUILDING AMERICA

For more data, circle 4 on inquiry card

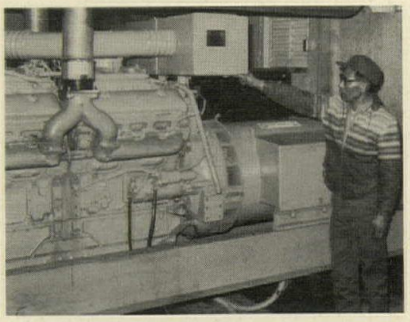
We replaced the sun in St. Mary's.

Around October, heat and light become precious in St. Mary's, Alaska. Winter comes early. It stretches down from the Arctic Circle like a giant sheet, blotting out the sun and smothering the warmth.

The people of St. Mary's must be ready. And, they are.

Two days after Christmas of 1969, the Mayor of St. Mary's flicked the switch of their new generating plant. The generators whirled and brought a new life to these Arctic people. And the power behind this new life was supplied by a 16V-71N Detroit Diesel engine . . . an engine which has performed flawlessly ever since.

Electricity came to St. Mary's, as it has to other Alaskan villages, through the cooperation and skill of a Detroit Diesel Allison distributor. This distributor was provided specs by the Alaska Village Electric Co-op. He then custom built the complete generating plant, including a second peaking and service generator powered by a Detroit Diesel 6-71.



Why were Detroit Diesels chosen for the job? Three reasons: 1. They are reliable, proven in countless hours of the toughest kind of work. 2. They are basically simple engines, easy to maintain. 3. And most important, the Detroit Diesel Allison distributor had the know-how to handle the entire job, from start to finish.

The installation of this new power plant has meant everything to the people of St. Mary's. A new fish processing plant has opened on the waterfront. The nearby airport uses it for vital navigational aids. And the generators will soon be used to power St. Mary's new 50-bed hospital.

Needless to say, these people depend entirely on this power source. And if part of your job is finding and specifying dependable power, then you should find out more about Detroit Diesel Powered Electric Sets. Just check with your nearest Detroit Diesel Allison distributor. He'll work with you in every possible way, actually custom building the exact electric set for your job. Any job, whether it's prime power for an entire town, or standby for emergency use.

To find out more about Detroit Diesel power, clip this coupon and we'll send you the latest catalog on Detroit Diesel Powered Electric Sets. Write:

Detroit Diesel Allison
Division of General Motors
P.O. Box 81, Birmingham, Mich. 48012

NAME_____

COMPANY_____

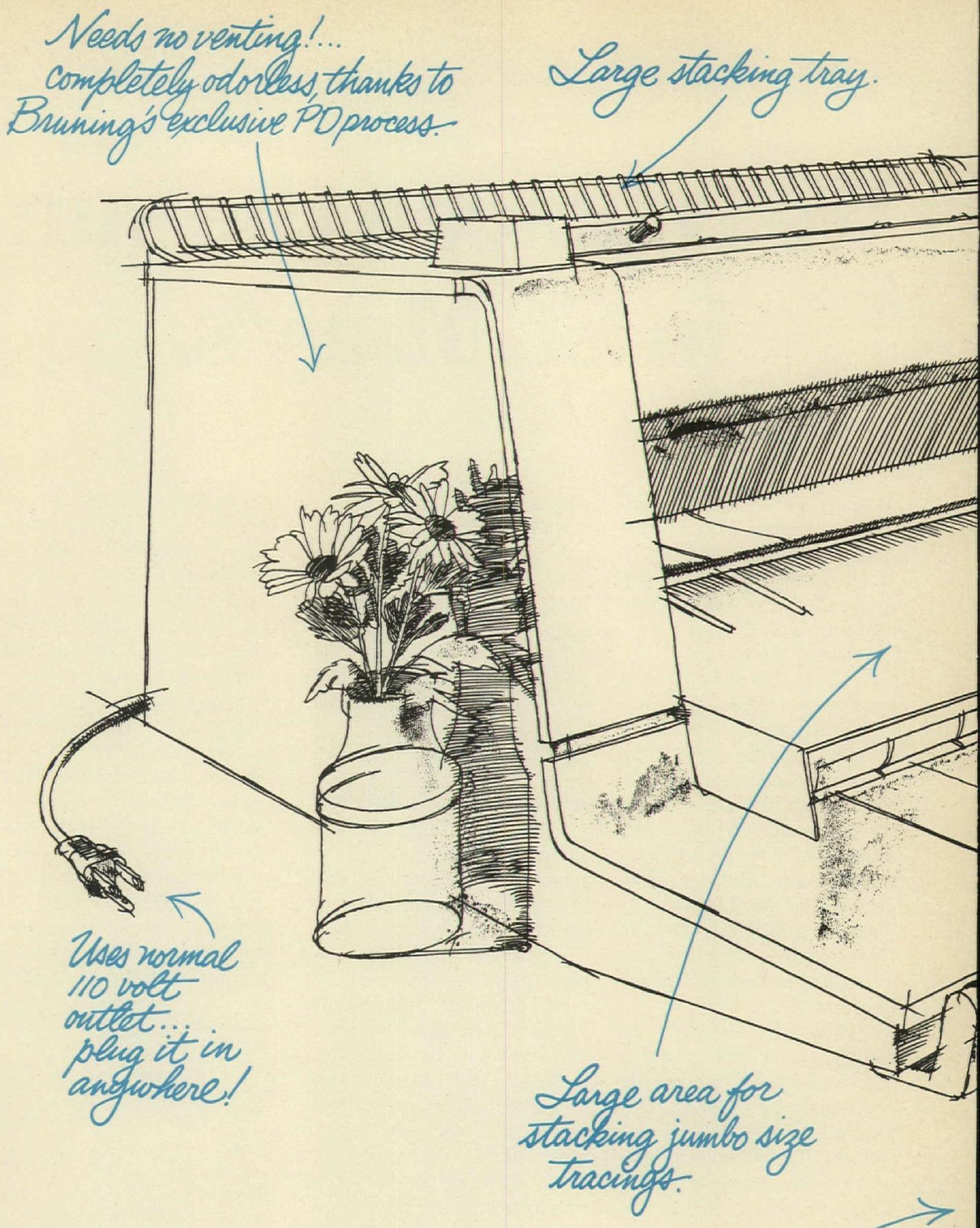
ADDRESS_____

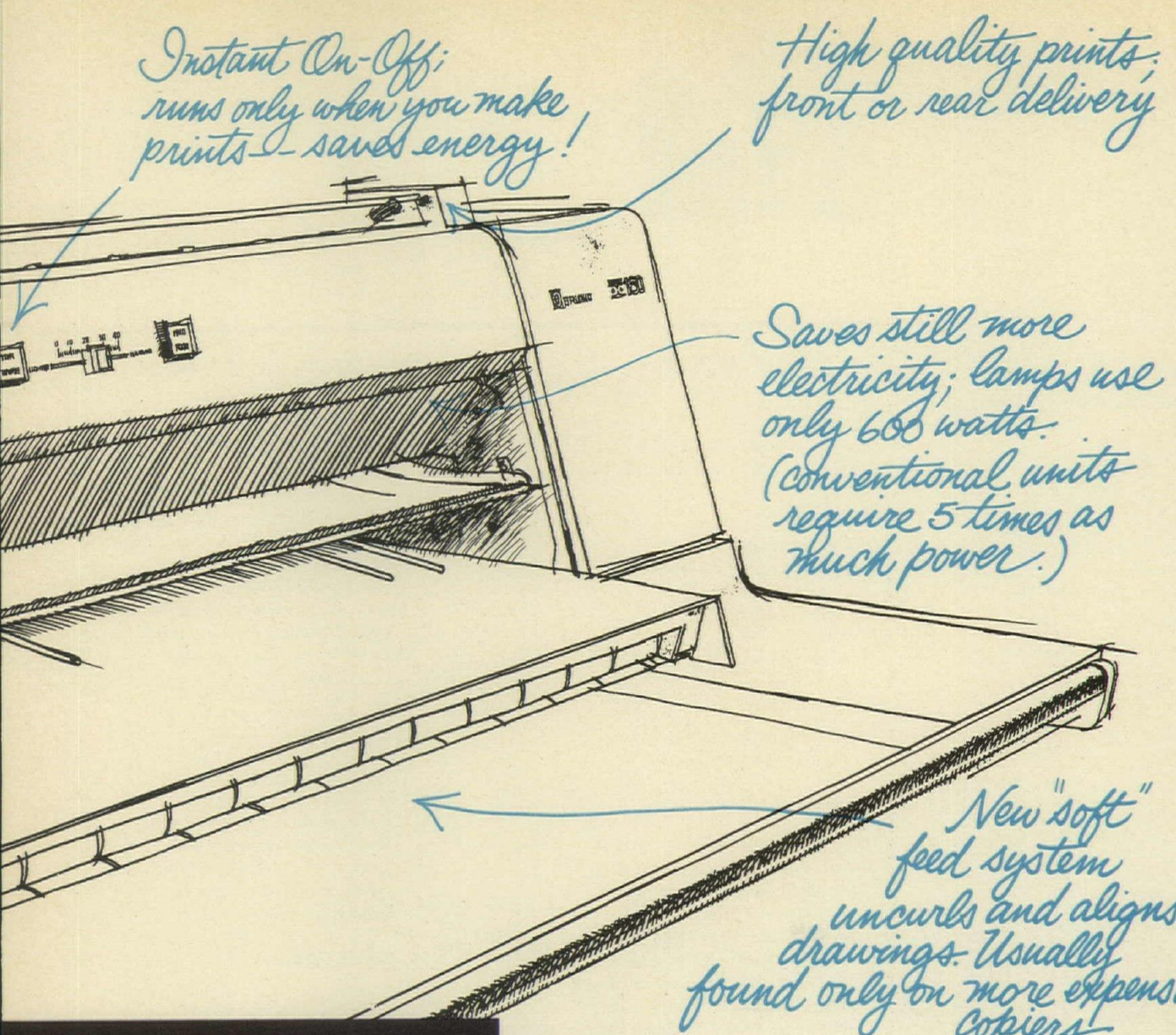
_____ ZIP_____

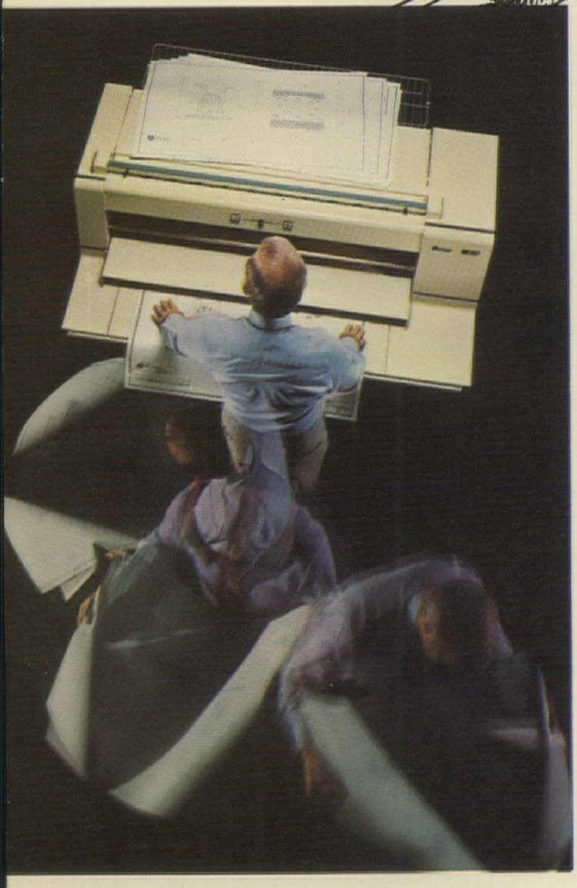
GD01-AR-09-AC

Detroit Diesel Powered Electric Sets
Now you're talking power.

For more data, circle 5 on inquiry card


Needs no venting!... completely odorless, thanks to Bruning's exclusive PD process.
Large stacking tray.
Uses normal 110 volt outlet... plug it in anywhere!
Large area for stacking jumbo size tracings.
It's fast -- 40 fpm production-level volume.





Announcing one of the world's engineering wonders:

The new Bruning PD-160 engineering copier.

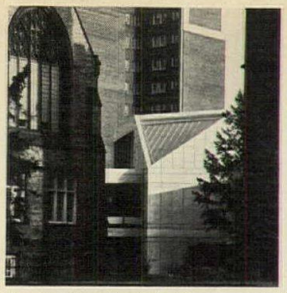
Only Bruning has the PD® process.
The unique non-polluting process that made our PD-80 convenience copier famous in less than two years.
Now that same exclusive PD process appears in the PD-160.
It's an engineering copier that borders on the unbelievable.

Call 800-447-4700 toll-free (in Illinois call 800-322-4400) to get the whole story. Or write Bruning, 1834 Walden Office Square, Schaumburg, Ill. 60172.

We help engineers communicate.

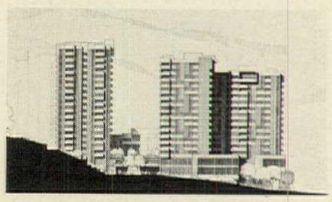
BRUNING
DIVISION OF
ADDRESSOGRAPH MULTIGRAPH

For more data, circle 6 on inquiry card



Cover: Church of the Covenant Addition, Cleveland
Architects: Richard Fleischman & Associates
Photographer: Erol Akyavas

THE RECORD REPORTS



ARCHITECTURAL BUSINESS

SEPTEMBER 1974 ARCHITECTURAL RECORD

FEATURES

Michael McKaig

BUILDING TYPES STUDY 466

ARCHITECTURAL ENGINEERING

NEXT MONTH IN RECORD

Selection of A/E Firms

An Architectural Record Round Table to study ways in which public bodies, Federal, state and local, might better fulfill a client role in selection and commissioning of A-E firms will be reported in October.

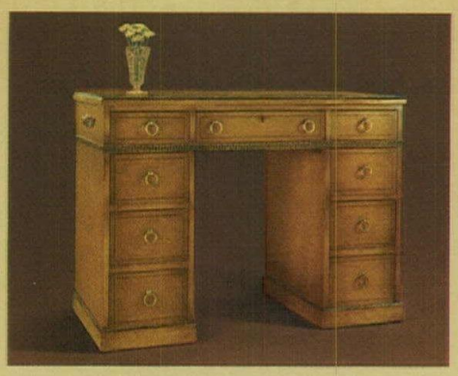
Building Types Study: Offices in the suburbs

Both speculative and corporate-headquarters buildings are sprouting in the areas around cities, and—while the flight to the suburbs may not be the best thing for urban areas—a whole new breed of building-type is being produced. Demonstrated considerations will include employee amenities and planning which recognizes the varying conditions of the local landscape.

The Tudor Regency desk caused a stir when introduced 400 years ago. The full-to-the-floor pedestals were a totally new concept in writing tables.

Tudor Regency styling is making heads turn again—in All-Steel's new 1500 Series cube.

We haven't changed the style. It's classic. We've just adopted a good idea to complement today's contemporary office environment.



Floor length pedestals mean more storage. Up to 30% more. And the clean, crisp lines go uncluttered with built-in raceways designed to conceal communication and electrical wiring.

Specify the 1500 Series from All-Steel. Selection of desk models, tables, L-units and credenzas.

For more information write, All-Steel Inc., Aurora, Illinois 60507.

ALL·STEEL

For more data, circle 7 on inquiry card

A classic design for today's office environment.

Showrooms in New York, Los Angeles, Chicago, Aurora. In Canada, All-Steel Canada, Ltd., Montreal, Toronto. One of the CIT Companies.

The NCARB on internship: "the dark age" of architectural students

The "internship program," that gap between graduation from architecture school and eligibility to take the professional examination, is not—almost everyone would agree—much of a program. It's been pretty much a hit-and-miss proposition, and while many graduates have been fortunate enough to fall into good hands for this period of practical training, and thus get the broad experience they need, many have indeed been subjected to "the gap"—"the dark age"—in the making of an architect.

NCARB has now decided to do something about this "lapse"—and at NCARB's recent convention Charles Blondheim, architect of Montgomery, Alabama and chairman of NCARB's Committee on Internship, made an important and imaginative proposal for organizing, structuring, and monitoring these critical years in an architect's training. It seems such a sensible (indeed essential) program that the wonder is it wasn't dreamed up and installed earlier. But it wasn't, and so three more cheers to NCARB for tackling a whole broad spectrum of soft spots in assuring the competence of members of the profession (see also August editorial).

Mr. Blondheim's paper summed up the internship problem well:

"The existing system of internship is vague, inconsistent, and uncoordinated.

"The candidate has little or no guidance from the groups and organizations involved, and the fact that he learns is often happenstance.

"The entire burden of training is placed on the shoulders of the intern.

"The organized involvement of NCARB, member boards, and the profession could probably be best described as casual.

"To rely solely on the [new NCARB] exam as a measure of competence is impractical. And yet training, because of its inconsistency and lack of an evaluation process, falls short of providing any standard of competency."

Mr. Blondheim's proposal for solving the problem include these "broad brush" ideas:

"We must develop a mandatory recording and monitoring system to assure that all candidates are in a controlled procedure.

"A sound, continuous and mandatory counseling system should be organized.

"A uniform, mandatory experience portfolio should be developed.

"Appropriate nomenclature, designating with dignity the status of the trainee, should be established."

Mr. Blondheim suggests this approach: Shortly before graduation from architectural school, the candidate attends an indoctrination seminar conducted at the school by a "staff counselor," a full-time employee of one or more NCARB member boards. This counselor explains the following program. The trainee also files with a member board and NCARB, receives his "portfolio" and other forms, paying a modest fee.

After graduation, the trainee enters full-time architectural employment, advises the board of his employer's name, requests assignment to a staff counselor, is assigned an NCARB identification number, and enters the official training program.

At his option, the candidate may join a "trainee organization" fostered by NCARB and AIA and its chapters.

The staff counselor interviews the candidate and his employer, and issues training guidelines to the employer, who becomes the student's "professional counselor." The trainee maintains frequent contact with the staff counselor, who begins a file on the candidate that is maintained through the internship period. The trainee begins compiling his portfolio and is responsible for its maintenance; and, with the advice of his staff counselor and professional counselor, undertakes continuing education development in areas of weakness or special interest.

Through the internship period, the trainee continues building his portfolio, inserting counselor reports and other data, and exhibits of his work: "design development drawings, sketches, selected working drawings, structural calculations, etc." He would pay an annual renewal fee of perhaps $25, primarily to cover costs of counseling and file maintenance.

Throughout each candidate's training period, the member board—through the staff counselor—would "maintain surveillance and evaluate trainee progress."

And thus, in due course, the candidate would apply currently before the member board and NCARB for admission to the examination—with portfolio in hand.

This portfolio—together with a possible "special design problem" which might be prepared by NCARB and handed out six months ahead of exam time—might just, Mr. Blondheim points out, "develop as the answer to the graphics exam."

In all, it seems to me, a very thoughtful proposal that deserves the most careful consideration by NCARB. Students, present and future, should be grateful for this answer to a most difficult problem. Once more, three cheers to NCARB!—*Walter F. Wagner Jr.*

Concerns of a teacher of architecture

Bud King was a high-school friend. He is now—after a passage of some years—Robert H. King, an architect with a general practice in White Plains, New York; and has for six years taught design and drawing at New York Institute of Technology in Old Westbury, New York. At a recent luncheon, he spoke so movingly about architectural education that I asked him to write his thoughts so that I could share them. And he did. —W.W.

My observations of the school dilemma are first-hand, with the perspective of a teacher who practices architecture, and practicing architect who teaches. In my opinion, architectural education is like an intricate and obsolete old building that no longer works. Though tempted to tear it down and start all over, we are reluctant to condemn the old structure, and with it the familiar traditions of a more comfortable era.

Three basic problem areas trouble the schools, each one different but closely related to the others.

First, there is the curriculum question, which in many ways is more political than pedagogical. Then there is the economy and the whole financial crisis which threatens private colleges everywhere. Finally, there are the architectural faculties and the profession—the two more influential forces shaping student attitudes. While we may not like to think of ourselves as a Problem, we must recognize that we teach and exemplify by everything we do, or fail to do; and that, in a perfectly understandable way, we tend to pass along our cherished values to today's students for their use in some future context that nobody can accurately predict.

If all of these problems had a single heading, it would read Obsolescence. A long program of study is especially vulnerable to change and, today, even the rate of change is accelerating. To survive at such high speed, we must concentrate on what lies far ahead. Short-range vision is not good enough; short-range solutions won't touch the deeper malady in the schools. A closer look at these problems will demonstrate why.

▪ Curriculum: The requirements for a Bachelor of Architecture degree sound pretty much the same, from Florida to Oregon. A check of the course bulletins will show that each school carves up its 160 or so credits into Drawing, Design, Construction, Theory, History, Structural Design and Mechanical Equipment with electives and special studies to produce the "whole person." But, depending upon emphasis, local values and attitudes, faculty interests, and other variables, these similarities can be very superficial.

Now that the NCARB professional exam has been adopted by a majority of the states and is virtually a uniform national exam, it is fair to ask if every architectural student is being prepared to pass it. Of those who tried last December, in the Northeast region, only one out of three passed. That would seem to be a very high barrier, considering the intelligence and creativity of today's students. However, the exam tests for judgment, and that implies a uniform system of values. I believe that curriculum problems start here.

New ways must be found to make the study of architecture totally responsive to the barometers of the world we live in. This, of course, will require that those who teach stay responsive too. While we may not be able to predict the future, I believe we can see the larger outlines: increasing world population, growing scarcity of land and natural resources, gradual industrialization of the underdeveloped nations, and further dehumanizing of a precarious environment.

Today's students must be equipped for that kind of a future where their priorities, their technical skills, their social responsibilities will be urgently tested. As we plan next semester's curriculum, will we help or hinder their growth?

▪ The Financial Crisis in Education: Because of increased operating costs and dwindling enrollment, many colleges are beset with severe financial troubles. Architectural departments are especially costly to operate, with low student/faculty ratios, large space and equipment demands, and other quality standards prescribed by state accrediting boards.

The problem is passed along to the faculty in the form of greater "productivity" demands, and to the student as soaring tuition expenses. With the cost of an architectural degree well over $10,000, and going up, many students hold down part-time jobs to help defray expenses, and wander around in a kind of half-light, their future roles in the profession all but obscured by the very real demands of serving hamburgers or driving cabs. Among working students, only the lucky few find meaningful jobs in areas that will further their careers.

If economic hardship augers for less college, the complexities of practice would seem to require even more. These powerful opposing pressures may be great enough to transform our conventional concepts of education in interesting ways. We may come to question whether all our present curriculum should be taught in school, when it might be taught better and faster outside of school. At $100 per credit, we may have to revise our thinking about the length and depth of formal education, and turn our attention to externship programs and independent study—perhaps even to new concepts of certification which recognize the increasing duration of an architect's training and the levels of competence that exist along the way.

A fully developed and responsive union of the profession and its schools would bring an exciting new vitality to both; each has something the other needs. As the bond is strengthened by closer contact, we may yet create the "student-professional" with a lifelong commitment to learning and an easy access to the source. By removing the unreal distinctions between student and architect, we can only add dignity to both.

▪ The Faculty and Others Who Profess: For the student, impatient with make-believe design problems, and anxious to start real projects, the current work he visits on field trips or sees in magazines can have a tremendous impact. It is the experiencing of real buildings that teaches best. What we finally build, publicize and praise becomes a clear record of society's aspirations and values; a measurement of our consciousness level. It is the ultimate lesson and, unhappily, at times it seems more appropriate for the fifties than for the decades ahead. Tomorrow's architects will have their roots someplace else, and their buildings will reflect other values. We are in a state of transition and architecture is bound to change to meet new imperatives.

In our pre-occupation with static elements of form, rhythm and texture, we ignore the dynamic forces that are everywhere else reshaping our cultural perspective, A new esthetic would seek to make architecture accountable to the behavioral, physical, and environmental sciences, to the dimension-warping influences of the Electronic Age, and to the persuasive demands for social justice.

Where these new vectors lead, no one can be certain, but they provide a framework for growth and seem pointed toward the coming century.

Architecture is at a crossroads. Recent changes in the licensing exams, and efforts to foster international reciprocity are signs of broader goals. I take pride in belonging to a profession that initiates a year-long, no-holds barred, evaluation of its schools and accreditation standards—as AIA, ACSA, NAAB, NCARB, and ASC/AIA are now doing. We have before us the possibility for real diagnosis and treatment. Let us hope we come up with something more than a face-lift.

—Robert H. King

architecture rediscovers tapestry

As the new tapestry renaissance, unparalleled since the Middle Ages, spreads throughout the world buyers look to the Aubusson region of France for tapestries of the highest quality. It is here that the centuries-old House of Pinton, premier Aubusson tapestry weavers, are located. Pinton produces such masterpieces as the 8 x 20 foot work (above) of Alexander Calder especially designed for the lobby of the IBM Corporation's Headquarters in Armonk, New York.
We weave the world's foremost artists from Agam to Zadkine and specialize in both ready-to-hang tapestries and custom-woven walls of wool that will endure for an eternity and bring matchless beauty to interiors. We work closely with architects and space planners in tailoring tapestry commissions to specific projects, residential, commercial or institutional.

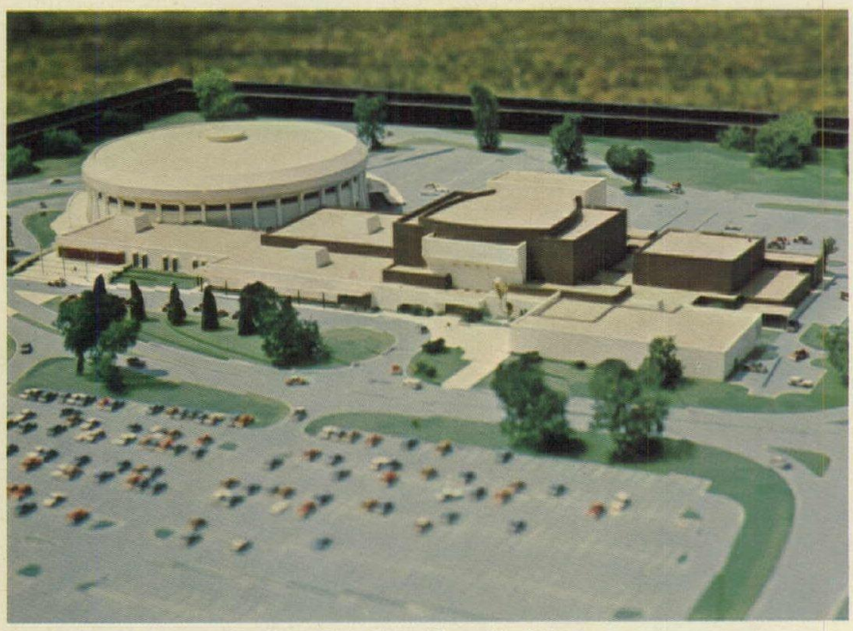
art vivant, inc.

exclusive agents, manufacture de tapisseries d'aubusson—pinton

173 highridge road, new rochelle, new york 10804—(914) 632-8700

Specifying Architect: Eliot Noyes, New Canaan, Conn.

Exterior walls of the new Huntsville, Alabama, Civic Center are J-M Stonehenge® architectural panels secured directly to the steel studs. Here insulation is sprayed on the back of the panels. A combination of hidden and reveal joints was chosen by the architect.



Architects model of the new Von Braun Civic Center, Huntsville, Alabama.
Architects: Northington, Smith, Kranert & Tomblin & Associates.
Jones, Mann and Associates. Dickson and Davis.
Fabricator: Bonitz Insulation Co., Birmingham.

Fast enclosure. Design freedom. Versatility. Economy.

They're all built-in benefits of J-M's new Struct-O-Wall™ system.

J-M has done it again, with Struct-O-Wall, an all-in-one wall system that's attractive, goes together fast, goes up fast, saves money.

This new concept combines punched light gauge structural steel studs with gypsum interior panels, J-M fiber glass insulation and J-M architectural exterior panels.

Prefabrication of large panels can save on-the-job time and speed closure, while lowering construction costs.

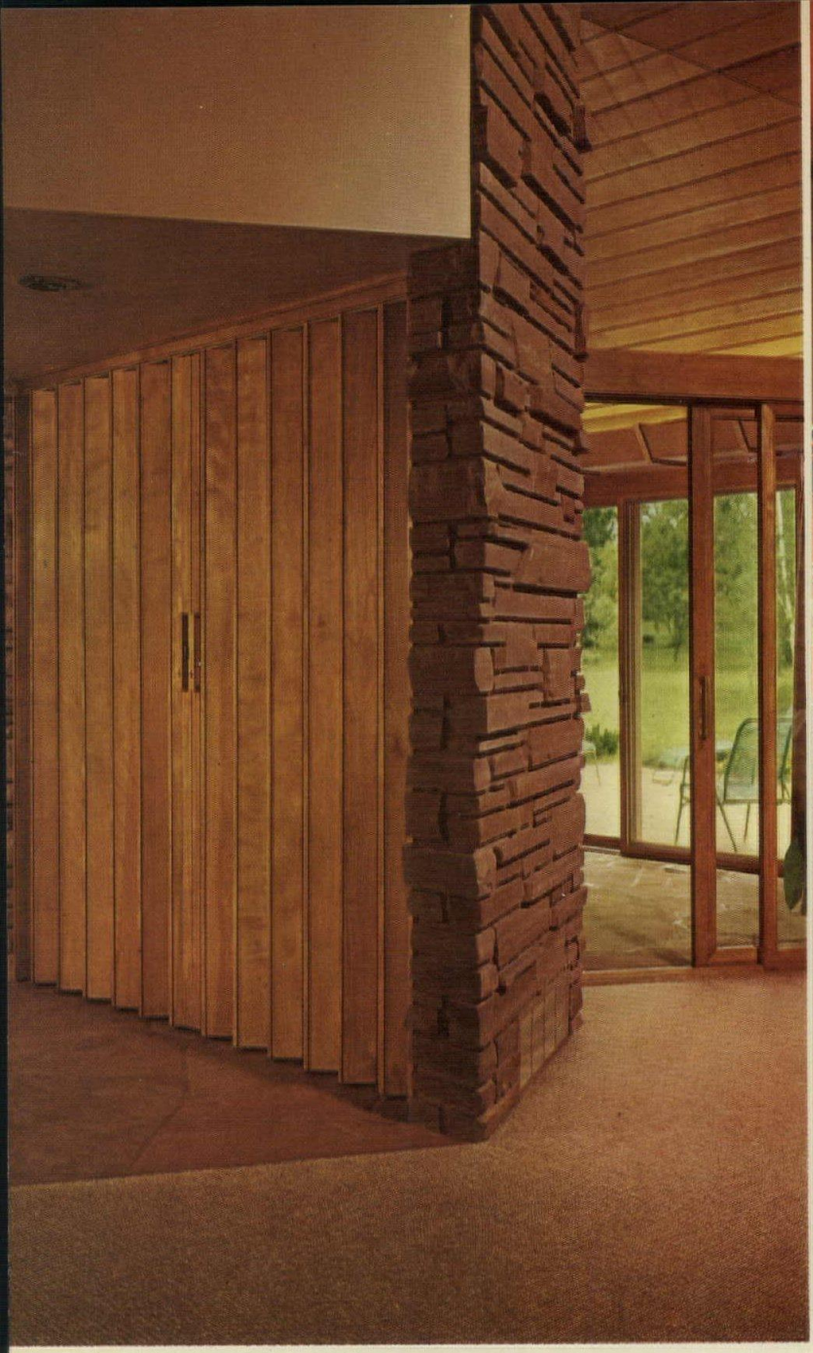
And Struct-O-Wall is particularly suited to exterior treatments combining the appearance and beauty of natural stone in a man-made panel product with the accent of reveal joints.

For details on the system that might change your ideas about walls, write Johns-Manville, Box 5108, Denver, Colorado 80217.

JM

Johns-Manville

For more data, circle 9 on inquiry card



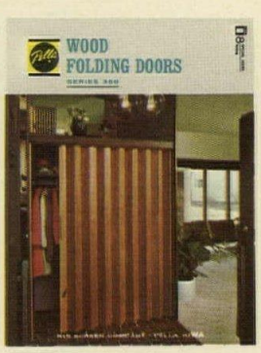
Pella wood folding doors move quietly, easily and with a certain natural beauty.

Genuine wood veneers or vinyl. Wood core panels. Hung on nylon rollers. Hinged by a patented system of steel alloy springs.

Pella Wood Folding Doors are as practical as they are beautiful. The solid wood core construction minimizes possible surface damage. And it keeps the panels hanging straight and true, even in humid areas. The concealed steel spring hinging system creates equal tension on each of the panels, for smooth operating motion, uniformly positioned panels and flat, compact stacking. Pella Wood Folding Doors. Finished or ready-to-finish. In a wide variety of styles. Heights to 16′1″. Unlimited widths.

Pella®

For more detailed information, send for your free copies of our 8-page, full-color brochures on Pella Wood Folding Doors. See us in Sweet's Architectural File. Or look in the Yellow Pages, under "doors", for the phone number of your Pella Distributor.



Please send me your 8-page brochures on Pella Wood Folding Doors. I would also like information on: ☐ Sliding Glass Doors, ☐ Casement Windows, ☐ Double-Hung Windows, ☐ Awning Windows.

Name_____

Firm_____

Address_____

City_____ State_____ ZIP_____

Telephone_____

Mail to: Pella Windows & Doors, 100 Main St., Pella, Iowa 50219 Dept. T31I

Also Available Throughout Canada

For more data, circle 10 on inquiry card

How to multiply your draftsmen's time.

Shortcuts from Kodak turn drafting hours into minutes—on job after job.

Routine redrawing chores take a lot of valuable board time. Kodak can show your draftsmen how to restore drawings, make revisions, and handle repetitive elements —without redrawing. You'll save hours of drafting time and save money, too.

It's easy, because it's done photographically! We'll explain how to do it and help you select the proper Kodagraph films and papers for your particular work. And we can show you how, with an automated Kodak processor, you can get reproductions back to your draftsmen faster, to save even more time.

There are other ways that Kodak can help multiply your draftsmen's efficiency. Microfilming your drawings will make them more accessible, save filing space, provide security, and give you other benefits, too.

Get the details.

For additional information write: Eastman Kodak Company, Business Systems Markets Division, Dept. DP787, Rochester, N.Y. 14650.

Kodak products for drawing reproduction.

Kodak

For more data, circle 11 on inquiry card

New "Rite-On, Wipe-Off"* Writing System Paints A Pretty Picture

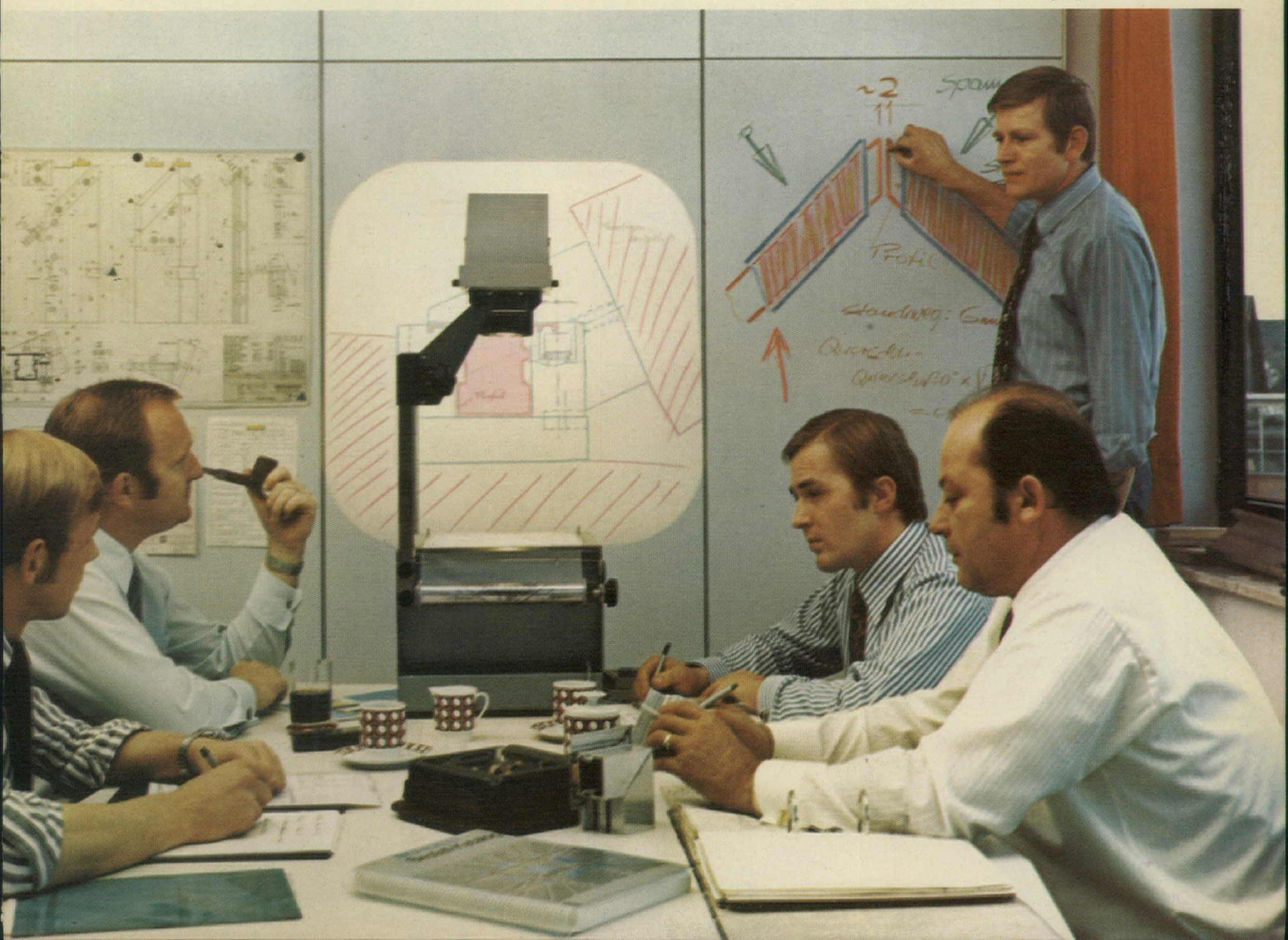
The pretty picture is this: 1. New system combines AllianceWall porcelain wall panels and dry marker pens to create a completely dustless writing system. 2. Porcelain panels come with a special finish that enhances both writing and erasing. 3. Writing dries instantly and can be erased with a dry cloth or eraser. 4. Every inch of every office wall becomes a productive work surface. 5. Laminated to low-cost gypsum board, the panels are fire-proof, inexpensive to install and maintenance free. 6. No special lighting system is necessary. 7. Boards are guaranteed for 50 YEARS and can be used with any partition system.

*"Rite-On, Wipe-Off" dry marker pens are now available through local AllianceWall distributors.

Other plants:
Okmulgee, Oklahoma; Genk, Belgium and Seden, Denmark

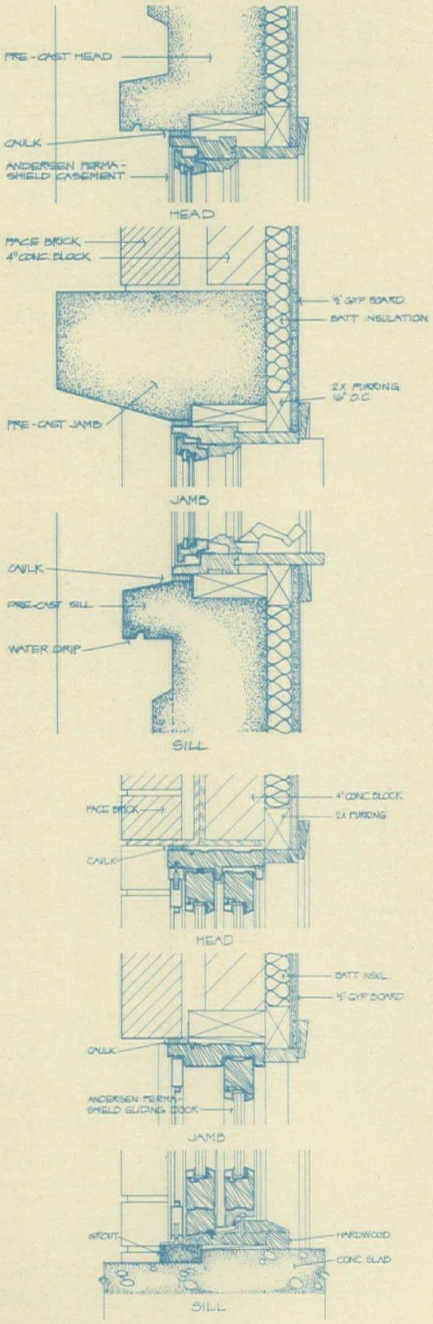
AllianceWall® CORPORATION
Box 247, Alliance, Ohio 44601

For more data, circle 12 on inquiry card



Andersen Perma-Shield® proves

EVEN THE RICH CAN'T AFFORD POOR WINDOWS



The Oak Brook Club, Oak Brook, Ill.
Developer: American Growth Development Corporation, Oak Brook, Ill.
Architect: Leitch/Kiyotoki/Bell & Assoc., Newport Beach, Calif.

The Oak Brook Club provides lavish, spacious condominium living in one of Chicago's finest suburbs.

Each unit was designed exclusively for upper income buyers no longer wanting the bother of maintaining a large home.

That's why the Andersen® Perma-Shield® Windows and Gliding Doors were specified.

Perma-Shield Windows and Gliding Doors are designed for beauty and low maintenance. And designed to save on owner heating bills, too.

Because they're made of wood, a natural insulator. And sheathed in rigid vinyl that doesn't rust, pit or corrode. Doesn't need painting.

And double-pane insulating glass provides all the fuel-saving benefits of storm windows. With only half the glass cleaning chores.

Perma-Shield Windows and Gliding Doors are also two times more weathertight than industry air-infiltration standards. To help seal out drafts and dust.

And their solid, easy operation and secure locking connote the feeling of Oak Brook Club luxury and security.

Perma-Shield Windows and Gliding Doors can do the same for your building design. Whether it's the ultimate in luxury living, or new beauty for low income housing.

For more details, see Sweets, File 8P. Or call your Andersen Distributor or Dealer. He's in the Yellow Pages under "Windows, Wood." Or write us direct.

The beautiful, carefree way to save fuel.

Andersen Windowalls®
ANDERSEN CORPORATION BAYPORT, MINNESOTA 55003

For more data, circle 13 on inquiry card

OFFICE NOTES

New firms

Turner and Dambrans Architects have recently expanded their offices and moved to 3300 Riverside Drive, Columbus, Ohio.

Sippican Consultants International, Inc., a recently incorporated consulting engineering group headquartered in Cambridge, Massachusetts, has formally announced its readiness to provide comprehensive engineering services for architectural, industrial and municipal clients on an international front. Three well-known and long established consulting engineering firms have been joined to form SCI. It will operate under the leadership of William J. LeMessurier, president of SCI, as well as president of the division that bears his name.

David Travers, former vice president and director of corporate planning for Gruen Associates has opened offices in Santa Monica. The new firm, **David Travers & Associates,** will offer business development and management consultant services to architects, engineers, planners and other design professionals.

Raymond Ziegler, FAIA, Peyton E. Kirven, AIA and E. J. Parrish, AIA announce the formation of **The Raymond Ziegler Partnership, Architects,** 525 South Virgil Avenue, Los Angeles, California. They were formerly associated with Allison Rible Robinson and Zeigler/Leo A. Daly.

Koerner Yakas Ben Amer announce the establishment of offices for the practice of architecture, planning and engineering.

William E. Swank and Associates, formerly Swank Gesler/Partners, will continue its international architectural and planning activities in Orange, California and will also open two additional offices in Denver, Colorado and Beirut, Lebanon.

Copelin and Lee, Architects announce that the firm name has been changed to **Copelin, Lee and Chen, Architects.** Mr. Lien Ching Chen has been named a partner in the new firm.

Jeffrey Gross, Architect announces the opening of his new offices at 2023 Wilson Street, Hollywood, Florida 33020.

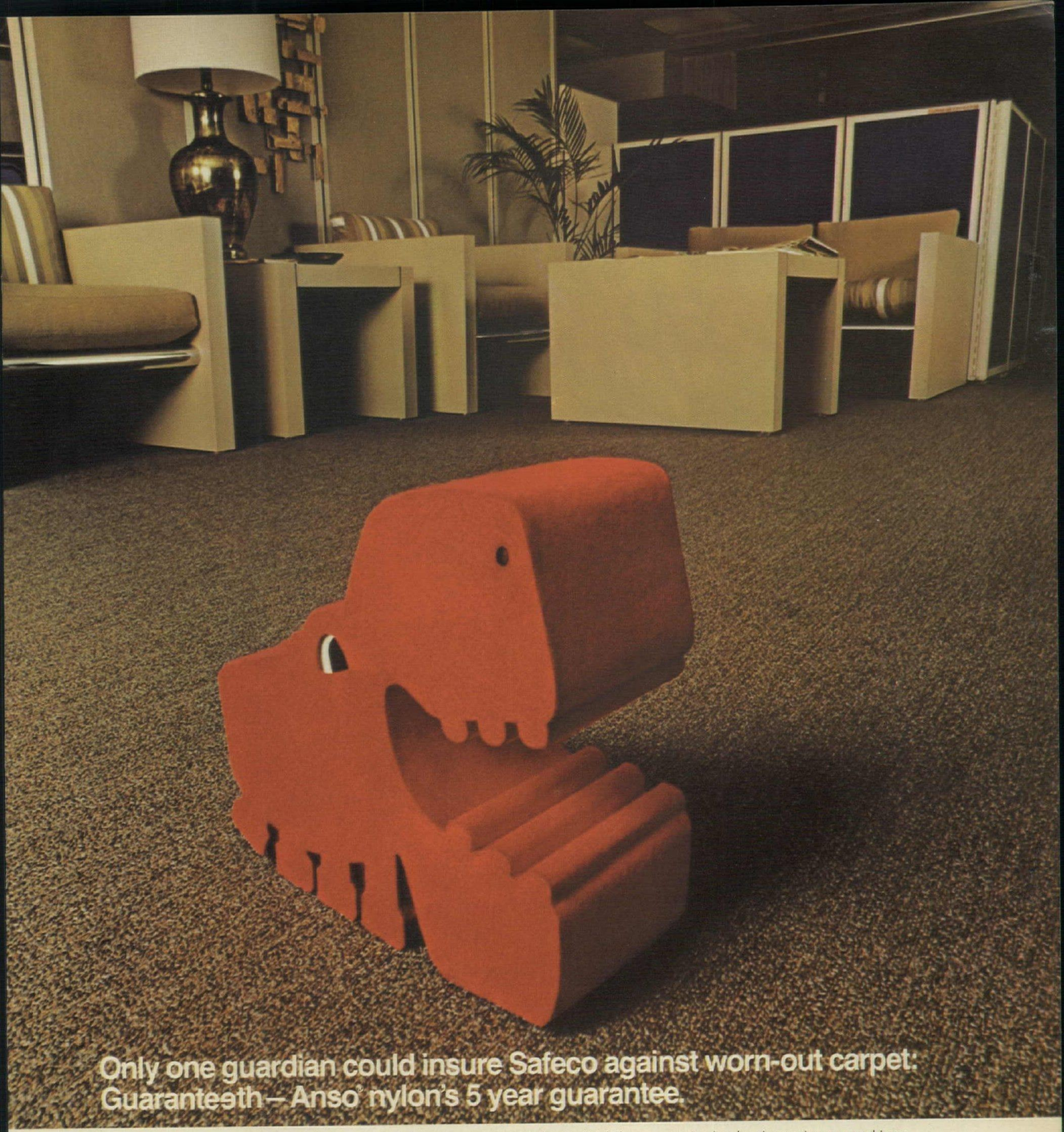
New partners, associates, firm changes

Curtis H. Green has been elected president of Hammel Green and Abrahmson, Inc. Architects and Engineers, for the coming year at the firm's annual meeting. **Bruce A. Abrahmson** has been elected vice president and **M. Lee Dahlen** secretary. **Richard F. Hammel** will continue as treasurer and chairman of the board.

SPECIAL NOTE

Due to the unprecedented response we've received about our first annual mid-August issue—"Engineering for Architecture" 1974—we have made reprints of the main editorial section of the issue available at $3.00 each. Write ARCHITECTURAL RECORD, A/E Reprints, 1221 Avenue of the Americas, New York, New York 10020.

For more data, circle 14 on inquiry card



Only one guardian could insure Safeco against worn-out carpet: Guaranteeth—Anso® nylon's 5 year guarantee.

Insurance companies must, by their very nature, be cautious. They like to have a good idea of the lifetime of anything they deal with.

So when SAFECO Insurance Companies went shopping for 26,000 square yards of carpeting for their new 22 story corporate headquarters in Seattle, they evaluated very carefully and chose carpeting by Collins & Aikman made of Anso nylon.

This second generation soil hiding nylon's natural longevity is backed up by Guaranteeth—the guarantee with teeth. That's Allied Chemical's assurance that the carpet will not wear more than 10% in five years, or we'll replace it, installation included.

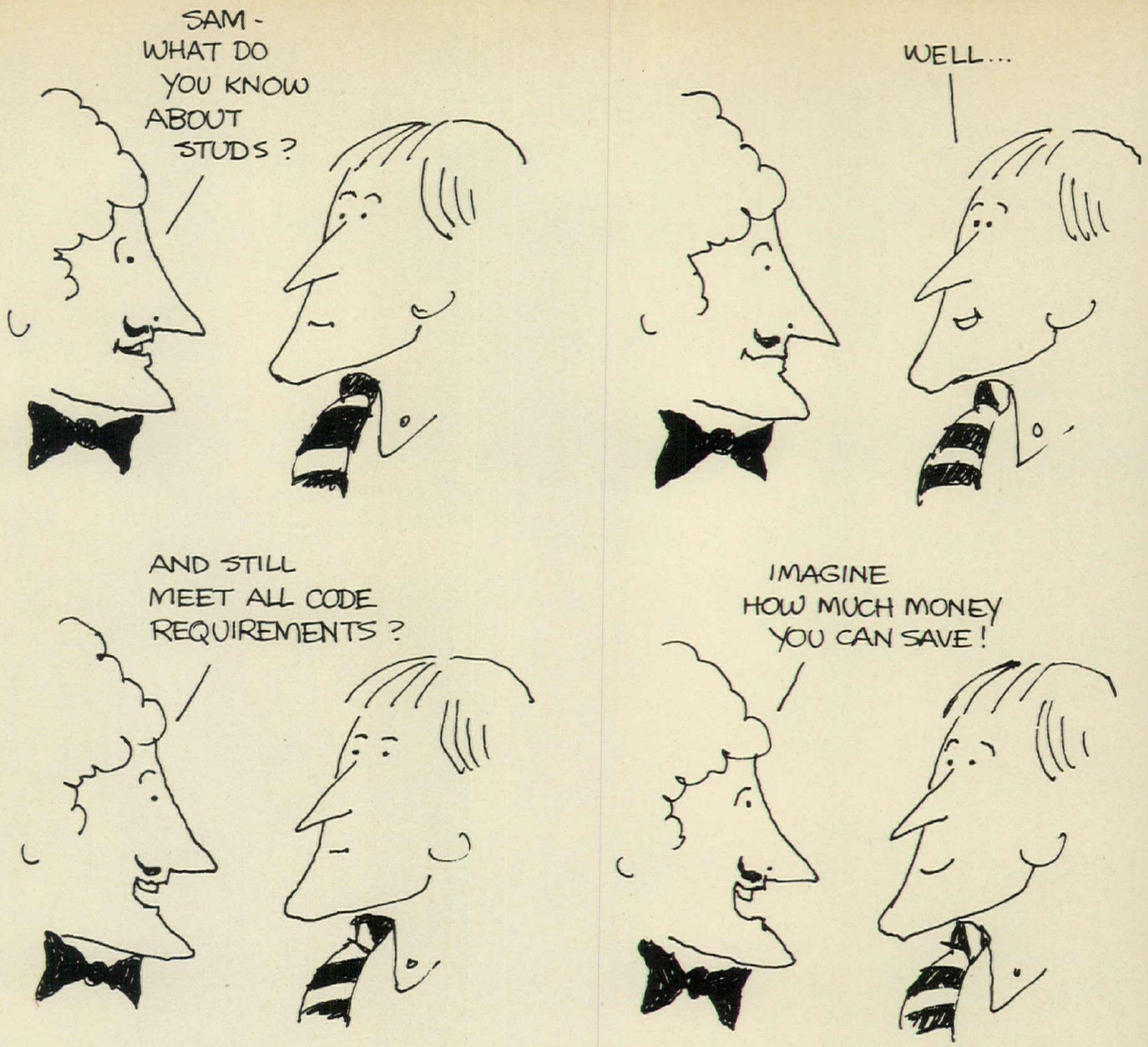
Allied Chemical can make this promise because we test every carpet made of Anso nylon ten different ways to be sure it will stand up to day-in, day-out wear and tear. Insist on Anso nylon. Look for the label with the fierce little animal who symbolizes our Guaranteeth and get the carpet with the 5 year guarantee.

For a list of mills using Anso nylon, write to: Allied Chemical Corporation, Fibers Division, Contract Furnishings Dept. AR, One Times Square, New York, New York 10036. Or phone 212-736-7000.

Guaranteeth. The guarantee with teeth.

Allied Chemical

For more data, circle 15 on inquiry card



There just may be things you don't know about studs.

For instance: Test proves that 24"on center stud walls using Western Wood studs are 2 to 4 times stronger than code!

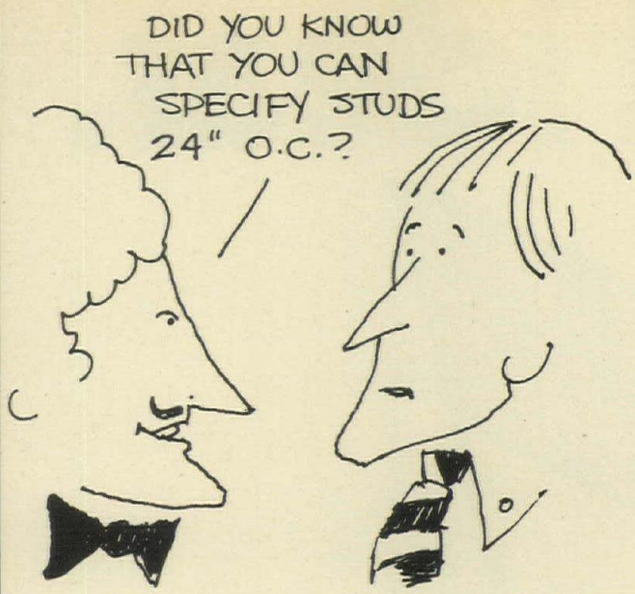
If you're specifying 2x4's 16" on center for exterior walls, imagine the time (labor) and money (less materials) you could save using studs 24" on center! Well, now you can. And you can save even more time and money by specifying the lowest grade capable of doing the job. Because a recent test proved that UTILITY grade studs and 24" framing meet all code requirements for one-story construction.

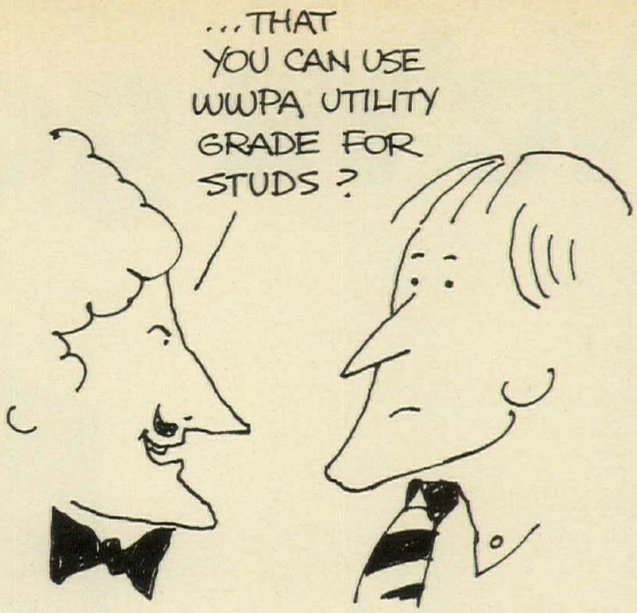
In the test, four experimental walls were constructed according to the design specifications of the FHA. The studs for the walls were selected from 250 UTILITY grade Engelmann spruce studs, the lowest grade capable of doing the job. This grade is lower in quality than Select Structural, No. 1, Construction, No. 2, Standard and Stud grades commonly specified for stud use. WWPA Quality Supervisors selected from pieces containing strength reducing characteristics such as knots. The purpose was to construct walls with less strength than would result with normal site use of Engelmann Spruce UTILITY grade studs.

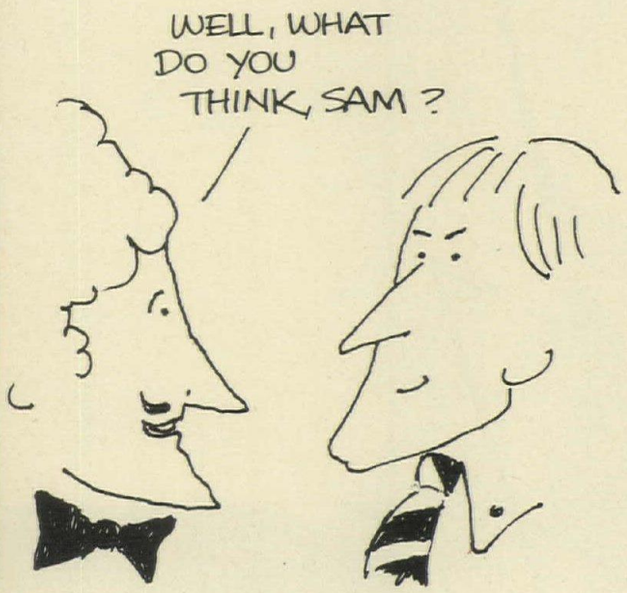
To assure this, materials selected for test walls came from a computer study of 1,000 possible wall combinations. Therefore, units selected for destructive testing represented the weakest 1-1½% of all walls that could possibly be built from the sample.

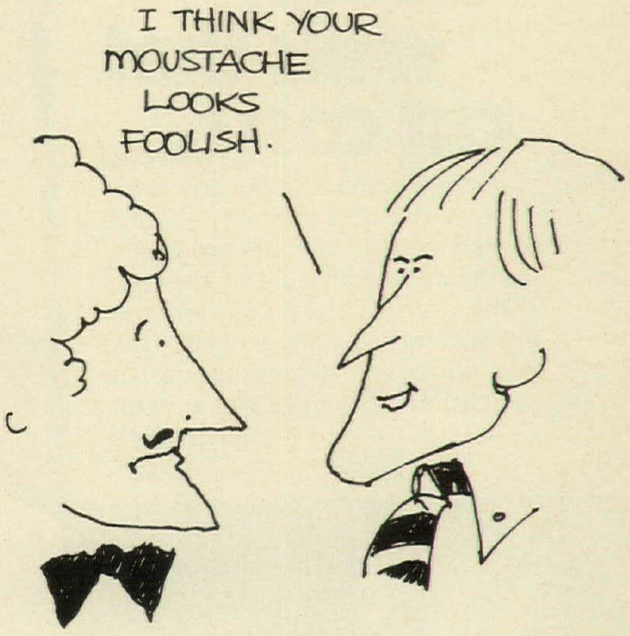
Two experimental walls were built 16" on center, and two 24" on center. All were sheathed on the exterior with ⅝" cedar bevel siding, and the interior with ⅜" gypsum wallboard. The walls were tested by vertical loads equivalent to 2-story construction and by increasing air-bag lateral pressure to destruction.

Result: Walls with 16" stud spacing failed under a lateral load *four times*





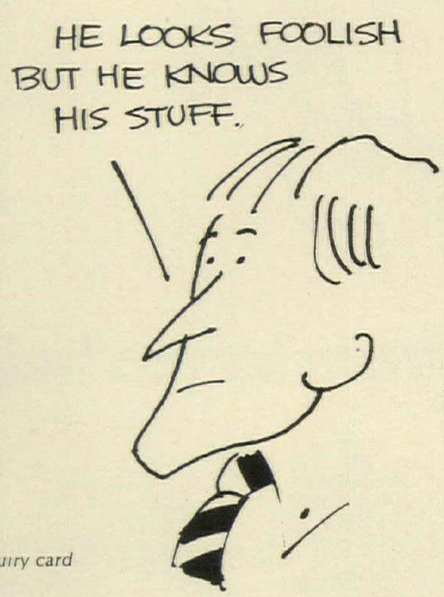




greater than the required wind load according to FHA specifications. Walls with 24" spacing failed under a lateral load of *two and a half to three times* the required wind load. While at the same time carrying a full 2-story vertical load.

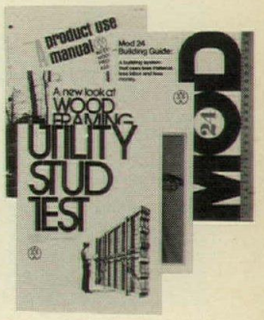
This test proved conclusively that the weakest combinations of WWPA UTILITY grade studs and 24" framing are more than adequate for exterior walls, even with 2-story construction. So you can save your client's time and money, safely, with 24" framing, and cut building costs, significantly, by specifying UTILITY grade studs. Mail the coupon for more details of the test report, plus information on 24" framing and other Western Wood grades and uses.

For more data, circle 16 on inquiry card



Free! All you need to know about studs.

Free data file includes: RESULTS OF UTILITY STUD TEST which contains complete data on the Utility Stud Wall Test conducted by the Forest Research Laboratory, Oregon State University. File also includes A NEW LOOK AT WOOD FRAMING which shows why many of today's most successful architects specify Western Wood framing; CATALOG A, PRODUCT USE MANUAL—a guide to use selection of Western Wood; and MOD 24 BROCHURE—a comparative cost study with technical data on 24-inch framing. Mail the coupon for your free file today.



NAME/TITLE

FIRM

ADDRESS

CITY STATE ZIP

☐ Please have representative call.

Western Wood Products Association
Dept. AR-974, Yeon Building, Portland, Oregon 97204

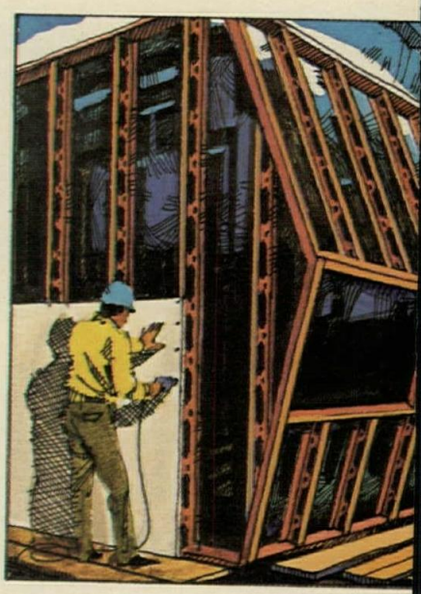
One of a series by members of the American Wood Council.

We've got ideas.

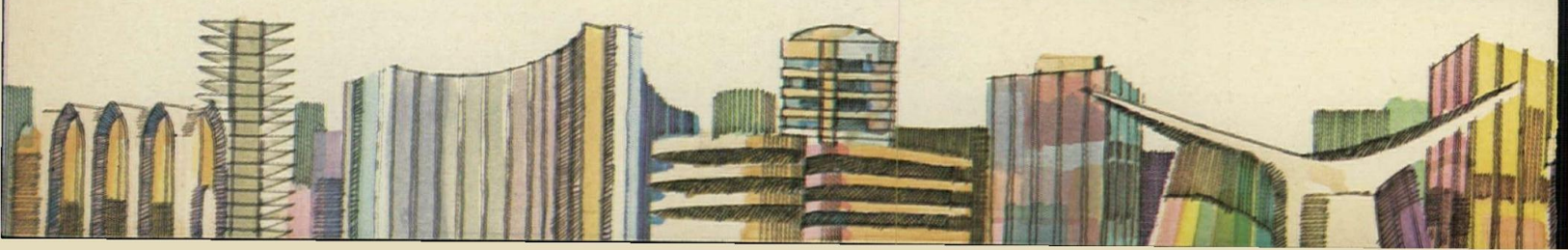
Curtain walls that cut costs.

Inryco®/Fenmark® steel grid walls, in modules up to 8' x 40'. Choice of infill panel materials and colors. Factory assembly cuts on-site time. The strength of steel carries large areas of heaviest glass, resists wind loads, and still makes possible narrow sight lines. Weathertight in all climates.

For more data, circle 17 on inquiry card



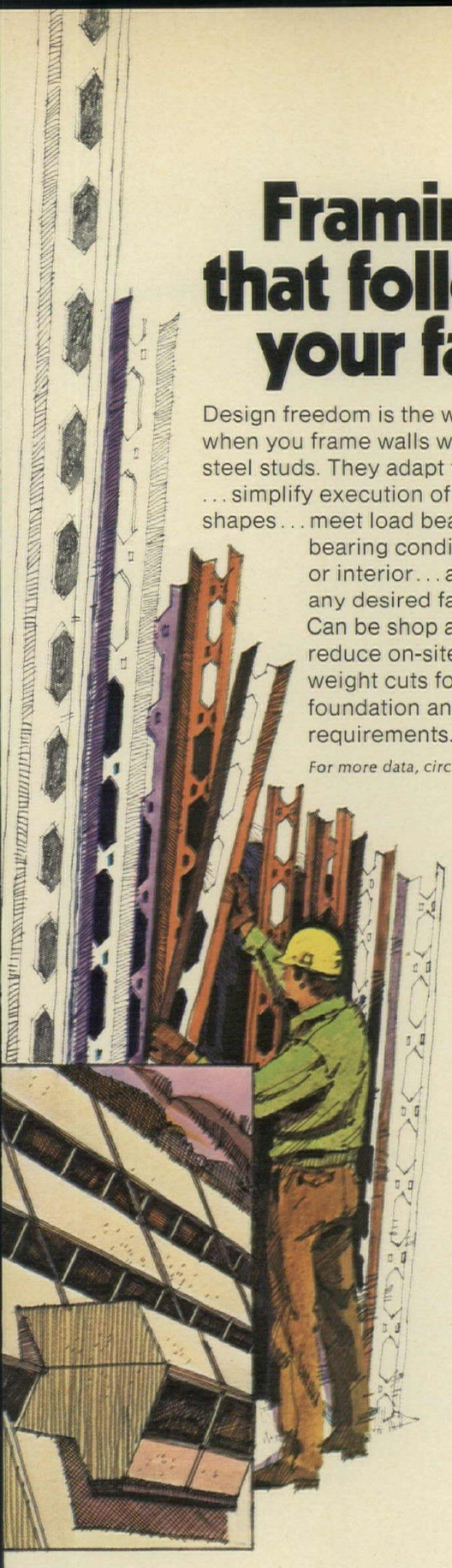
Ideas from Inryco help you design



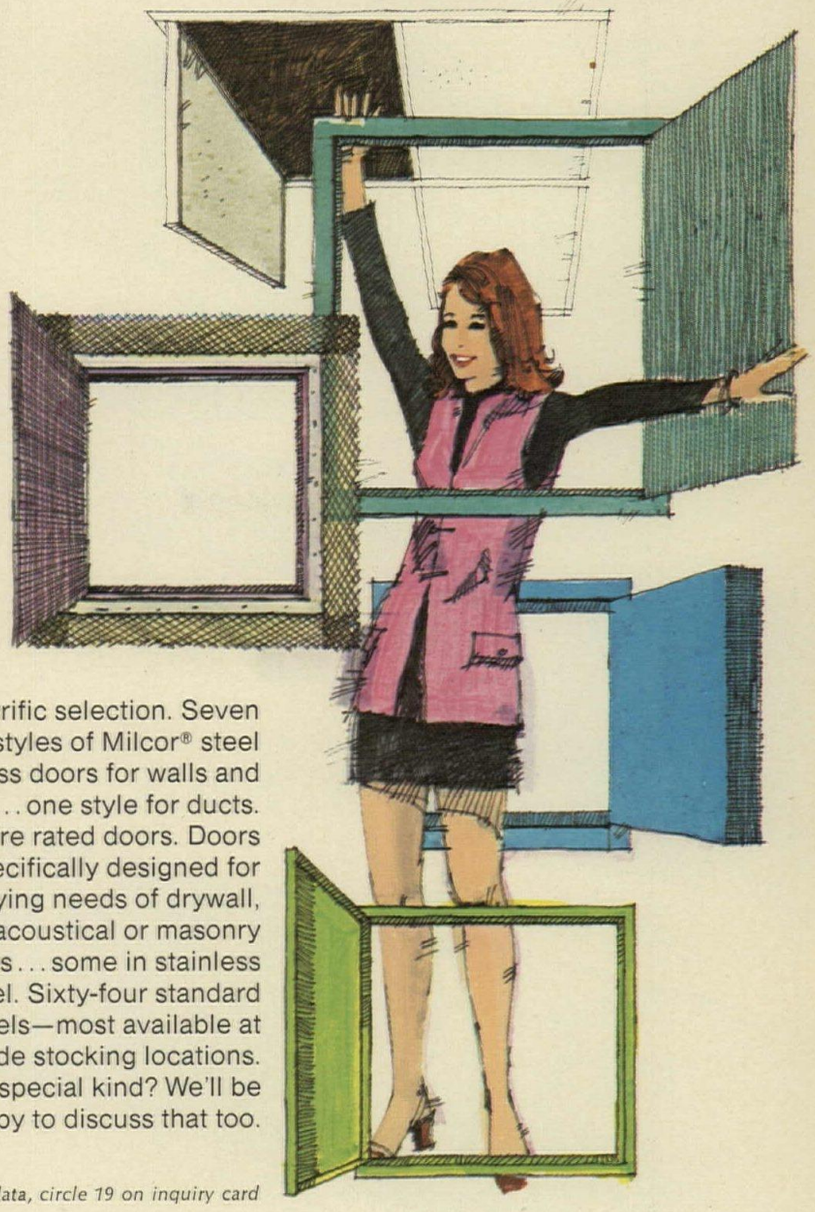
Framing that follows your fancy.

Design freedom is the watchword when you frame walls with Milcor® steel studs. They adapt to any contour ... simplify execution of intricate shapes ... meet load bearing or non-bearing conditions, exterior or interior ... accept almost any desired facing material. Can be shop assembled to reduce on-site labor. Light weight cuts footings, foundation and structural requirements.

For more data, circle 18 on inquiry card



Doors for everything but doorways.

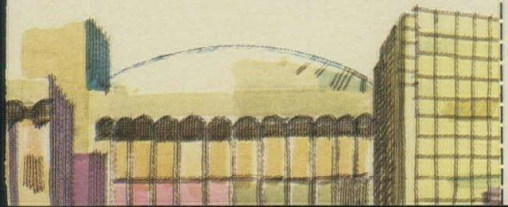


A terrific selection. Seven basic styles of Milcor® steel access doors for walls and ceilings ... one style for ducts. Fire rated doors. Doors specifically designed for the varying needs of drywall, plaster, acoustical or masonry surfaces ... some in stainless steel. Sixty-four standard models—most available at nationwide stocking locations. Need a special kind? We'll be happy to discuss that too.

For more data, circle 19 on inquiry card

better buildings

See our catalogs in Sweet's (S)



INLAND RYERSON

A member of the INLAND Steel Family

Inland-Ryerson Construction Products Co.
Dept. I, 4033 West Burnham Street
Milwaukee, Wisconsin 53201

Yes, send me more Inryco ideas, as checked:

☐ On Inryco®/Fenmark® grid walls.
☐ On lightgage steel framing.
☐ On Milcor access doors.

Name _____

Title _____

Company _____

Address _____

City _____ State _____ Zip _____

There's a lot more to Quiet Zone than meets the eye—or the ear. When you first see it, Armstrong Quiet Zone looks like a modern, attractive Armstrong Vinyl Corlon® floor. But when you walk on it, and feel its comfort, and listen to your footsteps, you might think it's carpet.

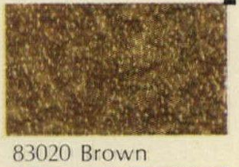
Because underneath, Quiet Zone is unlike any floor you've probably ever seen. A thick backing of Cushioncord® vinyl foam muffles footsteps and the clatter of dropped objects. It also cushions feet, for more walking and standing comfort.

You know how important quietness and comfort are. You know how important good design is. And you know how important practicality is.

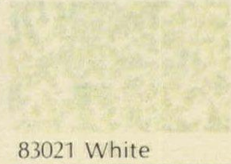
Quiet Zone is all of that. Its rugged, heavy-duty vinyl surface resists scuffs and stains. Maintenance is simple and economical. And Quiet Zone is available in two handsome patterns, which are richly textured to help disguise traffic marks and subfloor irregularities.

Install Quiet Zone. Listen to it work. More information? Please mail the coupon.

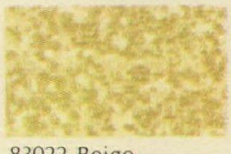
Shh. Quiet Zone™ at work. You know it's vinyl, but you might think it's carpet.



83020 Brown

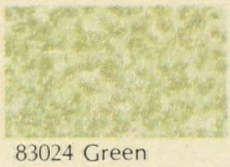


83021 White

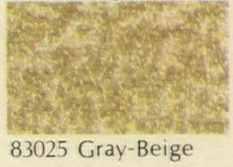


83022 Beige

83023 Gold



83024 Green



83025 Gray-Beige

The Quiet Zone pattern illustrated here is called Grand Central.

For more information, send this coupon to Armstrong, 309 Rock St., Lancaster, Pa. 17604.

Name_____

Company_____

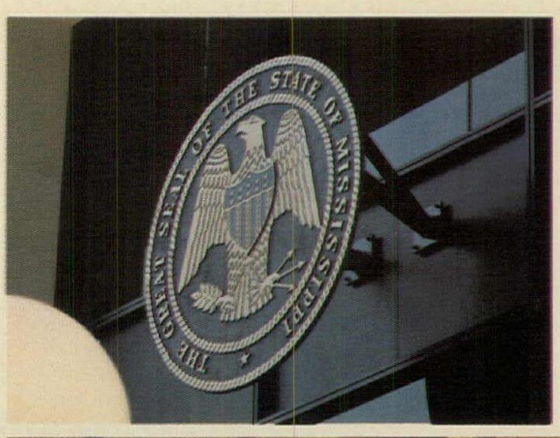
Address_____

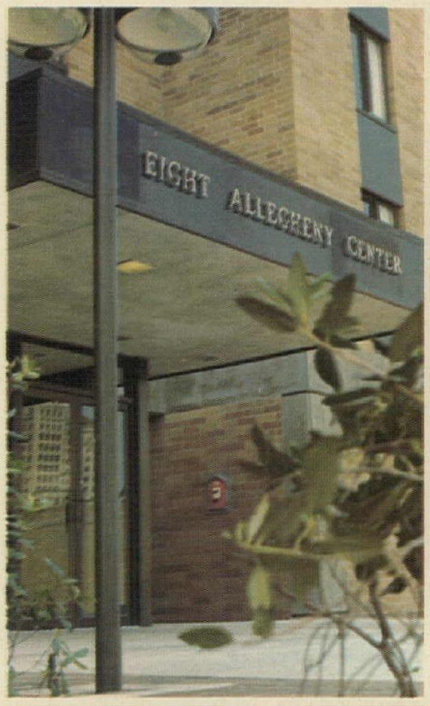
City_____ State_____ Zip_____

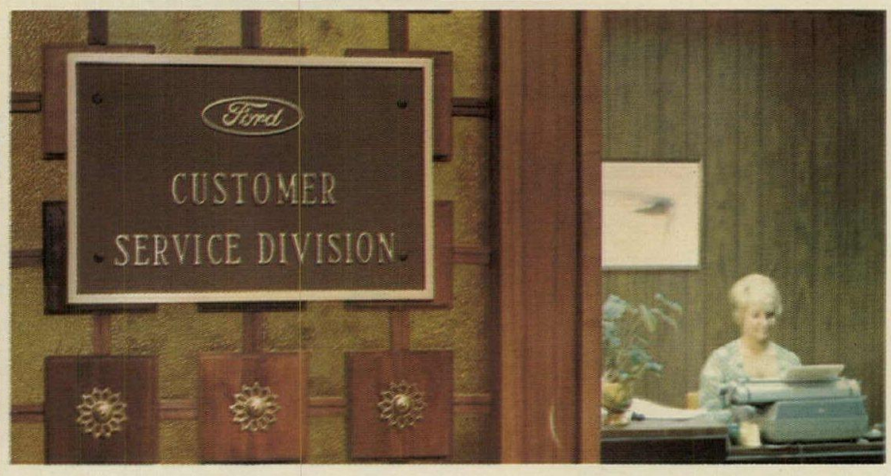
FROM THE INDOOR WORLD® OF

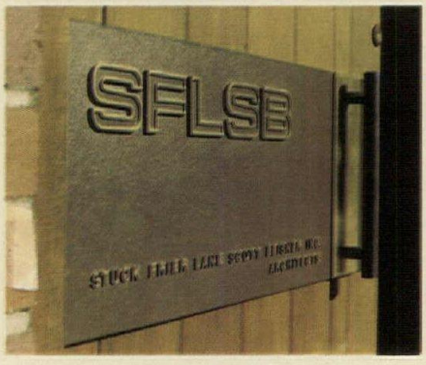
Armstrong

For more data, circle 1 on inquiry card









MATTHEWS IDENTIFICATION SYSTEMS:

Customized, coordinated visual communications

For a comprehensive program of coordinated signage, call on Matthews. We're experts in the design, manufacture and installation of identification systems. For interiors and exteriors.

Communications play a key role in any architectural plan. Moving and directing people is of prime concern. Matthews can provide the answer. Through the design of a workable system customized to fit the decor. From an unlimited number of materials...metals, plastics, woods. With total installation responsibility. Corporate symbols, parking lot signs, room number plates, building directories ...all professionally coordinated for effective communications...and smooth traffic flow.

Matthews is the single source with the system that works. For customized, coordinated visual communications write or call for the Identification Systems catalog today.

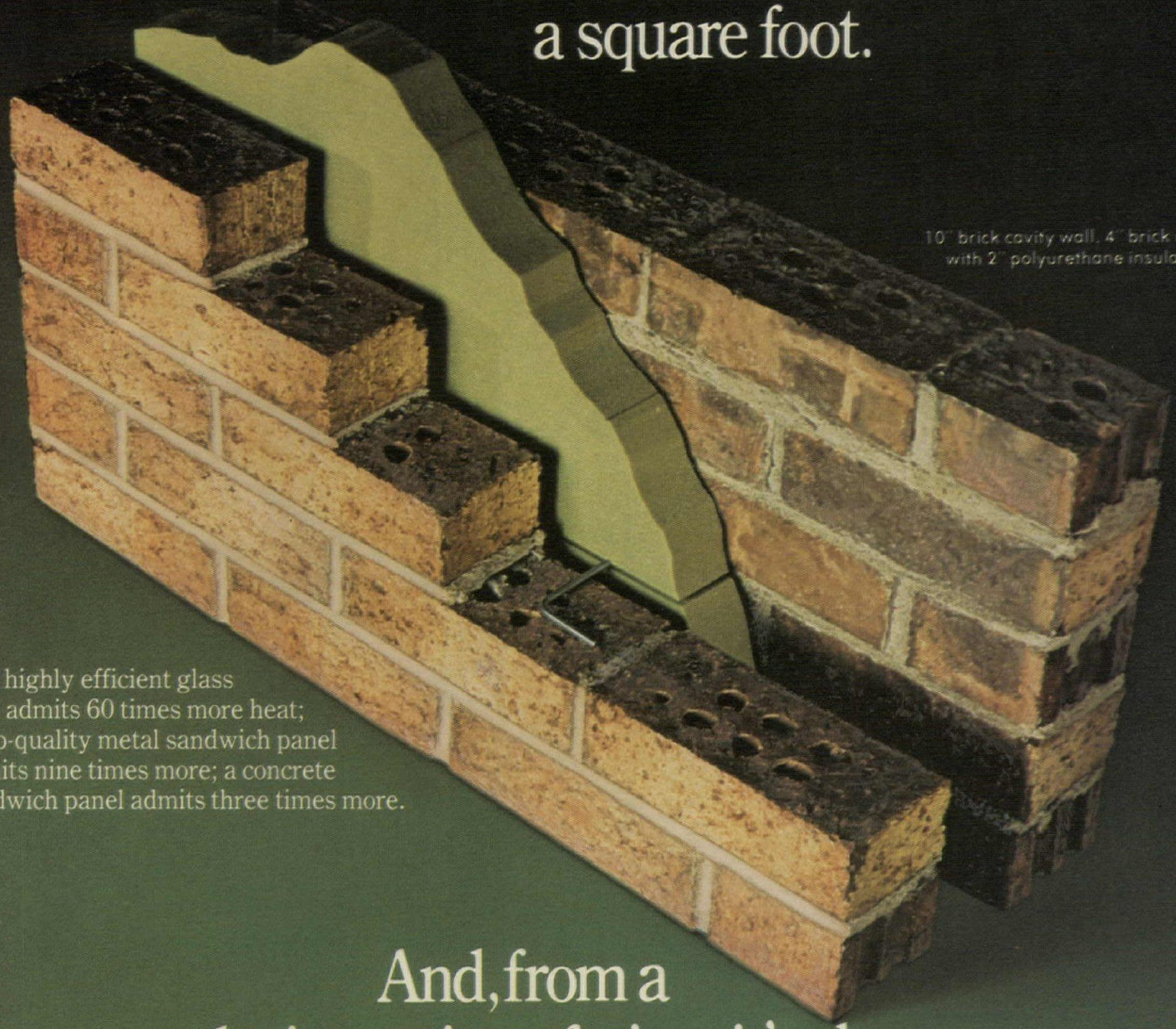
JHM JAS. H. MATTHEWS & CO.
Identification Systems

1315 W. Liberty Ave., Pittsburgh, Pennsylvania 15226

Plants in PITTSBURGH, PENNSYLVANIA; SEARCY, ARKANSAS; MILTON, ONTARIO; SUN CITY, CALIFORNIA; SENECA FALLS, NEW YORK; EL MONTE, CALIFORNIA.

For more data, circle 20 on inquiry card

When it's 95° outside, this brick cavity wall gains heat at the rate of only .72 Btu/h a square foot.



10" brick cavity wall. 4" brick units with 2" polyurethane insulation.

A highly efficient glass wall admits 60 times more heat; a top-quality metal sandwich panel admits nine times more; a concrete sandwich panel admits three times more.

And, from a design point-of-view, it's also a more interesting square foot.

With a U value of only .06, brick cavity walls provide the most efficient barrier against solar heat gain in buildings. A 10,000-square-foot brick cavity wall gains only 7,200 Btu/h under summer design conditions, compared to 440,000 Btu/h for a double-glazed reflective glass wall.

Brick solves energy conservation problems inexpensively. In most areas, a brick cavity wall can be installed for $4.50 to $7.50 a square foot. Price includes finished interior walls.

If the cavity wall doesn't meet your design needs, other brick walls will. All offer similar energy conservation and none will shatter your project's budget.

Brick Institute of America, 1750 Old Meadow Road, McLean, Virginia 22101

For informative booklet comparing energy conservation characteristics of brick with competing systems, please fill out and mail coupon to:

Brick Institute of America, Dept. EC AR
1750 Old Meadow Road, McLean, Virginia 22101

Name_____

Title_____

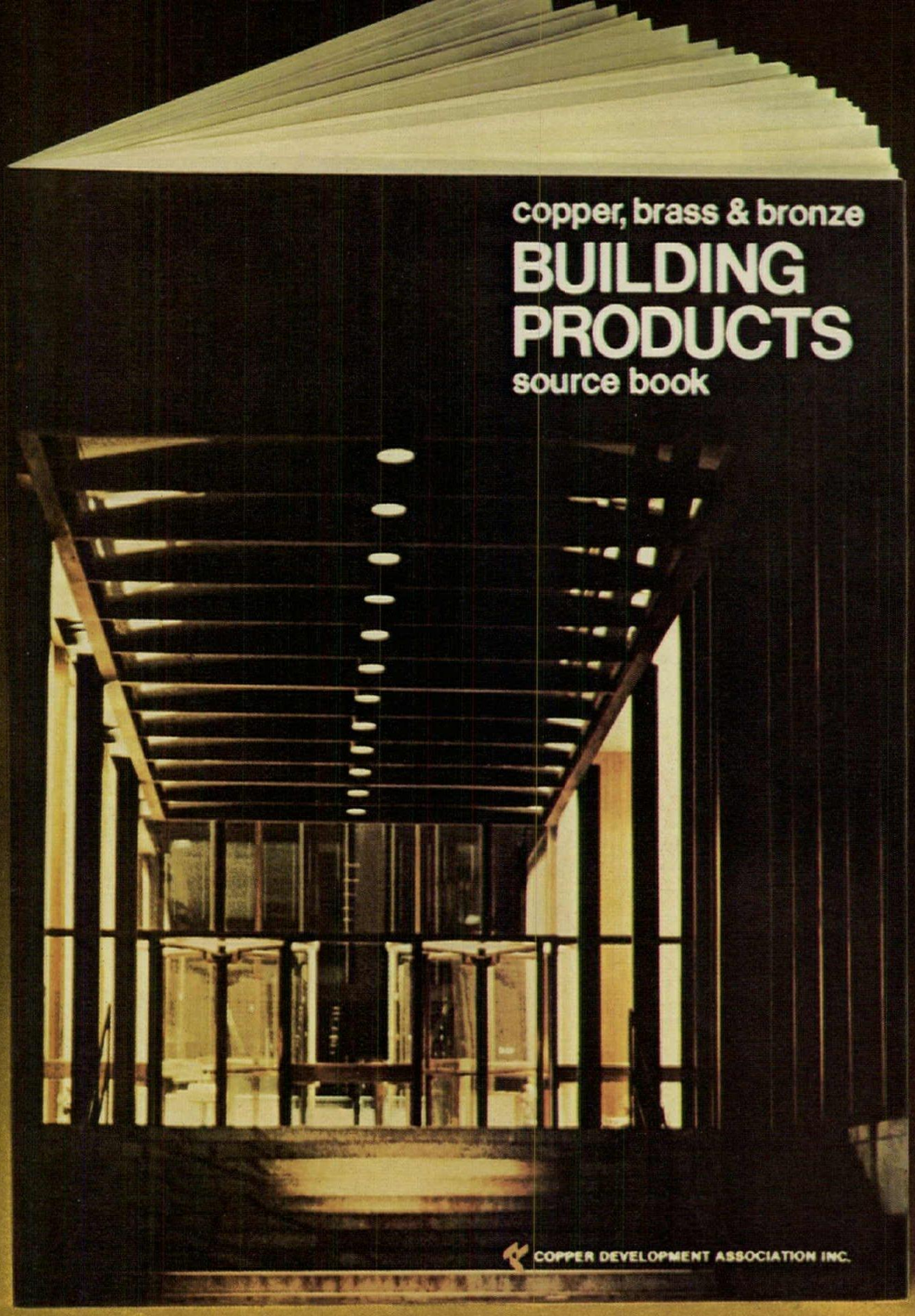
Firm Name_____

Street_____

City_____

State_____ Zip_____

BIA



Look it up in the copper pages.

Now you can have a free, comprehensive guide to quality building products employing copper and its alloys; brass and bronze.

For speed and convenience, you'll find directory listings arranged both by product and company. Product listings are identified in conformity with the Uniform Construction Index. Company listings spotlight suppliers by state, permitting fast identification of sources nearest you.

A total of 150 pages of listings makes this source book a valuable reference for architects, engineers and contractors utilizing copper, brass and bronze as major building construction materials. It's yours for the asking.

For your free copy of the Copper, Brass and Bronze Building Products Source Book, write on your letterhead to: Copper Development Association Inc., 405 Lexington Avenue, New York, N.Y. 10017.

COUNT ON COPPER

For more data, circle 22 on inquiry card

THE RECORD REPORTS

The $11.3 billion omnibus housing bill has been sent by Congress to the White House for President Ford's signature. The new bill provides, among other organizations, $8.6 billion over the next three years in community block grants, and provides for continuation of Section 235 and 236 subsidy programs for up to two years. The legislation is the first omnibus housing bill since 1968. Since the measure only authorizes funding for three years of a six-year program, separate appropriation bills will have to be approved each year. Details are offered on page 34.

The House of Representatives has approved an $11 billion mass transportation bill, cutting it—at the request of President Ford—from $20 billion. The bill continues Federal aid for mass transit capital funding, and also provides operating subsidies for the first time. The bill would provide $760 million for construction grants and operating expenses for nine U.S. cities with rail systems in operation or under construction. For details, see page 34.

Twenty-five cellular or foamed plastics makers have signed a provisional consent decree with the FTC, and have agreed to publicize the flammability dangers of those products used for building insulation and furniture cushioning. Details on page 34.

Industry comments on the proposed ASHRAE Standard 90-P on energy conservation are due September 30. Written by ASHRAE, after the assignment was relinquished by the National Bureau of Standards in February, the controversial document on design evaluation criteria "reduces extensively" the original NBS intent, according to one Bureau spokesman. (For a full discussion of the issue, see the Energy Conservation section (page 147) of ARCHITECTURAL RECORD's Engineering for Architecture, Mid-August, 1974.)

Newly revised FHA Minimum Property Standards became effective August 1, and they are said to encourage design innovations and improved building technology, with greater emphasis on the performance approach. The new documents apply to low-rent public housing as well as housing approved for mortgage insurance by the FHA, and are mandatory for housing built with assistance from the Veterans Administration, Farmers Home Administration, and HUD.

The first section of the portfolio for AIA Fellowship nominations is due October 1, 1974. The remainder is due on November 1. Candidates must have been corporate members for at least 10 years, and must have made a notable contribution to the advancement of the profession. Copies of the jury's criteria are available from Maureen Marx, at AIA headquarters, Washington, D.C.

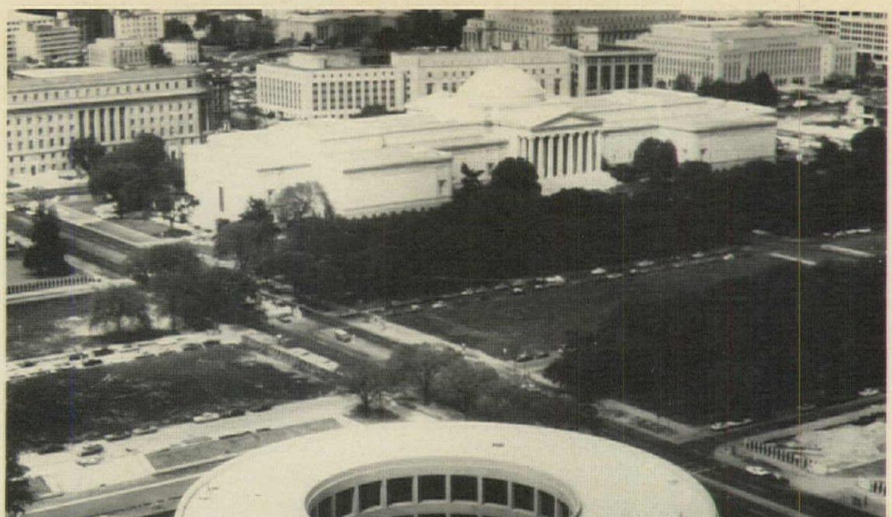
October 21 is the deadline for submissions for the 1975 AIA Honor Awards Program. Entry slips, obtained from AIA headquarters in Washington, D.C., must be postmarked no later than September 16. Dates will be strictly observed. Projects must be works of architecture or urban design, executed anywhere in the United States or abroad by architects licensed to practice architecture in the United States, and completed after January 1, 1964 and prior to the submissions deadline. A registration fee of $30 per entry is due with the entry slip.

Frank Lloyd Wright's home in Oak Park, Illinois has been purchased by the Oak Park Development Corporation, and a newly-formed Oak Park citizens' organization. The house and studio at 428 Forest Avenue and 951 Chicago Avenue will be restored, and donations may be sent to the non-profit Frank Lloyd Wright Home and Studio Foundation, Box 1889, Oak Park, Ill. 60301. Wright designed the house in 1889 and lived in it with his family for 20 years. Another FLLW landmark is to be preserved: Unity Temple. See page 34.

Hubert B. Owens was installed June 19 as president of the International Federation of Landscape Architects, at the organization's biennial congress in Vienna, Austria. Mr. Owens is dean emeritus of the School of Environmental Design at the University of Georgia. Among his activities, he has advised Mrs. Lyndon Johnson on the Beautify America program.

Federal land use legislation is likely to pass the next session of Congress, according to Gary Terry, executive vice president of the American Land Developers Association who presented his views at a recent meeting of developers in Denver. Also on the topic, 48 states are reported to have some land use activities in operation or under consideration. Details on page 34.

Richard H. Fox of Anniston, Alabama is the recipient of the 1974 $5000 LeBrun Travelling Fellowship, given biennially by the New York Chapter, AIA. The award is for six months' travel and study of architecture outside the United States. Mr. Fox who was selected from 17 applicants holds his B. Arch. degree from Auburn University. Steven J. Gottesman and Mark Kates, both of Brooklyn, New York, received honorable mentions in the competition for design excellence.



Hirshhorn Museum will open on the Mall in Washington, D.C., October 5.

The Hirshhorn Museum and Sculpture Garden (above), designed by Gordon Bunshaft of Skidmore, Owings & Merrill, will open to the public October 5 in Washington, D.C.

A gift to the nation from Joseph H. Hirshhorn, the museum will house his collection of paintings and sculpture, works "tracing the development of modern art from the late 19th century to the present." In the inaugural exhibition, 900 works—375 paintings and 525 sculptures—from the permanent collection of European and American art will be shown, through September 1975. Among artists represented in the collection are: Auguste Rodin, Thomas Eakins, Henri Matisse, Pablo Picasso, Willem de Kooning, David Smith, Henry Moore, Mark Rothko, and Alexander Calder.

Located on the Mall, the building is a circular reinforced concrete structure, 231 feet in diameter with an inner open core. Raised 14 feet above the plaza on four massive piers, the four story building has an exterior of precast concrete with pink granite aggregate. The facade is broken only by a 70-foot-long balcony on the third floor, overlooking the Mall and sculpture garden, a multi-level terrace with reflecting pool.

The museum was created by an Act of Congress in 1966, which authorized acceptance of Mr. Hirshhorn's gift of the collection and $1 million for the acquisition of art. When the cost of construction rose, the $1 million gift was used to augment the $15 million appropriated by Congress for construction, which began in 1970.

The new museum will be under the administration of the Smithsonian Institution.

Forty-eight states have begun some efforts in land use control

Forty-eight states have at least begun state land use policy studies or have instituted land use controls to cope with specific statewide problems. This, according to Land Use Planning Reports in Washington, D.C.

Eleven states now have statewide land use acts. Measures passed this year in Colorado, Maine, Maryland, North Carolina, and Utah were less comprehensive than those passed earlier. States with land use acts already under way are Hawaii, Florida, Minnesota, Nevada, Oregon, and Vermont.

In addition to those 11, New York has a number of legislative initiatives that give the state broad authority over land use.

States considering concrete proposals for land use legislation include California, Connecticut, Idaho, Illinois, Indiana, Iowa, Massachusetts, Michigan, New Hampshire, New Mexico, Rhode Island, Washington, Wisconsin, and Wyoming. Some of these proposals, as in Michigan, Iowa, and Idaho, were narrowly defeated by state legislatures.

But even the states reluctant to move toward comprehensive land use legislation have found it necessary to institute controls over specific problems. Six states—Delaware, California, Washington, Rhode Island, New Jersey, and Maine—are actively pursuing programs to regulate land use in their coastal zones. Twenty-five others have applied for Federal coastal zone planning grants. Over 35 states have control over power plant siting, strip mining, wetlands and subdivisions. A 58-page report on these findings is offered by LUP Reports.

Carnegie-Mellon studies computer-aided design

The Institute of Physical Planning at Carnegie-Mellon University is developing a computer system that promises among other benefits, to allow architectural and engineering changes to be made during design in a very inexpensive way. The CMU research project focuses on design documents for construction as well as design evaluation and engineering analyses.

For instance, if an architect decides that he wants type-A beams where he has planned for type-B beams, the computer would change all design plans, including those for type-B beams in the structure, and would specify related consequences of the substitution.

The architect would know within minutes, if his changes would weaken the building's over-all design, run counter to building code regulations, or cause other potential problems. Drawings and details would be automatically updated.

The user of computer-aided design would be able to describe almost any type of structure or shape in details totaling hundreds of thousands of parts. Diagrams in two or three dimensions could be generated quickly. All necessary technological and building code requirements will fit into the computer language for use in design and engineering analyses.

Estimates are that the computer hardware will cost between $40,000 and $50,000, plus the expense of a staff to run and maintain the system, expected to be ready for practical implementation by 1976.

Omnibus housing bill sent to White House

Congress has passed and sent to the White House the new $11.3 billion omnibus housing bill, the first in the nation in several years. Significantly it would provide major increases in grants for community development.

The new bill provides:

- Authorization of $8.6 billion over the next three years in community block grants with only general guides for spending these funds specified in the legislation.
- Up to $800 million in loans to developers of housing for the elderly, along with new money for rural housing.
- Authority to raise the maximum individual insured housing loan amount from the present $33,000 to $45,000 to spur shelter construction which has been lagging seriously.
- Federal aid for state-operated housing development agencies.
- For continuing Section 235 and 236 subsidy programs for up to two years with outlays of $450 million, only $75 million of which would be new money.
- For construction of 40,000 to 50,000 units of publicly-owned and operated housing, and financing the Administration's leasing program. Retroactive to July 1, this latter provision would permit HUD to pay the difference between local fair market rents and 20 to 25 per cent of gross income of eligible low-income families for apartments rented.
- For HUD to establish new safety standards for mobile homes; this would be the first time the government has been involved in this way in mobile home production.
- That Federally-chartered savings and loan institutions can increase individual loan amounts to a maximum $55,000 from the present $45,000 restriction. The bill also would make it easier for the S&L's to make real estate loans.

The new block grant system is scheduled to replace seven longstanding categorical loan programs such as model cities and urban renewal. While giving communities considerable leeway on use of this money, the bill would require portions of it to be spent on such work as slum elimination and the provision of low income shelter.

Congress votes no on Capitol facade

Congress voted no funds for restoring or extending the West Front of the U.S. Capitol Building in passing the final version of the legislative branch appropriations bill for the current fiscal year. Also eliminated at the last minute was a proposed $300,000 study of space needs on Capitol Hill.

The Senate had argued for inclusion of $20.9 million for West Front restoration and the sum for the space study in conference committee sessions on the two bills but yielded to an adamant House position before sending the measure to the White House. (The entire bill contains nearly $708.3 million in fiscal 1975 funds, including just over $1.5 million for the Architect of the Capitol.)

The American Institute of Architects, which has supported restoration over extension or any modification of the west facade, expressed disappointment that Congress had again postponed action.

Twenty-five plastics manufacturers have signed a consent pact with FTC

Twenty-five major manufacturers of cellular or foamed plastics have agreed to an extensive plan for publicizing the flammability dangers of the products, used primarily for building insulation and furniture cushioning.

The manufacturers and the Society of the Plastics Industry signed a provisional consent agreement with the Federal Trade Commission on July 29. Principal provisions of the agreement include:

- An immediate halt to advertising their products as "nonburning" or "self-extinguishing."
- To alert buyers that once ignited, the products burn intensely, producing rapid and intense heat, and dense smoke unless special measures are quickly taken.
- Place advertising in 22 special journals and four commercial publications warning of the hazards.
- Alert recent major buyers of the hazards.
- Establish a $5 million research program to study the flammability of these products and develop safer ways of using them.

J. Thomas Rosch, Director of FTC's Bureau of Consumer Protection, said one of the first developments from the agreement could be accelerated efforts of local building code officials in developing regulations prohibiting the use of the materials unless confined within a firewall. Many local governments have already adopted such regulations.

Rosch would not speculate on whether cellular plastics already in place should be removed, saying instead this was a matter that could involve liability laws of the various states.

He and other FTC officials suggested that fiberglass might be an adequate substitute for insulation purposes. But he said FTC had no recommendations for furniture cushion substitutes.

June 2, 1973, the FTC said an eight-month investigation had prompted it to issue a notice of intent to file a "class action" complaint against 26 major companies and two organizations. The FTC had also named the American Society for Testing and Materials, but has temporarily dropped the organization from action this time. The staff of the commission, however, was instructed to continue an investigation of ASTM and "others" engaged in standards-setting and production certification activities that the commission thinks "may result in deceptive or unfair standards and certificates."

SPI's announcement said that by underwriting and cooperating with the research program, the industry is seeking to "provide data that will lead to a thorough understanding of all aspects of cellular plastic combustibility, plus improved test methods, thus enhancing consumer safety and confidence."

The 25 companies named in the agreement are: Allied Chemical Corp., ARCO Polymers Inc., BASF Wyandotte Corp., Baychem Corp., Cook Paint and Varnish Co., Dow Chemical Co., E. I. DuPont de Nemours & Co., The Flintkote Co., Inc., Foster Grant Co., Inc., General Tire & Rubber Co., W.R. Grace & Co., Hooker Chemical & Plastics Corp.

Also, Jefferson Chemical Co. Inc., Millmaster Onyx Corp., Mine Safety Appliance Co., Monsanto Co., Olin Corp., Owens-Corning Fiberglas Corp., PPG Industries Inc., Tenneco Chemicals Inc., Union Carbide Corp., U.S. Steel Corp., Uniroyal Inc., Upjohn Co., and Witco Chemical Corp.

High wire artist chooses World Trade Center

Early on the morning of August 7, as hundreds jammed the streets below, a 25-year old Frenchman named Philippe Petit walked a tightrope between the twin towers of New York's World Trade Center.

Mr. Petit made the walk—a distance of 131 feet, 1350 feet above the street—in about 45 minutes, during which he astounded onlookers with a series of knee bends and other stunts, before turning himself over to police on the roof of one of the 110-story towers. He was booked for disorderly conduct and criminal trespass. However, charges were dropped in exchange for a free aerial performance by Mr. Petit in a park for "the children of the city."

Asked why he did it, Mr. Petit—a professional stunt man—responded, "If I see three oranges, I have to juggle. And if I see two towers, I have to walk." But of course.

House of Representatives approves mass transit

The House of Representatives has approved an $11 billion mass transportation bill, cutting it at the request of President Ford from $20 billion in an effort to reduce inflation. The bill would continue Federal aid for mass transit capital projects, and provide for the first time operating subsidies. The House voted on the first major mass transit measure since 1967. Senate action on a transit bill is still in the committee stage.

The bill would authorize in four categories: 1) capital grants and operating subsidies for urbanized areas with major fixed guideway systems in operation or included in approved area-wide plans—54 per cent of the total; 2) capital grants and operating subsidies for the other 260 urbanized areas—14.4 per cent of the total; 3) capital grants for urbanized areas listed in item 2 to be allocated at the discretion of the Secretary of Transportation —27 per cent of total; 4) capital grants and operating subsidies for urban areas of less than 50,000 population—4.6 per cent of the total.

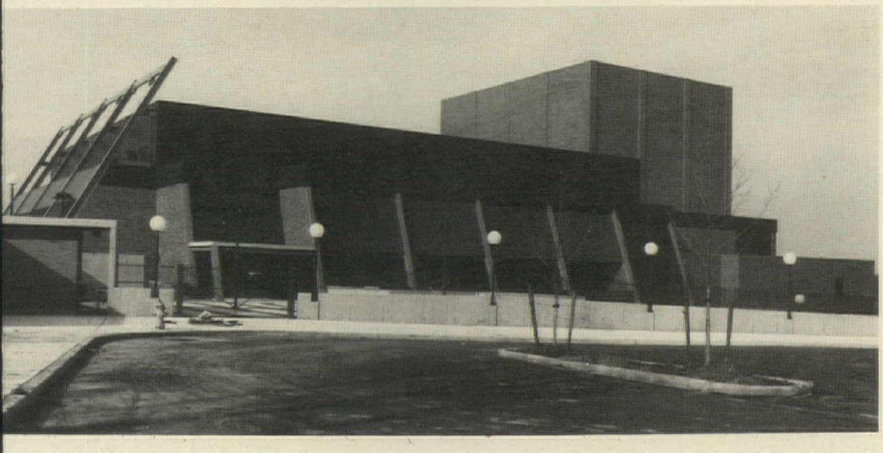
Areas receiving such funds could use them for capital improvements under a 75 per cent Federal and 25 per cent local matching formula. Operating subsidy assistance would be distributed under a 50-50 matching provision. Under no circumstances, however, could more than 50 per cent of the funds alloted in each category be used for operating.

Six cities would share a major portion of the total under terms of the committee plan.

Under a committee amendment, the Transportation Secretary would be guided by such factors as use, urbanized area population, previously approved projects and local fund commitments in determining the amounts each of the major cities would receive.

Eligible for the determined share of the $11 billion are New York, San Francisco, Atlanta, Chicago, Baltimore, Boston, Cleveland, Philadelphia and Pittsburgh.

Arts park with 2500-seat theater opens in suburban Buffalo



A $7 million dollar, 2500-seat theater (shown) with a stage large enough to accommodate major theater, dance, and opera productions opened July in Artpark, Lewiston, N.Y., a suburb of Buffalo.

Artpark Theater, built by the New York State Department of Parks and Recreation on state park land and funded by Natural Heritage Trust, was designed by Vollmer Associates.

Seating bleachers and an outdoor seating lawn can increase audience attendance to 4,000 people. Four huge electrically-controlled doors open the theater to the seating lawn.

Hardy Holzman Pfeiffer designed the master plan for an arts park surrounding the existing theater.

The master plan for Artpark contains recommendations for nature trails with markers pointing out historic spots, and for geologic trails and hiking paths along the Niagara Gorge with signs explaining the 400-million-year-old stratification.

The concept that has evolved locates facilities throughout the park in a way that maximizes interaction and communication between visitors, artists, and actors.

The ArtEL, for instance, is 500 feet long and 40 feet wide, descending a vertical height of 25 feet from the parking level to the rear of the outdoor seating lawn of the theater. Along its length will be enclosures for artists at work and for the meeting of artists and visitors. At prominent locations will be larger gathering spaces for a restaurant and a gallery-store.

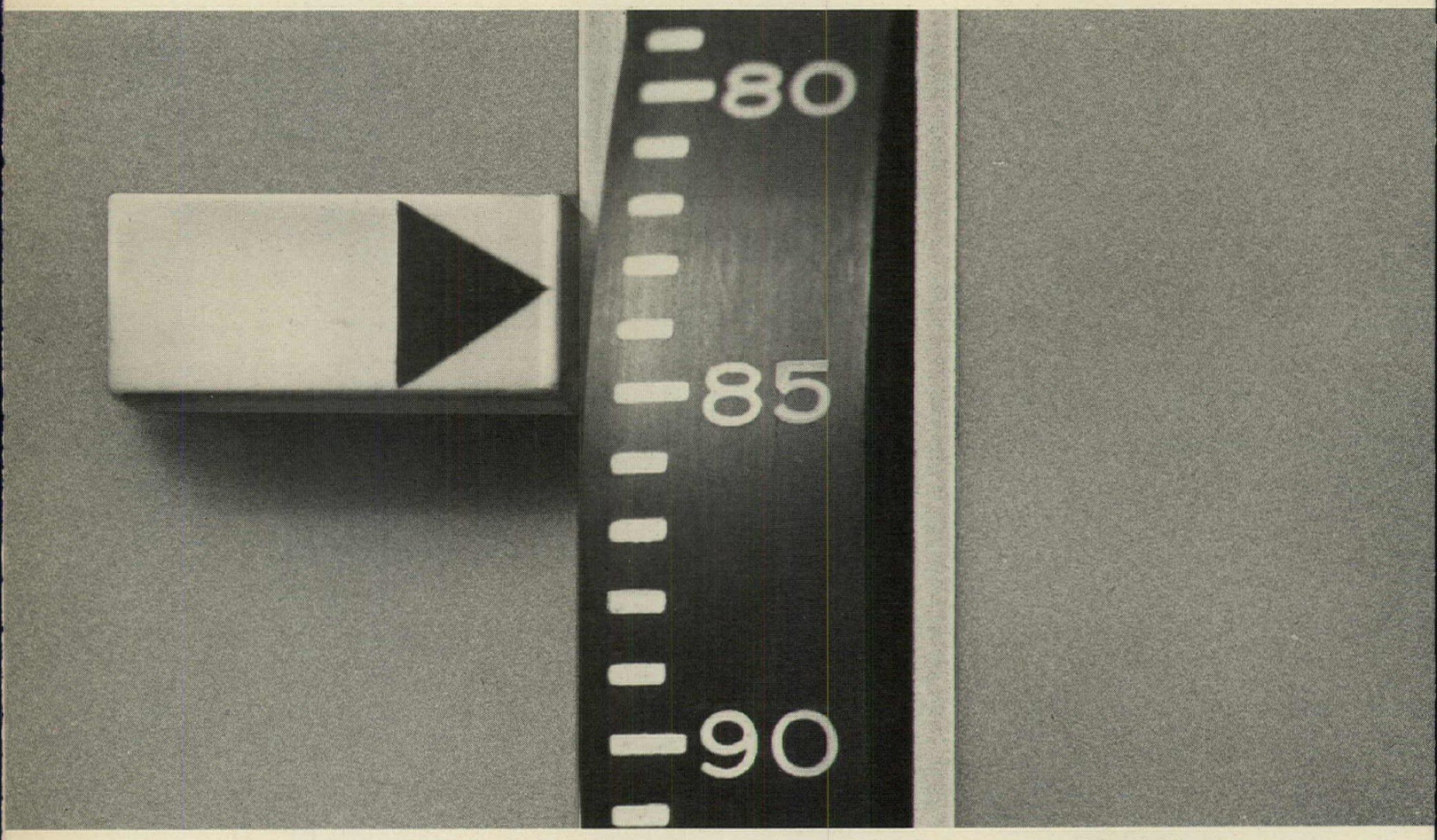
Because the Artpark project called for design, planning and construction in nine months' time on a minimal budget, the architects selected pre-engineered buildings of natural wood and metal: timber grain silos, log cabins of the type used by people for country homes, Butler grain bins, and steel truck bodies.

Kaufmann Fund donates $250,000 for Unity Temple

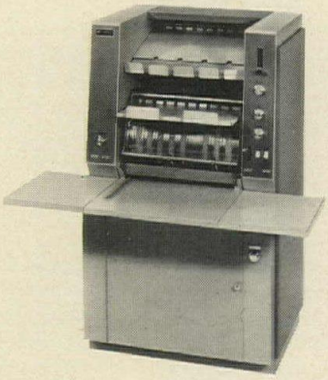
The Edgar J. Kaufmann Charitable Foundation of Pittsburgh has offered a matching grant of $250,000 to provide endowment funds for Frank Lloyd Wright's Unity Temple in Oak Park. The Kaufmann preliminary offer is contingent on the ability of the Unity Temple Restoration Foundation to provide matching funds of $250,000.

During the past five years, $230,000 has been raised and spent to restore the exterior of the building. Approximately $350,000 will be needed to complete the restoration of the interior of the building.

Only the GAF® 480 Automatic Diazoprinter lets you dial...



from 1 to 100 quality copies.



The GAF 480 will copy your masters automatically. It will deliver clean, accurate copies (from 1 to 100) that are sharp, clear images of the original. But that's only the beginning.

The GAF 480 Automatic Diazoprinter is flexible... makes copies from A, B, or C size originals quickly and accurately.

Because it uses rolls instead of cut sheets, the GAF 480 lets you reduce your inventory costs, makes ordering stock a snap, which results in less handling.

And if that's not enough, the GAF 480 is also designed to work with your existing microfilm system. Just take your reader/printer copies of aperture card material and reproduce them on the 480 Diazoprinter... very economically.

With a countdown dial for automatic reproduction of single originals, an electronic drive for smooth, accurate speed settings up to 60 FPM, and an automatic separation of copies from originals... the GAF 480 Automatic Diazoprinter is just what you need for the high quality work you demand.

Rediscover Diazo with the GAF 480 Automatic Diazoprinter. For more details, mail the coupon today.

gaf®

Rediscover Diazo®... the new Diazo.

For more data, circle 25 on inquiry card

GAF Corporation 482-0725
Office Systems Division, Dept. 666-094
140 West 51st Street
New York, New York 10020

Gentlemen: I'm for rediscovering Diazo!

- ☐ Please have a representative call me to arrange for a demonstration.
- ☐ Please send literature on the new GAF 480 Diazoprinter.

NAME

TITLE

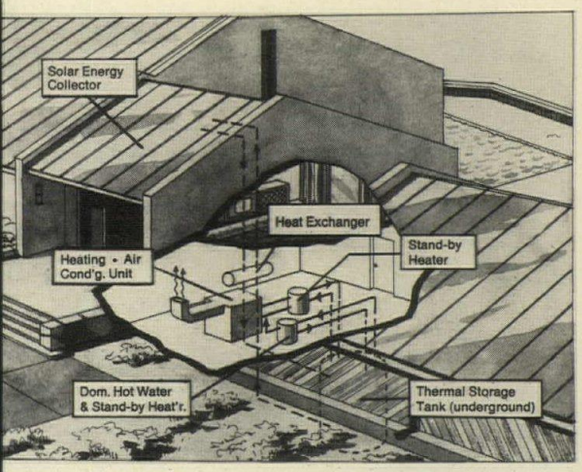
COMPANY

ADDRESS

CITY

STATE ZIP

PHONE (AREA CODE)



Prototype solar home under way in Tucson

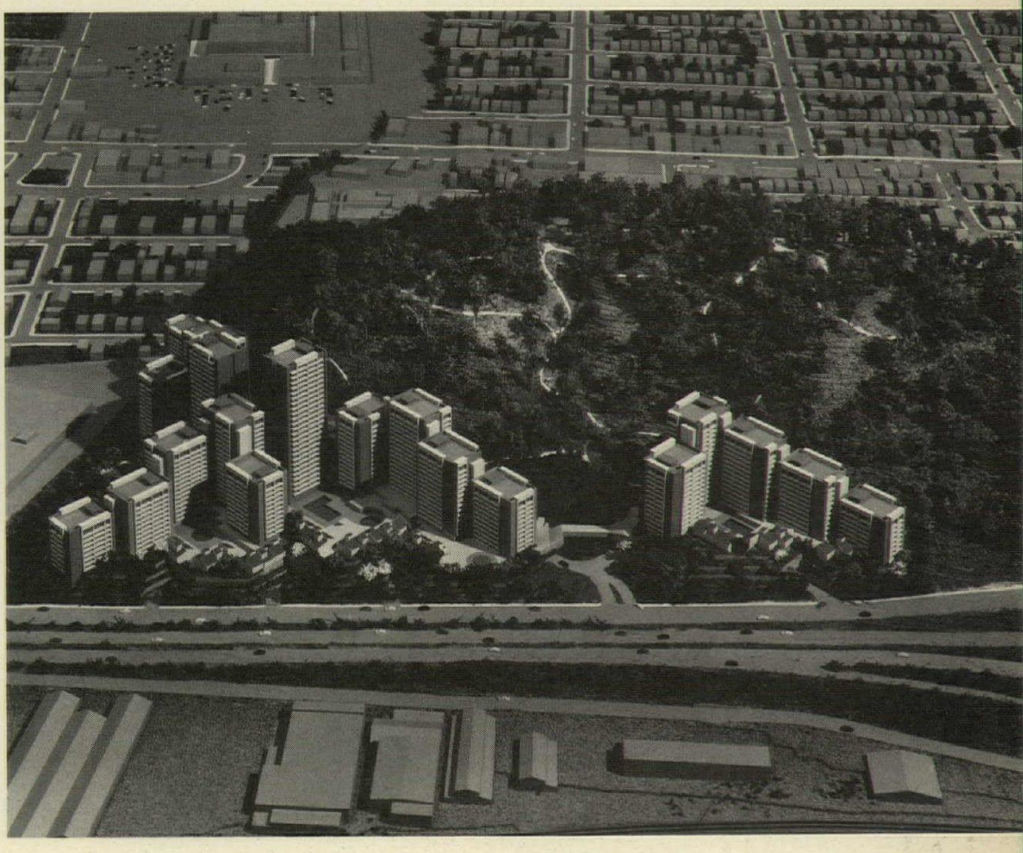
The Copper Development Association is the client for this "Decade 80 Solar House" (right) designed to prove out alternative power sources. Nucleus of the house is a solar energy collector copper roof system, glass-skinned and integrated with copper tubing containing water, the home's chief energy transport and storage medium. According to the CDA, everything in the 3000-sq ft house can be run on stored solar energy, which will replace approximately 60 per cent of conventional home energy. M. Arthur Kotch is the architect. The house will be studied for use of solar energy technology in home environments.

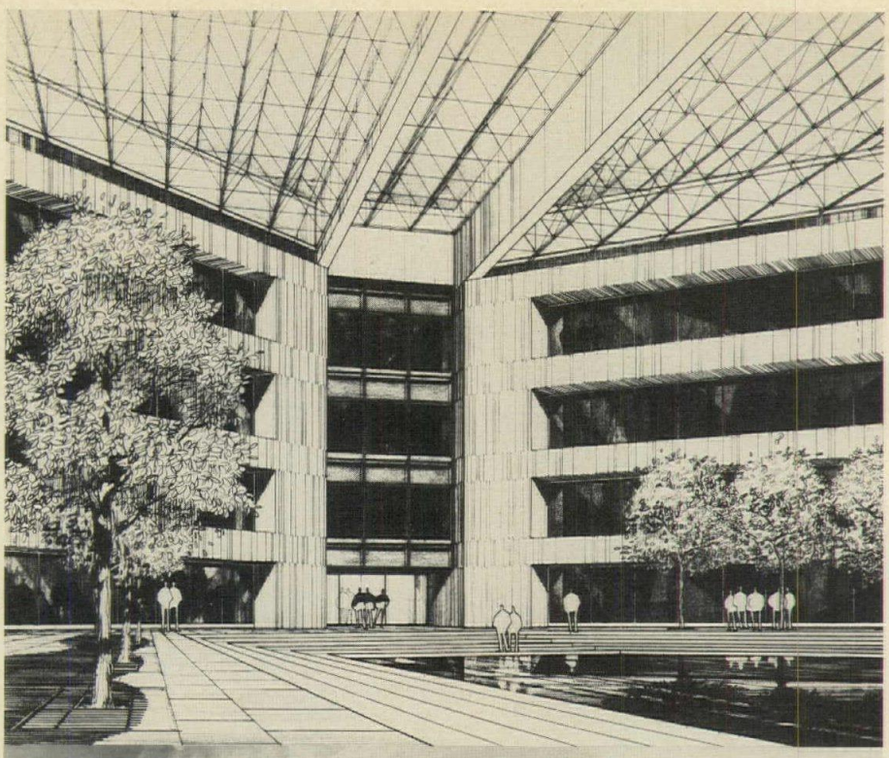
First phase of San Francisco area residential community moves ahead

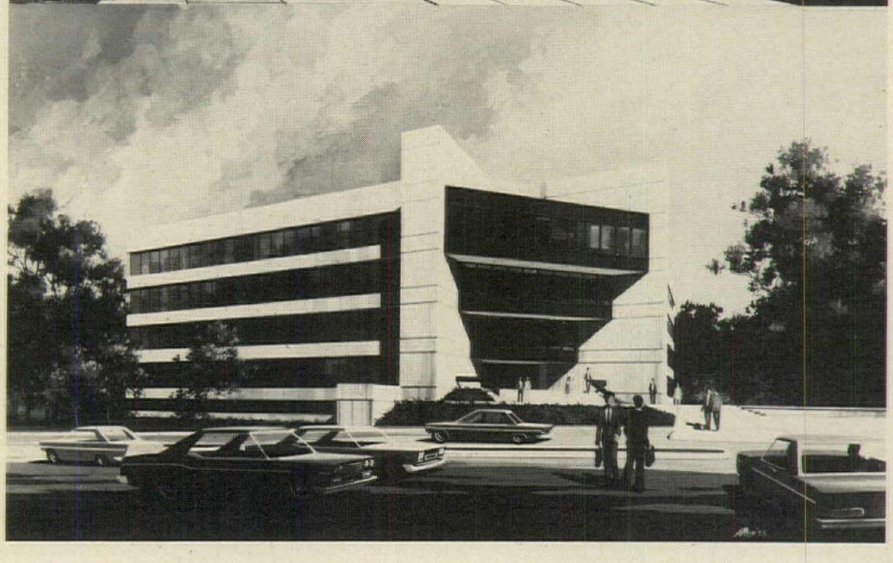
Goetz, Hallenbeck & Goetze have designed the master plan and first phase of construction for Albany Hill (shown), Albany, California. Initially, 530 middle income dwelling units are being built in three buildings clustered in varying heights, with 11- to 17-story structures rising from a three-level garage. Each building contains four to seven units per floor which scales down the individual parts of the development, and the angular relationships provide maximum view opportunities. The roof and portions of the top level of the garage are common spaces for recreational and commercial use. Eventually, the complex will contain 2500 to 3000 units in buildings up to 25 stories. Landscape architects are Sasaki, Walker Associates.

Combined usage places high school with offices

Rising at the corner of Park Avenue and 34th Street in New York is this combination high school-office building, a 44-story reinforced concrete structure designed by Shreve Lamb & Harmon Associates. The design places a 34-story office building over a 12-story school, each totally separated, functionally and mechanically. Siting the main tower diagonal to the avenue creates plaza spaces, while a 20-ft grade variation permits both office and school entrances to be at sidewalk level—one on 34th Street, the other on 33rd Street. The school will serve 1800-2500 students, and include community facilities.

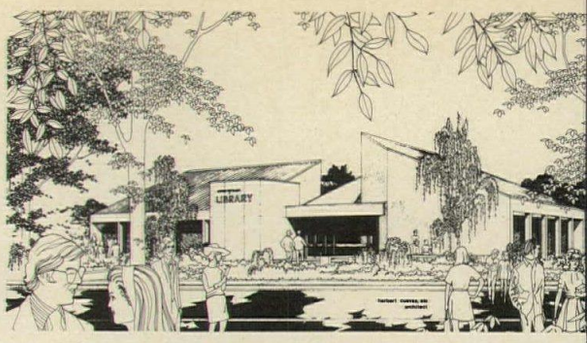






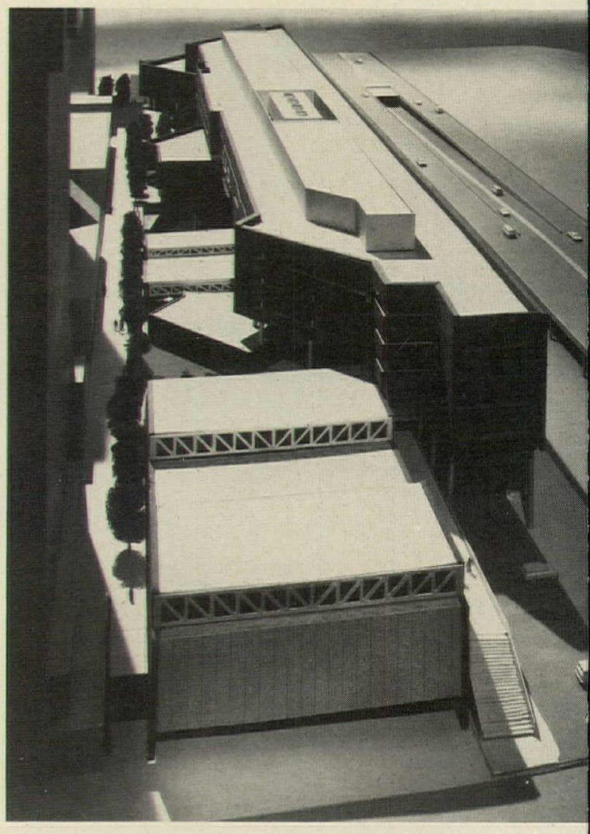
General Motors Building in Atlanta designed by Cooper, Carry & Associates

This 105,000 sq ft office building located in the northwest suburbs of Atlanta features a 3800-sq ft, four-story enclosed atrium (top) surrounded by offices. Clerestories introduce light into the atrium, and the triangular entrances (bottom) at opposite corners of the building gain shade and rain protection from the overhanging upper floors. Structure is poured-in-place boardform concrete, with bronze glass curtainwall enclosure. The project is budgeted at $5 million.



San Jose branch library to commence this month

Herbert Cuevas has designed this 7200-sq ft branch library for the San Jose, California Library Commission. Designed for energy conservation, the facility features windows sized and located to prevent direct sunlight exposure, and overhangs and operable windows on the east and south to provide natural ventilation. Redwood and stucco are the primary finish materials.

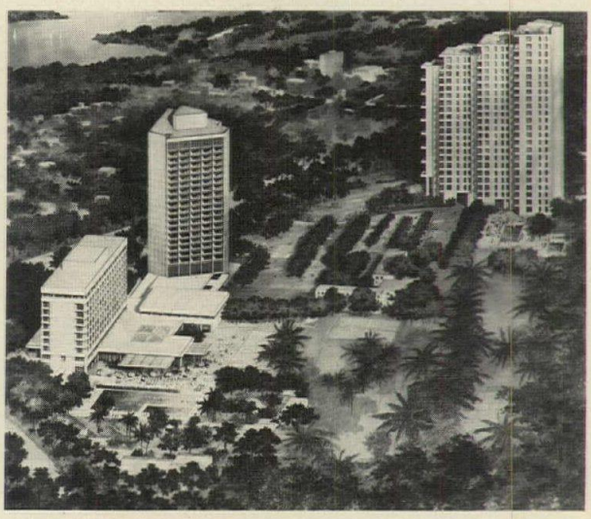


Ground broken for Borough of Manhattan College

The permanent home for the new Borough of Manhattan (New York) Community College was begun recently in a renewal area that was, in the 19th century, a colorful center of commerce, and the city's main produce market. This new building, designed by Caudill Rowlett Scott, is primarily masonry, with aluminum windows, over a steel frame. It is a seven-story building containing 685,000 sq ft for classrooms, labs, offices, library, daycare center, gym and student union. Completion is planned for fall 1977.

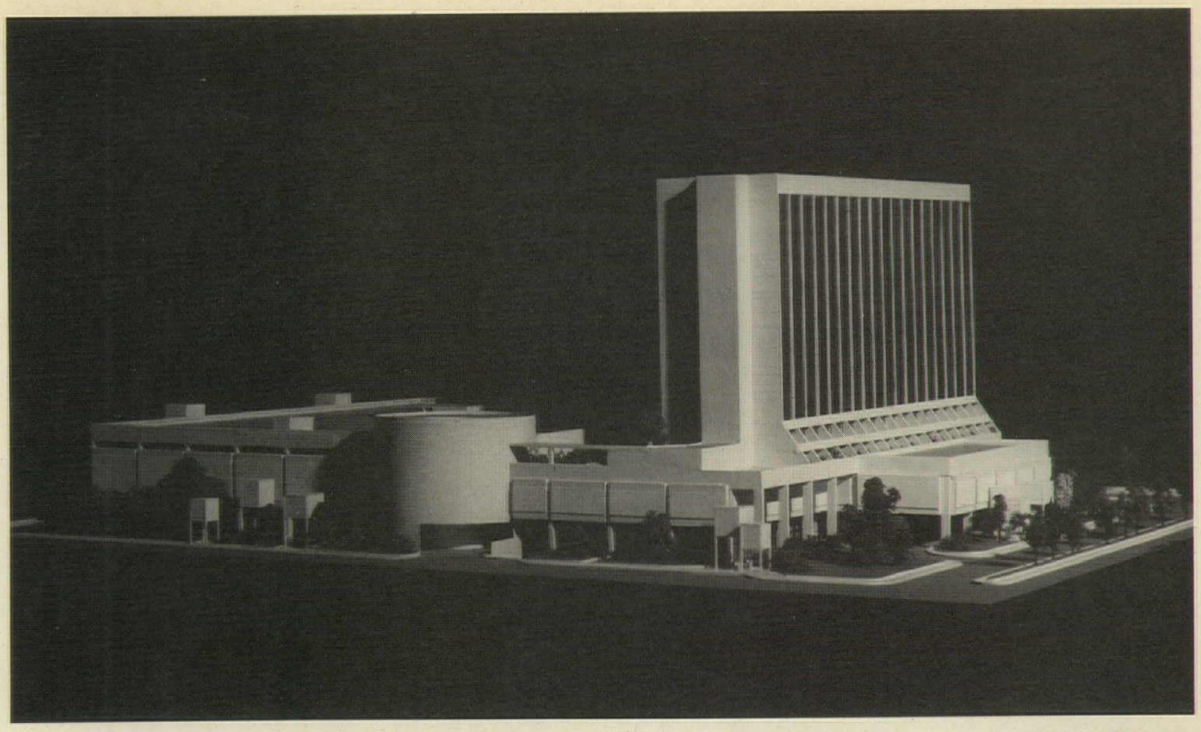
African country adds hotel, apartment space

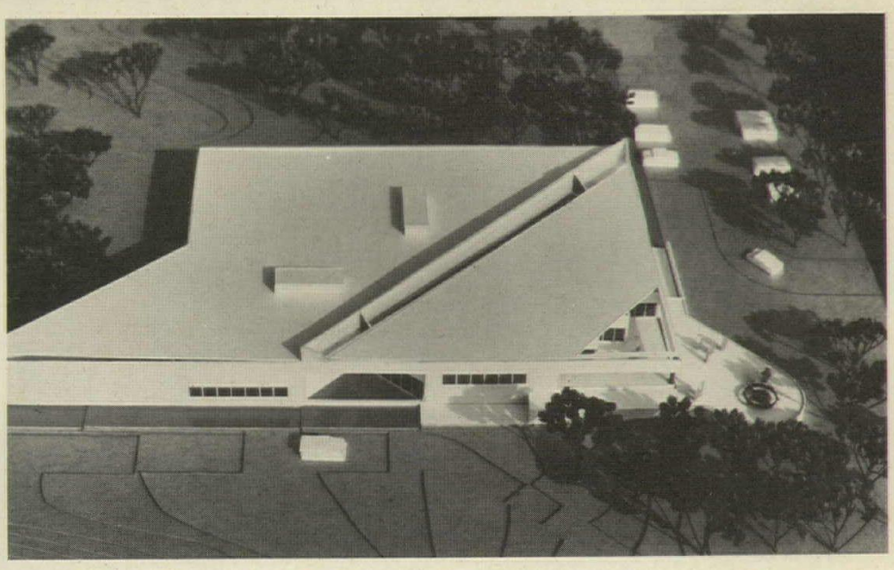
A 20-story addition to the Hotel Inter-Continental Kinshasa and an adjacent 24-story apartment tower is planned for a 14-acre site in Kinshasa, the capital of the African country of Zaïre. Welton Becket and Associates designed the $18 million project in off-white concrete and glass, and sited the structures on a hill overlooking the city and the Zaïre River. The apartment building will be stepped in four stages from 17 to 24 stories, with cantilevered balconies and flush windows.



Oklahoma City hotel and commercial center

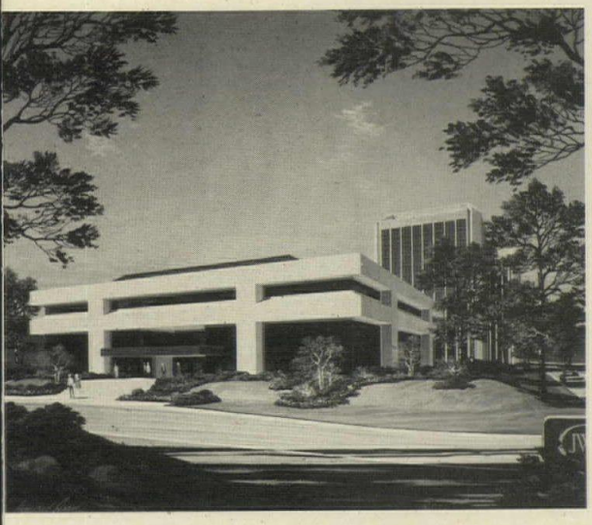
A fifteen-story, 414-room hotel and commercial center comprise the $17 million Century Center designed by Hudgins Thompson Ball and Associates for downtown Oklahoma City. The solar bronze glass and precast concrete complex incorporates 140,000 sq ft of retail space, 309,000 sq ft of hotel space with parking for 720 cars. The Center is connected by underground passage to a convention facility located directly across the street. The Sheraton Corporation will operate the hotel facilities when construction is completed late in 1975. Specialty shops, theaters, restaurants and clubs will occupy the two-story retail mall. The fast-tracked project is said to fit into the I. M. Pei comprehensive plan for the business district of Oklahoma City.





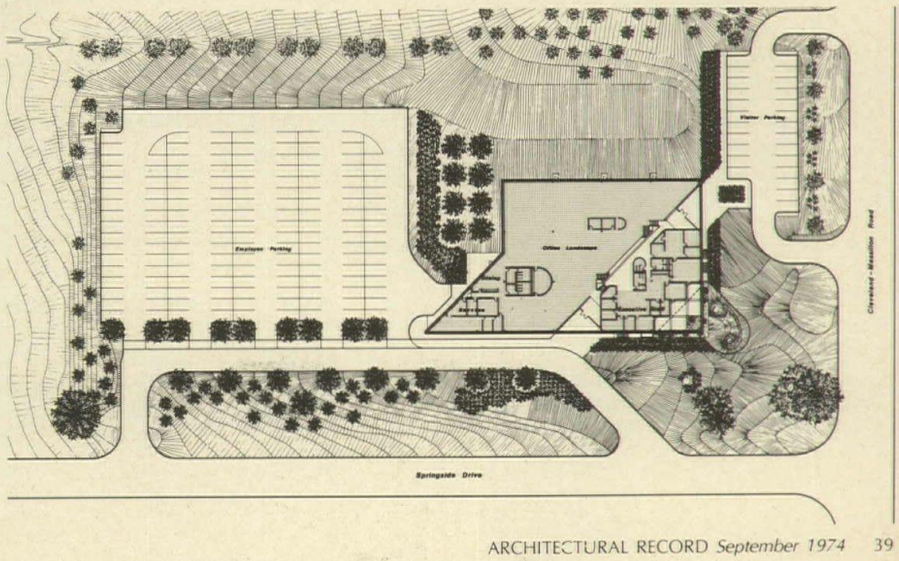
New headquarters for Akron, Ohio firm designed by Perkins & Will

Construction is underway, with completion anticipated for spring 1975, on this headquarters office building for Coastal Industries, Inc. The building is a one-story split level scheme with open-office space. A skylighted atrium connects this space with the management group a half level below. The atrium also serves to connect entrances for visitors and staff on adjoining sides of the building. The structural system is exposed long span steel joists, with exposed mechanical and electrical systems. The exterior of the building will be an insulated metal sandwich panel system which can be removed to accommodate expansion. The Washington, D.C. office of Perkins & Will designed the 31,000-sq ft building.



Materials ordered ahead on Michigan office building

Alden B. Dow Associates, in designing this Dearborn office for J. Walter Thompson Advertising, arranged to have all materials bid on and ordered before ground was broken and the working drawings completed. Based on the architects' projections, this method saved 5 to 7.5 per cent on building costs. Since the client wanted a maximum number of offices with windows, the three-story building has a skylighted atrium in its center. To accentuate the building and de-emphasize the parking lot, the building sits on a 4-ft plateau of earth mounds.



Win the recognition you deserve...

a 1974-75 Design in Steel Award

The Design in Steel Award program is designed to give recognition to those individuals or teams of practicing designers, architects, engineers, and artists who have made an outstanding design in steel come to life. There is no entry fee. To enter you need only to have designed and offered for sale any product, structure, component or work of art completed after January 1, 1972.

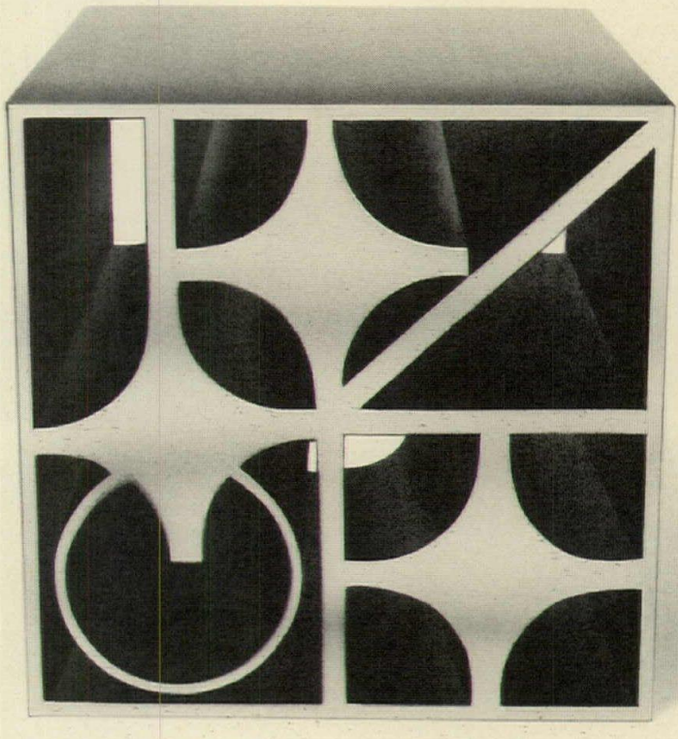
A distinguished panel of leaders in the fields of design, architecture, engineering and fine art will judge your entry.

Two awards will be offered in each of the following categories: appliances, housewares and household equipment; agricultural equipment; business equipment; environmental enhancement and control equipment; furniture and furnishings; medical and scientific equipment; industrial products and equipment; transportation; housing; low rise construction; high rise construction; public works construction; fine art and crafts in steel. In addition, for the first time, a special Conservation of Material award is being offered. This award will be selected by the judges from the design and engineering award winners.

Winners will be notified prior to the awards ceremony. All winners will receive national advertising and publicity by the AISI.

To get your descriptive booklet and entry form, fill out this coupon and mail to:

D.I.S.A. Program
633 Third Avenue, New York, N.Y. 10017



Please send me _____ entry kits.

Name _____

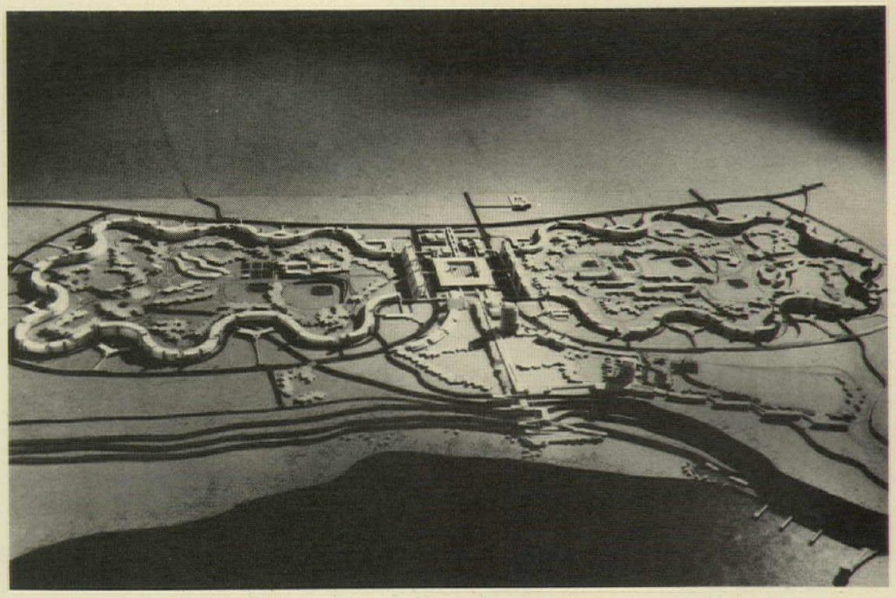
Address _____

City _____ State _____ Zip _____

AMERICAN IRON AND STEEL INSTITUTE

For more data, circle 26 on inquiry card

Winning design for super-port community shown



Architect Orval E. Sifontes of Hato Rey has won a competition sponsored by the Economic Development Administration of Puerto Rico for a special city planning project on Mona Island.

Mona, which is to be the site of a superport-oil refinery complex, is an uninhabited, dry, rocky island with relatively little vegetation, about 40 miles west of Puerto Rico.

Environmental considerations strongly influenced planning for Mona island, both the port and industrial areas, and the city itself. The city is to occupy 280 acres with a density of nine housing units per acre, with a population of no more than 2,500 people by 1985. About 1,650 of the families are projected to have annual incomes of $7000, 710, incomes of $10,000 and 140, incomes of $20,000 a year.

The plans called for 450 one-bedroom units with a maximum covered area of 500 square feet each, 385 two-bedroom units with 880 square feet each, 775 three-bedroom units with 1,100 square feet each and 40 four-bedroom units with 1,300 square feet each.

There would be 140 executive units ranging from 700 to 1,750 square feet each, surrounded by open park areas with adjacent city facilities, theaters, stores, commercial and tourist hotels, boarding houses, kindergartens and schools, churches, health, cultural and recreational centers, and a cemetery.

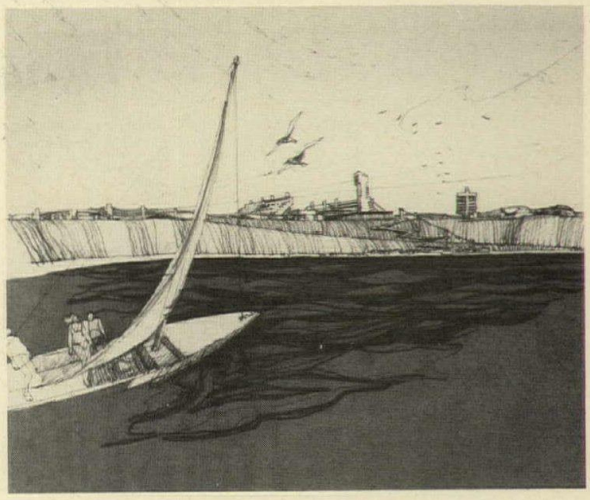
Sifontes' winning design shows two city sections with 1250 housing units each, with city facilities between them and the tourist hotel below the city near the beach and sea. Covered walkways go from each unit to other units and the central city facilities.

Road and street entry ways were provided for ambulances, fire trucks, and other service vehicles, with the residents using bicycles, motorcycles or small electric automobiles. Buses would provide transport to and from industrial areas.

Sifontes' design was awarded first prize February 9, 1974. Twelve architects made applications, but only five actually entered designs and three of these won prizes. In second place was a plan by architects Manuel de Lemos, Manuel Garcia, Roy D. Lyons and Thomas S. Marvel of Reed, Torres, Beauchamp and Marvel. Third prize went to engineer Charles Llenza of Tippets, Abbett, McCarthy and Stratton.

The jury was composed of architect Emilo A. Cerra, director of the new Center of San Juan Corporation and three other jurors. They found Sifontes' open central areas surrounded by the serpentine housing units desirable, and praised the fact that except for service vehicles, the necessary transportation facilities were provided in front of the housing units and to the city facilities situated between the living areas.

The Economic Development Administration will consider the prize-winning plans but Sifontes will not necessarily be the architect used, a spokeman said. The Colegium of Engineers, Architects and Surveyors co-sponsored the competition.



Resort new town planned for Taiwan

Y. H. Peng, formerly with I. M. Pei & Partners, and now with the Honolulu firm of Wong, Wong & Peng, has designed this new town for 25,000 persons on the northern coast of Taiwan, 45 minutes from the capital of Taipei.

Sesame Township, being developed by Hwa Mei Civil Engineering Corporation will integrate low-, medium- and high-density housing with schools, commercial, recreational and other community facilities, and include a 500-room resort hotel with convention facilities.

Single family houses will be built of concrete block and concrete roofing and floors. All other structures will be in concrete with glass mosaic tile finishes.

The three stepped slab-blocks in the foreground of the rendering are a mixed use structure with terraced apartments at the front, and four floors of commercial office space at the rear. In between there will be a five-story skylighted concourse containing shops.

Continuous development of the scheme is planned over an eight-year period, with high-income single family housing and the hotel comprising the first stage, which will begin in 1975.

Safelite bullet-resistant glass now gives you protection and beauty, too.

Now you can provide the security they need and the beauty you want. It's bullet resistant, UL-approved. And it comes with mitered edges for clean, clear vision. Or, sawed edges for butt glazing and a new, fresh outlook.

Safelite's riot and sound control glass utilizes a wide range of acceptable architectural colors, each at a specific light transmission, a constant U value and shading co-efficient.

Solve your security and comfort problems now. Specify Safelite for on-time deliveries, as promised, for your next project.

Write us for complete catalog or call for information.

Safelite is Service

Safelite Industries

P.O. Box 1879 / 1-800-835-2092
Wichita, Kansas 67201

For more data, circle 27 on inquiry card

An architecture that communicated

THE ARCHITECTURE OF CHOICE: ECLECTICISM IN AMERICA, 1880-1930, *by Walter C. Kidney: George Braziller, New York, 1974, 178 pages, illustrated, $12.50.*

If the rejection of the élitist notions of modern architecture by this generation of architects turns out to be for real, then a book like this one could help lay the foundation for a new understanding among architects about how architecture can communicate with people.

None of us whose involvement with architecture began after World War II has been required—or encouraged—to know much about any aspect of twentieth century architecture that did not stem from Sullivan and Wright, Gropius, Mies and Le Corbusier. For us, the cause was Modern Architecture, and Eclecticism the enemy. Though conceived in dogma and born in propaganda, Modern Architecture has lived to become so many things derived from so many sources that "abstention from the historic styles" was just about the *only* thing that, as Mr. Kidney puts it, "tenuously unified" what he calls "Modernism."

While they continued to eschew "the Styles," modern architects have been borrowing from and freely adapting historical antecedents since at least the middle fifties. But while they have more or less openly confessed to sources of inspiration ranging from antiquity to the age of Victoria, they have continued to keep a cautious distance from their Eclectic predecessors, like victors in a great struggle hard fought and dearly won.

And there has not been much in the literature of twentieth century architecture to encourage architects to take a fresh look at Eclecticism. As Mr. Kidney remarks, "In the propaganda that began in earnest a little before 1930 and that is echoed in most subsequent histories of American architecture—history being written by the winning side—there was a strong critical stress: Eclecticism was dishonest architecture for dishonest people—or if not dishonest, shallow, weak, sterile, negligible."

A quite different perspective is offered in Mr. Kidney's book, which is delightfully undogmatic, even speculative, in a lively and loving survey of Eclecticism, its practitioners and its buildings. Mr. Kidney is an editor (he has been with *Progressive Architecture* and with Random House) and architectural historian who is also the author of *Historic Buildings of Ohio* and of the forthcoming *Revolving Funds for Historic Preservation.*

What *was* Eclecticism? Mr. Kidney suggests that "one may perhaps generalize about the Eclectic classicists, Gothicists and the others and describe their art as taking up forms of proven and mature beauty from the formal and vernacular architectures of the past and adapting them, learnedly but with personal touches, to modern building programs."

"Madison Square Garden, New York, 1889. McKim, Mead and White; Stanford White, designer. Demolished. Part north Italian, part Spanish, in white terra cotta and pale buff brick; on top of the Giralda-like tower, the second version of Saint-Gaudens' Diana."

What was the *appeal* of Eclecticism? This is the reviewer's point, not explicitly Mr. Kidney's, but it is Mr. Kidney who observes, "Everybody was familiar with the forms in question; well handled by an architect of talent, they had a beauty that needed no explanation, no philosophy." And: "Not only were the forms of historic architecture valuable through their beauty, but they came to our times freighted with historic associations that every cultured person was familiar with, and that seemed to suggest, even to demand, that a certain building, in a certain place, be built in some one of a rather restricted, range styles."

And were the Eclectics mere imitators—plagiarists by another name? Mr. Kidney again: "The amount and kind of imitativeness among the Eclecticists varied from architect to architect and from decade to decade. Literal imitation did occur: the tower of Independence Hall has a way of turning up here and there, as do the dome of St. Peter's, the Trianons, and the porch of Compton-Wynyates. But such copies or near-copies are exceptional. The Eclectic saw himself as a participant in, or an heir to, a reform movement that had restored taste and literacy to architecture."

Mr. Kidney's book is neatly organized so that you can skim the text, or read the pictures and captions, and consult the eminently unstuffy "Notes" only if you want leads to other views of any aspect of his subject. For the sake of simplicity, he divides American architecture since 1870 into four categories:

"Mid-Victorian architecture, dominant in 1870, but soon to decline—imitative of historic styles but only loosely, without regard for correctness of proportion, scale or materials;

"Aesthetic architecture, introduced in the early 1870's as part of an English-inspired reform in the decorative arts—using historic decorative motifs freely for picturesque effect, without regard to correctness, and showing a renewed interest in refinements of form, color, and texture;

"Eclecticism, beginning, in my opinion, in 1874, and in decline since 1930—learnedly if selectively imitative of historic architecture in all aspects of its appearance, and using the historic styles as expressions of various cultural institutions;

"Modernism, evolving from various sources including the aesthetic movement, and dominant today—having many philosophies, many kinds of approach to form and materials, but tenuously unified by abstention from the historic styles."

The anonymous architecture built for the masses and for the middle classes is part of Mr. Kidney's story along with the work of the great—Richardson, Hunt, McKim, Mead & White, Cram, Goodhue and all the others.

Pietro Belluschi, who received the Gold Medal of The American Institute of Architects only last year, was one of the first modern architects to warn that the victory of "Modern" over "Traditional" might have had its Pyrrhic aspects. In his own stunningly contemporary adaptations of the quiet vernacular traditions of Northwest architecture, he was perhaps least guilty among his colleagues of forgetting that people have psychic as well as physical needs; but in a 1951 speech at Reed College in Oregon, he expressed misgivings: "We have taken away from the man in the street all of the little fake green shutters, the cornices and the cartouches, but we have not given him back the equivalent in emotional value."

Now that "user needs" and the "psychology of space" have become fashionable as well as intuitive concerns of architects, perhaps the work of the Eclectics may be studied for the lessons in architectural communication and human response it might have to offer. This book would be a useful place to start.

—Jeanne M. Davern

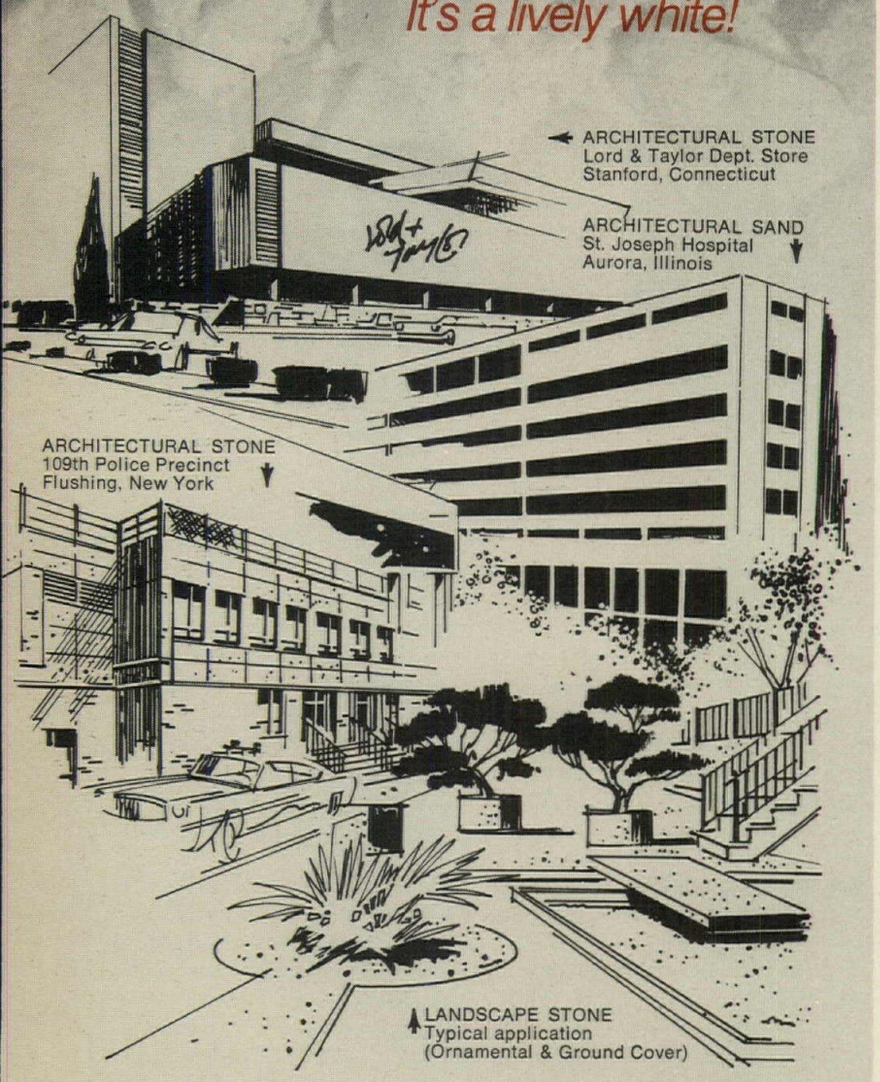
Miss Davern is a freelance architectural journalist and editorial consultant who was formerly managing editor of ARCHITECTURAL RECORD.

Mystic White®

A multi-purpose quartz aggregate.

- Architectural stone
- Landscape stone
- Architectural sand

It's a lively white!



Mystic White® is the distinctive name given to this family of lively white aggregates and architectural sand: Architectural Stone, in ¼" to 1½" sizes, for architectural concrete, and ornamental and landscape applications—decorative planters and ground cover. Architectural Sand, the whitest available, provides the "white-look" when using gray or white cement. For specialty concrete products, architectural finishes. It's beautiful and lasts, and lasts, and lasts. Write for brochure and become acquainted with Mystic White.

1900
SANDS OF TIME™

OTTAWA SILICA COMPANY

Connecticut Silica Division
RFD #7, Box 855, 577 AR
Ledyard, Connecticut 06339

For more data, circle 28 on inquiry card

Merchant & Evans Co.

2035 WASHINGTON AVE.
PHILADELPHIA, PA. 19146 U. S. A.

MANUFACTURERS OF CUSTOM FORMED
ARCHITECTURAL SYSTEMS SINCE 1806

IS ON THE MOVE

ON OR ABOUT SEPT. 15

to

100 CONNECTICUT DRIVE
CROSSROADS INDUSTRIAL COMMUNITY
BURLINGTON TOWNSHIP, N.J. 08016
609 387-3033 215 KI-5-0820

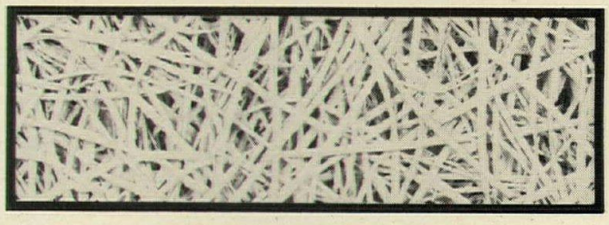
TRADE MARK
M & E
REG. IN U.S. PAT. OFF.
SINCE 1866

For more data, circle 29 on inquiry card

Save pennies per square foot

Petrical® Roof-Decks do more.

- **Structural Roof-Deck**
- **Low "U" value**
- **Noise reduction coefficient up to .85**
- **Moisture resistant**
- **U.L. classified**
- **I.C.B.O. approved**
- **Non-combustible**
- **Diaphragm tested**
- **Wall panel**
- **Form board**
- **Prime painted white**
- **Attractive**
- **Durable**



Call or write:

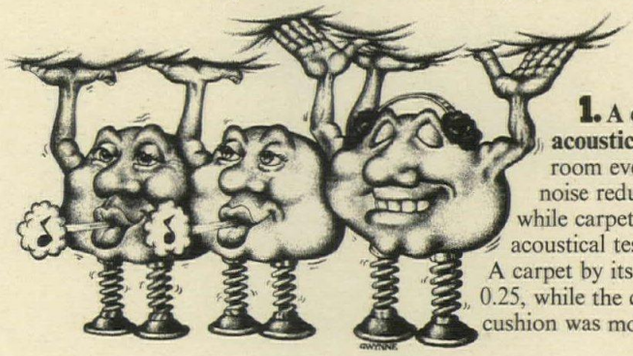
CORNELL CORPORATION

808 South Third Street
Cornell, WI 54732 • Phone: (715) 239-6411
See Sweet's Architectural File.

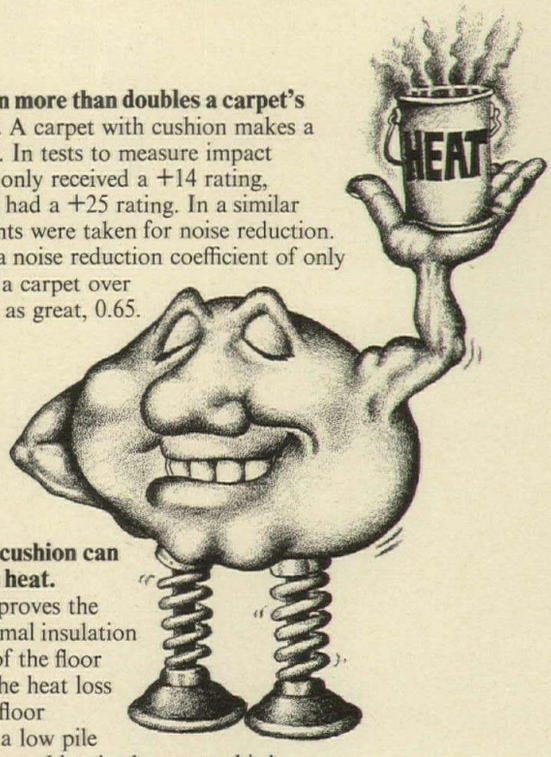
For more data, circle 133 on inquiry card

Before you pull the padding out from under another rug, read this.

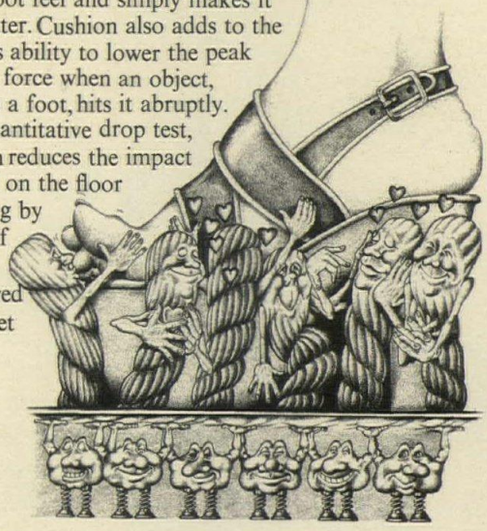
Whenever your carpeting budget is up against the wall, the first thing you're tempted to do is pull out the cushion. Before you do, consider the underlying contributions carpet cushion can make to your next installation.



1. A carpet cushion more than doubles a carpet's acoustical properties. A carpet with cushion makes a room even more quiet. In tests to measure impact noise reduction, carpet only received a +14 rating, while carpet over cushion had a +25 rating. In a similar acoustical test measurements were taken for noise reduction. A carpet by itself measured a noise reduction coefficient of only 0.25, while the coefficient for a carpet over cushion was more than twice as great, 0.65.

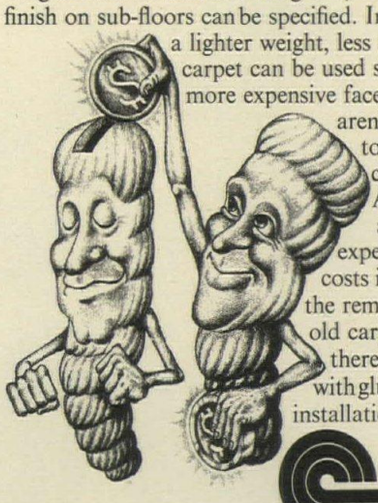


2. Separate cushion makes a carpet seem thicker and more luxurious. It upgrades the carpet's underfoot feel and simply makes it feel better. Cushion also adds to the carpet's ability to lower the peak impact force when an object, such as a foot, hits it abruptly. In a quantitative drop test, cushion reduces the impact exerted on the floor covering by one-half when compared to carpet alone.

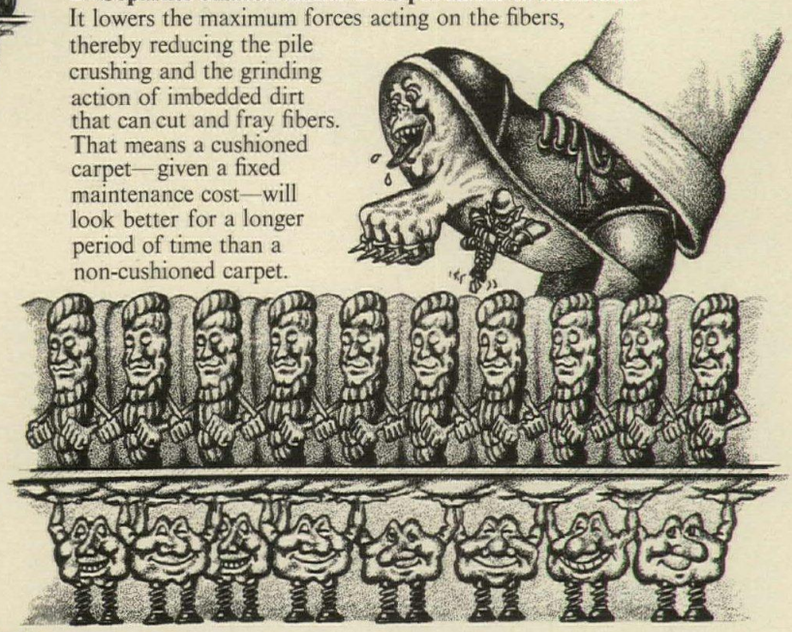


3. Carpet cushion can help retain heat. Cushion improves the overall thermal insulation properties of the floor covering. The heat loss factor of a floor covered by a low pile carpet and a cushion is about one-third of what it would be with the same carpet alone.

4. The initial cost of a cushioned carpet need not be more expensive. Instead of putting money into a sub-floor, you can put it into a cushion. A cushion plus carpet can mask surface irregularities so that a lower-grade, less costly finish on sub-floors can be specified. In addition, a lighter weight, less expensive carpet can be used since the more expensive face yarns aren't needed to provide cushioning. And there are no expensive labor costs involved in the removal of an old carpet, as there can be with glue-down installations.



5. Separate cushion makes a carpet easier to maintain. It lowers the maximum forces acting on the fibers, thereby reducing the pile crushing and the grinding action of imbedded dirt that can cut and fray fibers. That means a cushioned carpet—given a fixed maintenance cost—will look better for a longer period of time than a non-cushioned carpet.



6.7.8. and more reasons why carpet cushion will add life, and cost less to install, can be found in our new brochure. For your free copy of "The Supporting Facts about Carpet Cushion," write: Carpet Cushion Council, P.O. Box 2048, Dalton, Georgia 30720 (404) 278-3176.

carpet cushion council

For more data, circle 31 on inquiry card

We designed our best feature to go totally unnoticed.

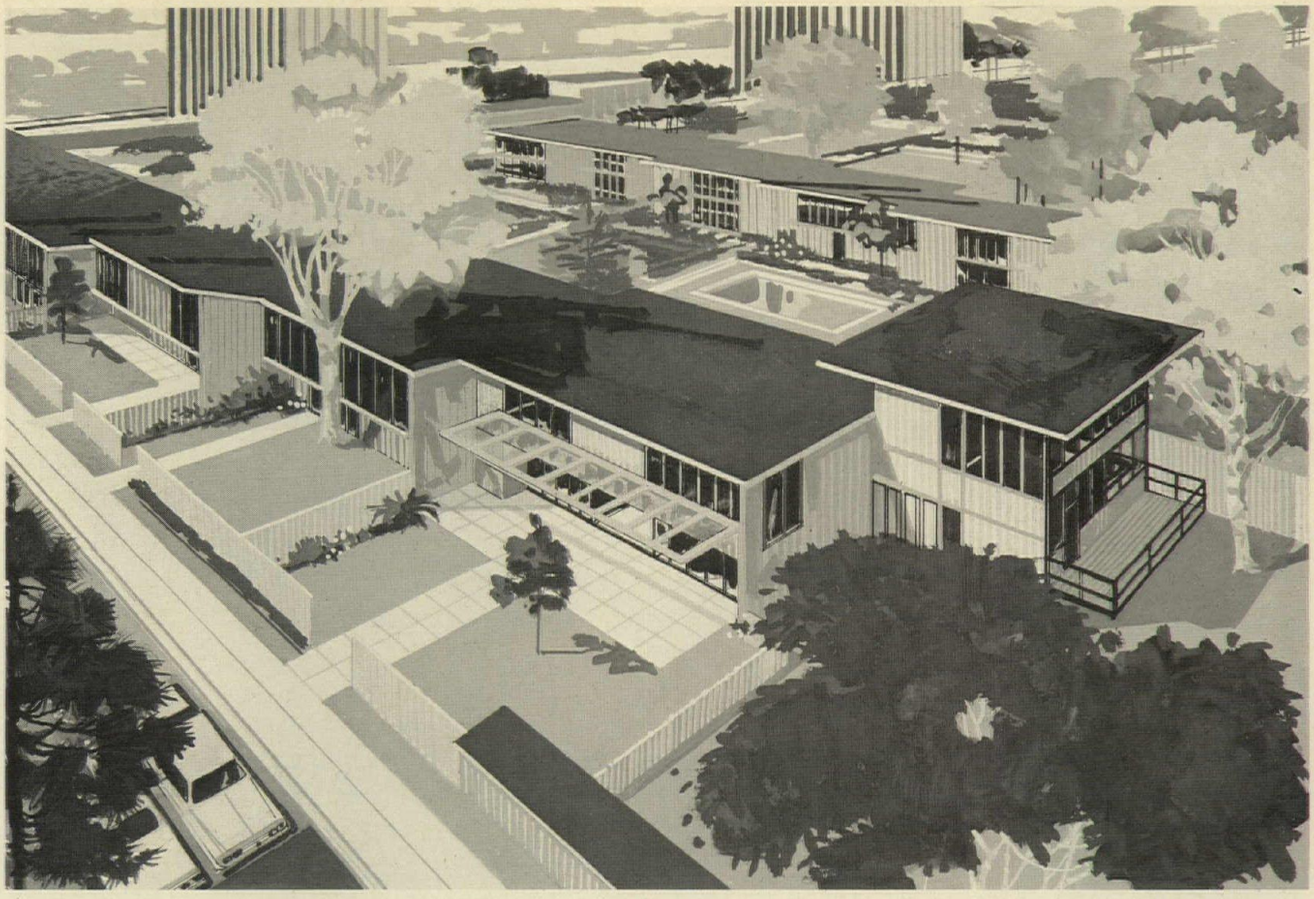
We call it Hydrachek, Rite-Hite's exclusive new lip holding device. The lip latching function is taken for granted in mechanical dock levelers, yet it is the single most frequent cause of down time, and *down time costs you money.* Hydrachek eliminates the cause. We've replaced the typical, troublesome mechanical spring and latch with a simple, fully enclosed hydraulic mechanism, which resembles a commercial door closure.

When the leveler is activated, Hydrachek slowly and silently extends the lip and holds it in position until the leveler can be walked into position on the truck bed. How reliable is it? Our test unit has now been cycled more than 20,000 times *without a single failure.* Which is why you never notice Hydrachek. Because it always works. Write for our Bulletin #HY-1073 for all the particulars on Hydrachek.

RITE HITE CORPORATION

6001 S. Pennsylvania Ave.
Cudahy, Wisconsin 53110
Licensees and representatives throughout the free world.

For more data, circle 32 on inquiry card



Saving energy all year long with insulating glass

Insulating glass units made with LP® polysulfide polymer base sealants are conserving energy and cutting HVAC operational expenses in buildings everywhere. Double-hung units—with one of the two panes made of metalized coated glass—reduce the 1.09 heat transfer coefficient (U value) of single-pane glass dramatically by 56 percent down to 0.50. This is not too far from the 0.27 U value of the most efficient (but dehumanizing) solid masonry wall.

In the past 15 years, over 80% of all organically sealed insulating glass window units used LP polysulfide base sealants, delivering strong, flexible, long-lasting airtight bonds between glass and frame. Although LP sealed units may cost less than other organically sealed units, they will perform trouble-free for years and years.

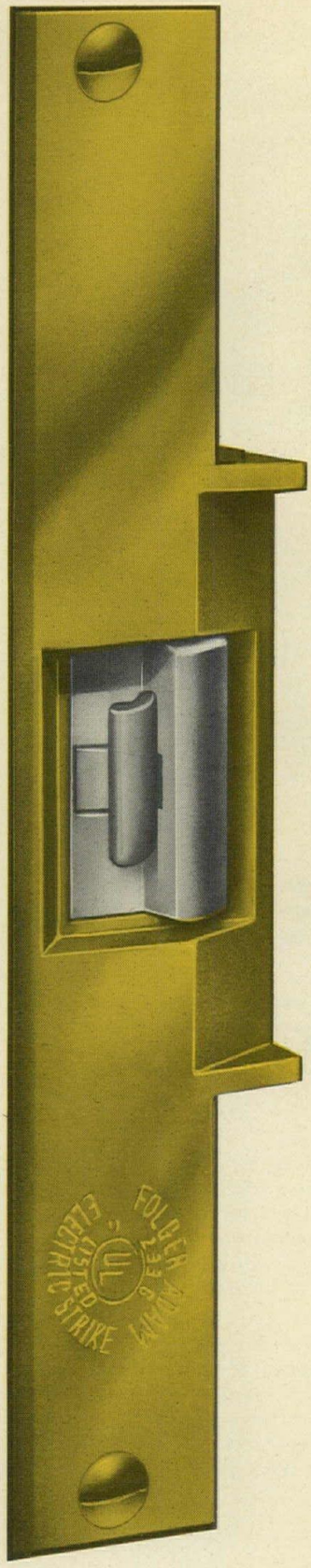
Because replacement of only one or two insulating glass units can be very costly, you should seriously consider the outstanding, long term, proven performance of polysulfide base sealants. The present integrity, beauty and economical practicality of curtain wall construction can thus be extended through the innovative use of properly sealed insulating glass units.

Specify—and demand—insulating glass with an LP polysulfide polymer base sealant to see your way clearly through the energy crisis of today—and through whatever tomorrow may bring. For more information and help in solving your insulating glass problems, contact Thiokol/Chemical Division, P.O. Box 1296, Trenton, N.J. 08607, or phone 609-396-4001.

Thiokol

Specialty Polymers • Off-The-Road Vehicles • Synthetic Fibers & Fabrics • Sprayers • Propulsion • Educational Services
Friction Materials • Ski Lifts • Pyrotechnics • Closures • Rubber and Rubber Chemicals • Medical Electronics Equipment

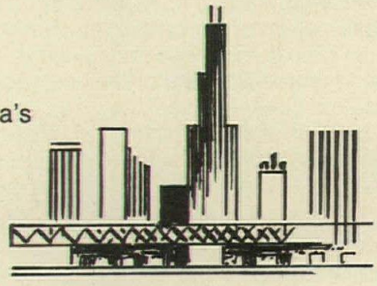
For more data, circle 33 on inquiry card



TOTAL DOOR SECURITY

- CONTROL—*lock and/or unlock from a remote location*
- MONITOR—*from a central control panel*
- RELEASE—*automatically in a power failure emergency*

Folger Adam strikes are being used in the security systems of many of America's newest commercial buildings.



UL LISTED/BURGLARY PROTECTION DEVICES/FIRE DOOR ACCESSORIES (MODELS 310-2 & 310-3)

SPECIFY RELIABLE ELECTRIC STRIKES ENGINEERED AND MANUFACTURED BY...

FOLGER ADAM CO.
ARCHITECTURAL SECURITY DIVISION
700 Railroad Street • Joliet, Ill. 60436 • 815/723-3438 • Telex 72-340

For more data, circle 34 on inquiry card

The new Weldwood Collection. Suddenly, anything else seems out of date.

Introducing The Weldwood Collection,™ from U.S. Plywood. Quite simply, the finest group of prefinished panels available anywhere in the world.

The Weldwood Collection. A paneling created exclusively for those once-in-a-lifetime opportunities when nothing less than the finest in quality is acceptable. Where superb hardwoods are crafted into face veneers worthy of the term "heirloom".

The Weldwood Collection features veneers of hickory, teak and walnut. Just these are given a formal planked effect, with slender eighth-inch-wide grooves spaced two or four inches on center. Some are medium and dark shaded. Others light-toned for a contemporary feeling.

Three more fine woods—walnut, oak and cherry—are highlighted like fine furniture with normal random spacing and eighth-inch grooves. We also have retained the very best panels from our Charter® and Deluxe groups: Charter pecan and Gothic oak.

See this limited edition, now at your U.S. Plywood Branch Office.

U.S. Plywood
777 Third Avenue, New York, N.Y. 10017

For more data, circle 35 on inquiry card

U.S. Plywood Division of Champion International

Architects: Minoru Yamasaki and Associates, Troy, MI; Emery Roth & Sons, New York. General contractors: Tishman Realty & Construction Co., New York.

Jute fills tall orders

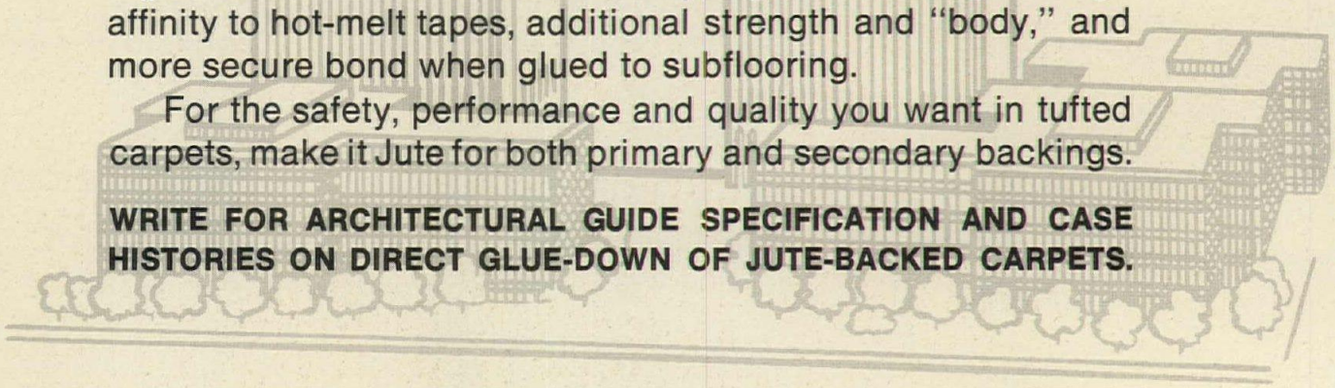
All tufted carpets in World Trade Center public areas have Jute-on-Jute backing. Carpets meet stringent safety codes.

The strict fire safety codes of both the City of New York and the Port Authority were met. The Port Authority of New York and New Jersey also conducted its own tests for the World Trade Center installation, probably the most rigid for carpets on record. The tufted carpets which passed these tests, including flammability and smoke results, have jute primary and secondary backings. These carpets were installed in the public areas throughout the 110-story towers, concourses and satellite buildings . . . one of the most demanding assignments possible.

Jute does not form dangerous synthetic "hot melt" particles under intense heat. It offers carpets many other advantages such as superior installability, tighter seaming through affinity to hot-melt tapes, additional strength and "body," and more secure bond when glued to subflooring.

For the safety, performance and quality you want in tufted carpets, make it Jute for both primary and secondary backings.

WRITE FOR ARCHITECTURAL GUIDE SPECIFICATION AND CASE HISTORIES ON DIRECT GLUE-DOWN OF JUTE-BACKED CARPETS.

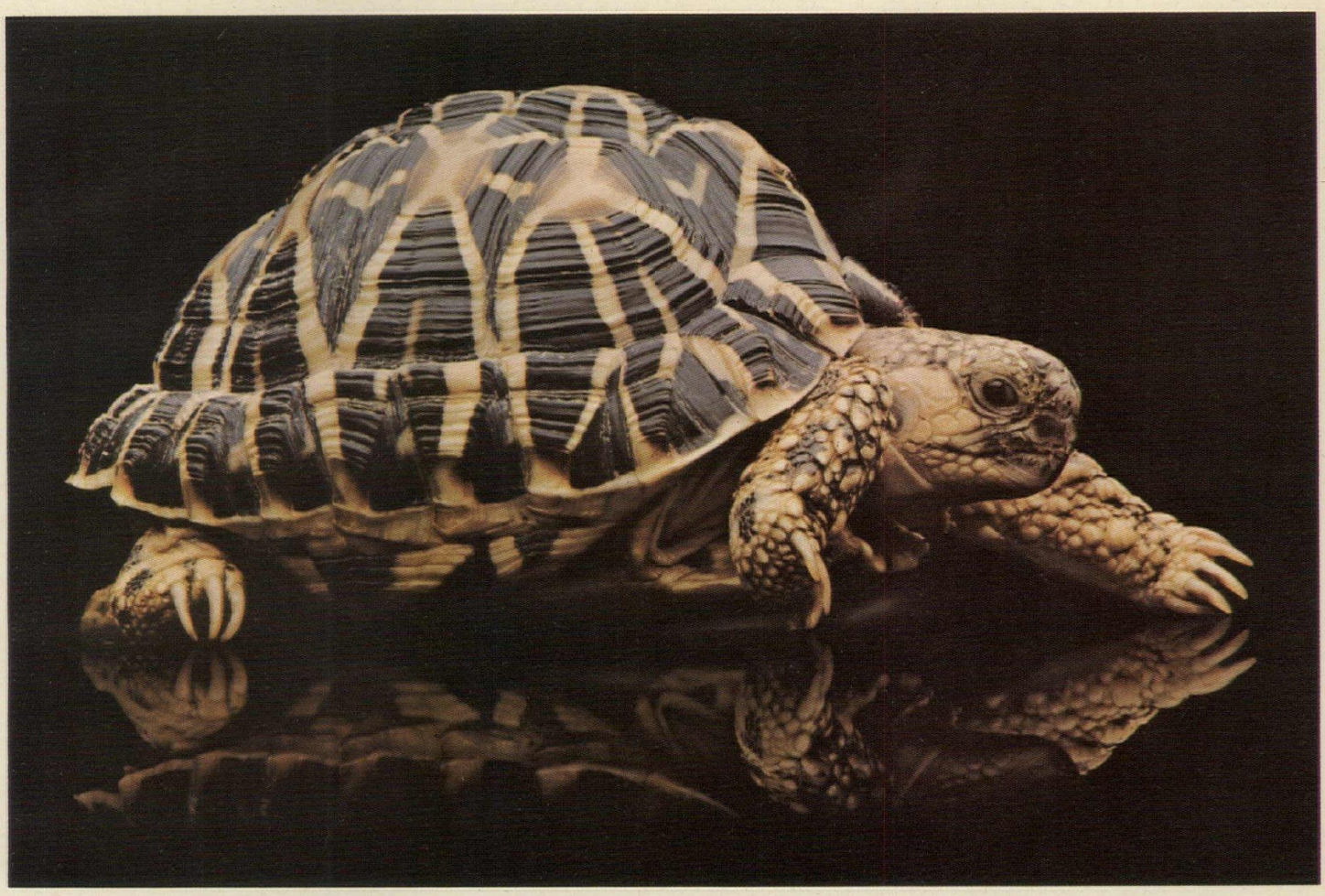


JUTE CARPET BACKING COUNCIL, INC. 30 Rockefeller Plaza, New York, NY 10020

American Industries, Inc. • Bemis Co., Inc. • BMT Commodity Corp. • C. G. Trading Corp. • Cosmic International, Inc. • D and C Trading Co., Inc. • Delca International Corp. • Dennard & Pritchard Co., Ltd. • A. de Swaan, Inc. • Gillespie & Co. of N. Y., Inc. • Guthrie Industries, Inc. • Hanson & Orth, Inc. • O. G. Innes Corp. • Multiproducts Trading and Manufacturing, Inc. • R. L. Pritchard & Co. • Sidlaw Industries Ltd. • Stein, Hall & Co., Inc. • White Lamb Finlay Inc. • Willcox Enterprises, Inc. • WLF Inc.

For more data, circle 36 on inquiry card

The only organic roof that might outlast the Owens-Corning all-Fiberglas roofing system.



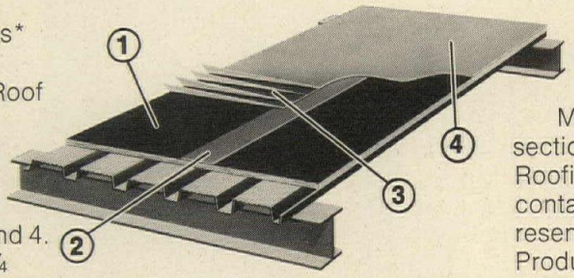
Conventional asphalt roofing systems have organic felts. So moisture and heat can cause them to curl, wrinkle, fishmouth, char and rot. And that can lead to an early failure.

Not so with our all-Fiberglas* roofing system. Here's why.

1. It begins with Fiberglas Roof Insulation. This has a bottom surface that conforms to minor roof irregularities. And a top surface that stays flat. (FM Class 1 construction. UL 1, 2, and 4. Thickness from 15/16ths to 2¼ inches. C-value certification.)

2. Fiberglas Roof Tape then provides reinforcement at the roof insulation joints and helps reduce failures caused by normal deck movement.

3. Fiberglas roofing felts come next. Unlike conventional felts, ours won't absorb or hold moisture. So they won't char or rot. They resist curling, wrinkles and fishmouths. And they're less subject to contraction and expansion due to changes in moisture.



4. Fiberglas PermaCap (where available) tops everything off. It's surfaced with inert, noncombustible ceramic granules that help beautify the roof.

More information? Refer to our section in Sweets Catalog, Built-Up Roofing Systems 7.1/Ow, or contact your Owens-Corning representative. Or write: Architectural Products Division, Attn.: Mr. D. N. Meeks, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659.

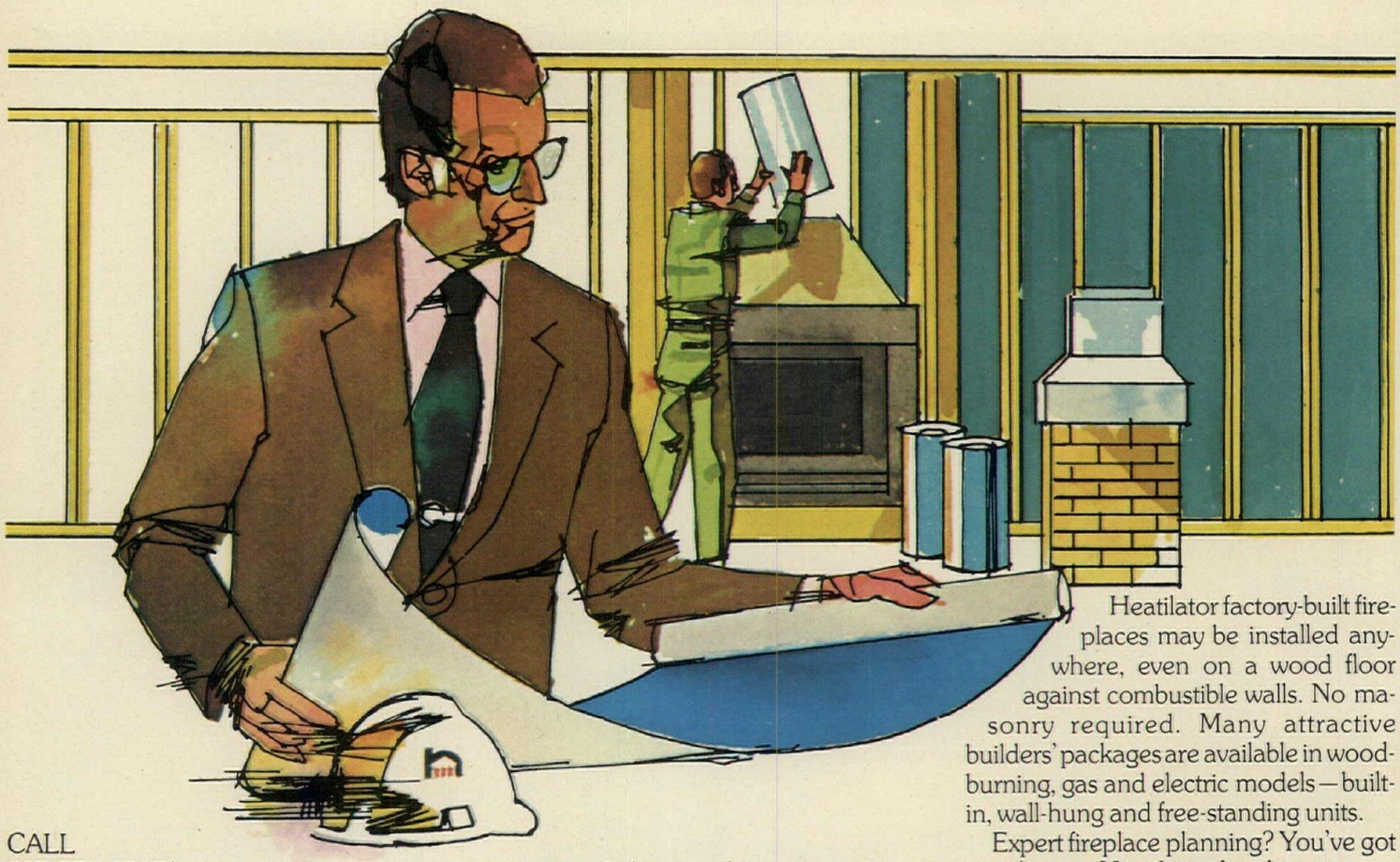
*Reg. T.M. O.-C. F.

Owens-Corning is Fiberglas

OWENS/CORNING FIBERGLAS TRADEMARK®

For more data, circle 37 on inquiry card

Fireplace planning...A to Z. Your Heatilator® fireplace man spells it all out.



CALL
800-553-8905*
TOLL FREE. Do it the next time you need help. Better yet, call your Heatilator fireplace man right now, and be ready. He's a fireplace expert—*your* expert. Trained to work fireplaces into your blueprints the easy way. Skilled in selecting the right fireplaces for your particular needs. And very savvy about cutting your installation costs to the bone.

Your Heatilator fireplace man has all the facts on fireplace economics. The increased sales and rentals from fireplaced homes and apartments. Cash flow information. Expected higher loan values. And dozens of other vital statistics you should have to stay competitive.

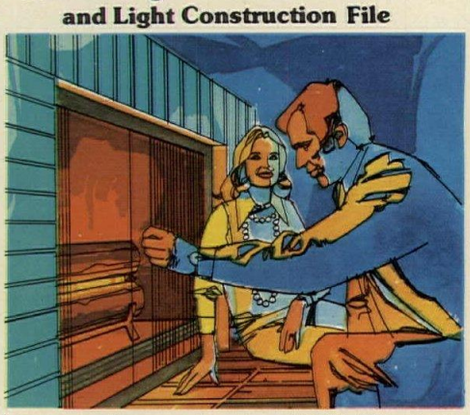
Right now, he is geared up to expedite deliveries. We've had shortages, of course. But if anyone can see that you get your fair share of fireplaces, your Heatilator fireplace man can.

Phone today, and you'll also receive a valuable Fireplace Planning Guide. It describes how

Heatilator factory-built fireplaces may be installed anywhere, even on a wood floor against combustible walls. No masonry required. Many attractive builders' packages are available in wood-burning, gas and electric models—built-in, wall-hung and free-standing units.

Expert fireplace planning? You've got it with your Heatilator fireplace man—the guy on your side. Heatilator Fireplace, A Division of Vega Industries, Inc. 3394 W. Saunders St., Mt. Pleasant, Iowa 52641. (Also available in Canada.)

See Catalog in Sweet's Architectural and Light Construction File



*Iowa residents call collect (319) 385-8880

heatilator®
AMERICA'S LEADING FIREPLACE SYSTEMS

For more data, circle 38 on inquiry card

MONARCH CARPET DYNAMICS

PRESENTS CARPETS FOR CLASSIC DESIGNS

MONARCH CARPET DYNAMICS MAKES CARPETS FOR ALMOST ANY JOB, ANY CLIENT.

Monarch Carpet Dynamics is a whole new entity in the contract carpet field.

And what we offer is the widest selection of contract carpets available from a single source. Nylons, acrylics, polyesters. Prints. Tweeds. Solids.

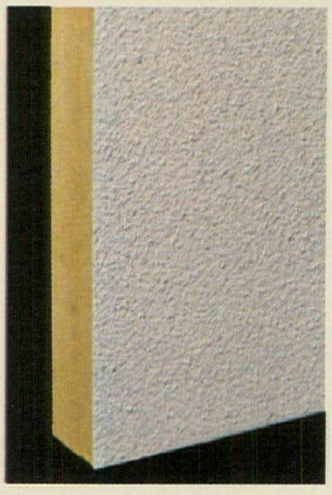
Plus coordinated tufted wall coverings to harmonize with and unify your whole design. Almost anything your specs call for, we have.

So, find out about Monarch Carpet Dynamics and our carpets for classic designs.

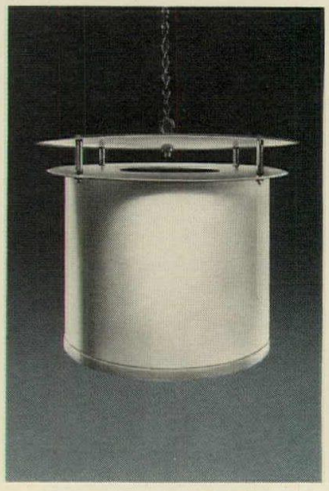
Call Hugh Bell collect at 404/451-4761 or write Monarch Carpet Dynamics, Chamblee, Georgia 30341.

MONARCH CARPET DYNAMICS™
Contract Division of Monarch Carpet Mills.™

This beach has the 3 essentials Owens-Corning has the system



1. An acoustically non-reflective ceiling is a *must*—to keep sound from bouncing to other areas. An independent acoustical testing laboratory examined eight ceilings, including expensive coffered and baffled systems. Their verdict: Owens-Corning's Nubby II Fiberglas* Ceiling Board (left) in any standard exposed grid suspension system is *best* for achieving speech privacy at economical installed cost.



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

for speech privacy in open offices. that puts it all indoors.

2. An unobjectionable background sound helps mask distracting speech. Special electronic speakers, installed in the plenum, make it possible to hear normal conversation clearly within defined areas, without being overheard in other areas.

3. A barrier or the proper acoustical *screen* is necessary to keep unwanted speech from going *directly* between work areas.

All three essential elements should be "tuned" to work together with the help of an acoustical consultant.

For further information and our free 16-page guide, "Achieving Speech Privacy in the Open Office," write: N. K. Meeks, Architectural Products Division, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

Owens-Corning is Fiberglas

OWENS/CORNING FIBERGLAS TRADEMARK ®

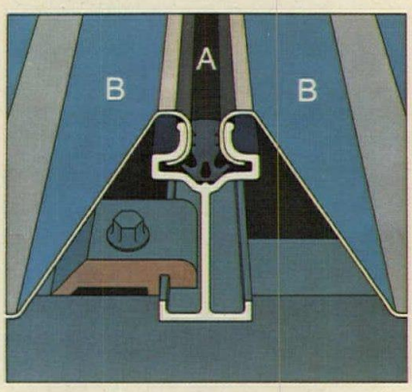
For more data, circle 40 on inquiry card

Alcoa Snug Rib roofing meets an intriguing design challenge in Oklahoma City.

With its deep-ribbed texture and many-faceted reflectivity, Snug Rib® roofing translates the soaring, three-dimensional shapes of this unusual roofing concept exactly as its designers intended. Twin hyperbolic paraboloids, resembling cresting waves, add subtle variety to the mall's interior.

Snug Rib was a wise choice. Because most industrial roofing doesn't have aluminum's formability. Or its high degree of reflectivity.

Alcoa® Snug Rib roofing has other important advantages. Its joining system resists water leakage by eliminating through primary fasteners, so it can be used on roofs with a pitch as low as ¼ in. in 12 in. The result is a higher proportion of functional to dead space, and less superstructure and metal surface area than conventional 3 in 12 pitch systems.



The neoprene gasket (a) in the patented Snug Seam® joint holds the hooked edges of the V-beam panels (b) firmly in place to create a weathertight seal and single skin membrane.

And because the Snug Rib system "floats," it moves under thermal cycling to eliminate locked-up thermal stresses. The fastening system also allows better negative wind-load characteristics than many competitive systems.

Here's a *big* saving: Maintenance costs are minimal because aluminum practically takes care of itself.

For more information, see Sweet's Architectural or ICR/PE files. Or write Aluminum Company of America, 1056–J Alcoa Building, Pittsburgh, PA 15219.

Change for the better with Alcoa Aluminum

ALCOA

Architect: Architectonics, Inc., Dallas and Chicago; General Contractor: C. H. Leavell & Company, Dallas, Texas; Owner: N. K. Winston/Oklahoma Corporation, The Kavanaugh/Finley Corporation, Oklahoma City, Oklahoma

For more data, circle 41 on inquiry card

IS THIS THE FUTURE OF GLASS BUILDINGS?

The energy crisis has triggered a ground swell of opinion against glass.

In the search for a scapegoat the recurring theme has become: get rid of glass.

Glass, we're told, wastes energy.

Glass buildings have been labeled "energy sieves."

Glass vision area has come to be thought of as a necessary evil (if, indeed, all that necessary).

Rash solutions are a dime a dozen.

And virtually all these solutions are just arbitrary proscriptions against the amount of glass used.

The fact of the matter is that compared to marble, steel, aluminum or wood, only wood insulates better than glass. Even so, since insulated backing can equalize them all, the argument against glass in nonvision areas becomes moot.

The Empire State Cabin.

But of the five, only glass is transparent. So for vision areas there's not much choice.

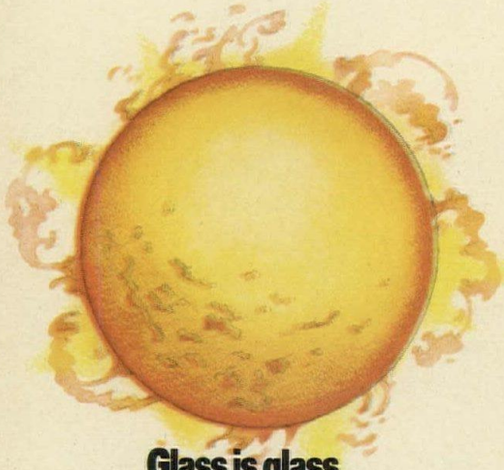
Another fact is that in a typical 10- to 20-story building a mere 15% of the energy consumed goes to compensate for heat gained or lost through the walls and ceiling.

And that's using basic ¼" single-glazed clear glass.

A building's energy efficiency should be judged by performance, not prejudged by outdated misconceptions.

And you can get efficient performance without resorting to high-rise log cabins or towering dungeons. You can get it from glass. PPG Glass.

PPG WANTS YOU TO



Glass is glass is nonsense.

Virtually all of the criticism of glass is aimed at the simplest, most basic kind—clear, single-glazed, ¼" thick.

But glass is more than that. Much more.

Glass is a product of modern technology. And at PPG it has evolved and grown until, today, glass is a whole host of architectural materials that are as scientifically sophisticated and esthetically advanced as any other building product available.

In short, there is a glass to meet virtually every building demand. Including those made by the energy crisis.

Mirror, mirror.

Today there is reflective glass. And there is insulating glass.

And there is PPG Solarban® Twindow® reflective insulating glass.

It is as far superior to single-glazed clear glass as a 747 is to a single-engine prop.

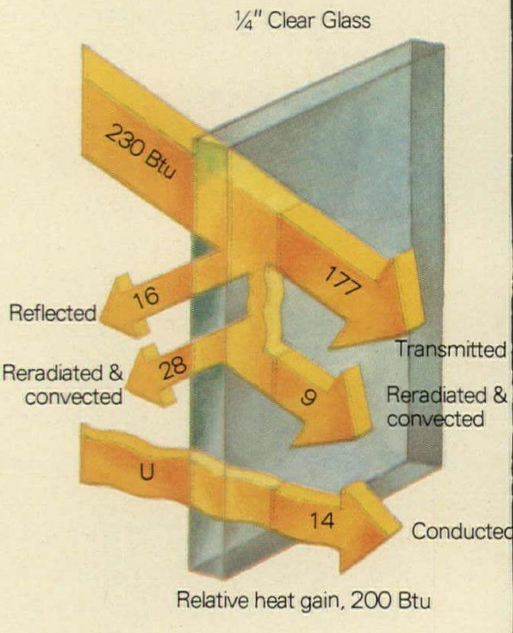
A comparison (see diagram) shows that there is indeed no comparison. Solarban 575 Twindow reflective insulating glass is practically four times more efficient in reducing solar heat gain.

Esthetically, its reflectivity produces an optical effect no other building material can approach. A building of Solarban Twindow reflective glass becomes virtually one with its surroundings. No matter how monumental the structure, it's never a ponderous, heavy-handed intrusion onto the scene.

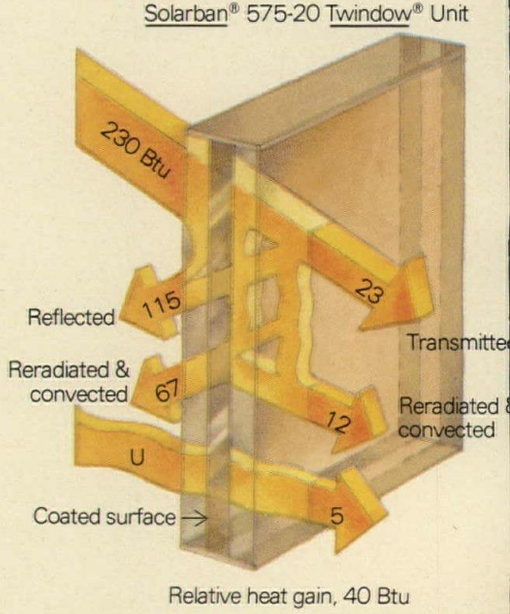
Solarban Twindow reflective insulating glass combines high performance and enviable esthetics to help produce buildings that can, in effect and efficiency, please everybody.

It's not brand new.

PPG Solarban Twindow reflective insulating glass fits in so perfectly with the demands created by the energy crisis that you might think it was designed specifically to meet them.



Relative heat gain, 200 Btu



Relative heat gain, 40 Btu

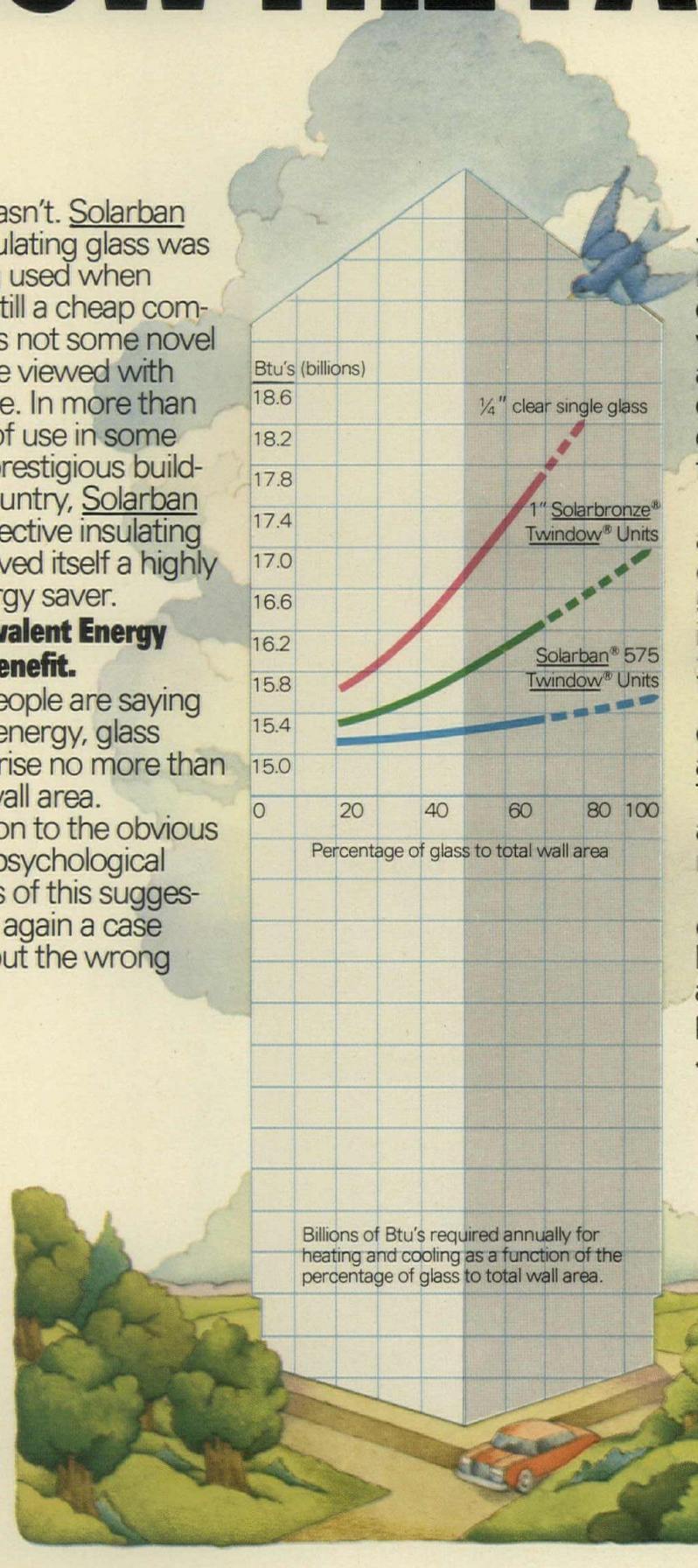
KNOW THE FACTS.

But it wasn't. Solarban Twindow insulating glass was already being used when energy was still a cheap commodity. So it's not some novel curiosity to be viewed with a skeptical eye. In more than seven years of use in some of the most prestigious buildings in the country, Solarban Twindow reflective insulating glass has proved itself a highly effective energy saver.

The Equivalent Energy Benefit.

Some people are saying that, to save energy, glass should comprise no more than 20% of the wall area.

In addition to the obvious esthetic and psychological shortcomings of this suggestion, it's once again a case of talking about the wrong kind of glass.



Billions of Btu's required annually for heating and cooling as a function of the percentage of glass to total wall area.

To prove our point we conducted computerized research. Using a hypothetical office building 15 stories high, we plotted (see graph) the annual energy consumption of this building as a function of different quantities of different kinds of glass.

As you can see, you can achieve greater energy efficiency using 70% Solarban 575 Twindow reflective insulating glass than you can with 20% single-glazed clear glass.

In fact, the difference in energy consumption between a wall 70% Solarban 575 Twindow insulating glass and an opaque wall* is virtually negligible.

So the answer to more efficient buildings is not a headlong rush to less glass, but a calculated move to high-performance glass.

*Nonvision wall areas in this study are presumed to be heavyweight construction (U=0.09).

PPG HIGH-PERFORMANCE GLASS IS NOT A GAMBLE.

Smart money is still on glass.

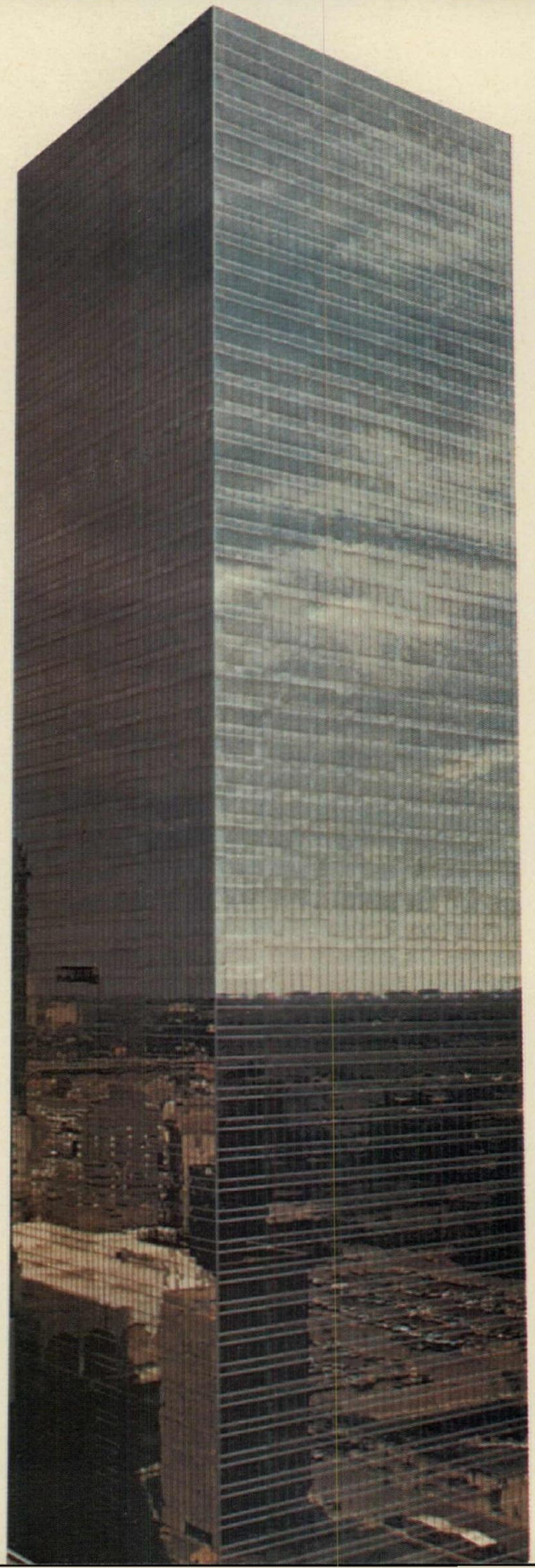
The big developers—the ones with the most to lose from inefficient buildings—haven't been scared off by all the clamor against glass.

They know that a building that doesn't rent, no matter how efficient, is the biggest waste of all.

Like us at PPG, they believe that glass buildings can meet any reasonable, sensible standards of efficiency (measured, perhaps, in Btu's/sq. ft.).

Computer analysis.

Before we try to sell you even one square foot of our high-performance glass, we'll have your building specifications and our glass recommendations evaluated by PPG Computer Analysis.



The analysis can evaluate a wide variety of alternative glass products, giving you specific energy requirements for each option, and long-range costs. It takes the guesswork out of selecting glass.

So if you're planning a building, get in touch with PPG. High-performance glass can give your building efficiency as well as excitement.

Write: ENERGY, PPG Industries, Inc., One Gateway Center, Pittsburgh, Pa. 15222.

PPG
INDUSTRIES

The First International Building
Owner: The First National Bank in Dallas
Architects: Harwood K. Smith & Partners, Dallas; and Hellmuth, Obata & Kassabaum, Dallas and St. Louis

For more data, circle 42 on inquiry card

Specify our fiberglass Gothic Pool or Deluxe Recessed Shower.

Or any of our nine styles in eleven sizes. Everything from an 84″ oval pool to a square oriental soaking tub. Or a 32″ one-piece replacement shower to a 60″ luxury model with a built-in seat. You'll find them all in an assortment of bright, pace-setting colors.

Our line meets the strict standards of the NAHB and receives its coveted label of approval. Fiberglass is economical and easy to install. And when your clients realize you've sold them on a Designer Line fixture that's warm to the touch and easy to keep clean—you might just find *your* name being dropped in the right places.

Designer Line: A good name to drop when specifying fiberglass bath fixtures.

AMERICAN STANDARD
PLUMBING / HEATING

For more data, circle 43 on inquiry card

Colorstyle doors add beauty to the Washington scene

Style and beauty plus ruggedness make Ceco steel doors attractive to architects in Washington and throughout the country. Ceco doors meet every functional need. Use them as a "package" to accent your design. Ceco doors and frames are prepared for simple erection in minutes. And both are prepared for quick and solid attachment of hardware. Ceco doors and frames are tough and stable—won't warp, swell, shrink or rot. You gain the advantages of durability and trouble-free performance. Our Colorstyle doors have factory-baked quality finishes, kept fresh in poly bags. See Sweet's, or consult your local Ceco office.

CECO steel doors

The Ceco Corporation • 5601 West 26th Street • Chicago, Ill. 60650

"The door people"

For more data, circle 44 on inquiry card

AIA survey of the profession, part 1: individual members

Part 1 of the 1974 AIA Survey of the Profession summarizes 10,184 usable replies out of 10,495 returns of a 33-question form mailed in December, 1973, to 24,119 individual members. The summary was prepared by Case and Company, Inc., San Francisco management consultants, who had conducted an earlier (1970) study of business practices of architectural firms. Part 2 of the current survey of the profession, to be conducted later this year, will solicit additional data from all U. S. architectural firms. Replies to Part 1 were received from all states, Guam, Puerto Rico, the Virgin Islands and a few foreign countries in numbers roughly corresponding to AIA membership distribution.

It was considered a notable indication of interstate interests that about 48 per cent of members indicated that they hold NCARB certification. It was also shown that architects with NCARB certification average somewhat higher earnings than those who are not certified for interstate reciprocity.

AIA membership personal characteristics

The typical AIA member, according to tabulated returns, is married, male and about 46 years old. He has had about 5.5 years of college and postgraduate work (or full time equivalent) and has worked in several organizations. About two-thirds of the members have ownership interests.

While the average age of all members is 46.2 years and the biggest age group (18.4 per cent of members) is between 40 and 44, 3.0 per cent are under 30, and 12.7 per cent are over 60. See Table 1: Age distribution of membership. Minority members (2.5 per cent of total) range in age from 37 to 44 years and average 42.4 years old.

Of all respondents who gave both their age and ownership status, about two-thirds of those who said they are owners are between 30 and 50 years of age. Approximately 29 per cent of firm owners are over 50 years of age and 4 per cent are under 30.

Most (92 per cent) AIA members are married and a "typical" member, according to the survey, has three dependents (i.e., spouse and two children).

Of the 10,009 respondents who indicated their sex, only 92, slightly less than one per cent, note that they are female. But 175 persons, who otherwise answered most of the questions, declined to give their sex or marital status. The survey does not postulate a "lib factor" at work here, but does note, that in the 1970 U. S. Census, 2,133 women indicated their occupation as "architect." This was 3.7 per cent of the total number of persons (57,081) reporting this occupation on Census forms at that time. If the AIA survey sample is representative of the entire membership, the 92 responding females would extrapolate to 222 members in all.

The average age of women AIA members responding to the survey questionnaire is 45.5 years, and about 66 per cent of those members are classed as owners of their firms. The 1970 U. S. Census reports that the median age of women classed as "architects" is 38.8 years.

It should be noted that the 1970 Census figures apply no qualifying criteria to the occupation designation other than self-declaration, and that the Census data include a number of persons of both sexes in the 16 to 20 year age group. The implication is that education and registration requirements were not applied. (A count by ARCHITECTURAL RECORD of registered architects in all U.S. states and possessions, based on latest available rosters as of October 1973, shows a grand total of 38,423.)

Educational and professional background of members

The following questions comprise one section of the survey questionnaire: What are the educational and experience backgrounds of AIA members? With what kinds of organizations are members affiliated, and are they owners or non-owners? What titles are used to identify members in their firms and what typically are their actual job functions?

Respondents were first asked to classify themselves as "owners" or "non-owners." Ownership is defined as having at least a 5 per cent interest in the organization; 6,966, or 71.0 per cent of the repondents answering this question indicate that they are owners. There are 61 responding women owners, constituting 0.9 per cent of the total number of owners (and 66 per cent of women responding), while 325 owners constituting 4.7 per cent, indicate they are members of minority groups. If the above figures are projected to the total AIA membership it would indicate that there are approximately 154 women and 805 minority members with the status of owners in the AIA.

The average respondent who classifies himself as an owner has 5.5 years of college and postgraduate work (or full time equivalent), and earned an average of 1.1 degrees. Table 2 indicates the distribution of specific degrees. Note that non-owner respondents have an average of 5.6 years of college and postgraduate work (or full time equivalent) and have earned 1.2 degrees on the average.

Owners have been in the profession an average of 22.7 years whereas non-owners have an average of 18.9 years of professional experience.

The average owner has worked for 5 firms, organizations or agencies, including his present affiliation. An average non-owner, on the other hand, has worked for an average of 5.3 firms.

Type and size of organization

Slightly over 38 per cent of the responding owners are sole proprietors. Owners who indicate that they are partners or corporate firm owners account for about 30 per cent each of all owner categories. Only a very small number of owners identify themselves as associated with other types of organizations as Table 3 shows.

TABLE 1: AGE DISTRIBUTION OF MEMBERSHIP

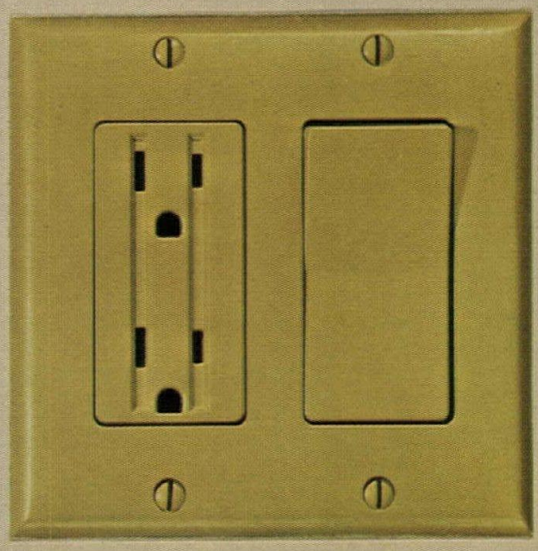
Age Range	No.	%
20-24 years	28	0.3%
25-29	256	2.7
30-34	1,094	11.4
35-39	1,650	17.2
40-44	1,774	18.4
45-49	1,703	17.7
50-54	1,235	12.8
55-59	637	6.6
60-64	542	5.6
65-70	380	4.0
71 and over	300	3.1
Total	9,621	100.0%
Did not answer	563	

TABLE 2: PROFESSIONAL EDUCATION

	Degrees—Owners					
	Bachelor's		Master's		Doctor's	
Field	No.	%	No.	%	No.	%
Architecture	5,508	80.5	842	80.1	17	39.5
Engineering	370	5.4	39	3.8	13	30.2
Planning	25	0.4	92	8.8	3	7.0
Other	934	13.7	77	7.3	10	23.3
	6,837	100.0	1,050	100.0	43	100.0
	Non-Owners					
Architecture	2,249	80.5	399	62.5	8	22.9
Engineering	119	4.3	17	2.7	12	34.3
Planning	7	0.3	174	27.3	6	17.1
Other	418	14.9	48	7.5	9	25.7
	2,793	100.0	638	100.0	35	100.0

Good design needn't cost more.

Wedgewood vase courtesy of the British Museum



Medalist Decorator devices by Slater Electric, Inc.

Chair by Charles Eames for Herman Miller, Inc.

A prime example is our Medalist Decorator line. Here's a line of heavy duty spec grade wiring devices that can cost less than conventional looking wiring devices of comparable grade. Yet they are so well designed that they can be specified for installations in a variety of environments.

Electrical specifiers are interested in how wiring devices look. And particularly in how they perform. Quite frankly, they look superb. And they perform superbly.

We can personalize an installation by imprinting your client's name or logo on the touch switch, and offer a choice of eight colors and a dozen plate finishes including metal and plastic.

Nowadays, it's rare to have a choice between the ordinary and the beautiful without it costing an arm and a leg. Slater gives you that choice. Take this opportunity to defeat the ordinary. Specify Slater.

A request on your letterhead will bring you a free sample kit and literature.

Slater

GLEN COVE, L.I., N.Y. 11542
HEAVY DUTY AND RESIDENTIAL GRADE WIRING DEVICES

For more data, circle 45 on inquiry card

TABLE 3: OWNERS' ORGANIZATIONS

Type of Organization	No.	%
Sole proprietorship	2,618	38.3
Partnership	2,045	29.9
Corporation (private)	2,084	30.4
Corporation (public)	33	0.5
Development firm	13	0.2
Education institution	10	0.2
Other	24	0.4
Conglomerate	1	1.1
Construction management firm	1	
Contractor	2	
Community design development	1	
Design/build firm	7	
Industrial/commercial manufacturing/utility	2	
Federal agency	2	
State agency	1	
Local agency	0	
Total	6,844	100.0%

TABLE 4: NON-OWNER'S ORGANIZATIONS

Type of organization	No.	%
Corporation (private)	1,045	37.4
Partnership	557	20.0
Sole proprietorship	290	10.4
Educational institution	157	5.6
Other	105	3.8
Federal agency	104	3.7
Corporation (public)	101	3.6
Local agency	87	3.1
Industrial/commercial manufacturing/utility	85	3.0
State agency	84	3.0
Development firm	67	2.4
Design/build firm	52	1.9
Conglomerate	19	0.7
Construction management	10	0.4
Community design/development	10	0.4
Contractor	7	0.3
Total	2,787	100.0%

TABLE 5: DISTRIBUTION BY SIZE OF FIRM

Size of Firm: Number of Employees	Owner %	Non-Owner %
1 or 2	22.0%	1.5%
3 to 5	26.4	7.7
6 to 10	20.4	12.0
11 to 15	8.9	10.1
16 to 20	5.5	6.4
21 to 25	3.6	5.4
26 to 35	4.3	8.3
36 to 50	3.2	8.8
51 to 75	2.1	7.1
76 to 100	1.2	5.1
101 to 200	1.3	9.0
201 to 300	0.4	3.7
301 to 500	0.3	4.8
Over 500	0.4	10.1
	100.0%	100.0%

Responding non-owner members are spread over a large number of different types of organizations although the first three types, sole proprietorship, partnership, and private corporation account for 67.8 per cent. See Table 4.

Among the other types of organization which respondents are vocationally affiliated with, in addition to those listed in tables are: Hospital consulting firms, research laboratories, aerospace, and professional associations. As tables show, about 9.8 per cent of AIA members are employed by governmental agencies.

Fully 97.6 per cent of responding owners indicating firm size are in firms with under 100 employees; 83.2 per cent are in firms with less than 20 persons. On the other hand, only 37.7 per cent of responding non-owners are in firms with less than 20 employees, while 27.6 per cent are in firms with over 100 employees; 62.3 per cent of non-owner respondents are in firms with over 20 people. Distribution of both owners and non-owners by firms of different sizes is shown in Table 5.

As might be expected almost all (98.4 per cent) of responding owners come from architectural backgrounds. However, other disciplines or functional areas (notably: engineering, planning, interior design, business administration and landscape architecture) do have representatives among owners in the AIA.

Other backgrounds mentioned by responding members include such areas as finance, personnel, law, general arts, general contracting, food service and other consulting.

Responding non-owners occupy a variety of positions with project architect, construction administrator, designer, researcher and job captain predominating.

Owners indicate that they perform a variety of job functions regardless of title. Out of 25 possible broad categories of job functions the average owner indicates that he spends at least 10 per cent of his time in over six distinct job functions, including: architectural design, administration and office management, new business development/client relations, preparing and writing specifications, drafting and development of working drawings, etc. While the type and rank of many functions is not surprising, certain functions seem somewhat anomalous for the title reporting them. For example, 44.9 per cent of construction services coordinators say they spend over 10 per cent of their time on design. Non-owners perform 5.4 job functions on the average, devoting over 10 per cent of their time to each. This observation may reflect the dominance of members of small firms in the survey sample.

Job functions for selected *non-owner* positions are identified and compared. While certain position titles may be different, the job content, or specific functions performed, are identical, although the order of importance apparently varies. For example, project architect and project manager essentially perform the same functions, but not in the same proportion. About 82 per cent of the responding project architects mention the design function as a major part of their work, whereas only 56 per cent of the project managers consider this to be a major function for them.

Evident from the responses to the survey question concerning job functions as they relate to position titles, is the observation that there is considerable ambiguity as to the specific content of certain common positions found in all architectural firms.

How members relate to AIA activities and publications

Members were asked a number of questions regarding activities, programs and publications of The Institute. These covered both existing AIA activities and areas where attention might be usefully focused in the future.

Respondents participate in a variety of professional and community activities and in a number of other professional organizations as shown in Table 6. This question was not answered by almost 30 per cent of those returning the questionnaire.

TABLE 6: RELATED PROFESSIONAL ACTIVITIES

AIA Activities	Percentage of All Survey Respondents (10,184)
Chapter activities	46.4%
State or regional activities	16.7
National activities	7.9
Community activities	
Planning Commissions	7.9
Design Review Boards	6.0
Zoning Boards	4.7
Housing Authority, Redevelopment Authority & Registration Board	1½ to 2% each
Other community activities	16.7
Other professional organizations	
CSI	11.1
AIP	2.3
NSPE	1.7
Other	11.2

A relatively small number of respondents participate in more than one activity. Almost nine per cent participate in AIA activities at both the regional and the local level while less than 4 per cent participate at all levels—local, regional and national, or at the national and local level. Some respondents who do not take part in any AIA activities at any level do participate in at least one community activity. Approximately 12 per cent indicate this extra-professional involvement.

Over a quarter of the responding architects maintain membership in another professional organization in addition to their AIA affiliation. A few of the responding members indicate that they belong to more than one other professional organization. This amounts to approximately three per cent of the total number of respondents.

Approximately 1,135 members, or 11 per cent of the total number of survey participants, mention belonging to such organizations as: American Society of Civil Engineers, Guild of Religious Architecture, American Society of Planning Officials, and other similar groups of professionals.

Evaluation of AIA programs

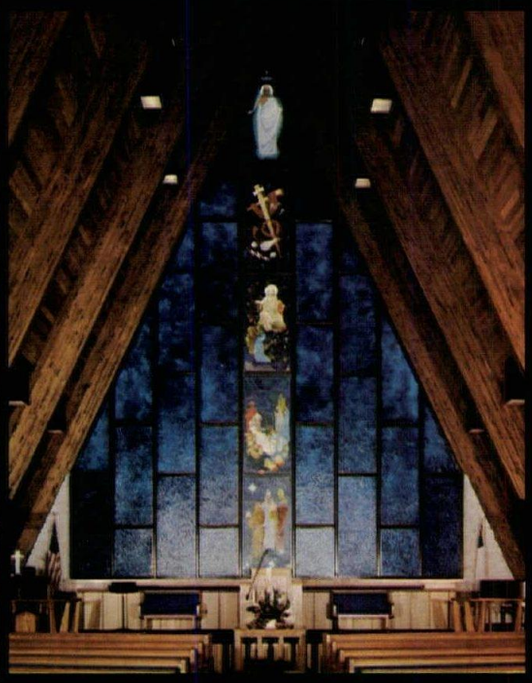
Respondents were asked to evaluate current programs, activities, and services of The Institute. Responses were tabulated as "very helpful," "useful," "of no interest" or "not familiar." The tabulation is summarized here.

A markedly high percentage of the Institute's programs are unfamiliar to many of the respondents. Of the 39 programs, 28 are unfamiliar to over 20 per cent of the membership. Ten are unfamiliar to over 45 per cent of the responding membership.

Respondents' evaluations of specific AIA professional practice aids currently available show that *users* think very highly of *The AIA Handbook of Professional Practice* with almost 95 per cent of those evaluating this publication rating it as either good or excellent. Other aids rated favorably by those who were familiar with are the following (over 75 per cent of *users* indicating that they are good or excellent): Practice Aids articles in *AIA Journal; Methods of Compensation for Architectural Firms; Profit Planning in Architectural Practice* and Masterspec.

It is remarkable that so many of the responding members are unfamiliar with some practice aids. Eight practice aids are not known

More than a replacement for glass...
Krinklglas®...a new Dimension in structural design creativity!



Krinklglas is the translucent fiberglass-reinforced decorative / structural plastic that is the proven replacement for glass and stained glass.

SHATTERPROOF–UNBREAKABLE BEAUTY

International award-winning Krinklglas has a textured surface that resists scratching or marring, excellent chemical resistance and weatherability, and eliminates replacement due to carelessness or deliberate vandalism. Krinklglas is unequaled for both indoor or outdoor use...here is functional beauty that captures the very essence of architectural and decorative genius! Use and specify Krinklglas; save clients time, money, and worry.

Dimensional® Plastics Corp.
1065 E. 26th St., Hialeah, Fla. 33013

refer to our full color brochure
Sweet's Catalog 8:26 DIM
For more data, circle 46 on inquiry card

Krinklglas® (Patented)

to at least 50 per cent of those answering the question. These are: Computer based financial management system; *Emerging Techniques of Architectural Programming I & II;* research survey; continuing education cassettes; *Development Building: The Team Approach;* and *Professional Construction Management.*

The membership was asked to evaluate potential new practice aids and new or expanded areas of assistance to architects. Among opinions of those responding the following ranked high in the order of preference: Small-office practice manual, business development manual, construction cost control system, man-hour data bank, energy conservation information, research on new areas of service, and an annual or biennial wage survey.

A small number of respondents (373) made suggestions for potential practice aids or future areas of assistance in addition to those listed above. Those mentioned most frequently, although not in large numbers, are: Legal assistance, development and financing, public relations and advertising.

AIA membership and the profession of architecture

Several questions in the survey were concerned with the profession of architecture. Architects were asked to list the top five problems of the profession. They also were asked to express their opinions regarding the impact and influence of the architectural profession on society as well as to evaluate the contribution of the profession to the improvement of the built environment. In addition, two questions were concerned with the respondent's assessment of his progress toward his career goals and how he rated his status in the profession as of now.

The top five primary problems of the architectural profession, in order of importance, according to those who participated in this survey are: Design quality, adequate compensation for services, public relations, business development and production efficiency. These were followed by: Professional liability, client relations, education and professional training, business and financial management, and construction adminstration.

Other problems that received some mention in the top five included: Consultant relations, government relations, personnel relations, employee concerns and a few others. A number of problem areas that were written in more than once by respondents are: Cost control, impact on quality of environment, lack of client understanding, profession unresponsive to social changes, and better training for architectural students.

There was very good response to the survey question which asked respondents to assess their career progress: 93 per cent of the owners, and 95 per cent of the non-owners responded.

Over-all, about three-quarters of both owners and non-owners assess their progress as generally satisfactory, or rate it even better. However, non-owners are not quite as pleased with their progress toward achieving career goals as are owners. Fewer non-owners say they are pleased with progress and more of them say they are making only slow progress or are unhappy with their lack of progress.

Some respondents elaborated on their assessment of career progress. Typical comments follow:

"Comparable effort in other fields produces far greater results in terms of accomplishment and status."

"Only slow progress due mainly to my own lack of business training and acumen, changing times and the increasing complexities of our profession."

"Happy with title and responsibilities at current employer but unhappy with office practice, and pay, both of which reflect common practice in established offices as I have seen them."

"I was conscious it was a long haul to make it, so to speak, in the profession of architecture."

"I'm ready for retirement and would not want to go through it again."

The bulk of both owner and non-owner responses concerning job security, earnings, social status and job satisfaction fall in the "satisfactory" bracket. Only job satisfaction for owners scored more "excellent" ratings than "satisfactory"—all other areas scored lower than "excellent". There are a considerable number of respondents—both owners and non-owners—who rate their current status as "unsatisfactory" insofar as earnings and job security are concerned. The area of job satisfaction for non-owners also has a fair number of AIA members rating this as "unsatisfactory". It probably comes as no surprise that personal earnings of both owners and non-owners is considered to be unsatisfactory by a high percentage of the respondents.

Comparative survey of remuneration of AIA members

Other surveys have revealed that the earnings of architects are generally below that of other professionals. In an effort to ascertain accurate levels of remuneration for AIA members, and to compare these levels with other characteristics of members, respondents were asked to provide confidential information concerning their income for the years 1972 and 1973. This section summarizes and analyzes this information about architects' income.

The elements of members' annual personal income for the two years reported show these averages for owners and non-owners combined:

Table 7: Element	1972	1973
Average salary, wages, or draw	$21,790	$23,380
Average cash bonus or profit share (where paid)	7,120	7,920
Average other professional income (from services only)	6,210	6,690
Total average annual income	24,680	26,630

For each element of remuneration the total of all amounts reported in the survey was divided by the number of persons providing the amounts. Not every respondent gave a figure for each line or year in the table on the form. Hence it is not possible to add up the first three elements in any one year to arrive at the total annual income. Sources of "Other Professional Income" include part-time teaching, consulting and expert witness services.

Average annual incomes for owners and non-owners are analyzed separately, according to firm size. Total annual income for all AIA members appears to have increased, on the average, about eight per cent from 1972 to 1973. The most recent comparable information relating to salary trends in commerce and industry, as obtained from AMA's Executive Compensation Service covering about 30,000 executive positions, indicates a range of about five to seven per cent increases in income of supervisory-to-top management for 1973 over 1972.

Considering salary and wages income of AIA members for 1973 only (omitting bonus payments and other professional income) it is noted that this element of compensation for AIA members increased about 7.3 per cent over 1972. The average total income of AIA members did not quite keep pace with inflation—in fact, 1973 income in constant dollars was about 1 per cent lower than in 1972. Nevertheless, AIA members fared better than other typical business executives during this period relative to inflation.

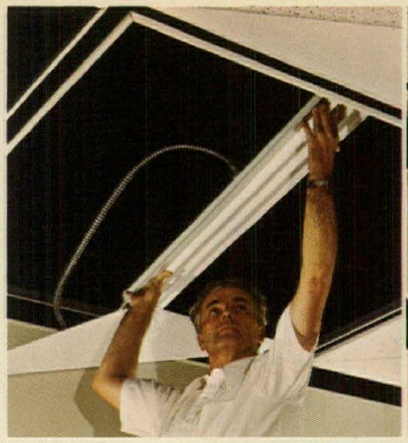
These data also have been broken down by owners and non-owners since in many firms owners receive a modest draw, or salary, during the year and receive additional remuneration out of profits, if earned, at the end of the year. Thus owners' data for the profit-sharing elements of compensation show that about 30.7 per cent of their income is derived from this source. Non-owners average about 12 per cent in this category of income.

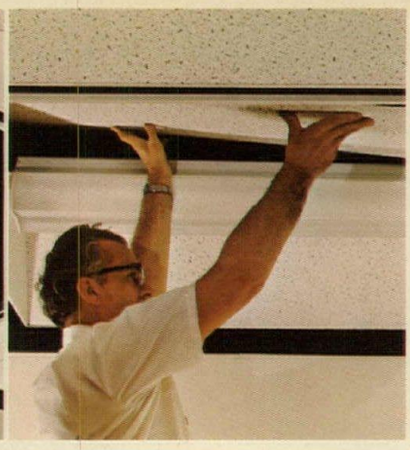
Total annual incomes of *all* women members responding in this survey averaged $15,450 in 1972, and $15,850 in 1973, almost identical to the average annual income of individuals occupying the position of job captain. However, examination of the raw data reveals that there are a number of women members who work on a part-time basis. When their earnings data are omitted from this analysis, the average total annual incomes of women members becomes $17,264 for 1972, and $18,833 for 1973. The increase in annual income between these two years is then 9.1 per cent which is higher than the average increase enjoyed by all members of the AIA.

Personal remuneration by size of firm

Data comparing owners' average incomes by firm size show that the level of income increases dramatically as the number of firm employees increases, although there is some leveling off when a firm size of over 100 persons is reached. The one- to five-man firm owner averages $20,000 to $25,000 annual income, rising steadily to $42,000 at 35 to 50 people and leveling at $50,000 to $53,000 over 100 people.

Plotting of these data on a chart would reveal an interesting dip in the almost steady rise





Less energy to install. Less energy to operate.

The Energy Saver Ceiling System by Holophane.

We call our new integrated ceiling system "The Energy Saver" for two reasons.

First, because it saves human energy at the time of installation.

Unlike most ceiling systems, The Energy Saver snaps together without tools. There's no "erector set" complexity, or jockeying with nuts and bolts in awkward positions. The result: a cleaner, better-looking assembly in less time, with lower labor costs.

The second reason we call this system "The Energy Saver" is that it gives you better light and allows you to see better than with conventional lighting systems, while consuming less electricity.

The scientifically-designed Percepta® luminaires practically eliminate veiling reflections, making every footcandle of light more effective. This significantly reduces power consumption. In fact, The Energy Saver Ceiling requires only 2 watts per square foot!

See your local Holophane representative. He has dramatic proof of The Energy Saver's benefits.

Or, write Holophane Service Center, Dept. AR–9, P.O. Box 16525, Denver, Colorado 80216.

Holophane®
Division, Johns-Manville Sales Corporation

For more data, circle 47 on inquiry card

TABLE 8: AVERAGE ANNUAL INCOME

Age range	1972 Owners	1972 Non-Owners	1973 Owners	1973 Non-Owners
20 to 24	$15,840	$15,485	$17,820	$15,860
25 to 29	16,580	14,120	20,470	16,450
30 to 34	19,310	16,070	22,580	18,060
35 to 39	23,960	18,890	27,150	20,690
40 to 44	27,330	20,820	29,410	23,210
45 to 49	29,710	21,450	32,080	23,200
50 to 54	29,780	22,010	30,980	23,450
55 to 59	30,890	22,650	31,860	23,320
60 to 64	28,730	21,830	28,910	23,090
65 to 69	27,570	22,110	27,950	21,400
70 and over	24,770	16,900	23,490	17,310

TABLE 9: REMUNERATION OF NON-OWNERS

Position Title (in ascending order of 1973 incomes)	Average Annual Income 1972	1973
Draftsmen	$11,940	$13,150
CDC Staff	12,400	14,000
Job Captain	15,480	15,640
Designer	17,190	18,510
Specifier	17,130	18,630
Project Architect	17,210	19,070
Construction Administrator	18,050	19,330
Planner	17,530	19,330
Writer/Journalist	17,000	19,500
Estimator	19,130	20,370
Project Manager	19,390	21,200
Engineer	20,700	21,550
Building Products Representative	19,860	22,140
Local Government Architect	20,590	22,310
State Government Architect	20,220	22,590
Department Head Supervisor	21,030	22,770
Researcher	22,000	23,640
Educator	22,800	23,790
Federal Government Agency Architect	22,560	24,700
Other	22,970	25,380

of annual income as firm size increases. This dip is from $44,360 at the 51 to 75 range down to $38,320 in the 76- to 100-man firm size range. It is difficult to place one's finger on any specific reason for this dip, but it has been observed in other Case and Company studies that firms in the 50- to 100-man size experience both financial and general management problems. Whatever the reason, apparently owners' average income dips rather severely in the 76- to 100-employee firm, and also dips slightly in the 36- to 50-man firm. It is noted also that in every size range the owners' average annual income was higher in 1973 than in 1972, by an amount ranging from two to 15 per cent.

In the case of non-owners, there is not the dramatic rise in income levels with firm size as was true for owners. There is an upward trend from $18,000 to $25,000, but non-owner income levels are apparently not affected as much by organization size. With one exception, employees' average 1973 income in every size range was also higher than for 1972. 1973 incomes ranged from 7 per cent to almost 15 per cent higher than 1972. The one exception was in the case of 1- to 2-man firms where average income declined about 3 per cent in 1973.

Table 8 compares the average 1972 and 1973 annual incomes of AIA members—both firm owners and non-owners—for different age levels:

1972 both owners and non-owners experienced their highest average annual incomes in the 55- to 59-year age range. In 1973, owners in the 45- to 49-year age range averaged the highest incomes, whereas non-owners were highest in the 50- to 54-year range.

An analysis of personal earnings arranged according to college degrees reveals some interesting findings in this survey. Persons holding Master's degrees in Architecture earn only slightly more than those with Bachelor's degrees, whereas those holding Doctor's degrees in Architecture earn about 17 per cent less than those with the basic degree. It is understood that the Doctor's degree in Architecture has been available for only a relatively few years, so the age factor visible in Table 8 is probably at work here.

Average annual incomes arranged according to type of owner (proprietor, partner, corporate, etc.) shows that average corporate owners' incomes range from 17 per cent to 48 per cent higher than partnership owners. Of the six types of owners analyzed, three (associate, stockholder, other) have been able to increase their real income while the other three (sole proprietor, partner, officer) have been unable to keep pace with inflation.

Average annual incomes arranged according to the titles of owners show that business development and administrative executives average somewhat higher income than project principals and design directors.

Non-owners were asked to indicate the position title which best described the work they were currently performing, and their incomes in 1972 and 1973. Response is averaged in Table 9.

The "Other" category includes such titles as: associate office manager, hotel architect, university architect, medical facility planner, and regional park administrator.

Personnel benefits, a growing factor

The importance of employee benefits, formerly termed "fringe benefits," has been growing apace in the profession in recent years. The value of these benefits has also grown until they now range on the average between 25 per cent and 40 per cent of direct salaries and wages.

The average number of holidays with pay reported is 7.3 days. Average paid vacation period is 14 days (probably 14 calendar days), and average sick leave with pay is 11.7 days.

Among "other" types of insurance furnished some members are: dental, family medical, health maintenance systems, travel, auto, key man and partnership. Some respondents wrote in professional liability and valuable papers forms of insurance, but these are not normally considered employee benefits.

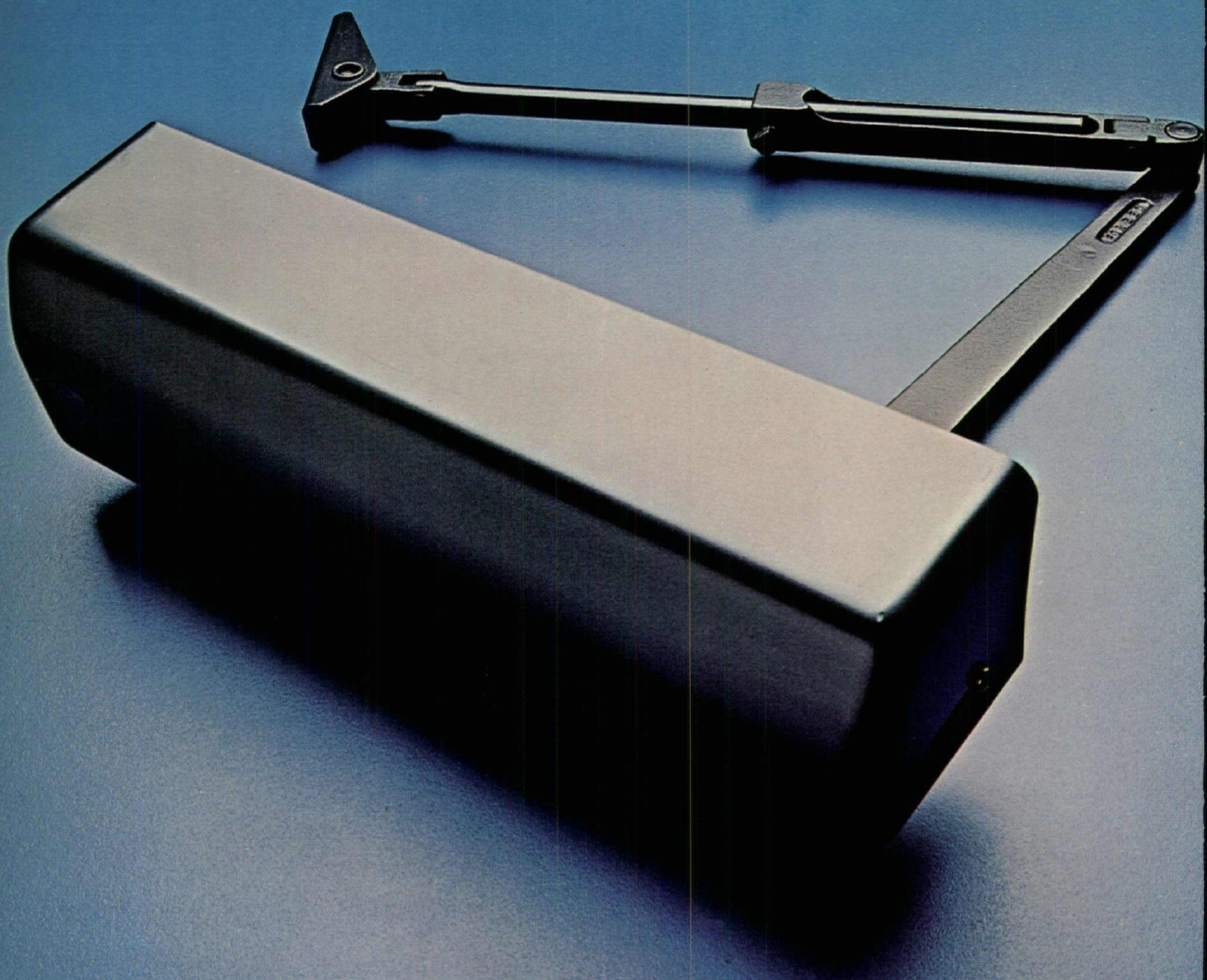
In addition to the standard benefits listed in the survey, some organizations provide: automobiles for employee use, paid licensing and registration fees, pay for time off for jury duty and reserve military duty, sabbatical and other leaves of absence, recreational travel allowance, parking space, pay for seminars and educational programs. "Free coffee and cokes" is also typical among the "other benefits" written in by respondents.

The scheduled work week for 90 per cent of the respondents is between 36 and 40 hours. The actual work week, however, for 59 per cent of the architects is over 40 hours; 13.5 per cent of the respondents admit they work over 50 hours, and about two per cent work over 60 hours per week on the average.

Examination of the raw data regarding working hours reveals that of the total number of respondents who work over 45 hours per week, on the average, 77 per cent are owners and 23 per cent are non-owners. Of those working over 50 hours per week, on the average, 83 per cent are owners, and 27 per cent non-owners. It is observed that architects work longer hours, on the average, than persons in commerce and industry. Furthermore, it is apparent that many persons in the architectural profession do not enjoy the commonly provided employee benefits as extensively as persons employed outside the profession.

Copies of the complete survey, Part 1, are available from AIA and contain detailed exhibits and summaries of points made here.

Case closed.



Russwin 2810 Series door closer. Total door control. Adjustable to the power and speed you need. Adaptable to any decor. Enduring design in the Russwin tradition. Russwin, Division of Emhart, Berlin, Connecticut 06037. In Canada—Russwin, Division of International Hardware.

RUSSWIN

Short money, high prices throttle housing

The initial issuance of short-term floating interest notes by banking interests and industry threaten to shut off completely the trickle of mortgage money now available.

Builders and architects across the nation are beginning to diversify. With an abundance of unsold new homes on the market and mortgage money virtually nonexistent the home improvement field is attracting the most attention. Prices of building materials continue to rise daily and it is almost impossible to submit a bid on a project. We have reports that some far-sighted builders are banding together to stockpile building materials to meet projected demands. Although this results in an additional warehousing requirement not normally confronting the builder, this cost is passed on directly to the consumer and more often than not represents a significant saving over current material prices. Many builders interviewed are employing relatively sophisticated methods of cost control such as "fast-tracking" projects and use of a Critical Path Method to ensure maximum efficiency and lowest possible costs.

There seems to be no short-range relief from the current high interest rates and no immediate downturn in material prices in sight. The dark cloud of the present housing recession has as its silver lining the prospect of continuing efforts toward cost control on the part of the builders, designers and—judging by recent pronouncements—the Ford Administration.

John H. Farley, senior editor
Dodge Building Cost Services

INDEXES: September 1974 — 1941=100.00 (except as noted)

Metropolitan area	Cost differential	Current Indexes: non-res.	residential	masonry	steel	% change last 12 months
U.S. Average	8.3	459.2	431.3	449.7	439.0	+22.30
Atlanta	7.5	564.9	532.7	552.8	540.8	+ 7.46
Baltimore	8.6	528.1	496.6	515.3	501.7	+16.69
Birmingham	7.1	413.7	384.9	399.2	394.8	+ 9.03
Boston	8.9	464.0	438.5	460.2	447.1	+ 9.84
Buffalo	9.0	508.1	459.2	500.1	485.3	+ 9.95
Chicago	8.3	524.5	498.7	506.2	499.5	+10.43
Cincinnati	8.6	493.8	464.7	479.6	468.9	+12.47
Cleveland	9.0	500.2	470.7	489.9	477.4	+12.18
Columbus, Ohio	8.1	477.6	448.6	466.9	456.5	+10.31
Dallas	7.7	460.7	446.2	449.3	441.1	+11.30
Denver	7.9	484.3	453.7	475.1	461.9	+10.76
Detroit	9.7	527.2	503.3	535.6	514.3	+12.02
Houston	7.1	418.9	393.4	406.2	400.2	+ 9.09
Indianapolis	7.6	413.0	387.9	403.1	395.0	+ 9.50
Kansas City	8.3	444.2	419.8	434.9	423.4	+12.25
Los Angeles	8.4	528.6	483.4	513.2	502.5	+13.36
Louisville	7.6	459.4	431.4	447.5	438.8	+12.22
Memphis	8.1	465.2	437.5	448.5	441.2	+20.85
Miami	7.8	476.2	453.7	462.6	453.3	+11.50
Milwaukee	8.2	511.8	481.2	502.2	488.0	+11.83
Minneapolis	8.5	477.8	449.7	468.5	458.9	+ 9.00
Newark	8.5	438.1	410.6	428.8	420.6	+ 7.57
New Orleans	7.4	446.1	421.2	439.2	429.9	+14.37
New York	10.0	511.3	475.5	498.9	487.5	+ 9.60
Philadelphia	8.9	504.1	480.4	499.0	485.5	+ 7.86
Phoenix (1947 = 100)	7.9	266.2	250.1	257.1	252.8	+11.24
Pittsburgh	8.7	451.5	424.9	445.8	432.6	+ 9.12
St. Louis	8.4	467.6	441.5	460.4	450.8	+ 7.16
San Antonio (1960 = 100)	7.4	176.3	165.7	171.3	167.4	+15.57
San Diego (1960 = 100)	8.4	194.7	183.0	190.6	186.8	+16.44
San Francisco	9.2	664.5	607.5	658.5	637.5	+ 6.67
Seattle	8.5	452.1	404.8	445.7	429.6	+12.61
Washington, D.C.	7.9	438.7	412.1	427.2	416.9	+12.23

Cost differentials compare current local costs, not indexes.

Tables compiled by Dodge Building Cost Services, McGraw-Hill Information Systems Company

HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES — 1941 average for each city = 100.00

Metropolitan area	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973 (Quarterly) 1st	2nd	3rd	4th	1974 (Quarterly) 1st	2nd	3rd	4th
Atlanta	313.7	321.5	329.8	335.7	353.1	384.0	422.4	459.2	497.7	516.4	518.0	543.8	544.8	555.2	556.7		
Baltimore	280.6	285.7	280.9	295.8	308.7	322.8	348.8	381.7	420.4	441.8	443.6	474.5	475.5	516.3	517.8		
Birmingham	260.9	265.9	270.7	274.7	284.3	303.4	309.3	331.6	358.3	371.7	373.2	401.1	402.1	405.5	407.0		
Boston	252.1	257.8	262.0	265.7	277.1	295.0	328.6	362.0	394.4	414.0	415.6	436.8	437.8	455.1	456.6		
Chicago	306.6	311.7	320.4	328.4	339.5	356.1	386.1	418.8	444.3	465.3	466.9	507.6	508.6	514.2	515.7		
Cincinnati	269.5	274.0	278.3	288.2	302.6	325.8	348.5	386.1	410.7	430.4	432.0	461.4	462.4	484.5	486.0		
Cleveland	283.0	292.3	300.7	303.7	331.5	358.3	380.1	415.6	429.3	436.7	438.3	461.2	462.2	490.3	491.8		
Dallas	256.4	260.8	266.9	270.4	281.7	308.6	327.1	357.9	386.6	407.3	408.9	435.4	436.4	453.7	455.2		
Denver	287.3	294.0	297.5	305.1	312.5	339.0	368.1	392.9	415.4	429.5	431.1	460.0	461.0	476.1	477.6		
Detroit	277.7	284.7	296.9	301.2	316.4	352.9	377.4	409.7	433.1	463.4	465.0	500.0	501.0	519.5	521.0		
Kansas City	250.5	256.4	261.0	264.3	278.0	295.5	315.3	344.7	367.0	387.7	389.3	404.8	405.8	435.6	437.1		
Los Angeles	288.2	297.1	302.7	310.1	320.1	344.1	361.9	400.9	424.5	453.3	454.9	503.2	504.2	514.3	515.8		
Miami	274.4	277.5	284.0	286.1	305.3	392.3	353.2	384.7	406.4	419.0	420.6	446.2	447.2	467.6	469.1		
Minneapolis	282.4	285.0	289.4	300.2	309.4	331.2	361.1	417.1	412.9	430.6	432.2	455.1	456.1	469.7	471.2		
New Orleans	240.9	256.3	259.8	267.6	274.2	297.5	318.9	341.8	369.7	382.1	383.7	419.5	420.5	437.5	439.0		
New York	289.4	297.1	304.0	313.6	321.4	344.5	366.0	395.6	423.1	453.5	455.1	484.3	485.3	497.4	498.9		
Philadelphia	275.2	280.8	286.6	293.7	301.7	321.0	346.5	374.9	419.5	459.3	460.9	484.1	485.1	495.7	497.2		
Pittsburgh	263.8	267.0	271.1	275.0	293.8	311.0	327.2	362.1	380.3	406.3	407.9	423.4	424.4	443.7	445.2		
St. Louis	272.1	280.9	288.3	293.2	304.4	324.7	344.4	375.5	402.5	427.8	429.4	443.2	444.2	458.7	460.2		
San Francisco	365.4	368.6	386.0	390.8	402.9	441.1	465.1	512.3	561.0	606.4	608.0	631.3	632.3	647.1	648.6		
Seattle	266.6	268.9	275.0	283.5	292.2	317.8	341.8	358.4	371.5	388.4	390.0	423.4	424.4	437.8	439.3		

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.

Linea by thonet

Rich, regal and rectilinear in gleaming chrome. A most contemporary reason to believe that to create is Thonet. See it at any Thonet Center of Design. New York, Chicago, Los Angeles, Dallas. Or write Thonet Industries, Inc. 491 East Princess Street, York, Pa. 17405 · (717) 845-6666.

THONET
CENTER OF DESIGN

Shifting trends in household formation

Anyone who spends any time working with demographic data has grown accustomed to the prospect that each revised set of Census Bureau population projections, likely as not, will contain a new series with still-lower birth and fertility rate assumptions. It wasn't too long ago that population estimates of between 240 and 250 million people by 1980 were still considered plausible. Today, with the nation just grinding past the 212 million mark, figures of between 220 and 230 million for 1980 appear much more realistic, with the lower end of the spectrum being given the better odds.

These lower projections are largely due to the fact that the institutions of marriage and childrearing are being postponed or rejected entirely by many segments of the young-adult population today. The postponement or rejection of these institutions, though, coupled with the generally high standards of living the nation has enjoyed over the recent past, has given the young-adult population a measure of choice and flexibility unprecedented in modern times. This has had other effects on the demographic profile besides lower over-all population growth. One has been the surging growth of "primary individuals"—household heads living alone, or with nonrelatives.

While Census Bureau projections of total population have typically been on the high side of reality in the recent past because of the larger-than-anticipated declines in birth and fertility rates, projections of new household formations have generally been on the low side. The number of primary individual households today, for instance, 15 million, was not going to be reached until 1980, according to Census projections made as recently as two years ago.

In effect, primary individual households, which typically account for 20 per cent of all households, were responsible for 40 per cent of the growth in the total since 1970. And, breaking it down still further, primary individuals under 35, who comprise roughly 20 per cent of all primary individuals, accounted for nearly *half* of the growth in that group.

One factor, here, of course, is that the "young-adults" group we've been discussing, contains within it all of the famous post-World War II baby boom generation, the major growth component of the population generally. And, in the recent past, of course, factors like the release of many young-adults from military service following the end of the Vietnam War, the reduced tax rates given single individuals, and the lowered restrictions on off-campus living now in effect at many colleges and universities have served to reinforce this trend—almost to the point of distortion.

The figures show that the forces which propel the growth of primary individual households are not a monopoly of the young, however. In every age group of the population spectrum, growth in this household component has been significantly greater than the growth of primary family households.

These trends, of course, have an effect on many segments of general economic activity. The wants and needs of the primary individual household frequently differ from those of the traditional husband-wife families. This is true with respect to life styles, environment, and choices as to where to live geographically.

Space does not permit a discussion of all of these factors, but let's consider one that is highly important to the construction industry—housing demand.

A full 90 per cent of all primary individual households are composed of only one person. There are an estimated 13 million households of this type today. Typically, the one-person household tends to rent rather than purchase a home. Nearly 60 per cent of the households of this type were renters according to the 1970 Housing Census. This contrasts with the total housing stock, where only one-third of the units are rental units.

The impact is much more pronounced if we look at change over time, however. Between 1960 and 1970, more than two-thirds of the net growth in all renter households was accounted for by the one-person component. And, by all indications, growth since 1970 has shown a similar trend.

A primary characteristic of the one-person household that should be critically evaluated, particularly with respect to this current era when everything seems to be in short supply, is its tendency to occupy an unusually large amount of housing space. With only one million one-room rental units in the housing stock as of 1970, compared to 6.4 million one-person household renters, utilization on a per-room or per-square foot basis is well above average.

On the other hand, over half of the one-person rental households enumerated in the 1970 census occupied units that rented for less than $100 a month. This accounted for one-third of the total available units renting at that price. This low rent can be due to one of two factors: The units are a bargain, meaning the one-person households are generally better off economically; or the units rented are below the average in desirability. Data on plumbing characteristics and the like indicate that the latter situation is more to the point. Compared to all households, these tend to be below average in quality.

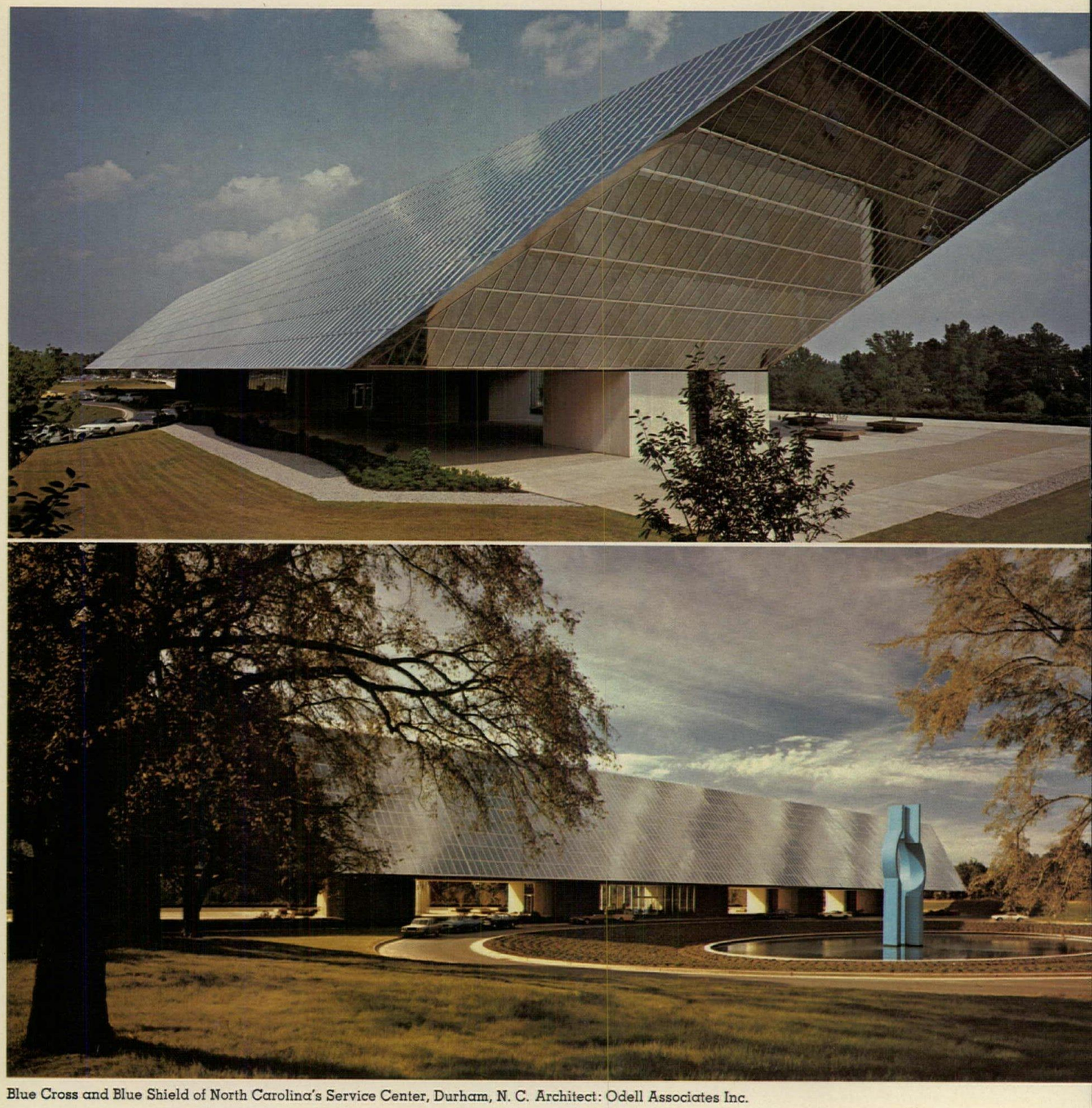
A key factor of the one-person household has been its tendency to run counter to the trend in areas where total population generally has declined, or grown relatively slowly. In selected major metropolitan statistical areas that experienced population declines between 1960 and 1970, the number of two-or-more-person households fell, while, in every case, the number of one-person households actually increased. To the extent that this pattern holds true generally, the one-person household can be viewed as a major force of sustaining the over-all level of housing demand in these areas. But, this is a puzzling phenomenon to explain in economic terms. Especially since many theories of population movements attribute population declines in specific locales to the fact that the area's youth, individually, drift away to seek greater economic opportunity elsewhere.

The one-person household has within it the potential for generating considerable instability in the over-all level of housing demand also. This is particularly true when we consider that it has currently taken only 13 million adults to occupy 13 million housing units, while nearly 200 million people reside in the remaining 60 million units. If social attitudes were to suddenly change, and, rather than going it alone, male one-person households decided that its again fashionable to form primary families with female one-person households, or vice versa, a lot of rental units would suddenly be sporting vacancy signs on their doors.

While the near-term prospects of this happening do not appear great in the current social context, the overriding characteristic of the one-person household, its flexibility, can also be a threat. Should his economic position deteriorate, as in a general economic contraction, say, the one-person household will be much more prone to give up his independent status temporarily by moving in with a friend or relative, than would other household types. As it accounts for a larger and larger portion of the total spectrum, the one-person household's potential to create instability in the housing market will be a factor to reckon with.

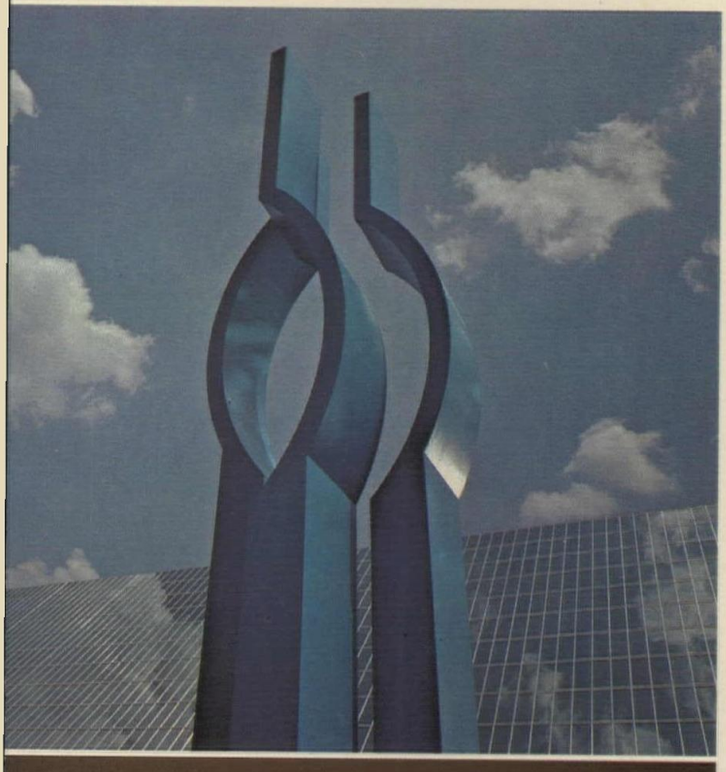
James E. Carlson, manager, economic research
McGraw-Hill Information Systems Company

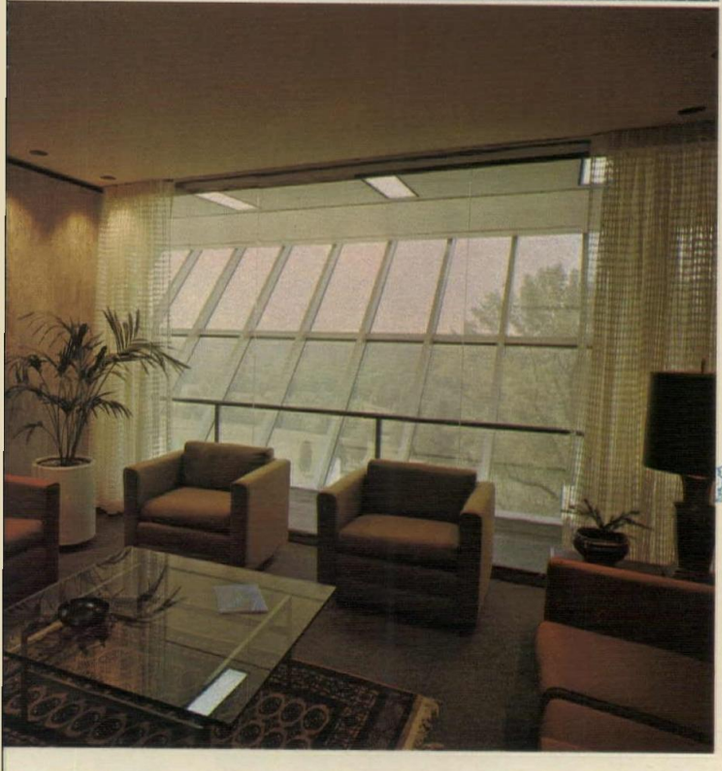
INSULATIO
SEE THROUG



Blue Cross and Blue Shield of North Carolina's Service Center, Durham, N. C. Architect: Odell Associates Inc.

N YOU CAN
H, FROM LOF.





HIGH-PERFORMANCE GLASS REFLECTS SAVINGS IN ENERGY.

Blue Cross and Blue Shield of North Carolina's new Service Center does more than reflect and complement a beautiful setting—it's a comfortable and energy-efficient structure as well.

LOF's Vari-Tran® 1-108 reflective glass in Thermopane® insulating units in combination with slanted walls resulted in a substantial reduction in needed cooling equipment.

If the building had been designed with traditional vertical walls of 50% clear glass and 50% masonry cavity, it would have resulted in a solar heat gain through the walls of 3,300,000 Btu per hour. Clear ¼" plate used in 100% glass vertical walls would have resulted in 6,000,000 Btu per hour solar heat gain. The final design, combining Vari-Tran with slanted walls, reduced solar heat gain to only 2,400,000 Btu per hour —a 60% reduction in energy load compared to the latter figure.

The use of Vari-Tran in Thermopane insulating units reduces heat loss in cold weather as well.

With Vari-Tran and Thermopane, annual fuel savings are precisely calculable and convincingly impressive.

In these days of high energy costs, a total energy concept of design must consider all construction materials.

Our highly qualified architectural representatives will be glad to help you save energy dollars with our high-performance glass. Write Dan Hall, Libbey-Owens-Ford, 811 Madison Ave., Toledo, Ohio 43695.

LOF

For more data, circle 50 on inquiry card

Bright idea

Corridor Washfountains take the horseplay out of washup.

Washfountains in the corridor do away with the things kids get into when they're not being watched. With vandal-proof Bradley Washfountains in the corridor, students get in and out of toilet rooms quickly. Wash where they can be supervised. The 54" semi-circular Bradglas® Washfountains made of reinforced polyester project only 35¼" from the wall. Serve four students at a time with only one set of connections. Clean, contemporary lines. Five borrowed-from-nature colors. Durable, non-porous, fire-safe. Won't chip, peel or crack. Won't swell, shrink or warp. Comparable to steel on a strength to weight basis. See your Bradley washroom systems specialist. And write for latest literature. Or call (414) 251-6000. Telex 2-6751. Bradley Corporation, 9109 Fountain Boulevard, Menomonee Falls, Wisconsin 53051.

from Bradley!

BRADLEY®

Leader in Washroom Fixtures and Accessories

For more data, circle 51 on inquiry card

Come Hail or High Water Tapered FOAMGLAS® Insulation Gives Positive Drainage

The best way to get proper slope for positive water drainage is with Tapered FOAMGLAS Insulation. The blocks come pre-tapered ⅛ inch per foot to provide proper water drainage and an excellent base for built-up roofing.

Pittsburgh Corning guarantees that Tapered FOAMGLAS Roof Insulation will not absorb moisture, will retain its original insulating efficiency and compressive strength and will remain incombustible for 20 years when applied in accordance with the written guarantee.

Tapered FOAMGLAS Insulation, which is available for prompt delivery, provides one-contractor responsibility for the roofing insulation and built-up roofing. And, the new Tapered II system cuts installation time and material waste.

Learn more about the Pittsburgh Corning guarantee and the unique inorganic closed-cell construction of FOAMGLAS Insulation.

Send in the coupon below.

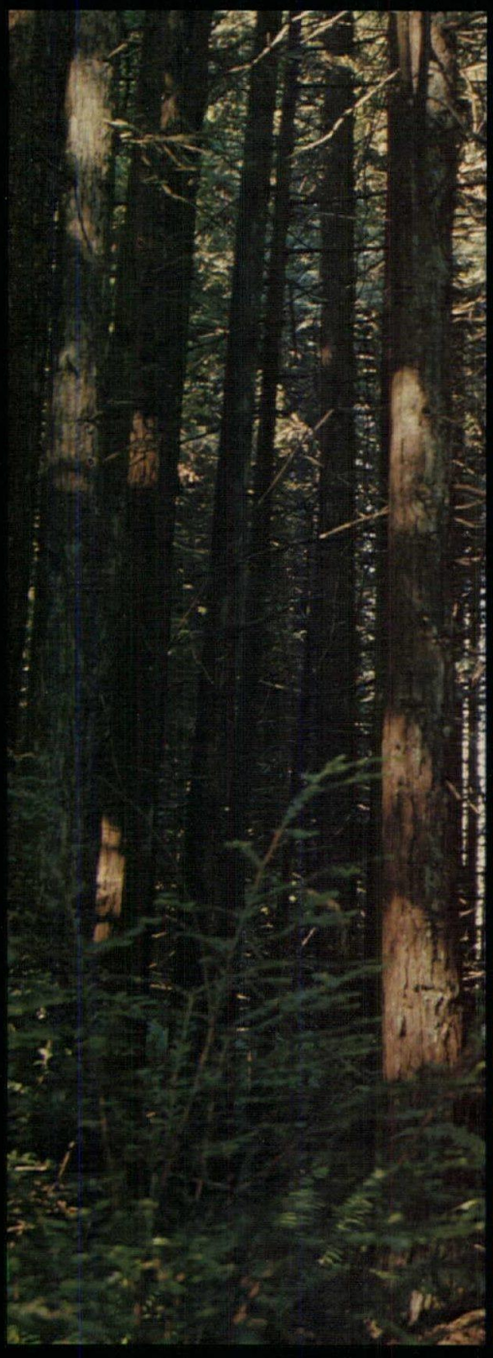
PITTSBURGH® PC CORNING

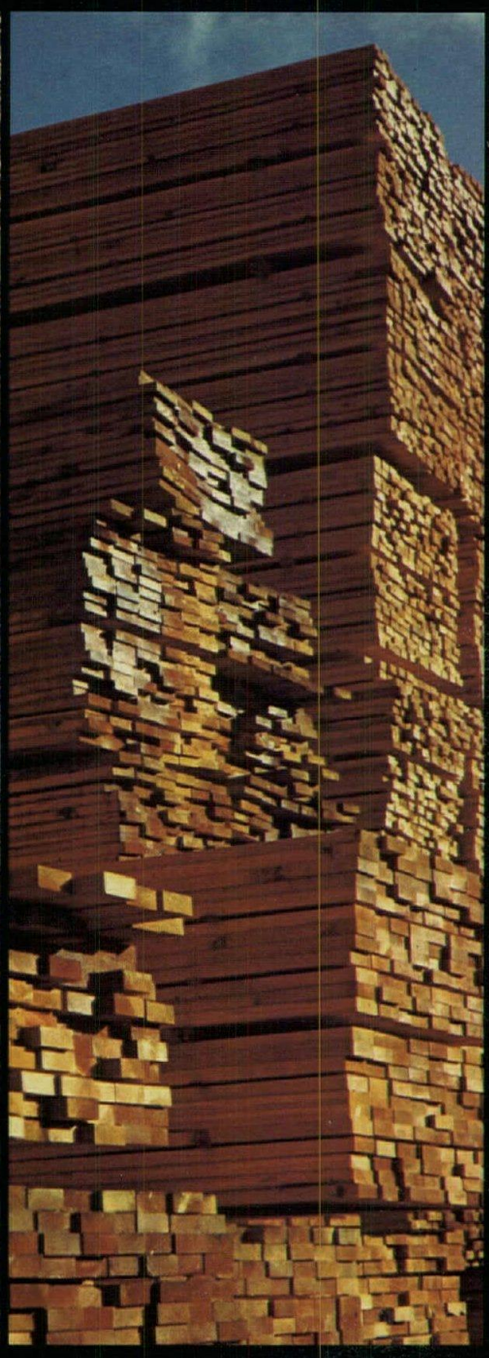
MAIL TO: Pittsburgh Corning Corporation
Department AR–94
800 Presque Isle Drive
Pittsburgh, Pennsylvania 15239

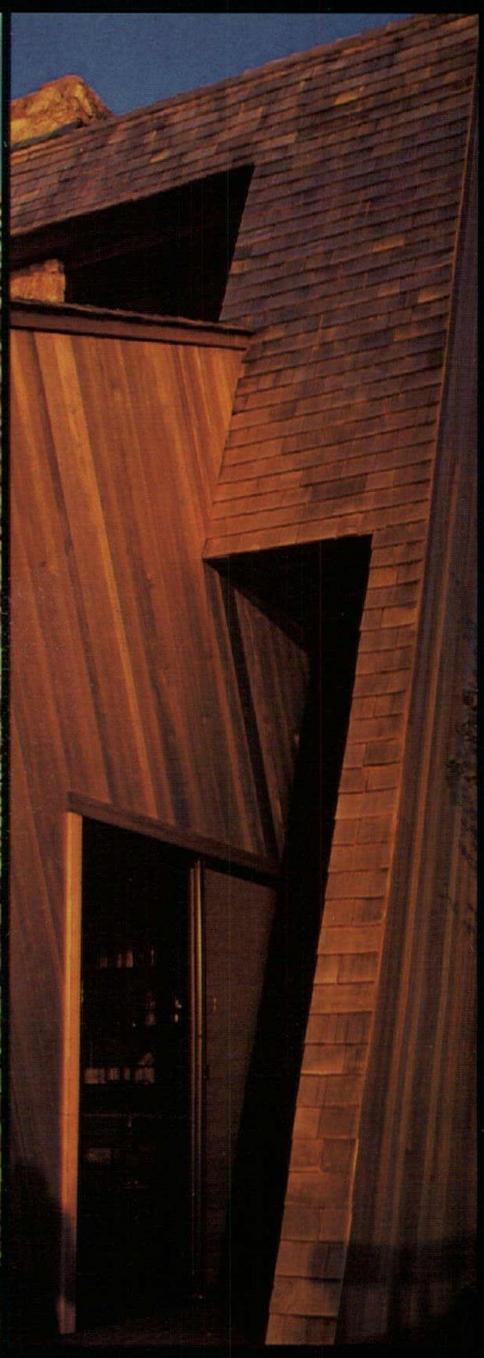
☐ Yes, I'd like to know more about Tapered FOAMGLAS® Insulation and its guarantee
☐ I would like to see a Sales Representative

Name_____
Title_____
Company_____
Address_____
Telephone_____

For more data, circle 52 on inquiry card







Simpson Redwood.
It's available. But be sure to plan ahead.

We're producing redwood lumber at near record levels this year.

But demand also is near an all-time high. And that can mean temporary shortages.

There are two good ways to beat the problem.

First—Check with your supplier to see if an alternate grade or size is available. The most difficult grade to find is "Clear All Heart"—the top of the line. The next grade—Clear—is more readily available, and a good many customers prefer it for the color variation it provides. (That's Clear in the picture).

Second—Work closely with your supplier. Give him all the lead time you can so he can work back through the distribution chain in anticipation of your needs. And let him know your specification requirements—including use. It may be that your dealer can find an alternate that will work for you.

In the meantime, we're doing everything we can to make sure you get the redwood products you need.

And we've invested heavily in forest management practices that increase wood supply now and for the future. In the long run, mother nature is on our side. Redwood is the fastest growing of all the commercial conifers.

We'd like to send you a free copy of our forest resource and redwood exterior literature. Just write to Simpson Timber Company, 900 Fourth Avenue, Seattle, Washington 98164.

Simpson

Trees are a renewable resource.

For more data, circle 53 on inquiry card

"Our residents are happier with Maytags and we have a lot less headaches," reports Mr. Botnick.

At Indian Valley, 18 Maytag Washers and Dryers bring a smoother, more trouble-free laundry operation.

Built by Irving Botnick and Associates, Indian Valley is a quality community of 300 town houses on 25 landscaped acres in the college town of Kent, Ohio.

Four years ago they replaced another brand of machines with 18 Maytag Washers and Dryers, giving them a total of 103 Maytags in their various housing complexes, according to Mr. Irving Botnick, President.

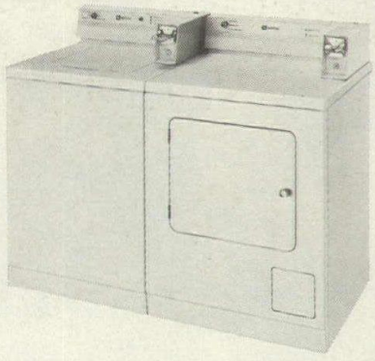
"Breakdowns are a source of irritation to residents and I know my problems are appreciably reduced with Maytags," he states. "Complaints are few and calls for refunds are very rare."

Also contributing importantly to the success of his laundry operation, according to Mr. Botnick, is the dependable service of the local Maytag Route Operator.

Of course, we don't say your experience will be exactly like that reported by Mr. Botnick. But dependability is what we try to build into every Maytag Washer.

Find out what Maytag dependability and the great acceptance of the Maytag name can do for you. Mail the coupon now.

MAYTAG
THE DEPENDABILITY PEOPLE



The Maytag Company
Advertising Dept.AR–9–74, Newton, Iowa 50208

Please send details on how dependable Maytag Washers can help us have a smoother, more trouble-free laundry room operation.

Name_____

Company_____

Address_____

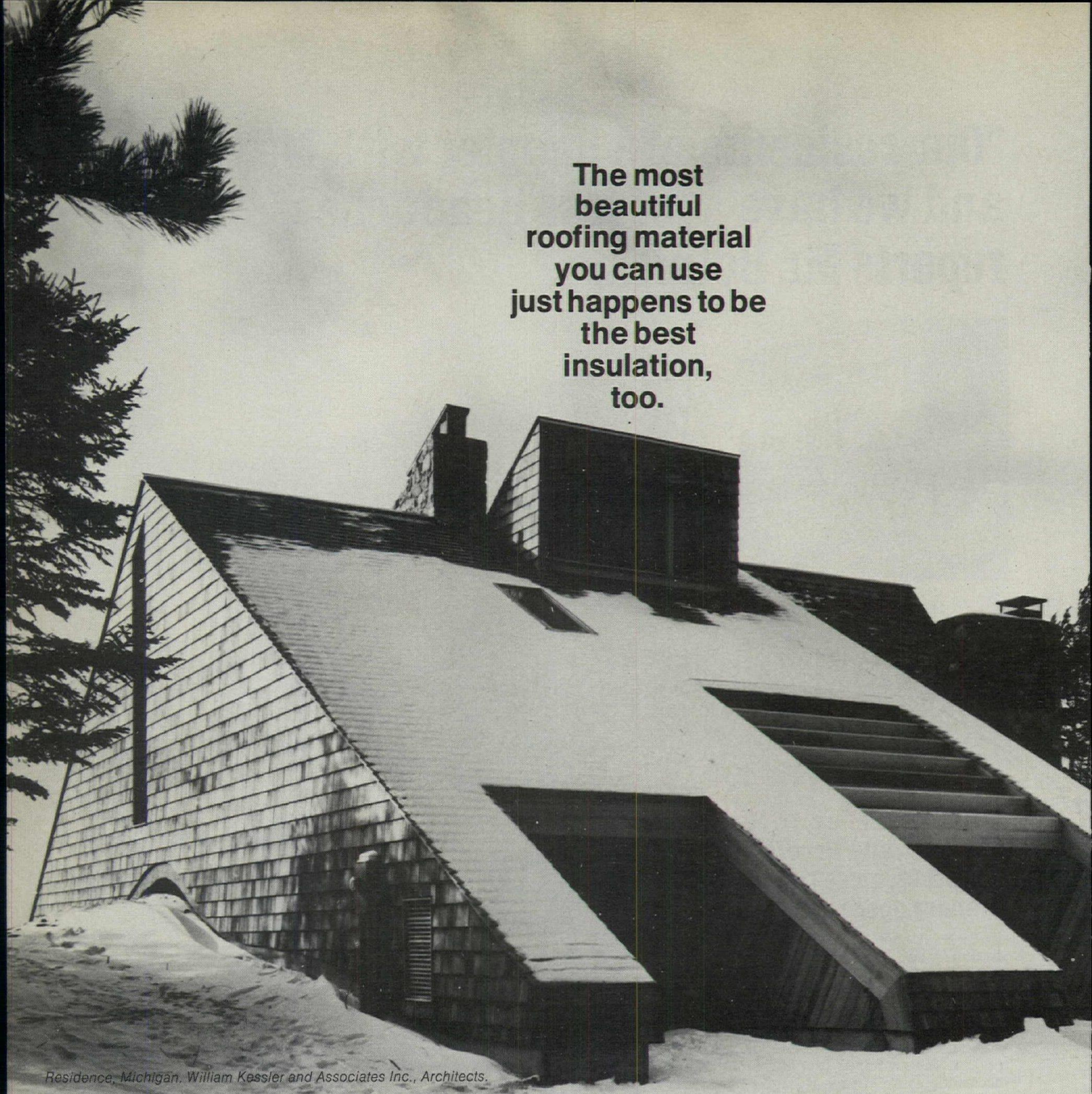
City_____

State_____ Zip_____

Phone_____

For more data, circle 139 on inquiry card

The most beautiful roofing material you can use just happens to be the best insulation, too.



Residence, Michigan. William Kessler and Associates Inc., Architects.

Red Cedar shingles and handsplit shakes are twice as resistant to heat transfer as asphalt shingles. Three times more resistant than built-up roofing. In fact, red cedar out-insulates such roofing or siding materials as asbestos-cement shingles, slate, aluminum and architectural glass.*

Red cedar deserves close consideration for architects and builders concerned with the energy conservation of their structures. Its unique cellular structure makes it even more insulative than many other woods.

And the traditional overlapping application method effectively multiplies cedar's resistance to heat transfer.

Add to this the design flexibility and durability of red cedar on residences and commercial structures. It's no wonder the most beautiful roof and sidewall covering you can possibly use is also most efficient.

For more details, write Red Cedar Shingle & Handsplit Shake Bureau, 5510 White Bldg. Seattle, Washington 98101. (In Canada 1055 West Hastings St., Vancouver 1, B.C.)

These labels under the bandstick or on cartons of red cedar shingles, handsplit shakes and grooved shakes are your guarantee of Bureau-graded quality. Insist on them.

*ASHRAE Handbook of Fundamentals, 1972 ed., Chap. 20 "Design Heat Transfer Coefficients" Table 3A, pp. 362-63.

Red Cedar Shingle & Handsplit Shake Bureau

One of a series presented by members of the American Wood Council.

We've got everyone in Glen Valley surrounded.

How did we encircle an entire community of townhouses in Houston, Texas? With GAF® Timberline® roofing. And Stratalite® siding.

And just why did the builders choose GAF? They wanted the homes to have the warmth and charm of wood. With none of the problems of wood.

GAF Timberline, a heavyweight asphalt roof shingle, looks like natural wood shingles. Yet provides the freedom from maintenance of asphalt. And a self-sealing adhesive keeps each shingle in place even in the strongest winds.

GAF Stratalite Thatch Siding with the durability of stone, looks just like natural wood shake shingles, too. Which not only makes it a great looking siding, but a handsome accent as well.

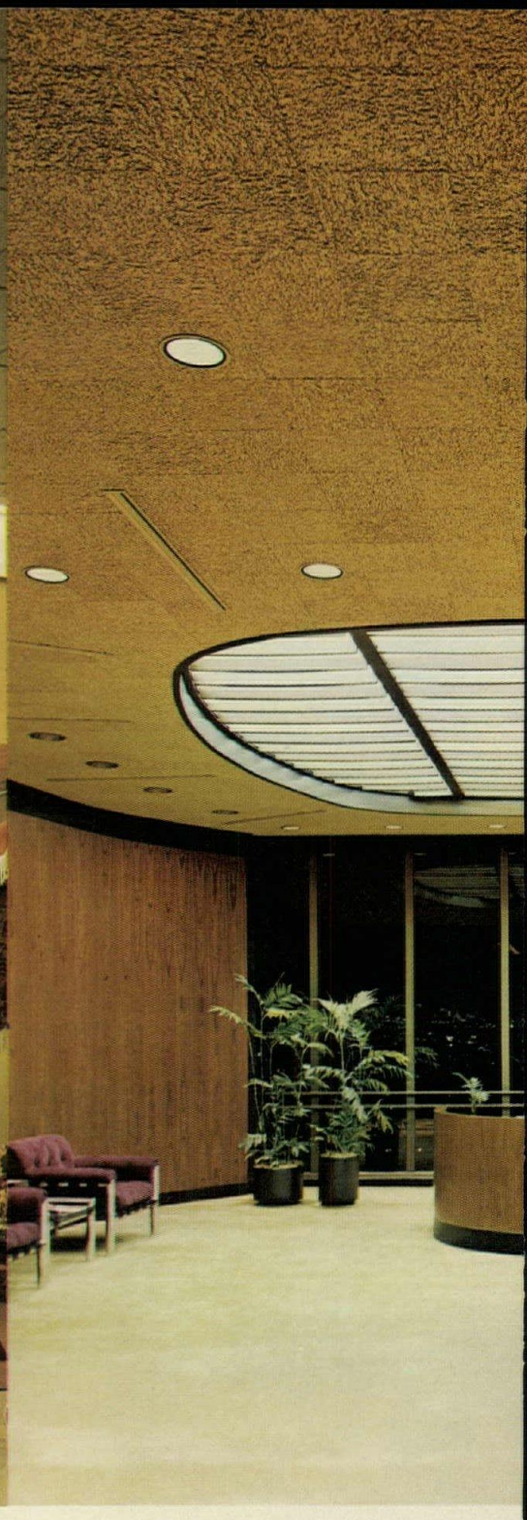
Both GAF Timberline and GAF Stratalite are highly resistant to weather and wear. So they won't warp. Crack. Shrink. Or Split.

Good looks. Carefree maintenance. And the GAF reputation. You couldn't ask for more beautiful surroundings.

For more information call your GAF distributor or write: GAF Corporation, Dept. AR94, 140 West 51 St., New York, New York 10020.

gaf® **Roofing and Siding**

For more data, circle 54 on inquiry card



Celotex ceilings combine

Next time someone says you must sacrifice overhead beauty if you want a functional ceiling—or vice versa—you can answer with one word.

The word is Celotex. And it makes the very notion of an either/or choice between looks and utility seem old-fashioned.

Start with that name, and you can choose a ceiling system with wide design possibilities. Without giving up beauty. Perhaps a non-directional patterned Celotex ceiling tile for a monolithic effect; or a Celotex reveal-edge lay-in panel for a bold contrast; or a design tile for that special interior.

The same reliable name will help you satisfy noise control requirements, because Celotex ceiling products can deliver Noise Reduction Coefficients to .90.

Time rated ceiling assemblies? You can get U.L. time ratings of one, two or three hours with Celotex.

beauty and performance.

Where the plan calls for complete environmental control, check Celotex Vari-Tec™ systems—sound control, lighting and air handling all provided for in one beautiful, integrated ceiling system.

Which brings you back to where we started: beauty. Your Celotex ceiling can be beautiful as well as functional. Our success in delivering this valuable combination has made Celotex as popular with architects as with contractors, building owners and managers.

Consult the Celotex Acoustical System catalog. You'll find it in Sweet's Architectural and Industrial Construction Files. Or, contact your Celotex commercial ceilings representative.

Celotex™

BUILDING PRODUCTS
The Celotex Corporation, Tampa, Florida 33622

a Jim Walter company

For more data, circle 55 on inquiry card

Q: CAN A CARPET SURVIVE MORE THAN 100 HOSPITAL STAINS & THEIR SOLVENTS?

Carpets of Acrilan® fiber can take a lot of punishment.

Carpets labeled Acrilan 2000+ can take a phenomenal amount, because they contain the only solution-dyed acrylic fiber made: Acrilan® acrylic solution-dyed fiber.

This means that the color is built into the fiber, not just applied to the surface. So chemical spills would have to eat their way right through the fiber in order to affect the color.

We tested Acrilan 2000+ carpet with more than one hundred hospital stains, including the toughest. Then we tested it with the solvents for these stains! The results were amazing; the carpet looked bright and clean as new.

This color-fastness also makes Acrilan 2000+ carpets the most fade-resistant you can specify, perfect for sunny locations. 2000+ is a Weather-ometer rating, which means that the carpet shows no visible fading after 2000 hours of blazing noonday sun. Compare this to the 40-hour industry rating for normal carpets. And then compare it to some of our Acrilan 2000+ colors that rate up to 6000 hours!

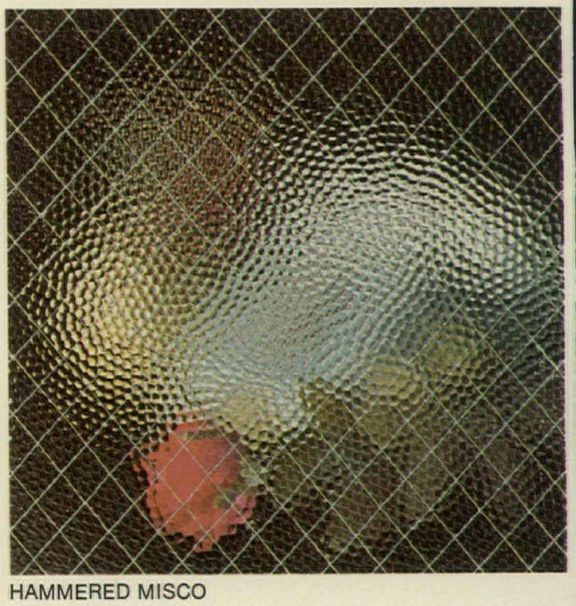
Obviously it also performs well in high-traffic areas, where normal vat-dyed fibers can have their color worn off by abrasion.

We believe Acrilan 2000+ carpets to be the most practical for hospital installations. And there are many hospital administrators who agree. For more information, case histories, specific installations and help in specifying, write to Monsanto Textiles Company, Contract Carpet Group, 320 Interstate North Parkway, N.W., Atlanta, Ga. 30339.

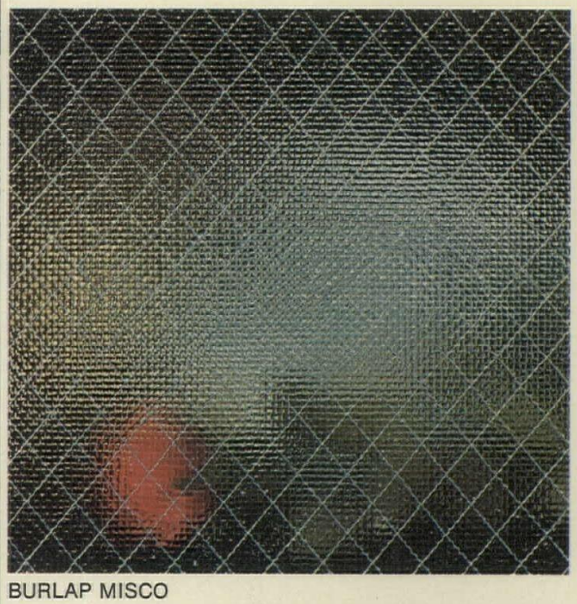
A: ACRILAN® 2000+ CAN.

POLISHED MISCO

Make a scene in public places

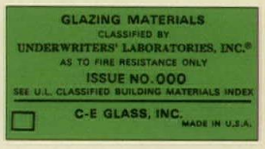


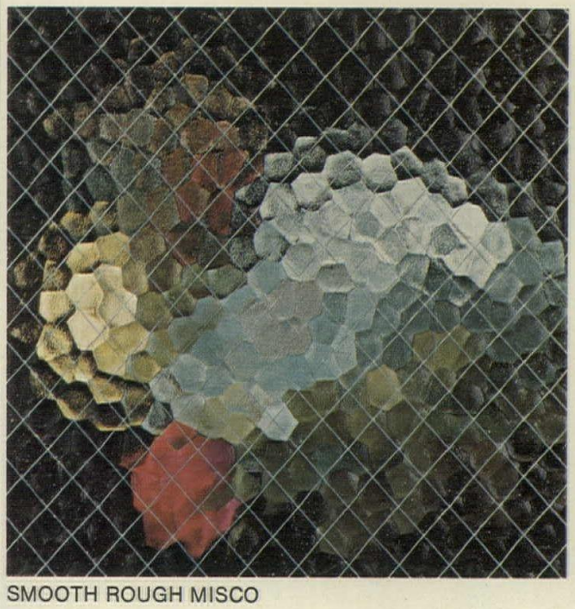
HAMMERED MISCO



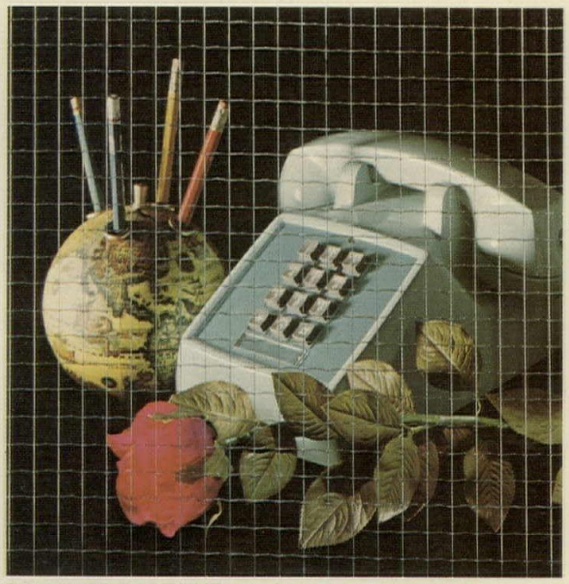
BURLAP MISCO

FACTROLITE MISCO

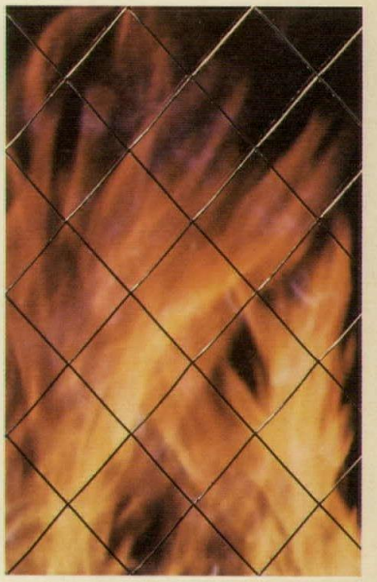




SMOOTH ROUGH MISCO



POLISHED BAROQUE



Meet safety and fire protection code requirements and make a beautiful scene of it with C-E Mississippi Wire Glass.

Mississippi patterns are so attractive, they actually inspire more than the ordinary uses of wire glass: New beauty for doors, windows, glass interior wall sections, exterior walls of glass, even large areas of overhead glazing.

Not all wire glass is listed "fire retardant" by Underwriters' Laboratories, Inc. C-E's Mississippi is: A direct descendant of the original Mississippi Wire Glass which served as the basis for the very first fire protection standard in 1899. Today, as it has for 75 years, this product continues to set the standards of performance by which all others are judged.

C-E Glass is a natural source of technical information concerning architectural glazing requirements. A C-E consultant will be happy to discuss the many possibilities for the dramatic use of C-E Mississippi Wire Glass. Write or phone C-E Glass, 825 Hylton Rd., Pennsauken, N.J. 08110. (609) 662-0400.

C-E GLASS
COMBUSTION ENGINEERING, INC.

For more data, circle 57 on inquiry card

The Quantum System separates space into work modules.
And makes them work.

The lateral file has always been the space saving answer. Now it is more. Now it is the Quantum System.

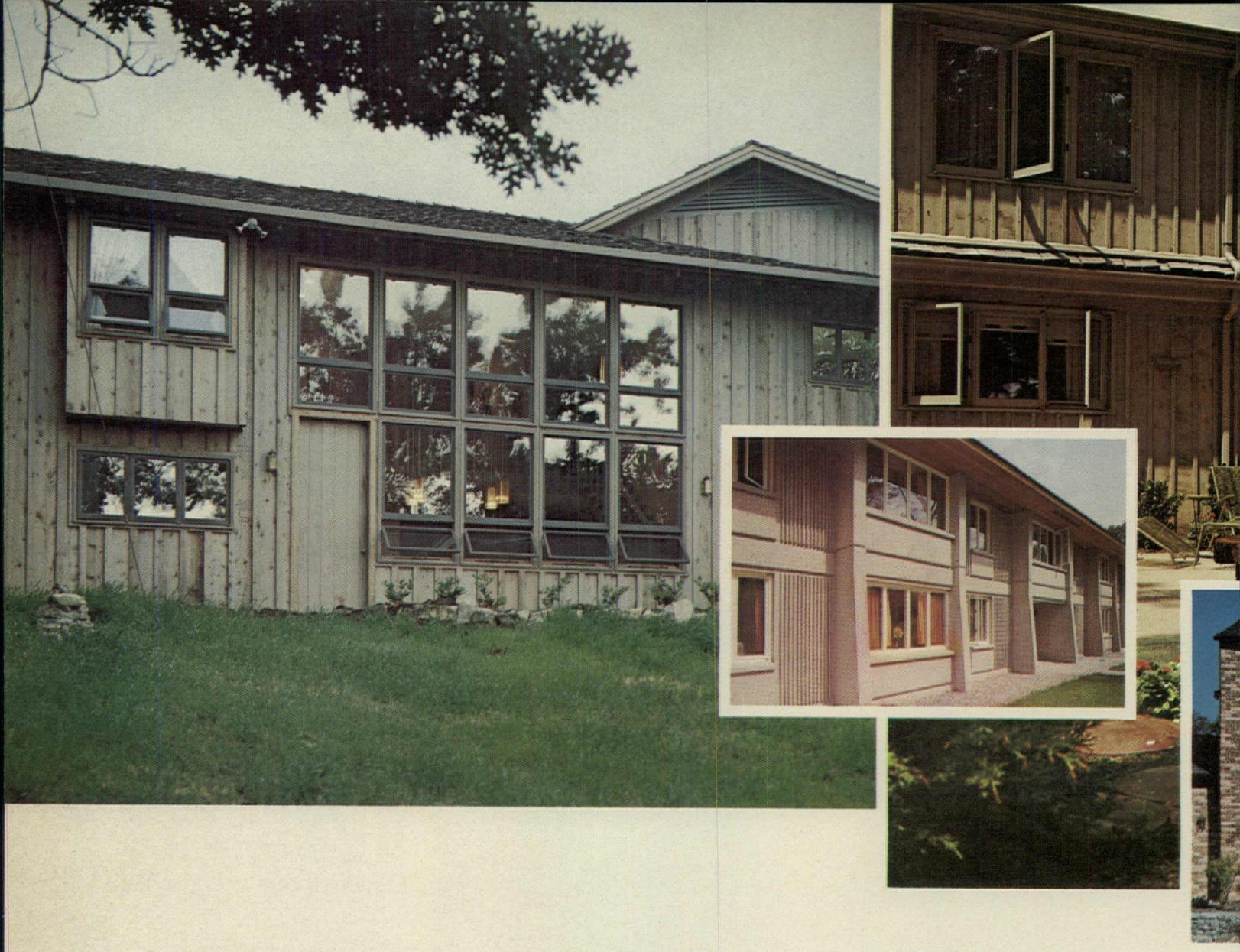
The Quantum System is a dynamic system of filing, storage and work modules with unlimited possibilities for increasing office efficiency.

Consider attractive, aesthetically correct space dividers that also contain filing, wardrobes and storage cabinets. Add to these, work modules with provisions for communications centers and writing or machine surfaces. You now have some idea of the versatility of the Quantum System.

The entire Quantum System and how it can work for your clients is detailed in our new brochure. Ask your GF representative for a copy, or write: GF Business Equipment, Inc., Youngstown, Ohio 44501 or Toronto, Ontario.

GF Office Furniture Systems
GF Business Equipment

For more data, circle 58 on inquiry card



Wood windows: a beautiful way to conserve energy.

The energy crisis has finally hit home. Every home in the country. So, the homebuyer of the 70's is giving higher priority than ever to housing that does the best job of conserving energy. And because windows often occupy as much as 30% of an outer wall, homebuyers are looking carefully at the insulation they provide.

A window should insulate.
That's the most important thing consumers look for in a window. It was true before anybody was talking about the energy crisis. And it's truer still today. We've spent five years and $40,000 studying consumers' homebuying plans and preferences. And every time, our research showed that they give the highest priority to a window's insulation capability (and the lowest priority to its initial cost).

Factors Most Important in Window Selection

	1968	1970	1972
Most Important	Insulation	Insulation	Insulation
Next Most Important	Durability	Durability	Durability
Least Important	Initial cost	Initial cost	Initial cost

Wood windows keep the warm in. And that translates into savings.
After a house is fully insulated, you can cut the remaining heat loss by 30%—just by choosing wood windows with insulating glass. That translates into important heating bill savings. And regardless of fuel prices, the savings add up year after year.

In a 16-window Chicago test home, the savings ranged from $88.40 to $124.25 last winter, depending on the type of fuel.

Home Heating Cost Comparison

Type of Window	Gas	Oil	Electric
Single glass in aluminum sash*	$289.50	$348.68	$406.91
Single glass in wood sash	260.59	313.85	366.29
Insulating glass in aluminum sash*	225.59	271.70	317.08
Insulating glass in wood sash	201.10	242.21	282.66
Annual savings with insulating glass in wood over single glass in aluminum	88.40	106.47	124.25

*Without a specific thermal barrier
Figures based on insulation manual developed by National Association of Home Builders Research Foundation. 1,400 sq. ft. home, fully insulated, 6600 degree days.

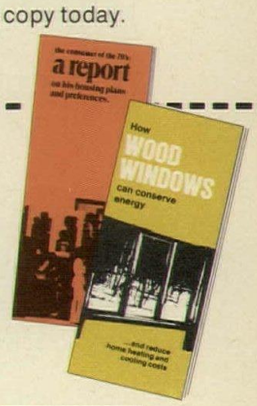
Wood windows are rated best for insulation quality. Just ask a consumer how he rates wood versus metal windows. We did. And our research showed that 54% rate wood windows as excellent insulators, while only 44% say the same about metal windows.

%Rating Insulation Quality Very Good

	1968	1970	1972
Wood Windows	47%	50%	54%
Metal Windows	45	41	44

You can help beat the energy crisis.
Don't wait for your clients to ask for wood windows. Specify them. And then use that savings in energy consumption as an important example of the long-term value of the homes you design.

Our new brochure tells how wood windows reduce home heating costs. It includes a step-by-step explanation of how window insulation works, and a detailed report of actual test results from homes all over the country. Write for your own free copy today. We'll also send you a copy of the latest findings from our consumer research.



Mail to:
Ponderosa Pine Woodwork
Dept. A-1
1500 Yeon Building, Portland, Oregon 97204.
A member of the American Wood Council.

Send me my copy of your research report.

NAME

POSITION

ORGANIZATION

ADDRESS

CITY STATE ZIP

If we tried to solve all your material-handling problems with a single system, it would be like trying to fit square pegs into round holes. So we developed a wide range of systems, to fill the needs of virtually any hospital.

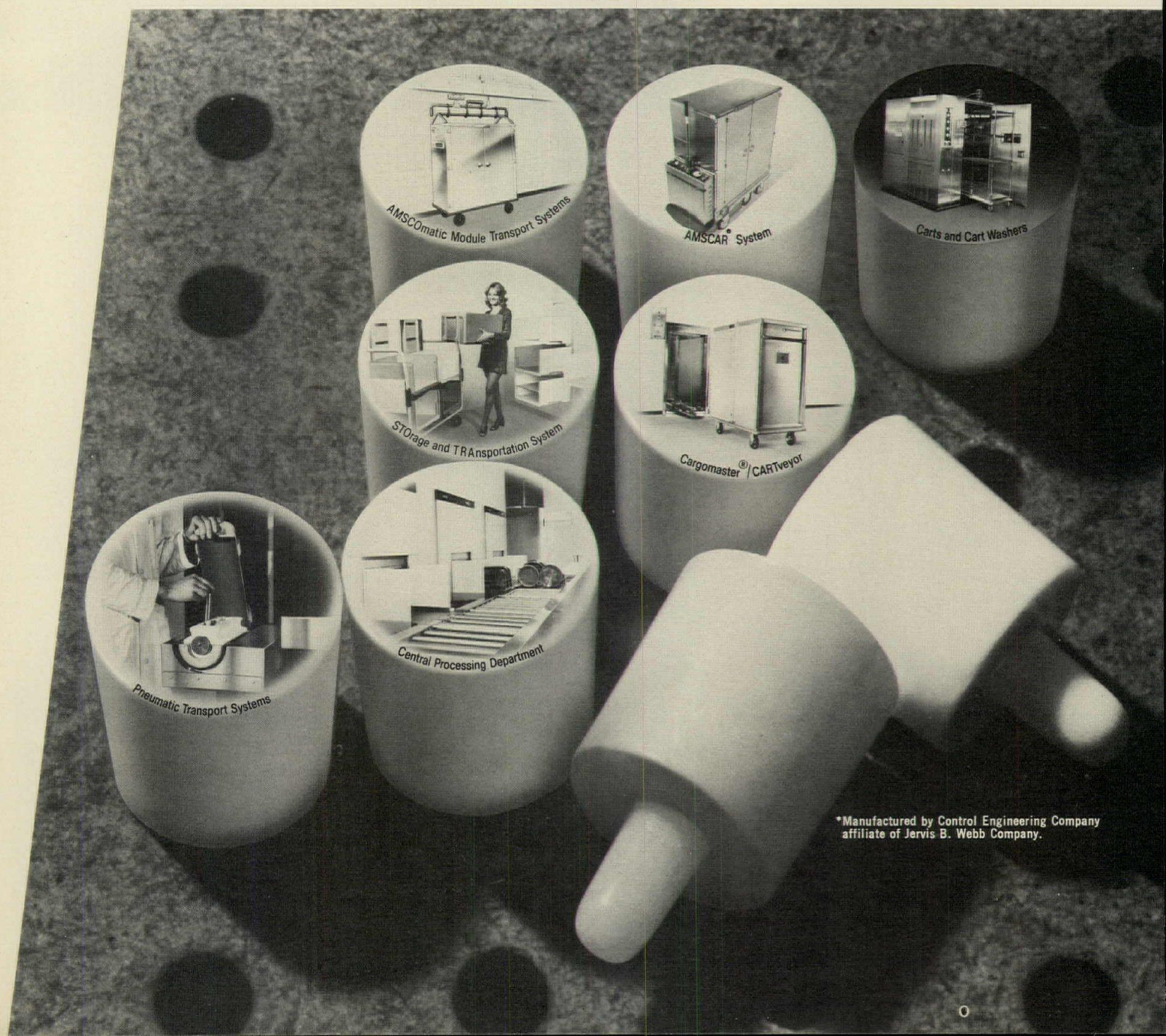
And we back our products with expertise that helps us tailor our material-handling equipment to your building instead of requiring that you plan your building to fit our systems.

We work with you to determine the best system or combination of systems for the job you want done. We gather facts and figures on costs and cost-savings. We design the system down to the last nut and bolt — and can even employ computer simulation to prove that our plans will work as well in actuality as they promised to on the drawing board.

We provide full installation if required . . . train hospital personnel in proper and efficient use of the system . . . and remain on hand during start-up and operation to make sure all the bugs are out. To assure that they stay out, AMSCO offers you a nationwide network of service technicians for preventive maintenance or repair.

When it comes to material handling for hospitals, we may not have all the answers. But we're working on them.

in material handling... we're pegged "the



*Manufactured by Control Engineering Company affiliate of Jervis B. Webb Company.

Central Processing of soiled supplies is a cornerstone of modern material management in hospitals. We can help you design a Department that centralizes responsibility for decontamination while it reduces the risk of cross-contamination. And that's just half the story. The other half focuses on productivity. We talk with your people, analyze your workload in terms of time and motion, and help you get the most out of both. With equipment like our conveyor-fed AMSCOmatic Washer-Sterilizers and Sterilizers. With Rotary Holding Tables. With related equipment that speeds workflow. So make a clean break with yesterday's processing methods. In an AMSCOmated Central Processing Department.

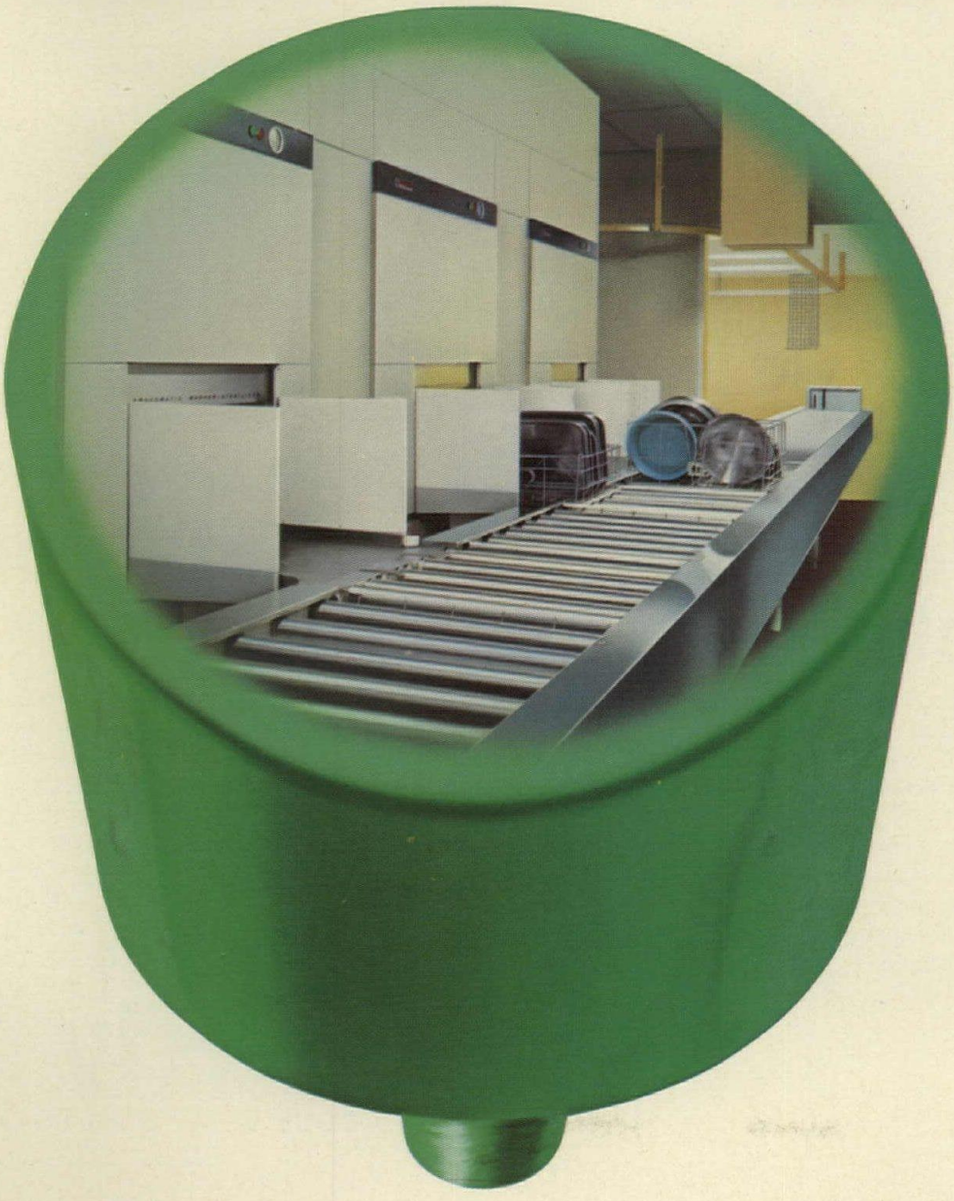
talk with us. we can help.

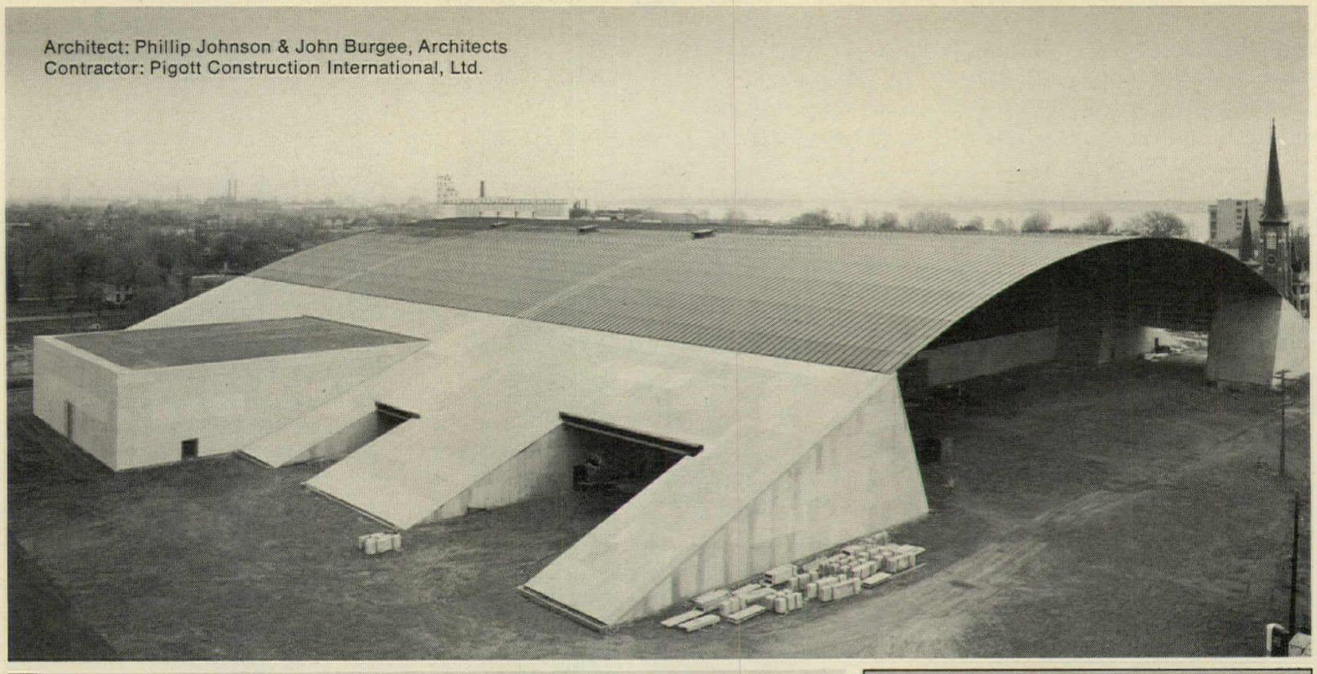
AMSCO SYSTEMS

Division of American Sterilizer Company

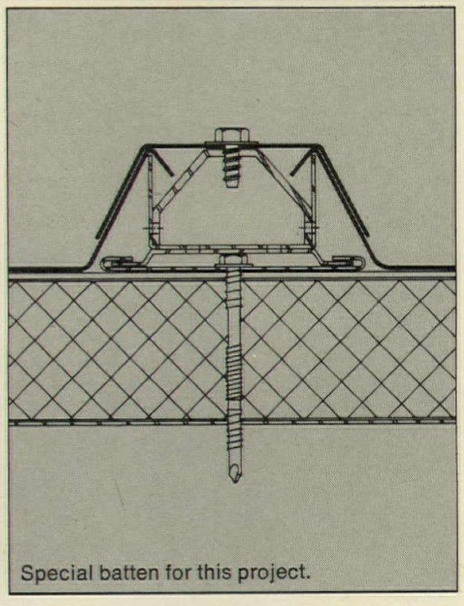
For more data, circle 60 on inquiry card

problem solvers"





Architect: Phillip Johnson & John Burgee, Architects
Contractor: Pigott Construction International, Ltd.



Special batten for this project.

Overly makes the metal roofs that others don't.

No building's too big for an Overly metal roof. This one, recently installed on the Niagara Falls International Convention Center, Niagara Falls, N.Y., covers 4.3 acres, and it is only one example of the kind of work we do.

Overly metal roofs have a unique joint system that expands and contracts both longitudinally and laterally during temperature changes. Sheets are interlocked, so water can't seep in. Our systems are backed by a 20-year guarantee against leaking and a warranty against defects in workmanship. Overly roofs are available in aluminum, copper, stainless, or weathering steel.

We offer expert design assistance, erection capabilities, or complete prefabrication for erection by your crews. Unusual roof shapes are never a problem at Overly. For more information on Overly's capabilities, write Overly Manufacturing Company, Architectural Metals Division, 574 West Otterman St., Greensburg, Pa. 15601.

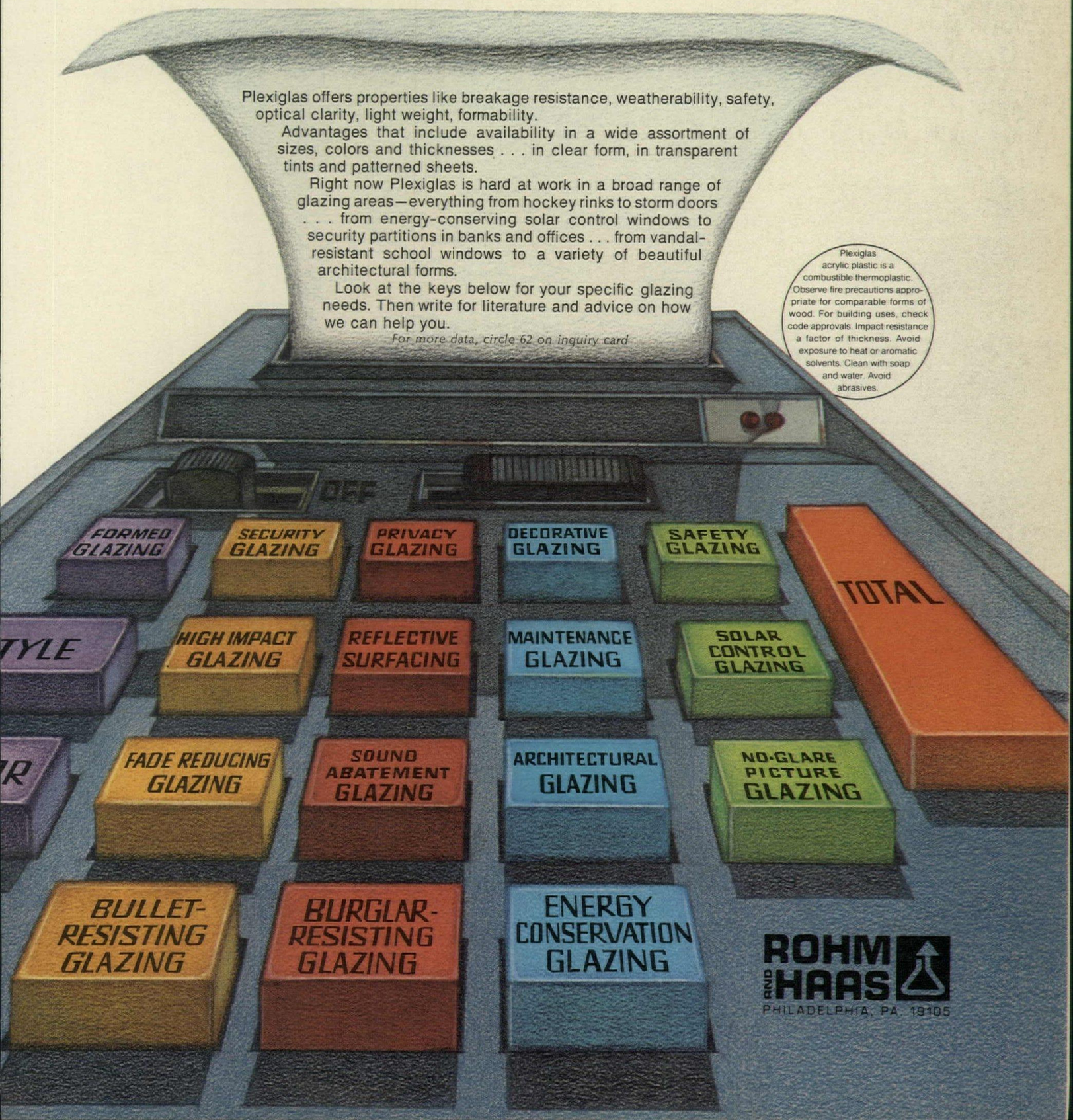
overly
MANUFACTURING CO.
DOES WHAT OTHERS DON'T

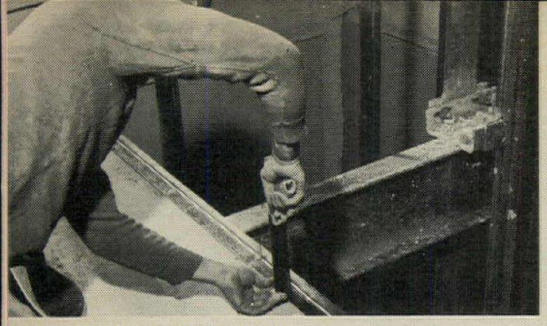
For more data, circle 61 on inquiry card

PROGRAM WITH PLEXIGLAS®

. . . the problem solving plastic for glazing

You name the glazing need. Plexiglas brand acrylic plastic will provide the answer. Answers made possible through the unique combination of advantages that only the complete line of Plexiglas formulations offers.

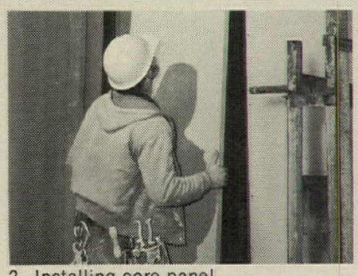




1. Installing floor track.

Here's why G-P Shaft Liner is saving time, and money, for architects and many building owners, operators, and specifiers. First, solid gypsumboard Shaft Liner is much lighter than masonry. So it's easier to handle. And no scaffolding is needed: Shaft Liner installs from the shaft exterior. Shaft Liner is non-progressive. A panel can be replaced at any time before the face layers are applied. There's a minimum of clean-up with Shaft Liner. Finally, it can be spliced and still meet all fire codes.

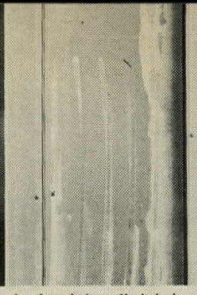
Georgia-Pacific has 11 systems designed to meet any of your



2. Installing core panel.

code requirements. All are UL labeled. So, if you're figuring specs for elevator shafts, stairs,

3. Attaching core to T-spline.



4. Applying finish laye

smoke towers, or air ducts, take time to look into G-P Shaft Liner. Spend a few minutes now, and you can save months on the job. Call your G-P representative for details or look in the G-P catalog in your Sweet's file.

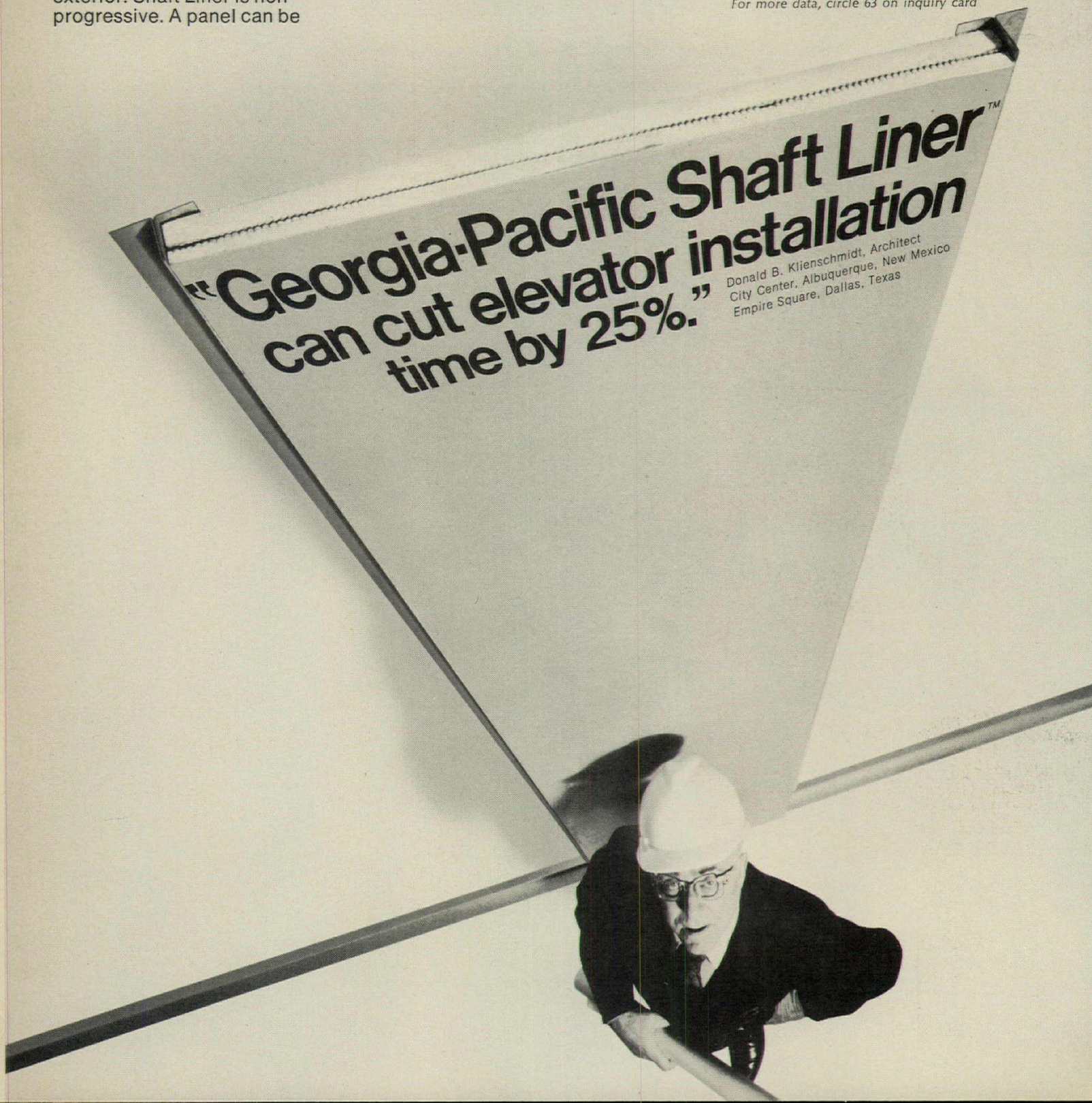
Georgia-Pacific

Gypsum Division Portland, Oregon 97204

For more data, circle 63 on inquiry card

"Georgia-Pacific Shaft Liner™ can cut elevator installation time by 25%."

Donald B. Klienschmidt, Architect
City Center, Albuquerque, New Mexico
Empire Square, Dallas, Texas



Alcoa EZ Wall.

A vertically textured facing that adds zest to wall surfaces.

The basic unit is a 12-in. striated aluminum extrusion. But there's no stereotype, no standard effect of these ribbed planks. Do you want a random effect? Alcoa® EZ Wall achieves it for you on fascia, interior wall decor, spandrels, column covers, or as curtainwall facing. If you seek a highly disciplined pattern, EZ Wall can achieve that, too, depending on the modular mix of components and colors chosen by the designer.

The point is, it's individual. Restrained or free. A modular surface that goes with you. Complements surrounding architecture. Enhances the vertical dimension of the building. Available in Alumilite* finish, Duranodic* bronze tones, or the brighter palette of Super Alumalure® colors. And, surprisingly low in installed cost.

For detailed information, send for our EZ Wall brochure. Write to Aluminum Company of America, 1035–J Alcoa Building, Pittsburgh, PA 15219.

*Trade Name

For more data, circle 67 on inquiry card

Change for the better with Alcoa Aluminum

ALCOA

LAST YEAR WE PROVED TO THE WORLD THAT NO NYLON HIDES SOIL BETTER THAN ENKALURE II.

Now Slone's Pharmacy is proving it every day.

When Slone's Pharmacy in New Milford, Conn. decided to remodel, they were sure of one thing. They'd have to get rid of the asphalt tile and replace it with carpet.

Carpet would have better acoustical absorption.

And since it's more resilient, it would not only prevent breakage, it would be much more comfortable to walk on.

Besides, carpet looks better.

Now, which one?

Since Slone's is a heavy-traffic store, one of the requirements was that the carpet had to have good soil-hiding properties in order to keep maintenance costs to a minimum.

Also, it had to be durable. To be able to keep its fresh appearance, no matter what.

The choice was clear.

Slone's decided on a carpet made with Enkalure® II soil-hiding nylon.

And from the wide range of patterns and colors available, they easily found the one that was perfect for their new color scheme.

They chose "Sampson" by Criterion.

The special multilobal construction of Enkalure II causes light to actually bounce off the fiber, keeping the colors looking bright and clear, even when the carpet is dirty.

Furthermore, Enkalure II has no deep grooves to trap dirt. Conventional nylon fibers do.

A grueling test by Nationwide Consumer Testing Institute proves that no nylon hides soil better than Enkalure II.

But the real proof is at Slone's.

For specific carpet information and a 14-page report of the test results, contact American Enka (Dept. AR), 530 Fifth Avenue, N.Y., N.Y. 10036. (212) 661-6600.

Enkalure II soil-hiding nylon by ENKA

For more data, circle 68 on inquiry card

Nord stock wood columns. Classic design, custom quality, commodity prices.

Nord combines fine wood, classic design, old-world craftsmanship, and modern production techniques. The result: Quality wood columns that are reasonably priced, rapidly shipped.

8 to 20 feet. Plain or fluted.

Nord uses only select Western hemlock and Douglas fir, specially seasoned in Nord's own kilns. Columns are individually turned on specially built lathes, then sanded smooth, carefully inspected, and wrapped in polyethylene to protect against moisture and dirt. They come in eight stock heights, 8 to 20 feet. Eight stock diameters, 6 to 20 inches. Plain or optionally fluted.

Classic proportions.

Nord's design is classic. Lines are clean and simple. And Nord builds entasis into every column shaft. Entasis, the mark of a fine column, is the slight curving of the column shaft. It keeps the lines graceful and in proportion.

Lower prices, faster shipment.

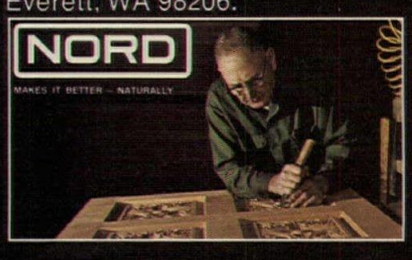
Nord uses the same traditional processes associated with fine custom work. But because Nord produces only standard styles and sizes, prices are much lower than you'd normally pay for custom columns.

And because Nord columns are manufactured to inventory, you can count on rapid shipment to all parts of the country.

Nord.

Nord is the largest manufacturer of stile and rail doors in the world. It's a family-owned company with a solid reputation for quality architectural products, in quantity, on time.

For more information on Nord stock wood columns, and the name of the distributor nearest you, write "columns" on your letterhead and mail it to E. A. Nord Company, Everett, WA 98206.



For more data, circle 70 on inquiry card

4

INTERIORS

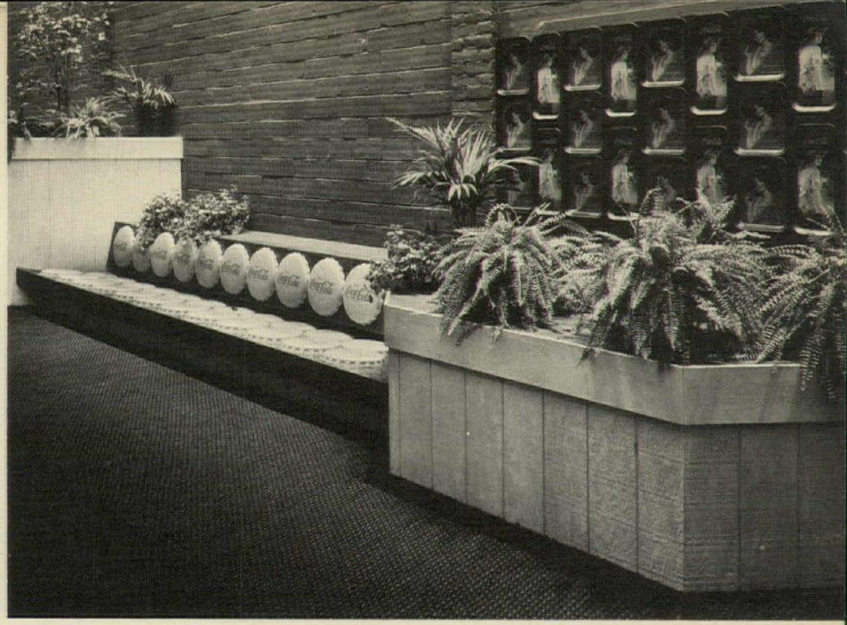
Multi-occupancy business buildings by the nature of their individual leases connote individualized space design for tenants. Whether the building is old or new, the design of the interior space is as important to the efficient operation of the tenant's business as it is to the impact of his firm on its customers. More and more architects, seeing this challenge as opportunity, have added interior design to their services. Shown on the following pages are four recently completed business interiors: two offices, one in an old, one in a new building; a beauty salon; and a men's shop successfully operating in minimum space.

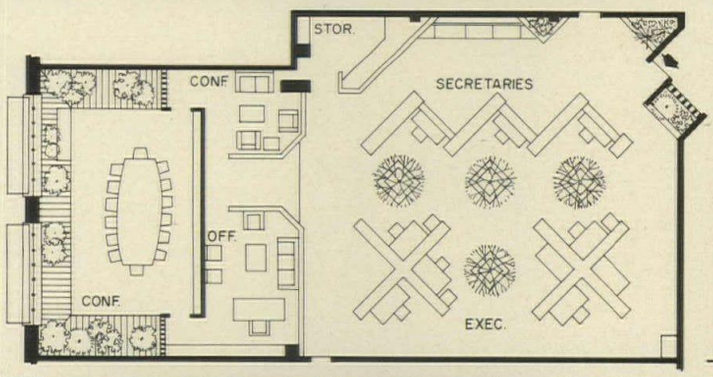
1

NOSTALGIA AND CONTEMPORARY DESIGN FOR NEW OFFICES IN OLD WAREHOUSE

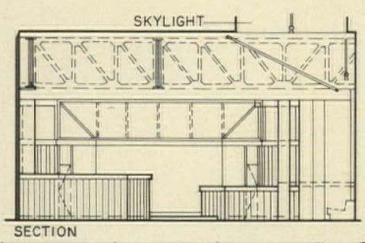
Unused space in a company-owned warehouse was transferred into the bright, colorful offices shown here, using a small budget (equal to three years' rent of the previously occupied offices) and ingenious design. Most of the budget was used for mechanical and electrical improvements—acoustical control, air conditioning and lighting. With the exception of new chairs and new work station-conference tables, the furnishings are from the old offices, brought into harmony with the new surroundings by hiding them behind bold Marimekko banners and the new work station partitions. The open plan, of which the freestanding work stations are an important element (serving as partitions between spaces assigned to middle management) was accepted by employees with some misgivings during the design stage. But actual experience with the good lighting, bright colors and spatial volume of the new quarters has dispelled initial doubts. Colors—red on trusses, yellow on ducts, and green on one wall—derive from the familiar colors of company advertisements; graphics, using the company logo, evoke simultaneously both nostalgia and contemporaneity.

OFFICE FOR COCA-COLA, San Francisco, California. Architects and interior designers: *John O'Brien/John Armstrong, Barry Brukoff Interiors, Inc., associated.* Contractor: *Thomas Scadden Inc.*





Light in the old warehouse was from skylights which did not fit the design for the new offices. Canvas awnings hide them and admit softly diffused light throughout the work space.



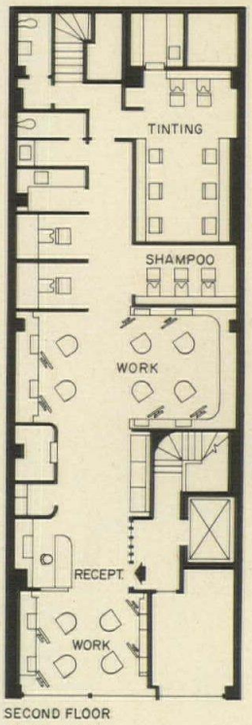
Jeremiah Bragstad photos

2

SIMPLE, RESTRAINED AND SOPHISTICATED INTERIOR FOR A HAIR STYLING SALON

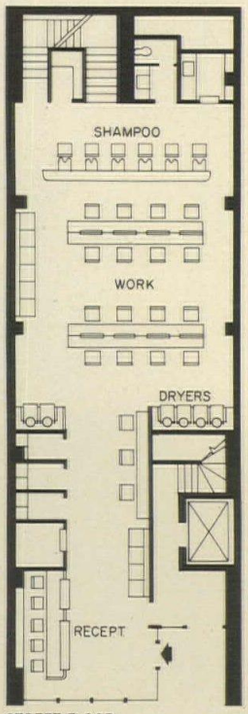
With restraint and a limited palette of colors and tones—brown and white—and just a few materials—stainless steel, plastic laminates on counters and cabinets, vinyl covering on walls, terrazzo floors—the architects for this hair styling salon in downtown San Francisco have achieved the distinctive look which their client asked for. Inasmuch as Vidal Sassoon introduced the crisp, classic look to hair styles, he requires that his salons reflect his design sense, and this San Francisco salon, like others in this country and in Europe, is in this vein. He believes, for instance, that hair styling is no mysterious act, and therefore the processes involved should be visible. This salon makes these processes visible not only in the shop but from the street as well, through location of work stations within full view of passers-by. There are no screens or partitions; the plan is open and uncluttered. Cupboards and counters are custom designed by the architects and locally made. The only graphics or decoration consist of mounted photographs and, of course, the good looking, stylized logo.

VIDAL SASSOON SALON, San Francisco, California. Architects: *Gordon Bowyer & Partners; Robert H. Hersey, associated architect.* Engineers: *Sexton, Fitzgerald, & Kaplan* (structural); *O'Kelly & Schoenlank* (mechanical). Contractor: *Plant Brothers Corporation.*



SECOND FLOOR
MEN'S SALON

Lighting is especially effective, particularly in the women's section on the first floor: track lights are directed toward a baffle, painted white, which bounces it off to the customer and to the counter of each work station. Brown and white, accented by stainless steel, is also used in the men's second floor section.



STREET FLOOR
WOMEN'S SALON

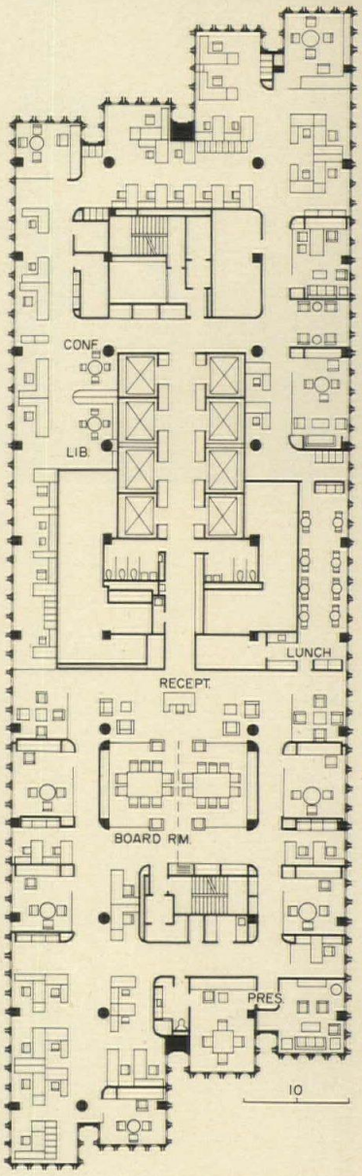
Gerald Ratto photos

3

OPEN PLANNING WITH PRIVATE CONFERENCE AREAS IN HEADQUARTERS OFFICES

These offices for the world headquarters of a dynamic young company in the field of visual communications are on one of the 55 floors of a new office building in downtown San Francisco. Using to advantage the awkward spaces created by the irregular outline and very large core of the building, the designers not only provided work spaces of varying degrees of privacy but, in the narrow areas next to the service core, an employee lounge with a spectacular view to the Bay on the north and on the south a library. Executive offices are semi-private, with glass walls, but for private meetings there are conference rooms in several parts of the office which are available to all. Each executive office has a built-in work counter along one wall with architect-designed mobile file and storage that fit underneath, and a conference table and chairs, instead of the usual space-consuming desk and files. Junior executives occupy freestanding work modules with low partitions.

OFFICE FOR DYMO INDUSTRIES INC., San Francisco, California. Architects: *Environmental Planning & Research, Inc.—Charles Bowman, principal-in-charge; Harold Kallaway, project manager; Joseph Chance, Joyce Yokomizo, Allison Lasley, project team.* Engineers: *Glumac & Webster* (mechanical/electrical). Graphics consultants: *San Francisco Light Works.* Contractor: *Jacks & Irvine, Inc.*



Graphics in the reception area and in the offices are made up of photographic reproductions in color of signs found in San Francisco. These are cut into many shapes and mounted in a variety of forms and ways for display on walls. Extensive use of wood for paneling and of reflective foil for covering columns and ducts is accented by colorful furnishings.

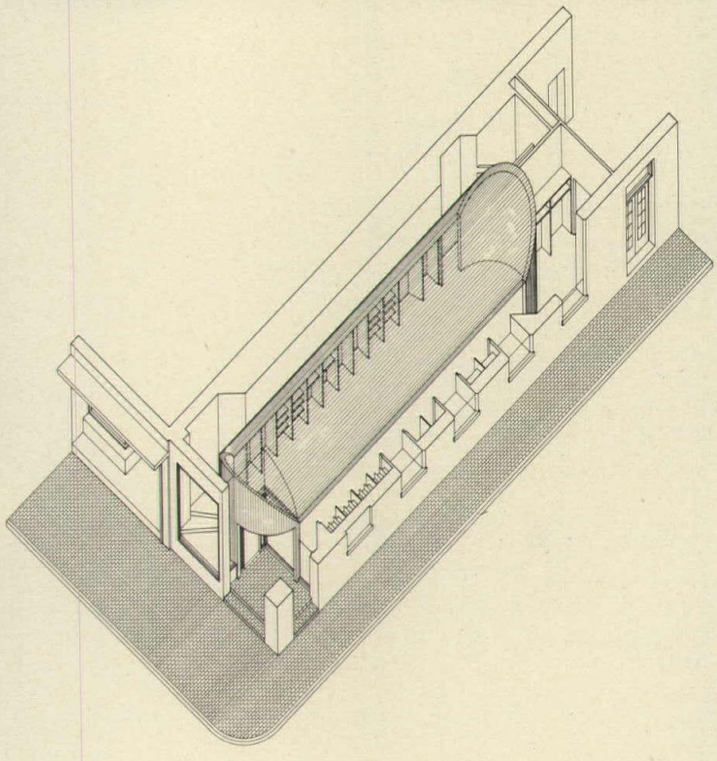
Jeremiah Bragstad photos

4

A FREESTANDING ELEMENT IN EXISTING SPACE TO TRANSFORM AN OLD BUILDING

This small men's shop in San Francisco's Jackson Square occupies "made space" within existing space on the ground floor of an old (and undistinguished) building. Since the shop's owners were precluded from changing the exterior of the building in any major way—Jackson Square was declared an historic district about the time that the remodeling was decided on—the architects suggested using an entirely new, freestanding element within the building, which would be visible from the street and would affirm to potential customers the contemporary wares offered within. This element is a wooden vault 80 feet long and 17 feet wide, of milled vertical grained Douglas fir boards, mitered and turned down at the ends. The simple form of the vault, and its dimensions, not only offset the multiplicity of items implicit in merchandising but, in combination with the skillful lighting, create an illusion of space greater than the actuality. Hanging rods and shelves along the wall are interchangeable. Dressing rooms are in the rear, to the left; offices are at the right rear behind the vaulted sales space.

DANIEL EASTLAND MEN'S SHOP, San Francisco, California. Architects: *Robinson and Mills—C. David Robinson, partner-in-charge/designer; Jeffrey L. Teel, project architect.* Engineer: *Paul E. Rosenthal* (mechanical). Contractor: *Lambert & Wells.*



Michael McKaig photos

A report, with text and pictures by RECORD editor Walter Wagner, on life—and architecture—in

CHINA

Max Urbahn started the whole thing in 1972 when he was president of the AIA. It is the custom and habit of AIA presidents to take a trip the year after their term, and Max wrote, without knowing whether there was such a person or such an organization, to the President, Chinese Society of Architects, Peking, People's Republic of China, suggesting a visit of American architects to China. In August, 1973, a cordial letter agreeing to such a visit arrived, and after extensive arrangements by Max, AIA executive vice president Bill Slayton, and Ieoh Ming Pei, who left China to attend college 40 years ago, 16 of us found ourselves—on April 8th of this year—at the border of China some 40 miles inland from Hong Kong. We walked halfway across a narrow bridge, were met by a young fellow in green khaki and a red star on his cap who can doubtless say "Passport, please!" in 87 languages, and walked on into China for a three-week visit. We were the first group of architects to visit China since the Revolution in 1948, though individual architects had managed visits earlier.

Max Urbahn of New York City was tour leader and, in Chinese terminology, our Principal Responsible Person; Bill Slayton was his deputy. Others were Jim Foley of Columbus, Ohio, NAAB president; Sam Hurst of Honolulu, former dean at USC; Chick Marshall of Norfolk, Virginia, president-elect of AIA; Wally Meisen, assistant commissioner of GSA; Bob Madison of Cleveland; I. M. Pei of New York City; Eileen Pei, his wife, who was also born in China; Arch Rogers, AIA president; Dan Schwartzman of New York City, member of the UIA board; Jack Warnecke of Washington; George White, Architect of the Capitol; Harry Weese of Chicago; travel consultant Sidney Nyhus; and myself.

One is tempted, after such a

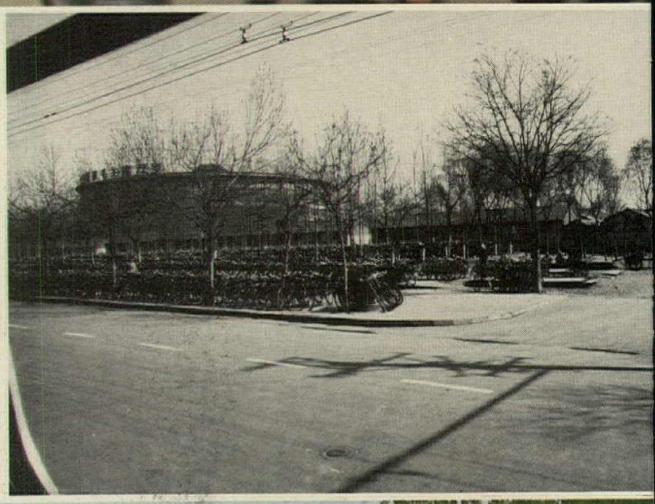
rare experience, to carry on as an "expert" on China; and I'll try to resist the temptation. We talked mostly with other architects; though we did visit a few homes. There were no meetings with government officials. And despite the valiant and tireless efforts of our interpreters (plus the Peis, who proved fluent in both southern and Peking dialects), communication of any idea approaching the abstract is intensely difficult. Thus, this article is mostly pictures, so you can "see for yourself" some small part of what we saw; and I believe the pictures give a fair and "typical" view of China.

Before reporting "the facts" from my notes, let me offer a few personal observations and opinions: Visiting China is, of course, a unique experience—it is nothing like, I would suspect, any other country in the world. It is quite a beautiful country, with rugged mountains, lovely lakes, and is, with 800 million people to feed, intensely cultivated. In the flat areas, and especially in the south, the land is heavily irrigated, cultivated up to the very edge of roads and buildings. In its green precision, the farm land reminded this Easterner of Wisconsin.

The people were universally cheerful and friendly. We were treated as guests, and indeed were permitted to pay only for personal goods and gifts. More importantly, we were treated as friends—greeted at each airport or railroad station (even, as in one case, at three in the morning) by a delegation of Chinese architects. Except in "sophisticated" Peking and Shanghai, we were objects of friendly curiosity. On early morning walks through the streets, any

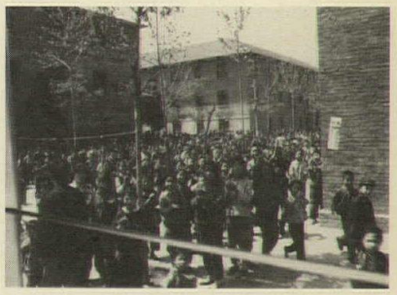
of us soon collected a crowd of 50 children; and groups of adults often gathered across from our hotels in the evening (photo, upper right). We often waded into such crowds, beginning with the universal gesture of saying hello ("Ni hao" in Chinese) to small children, then grinning and shaking hands with the father or mother standing behind. In plants

Impressions: crowds of people everywhere, millions of bicycles, billions of trees

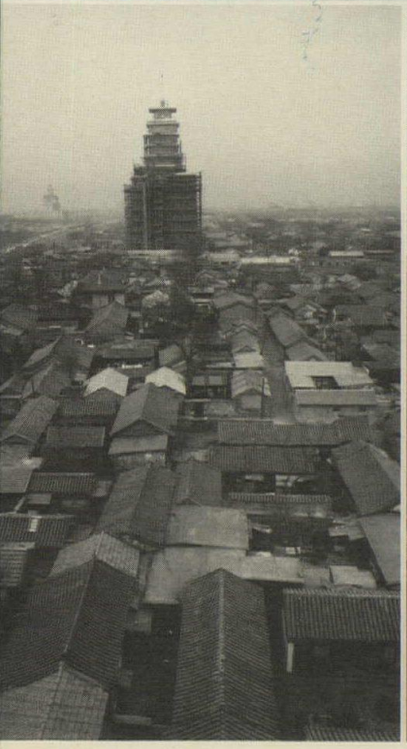


Shanghai, with 12 million people housed in low- and medium-rise buildings is most crowded of all. The photo above was taken in mid-afternoon, not "rush hour." The bicycle parking lot outside Peking's 80,000-seat round stadium, right, is perhaps an extreme example—but the streets in every city are crowded with bikes (all black), which travel in a reserved outside lane. There are few automobiles and all are used for officials or visitors—below is "Chairman Max" Urbahn's car, traveling outside Shanghai. All roads are lined both sides with trees planted since the Revolution. Children marching along road are on excursion for a day in the fields.

Shops stock a wide variety of clothing, fabrics, sewing machines, meat, dry goods, groceries, baskets, simple appliances, even musical instruments. Stores below housing, upper left, are in Min Hong, a new town of 100,000 outside Shanghai. Shops in other small photo, upper left, are in Shanghai. Crowd in photo above, taken from steps of our hotel, gathered in the main square of Shen-yang (formerly Mukden, in Manchuria) to see foreign visitors—still a rarity in the north. Shenyang is China's Pittsburgh—with many steel mills and the only bad air pollution we saw. Crowd at left was school children visiting Martyrs' Park in Canton on their weekly excursion—this photo was taken on a weekday morning. At right, mothers applaud as we leave from visit to housing project in Sian. Such greetings and farewells were commonplace—some of us were quite put out not to be greeted by applause and smiling faces as we arrived in Seattle on the way home. Photos below



show denseness of housing typical in cities. This is all pre-Revolutionary (pre-1948) housing—in traditional Chinese style in Peking (below left), European style in Shanghai (below right). Tall buildings are office buildings. Again, note trees planted everywhere!



or schools or at apartment projects (as in small photo at right, page 113), we were greeted with smiles and hand-clapping.

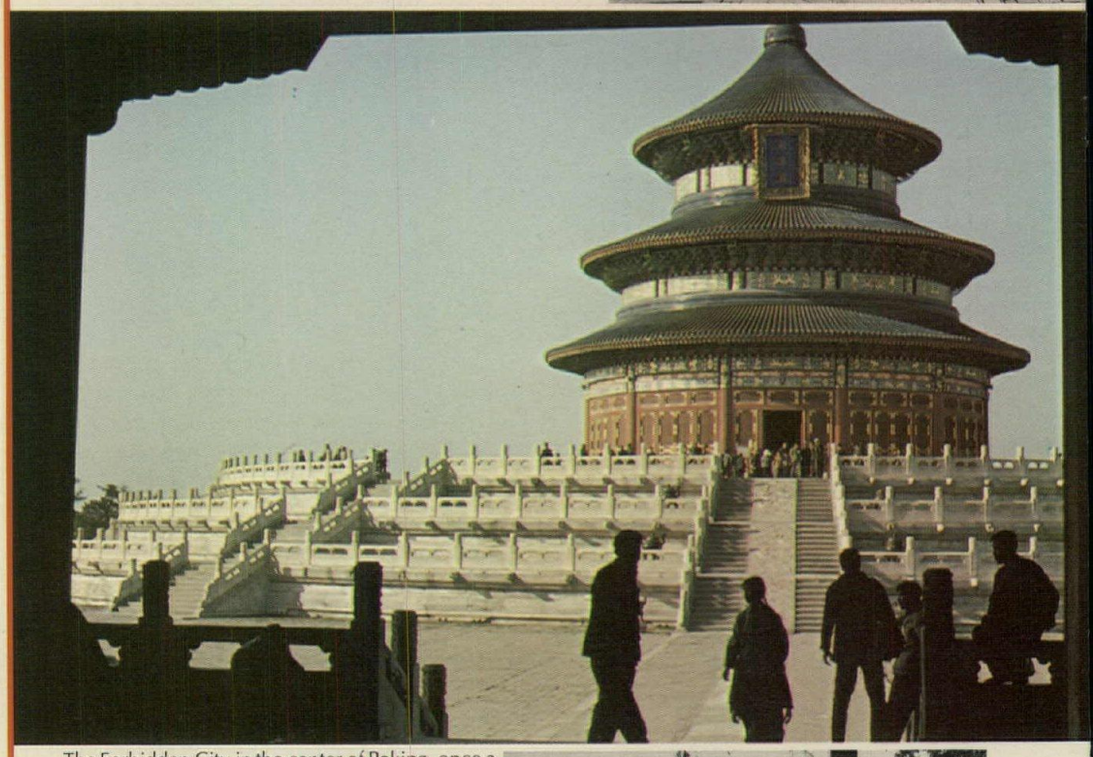
The people are Puritanical in their honesty (there are no locks on doors in China except in hotels in major cities, and we never locked ours), in their obvious devotion to work (the pace in factory or field is steady and intense), and in habit (all China is asleep by 10 o'clock). We saw no beggars or drunks, though the Chinese smoke more cigarettes than we do. Everyone appears healthy and well fed, though we saw no obese Chinese. The children are like children everywhere—bright, running everywhere; and their colorful dress makes a sharp contrast with the somber blue, grey, and khaki "Mao suits" worn by all adults. Women wear their hair short or in short pigtails, use no jewelry or make-up.

Make no mistake, China is a Communist country. Devotion to Chairman Mao Tse-Tung and the Communist Party seems complete and sincere—indeed seems to be the driving force behind everyone and everything. "Serve the people" is not just a slogan in China; it is a way of life, and people seem to give up (or at least submerge) any personal ambition to "serve" where they are needed. You can request a kind of job or additional training (for example, college); but you may not get it—depending "on the needs of the people." Job location and housing are assigned—though the reluctance of many young people to move to the Western frontier is well known. On the other hand, it is fair to say that there was no military or police "presence" anywhere we visited—the police are not armed, and military guards at embassies wore only pistols.

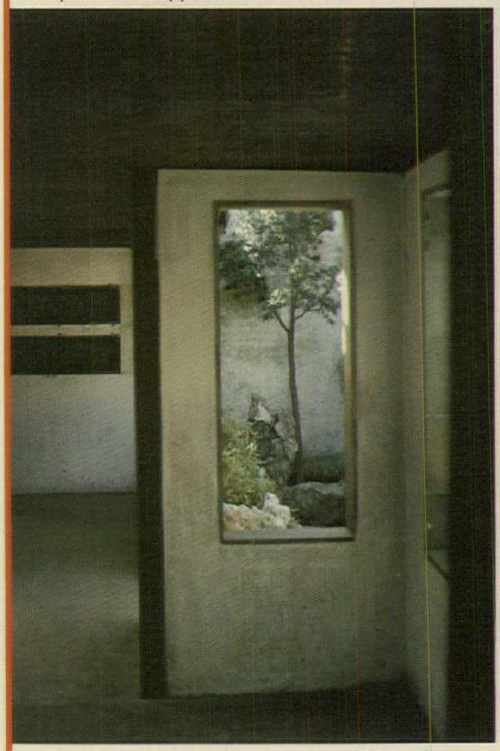
Architecture: we saw signs of a new style emerging

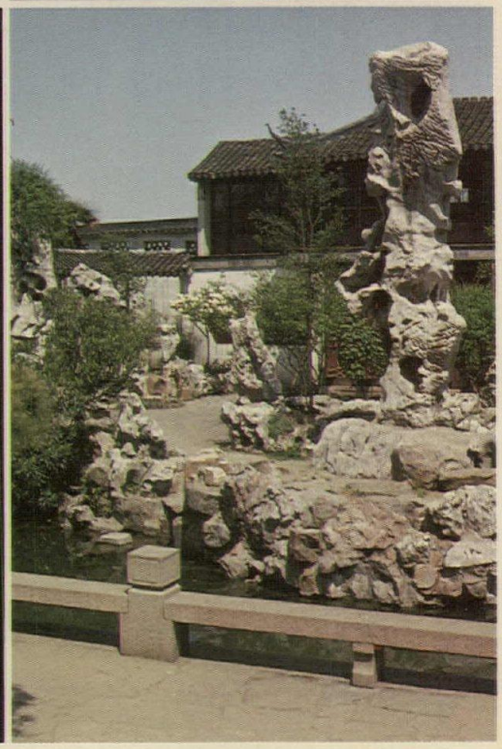
Many of the buildings designed during the years when Soviet advisors dominated Chinese architecture (that is, until 1966) have a pomposity and scale that would be more in place in downtown Moscow than downtown Peking or Canton. But one could argue that some of the newer buildings, if they do not show the style and exquisite scale and detailing of traditional Chinese architecture, are at least lighter and brighter and more human. The new addition to the Tung Fang Hotel in Canton (top, page 116) would not

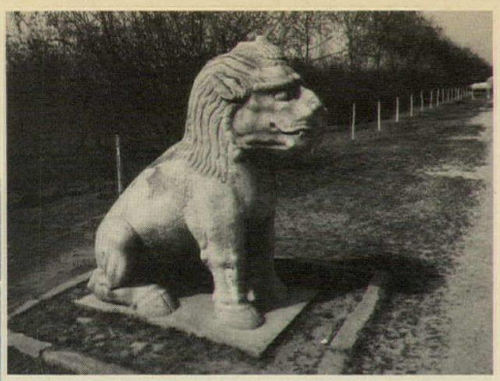
China's heritage is preserved—but only as parks for all the people

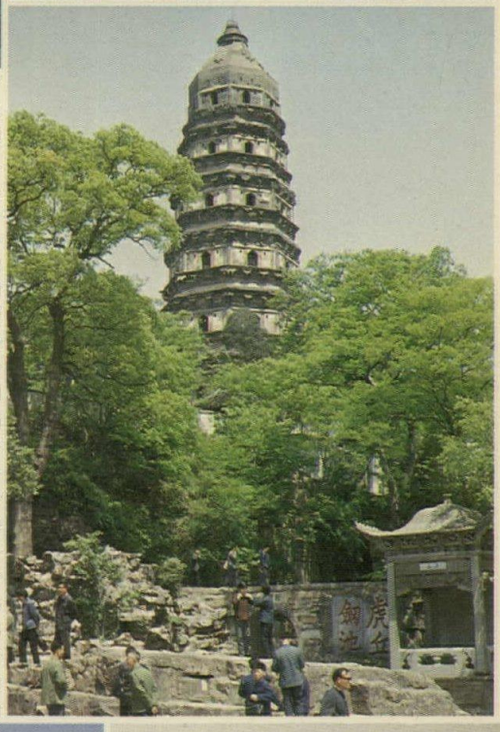


The Forbidden City in the center of Peking, once a 250-acre province of the Emperor and his court, is now crowded every day. Priceless art is displayed with none of the security precautions, even guards, common in museums. Temple of Heaven, just above, has been masterfully restored—as are most of China's palaces and temples. Right, gardens in former home at Hang-chou—"most beautiful city in China"—and still a popular resort. Below, scenes in home and gardens in Su-chou, now open as parks and museums. "Framing" of garden views is an ancient "art"—as are extraordinary rock gardens and sculptures which are still prized and appreciated.

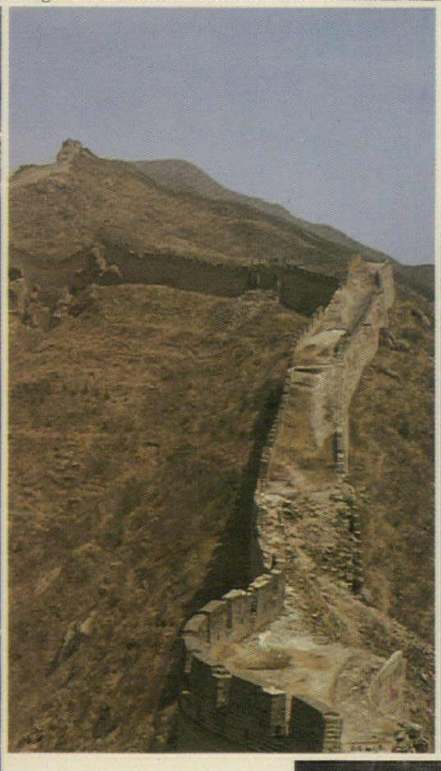


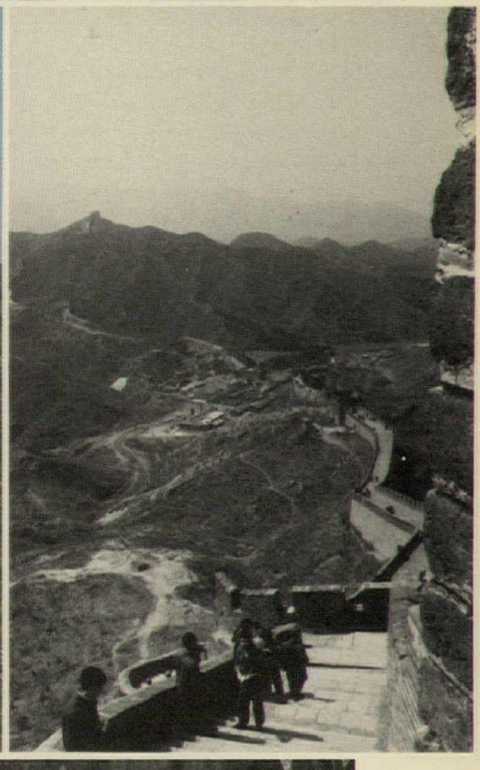




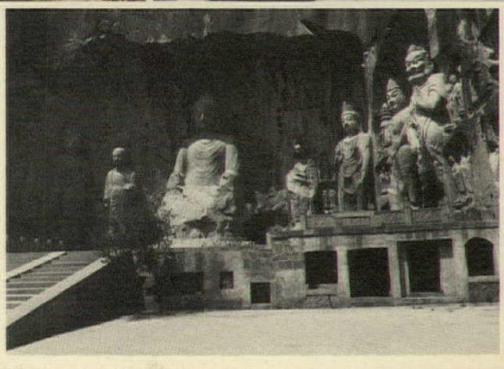


Another popular park is the Empress' Summer Palace in Peking, originally built in 1700s, most recently rebuilt by last Empress Dowager in 1888. While the furnishings are Victorian, walkways (left) are rather more Chinese, recently and beautifully maintained. Bronze lion (with small friend) above guards Forbidden City; lion at right stands in ranks of dozens of stone sculptures, increasingly large and fierce, guarding the road to the tombs of the Ming Dynasty. Tiger Hill Pagoda in Su-chou (right) was built in 961 A.D., is surrounded by a lovely park which is—again—crowded every day. But the most extraordinary views of China's heritage were the Lungmen caves (bottom photos) carved into the cliffs along a river outside Lo-yang. These Bhuddist shrines were carved around 500 A.D., when Lo-Yang was China's capital city. The photos show the largest of thousands of figures set into the cliff face. Then





there is the Great Wall, which we visited near Peking, at a point reachable by bus (and hair-raising mountain road). Here the wall has been restored as a tourist attraction. There are cafeterias and picnic grounds, and parking lots for buses which bring families in hordes. If built in the U.S., the wall would stretch from New York to Houston. No pictures prepared any of us for the actual sight.

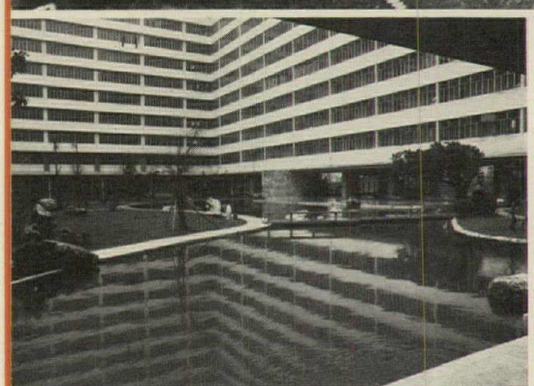


look out of place in a Western city, and its garden and pool, and its roof-top garden, are really very pleasant. The hotel for visiting Chinese in Canton (bottom left, page 117), I found delightful.

As in all work, there is little opportunity in China for the hand of a single brilliant architect to emerge. Each city in China has its own society of architects, and after a project has been committed (by the local government if it is small—say a housing block; or by Peking if it is a major project) a group of architects is assigned the design. Each submits his own ideas. Those are combined into a small group of choices, which are then submitted to the people who will use the building—the factory or office workers, the residents scheduled to move in, the teachers and parents of a school—who "criticize" the proposals. Finally, after what we would call many compromises, but they look upon as desirable "criticism by the people," the design is completed and construction begins. Despite the many inputs, the design process seems to be a fast one—in most cases we asked about, "design time" was on the order of one to three months. Significantly, design offices are typically set up on the site of the future building, and the architects stay on the job during construction, often making changes "suggested by the workers" during construction. Their role, the architects insisted, was not to "supervise," but to "help the workers"—and all younger architects spend one month a year laboring as a construction worker. This practice not only gives architects practical experience—but is designed to eliminate any feelings of "elitism", which is the cardinal sin in China.

There are, we were told, about 6000 architects in China, loosely bound together by their societies. Architectural students (like all who request higher education) are chosen, after two years of manual work in factory or commune, or two years of Army service, by their "peer group"—others in their production brigade

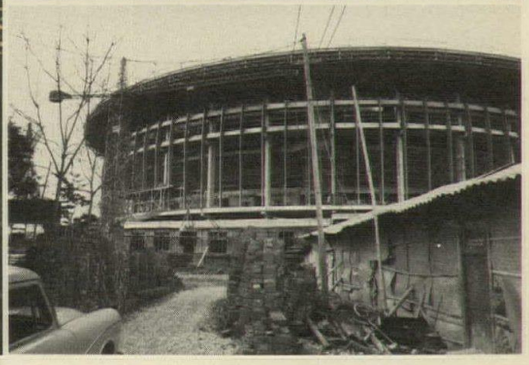
The architecture: nothing for us to learn, but nothing for the Chinese to be ashamed of



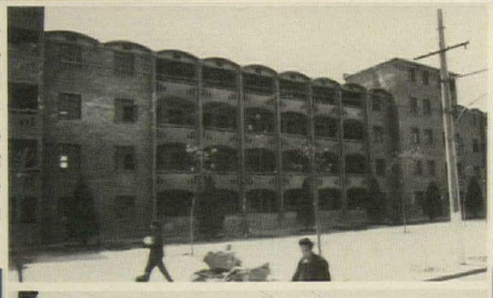
The Tung Fang Hotel in Canton is the building most foreigners see—for it houses all visitors to Canton's huge trade fair. Drawings for the new portion of this hotel were shown in RECORD's earlier article on China in October, 1973. The roof terrace, above, overlooks the city. Rooms are all single loaded off long corridors for maximum breeze (Canton is hot!), and the pool and garden, left, is a pleasant place to relax with a Chinese beer (which is excellent) in a quiet, protected oasis away from all the hubbub.

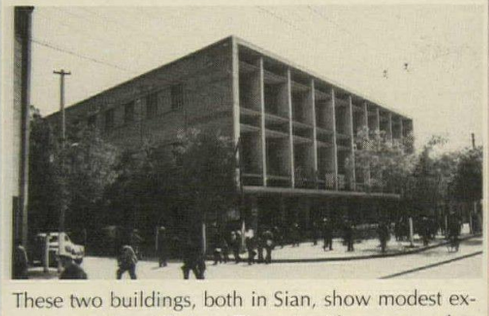
Housing for foreign diplomats in Peking was completed this spring. Three-bedroom, two-bath apartments have balconies overlooking embassies in this area. This project also adjoins the International Club, with meeting rooms, gymnasiums, indoor tennis courts, an outdoor pool, and table-tennis rooms where our interpreters roundly defeated all American takers. Entry hall of club has an extraordinary (and extraordinarily large) silk tapestry.

Housing project above in Peking is typical of urban housing throughout the country—four or five stories high, red brick, red tile roofs—with modest decoration in the form of precast balconies or brick corbeling. As soon as a project is completed, the courtyards are closely planted with trees to produce a green, park-like setting.

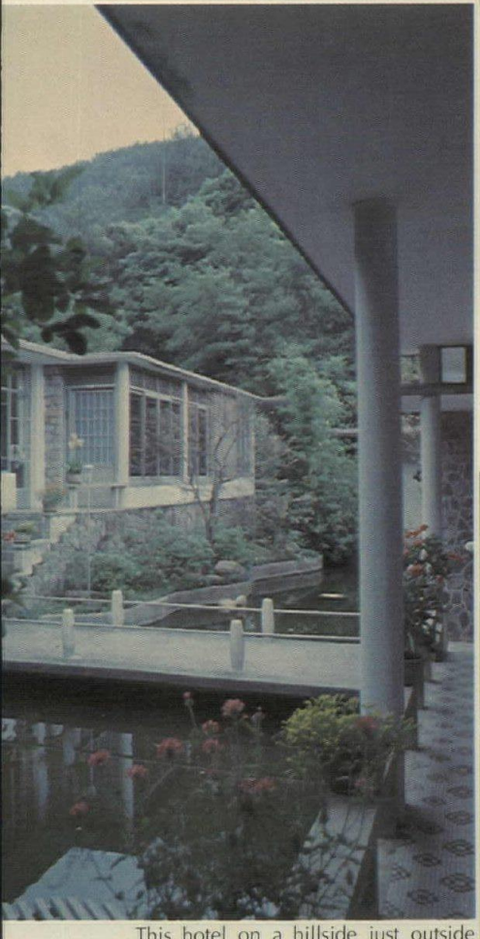


Two public buildings in Shanghai: at top "Cultural Square," a meeting hall seating 12,400 under a space-frame roof spanning 400 feet. The roof was welded on the ground, and the building was completed in 84 days. The domed stadium just above is nearing completion, will seat 18,000. Construction time: 18 months.





These two buildings, both in Sian, show modest experimentation with form. The unit with precast arches is a housing project, the unit below an office building with stores on the street level. Again brick construction; all work done by hand but with apparent skill and care.



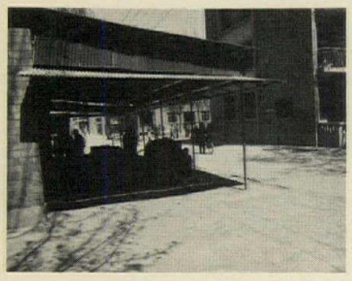
This hotel on a hillside just outside Canton has just been completed. All one story, it has small apartments opening off a meandering walk. A stream has been diverted to run through the complex, and plantings are beautiful.

The Great Hall of the People in Peking has some extraordinary interiors: left is the main assembly hall, above is one of 30 great rooms—one each for the 29 states of mainland China (this one for Szechwan) and Taiwan.

or army company. This practice—rather than the traditional examination—was initiated after the 1966 Cultural Revolution (which, wildly oversimplified, was an uprising by the students of China, supported by Mao, in protest over what they saw as a rebirth of "elitism," or of "looking down on the peasants and the masses of working people.") Whether this system will bring forth the best qualified—as architects, doctors, or managers of any sort—is of course a serious question, which well-educated Chinese discuss only reluctantly and guardedly.

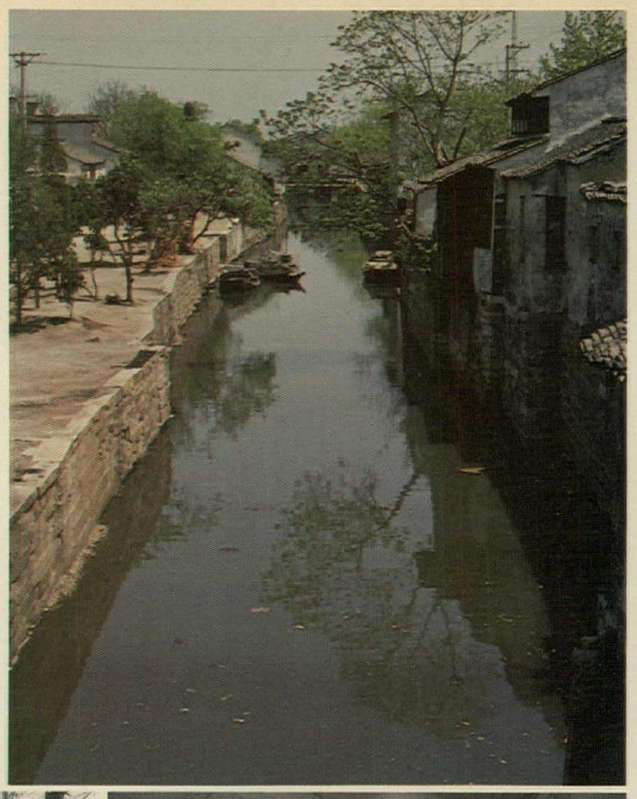
Housing: an incredible accomplishment in 25 years

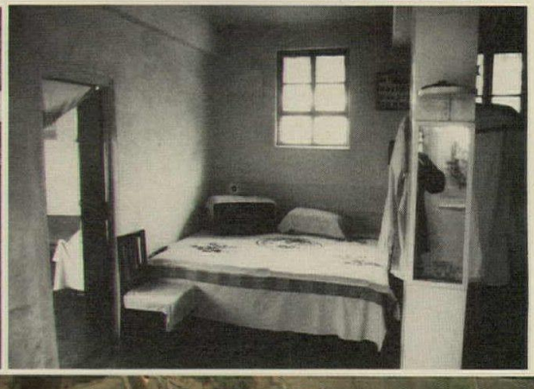
As is well known, many of China's hundreds of millions lived, before the 1948 "Liberation," under conditions of desperate poverty. We met one man, now a diesel engine mechanic, who spent the first 17 years of his life without ever stepping off the 7- by 21-foot sampan on which he was born. In several cities, hovels of the sort in which millions lived are preserved—quite frankly as a reminder by the government of "the way it was." China's architects told us that building housing for this vast multitude has been, and will be, a three-stage process. First, simple shelter—typically a small house with bamboo-and-mud walls and a thatched roof—was the priority. They are now nearing the end of Phase two: The architects believe that almost everyone—" except perhaps in the small towns of the far west"—now lives in a permanent building with heat, running water, electricity, and toilet/shower. As the interior photos opposite show, the standards are far below anything acceptable in the U.S. Wiring is surface-run; toilets, showers, and often kitchen facilities must be shared—typically by three families. And families usually live in a single room, perhaps 13 or 14 by 20 or 22 feet,

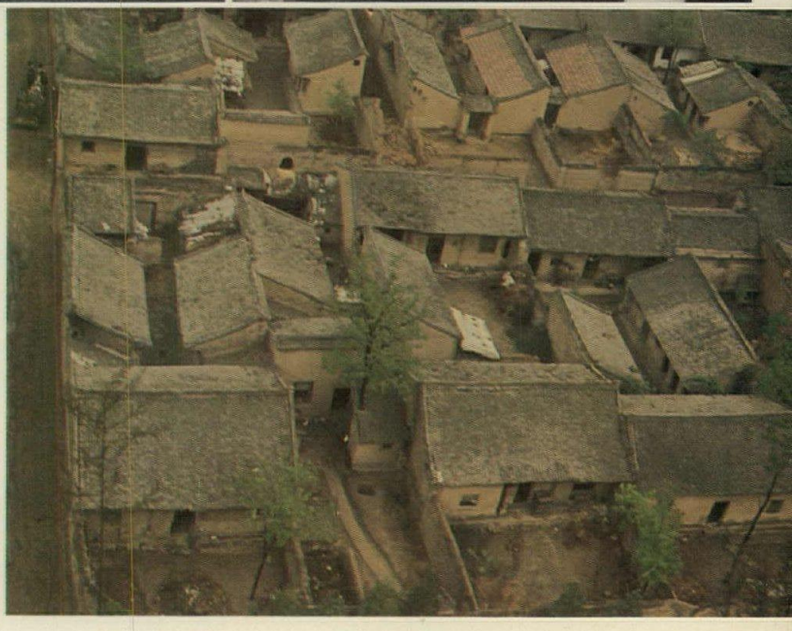


which some families have divided by simple partitions. But it is at a minimum "safe, decent, and sanitary"—and many families (we were welcomed in a half-dozen

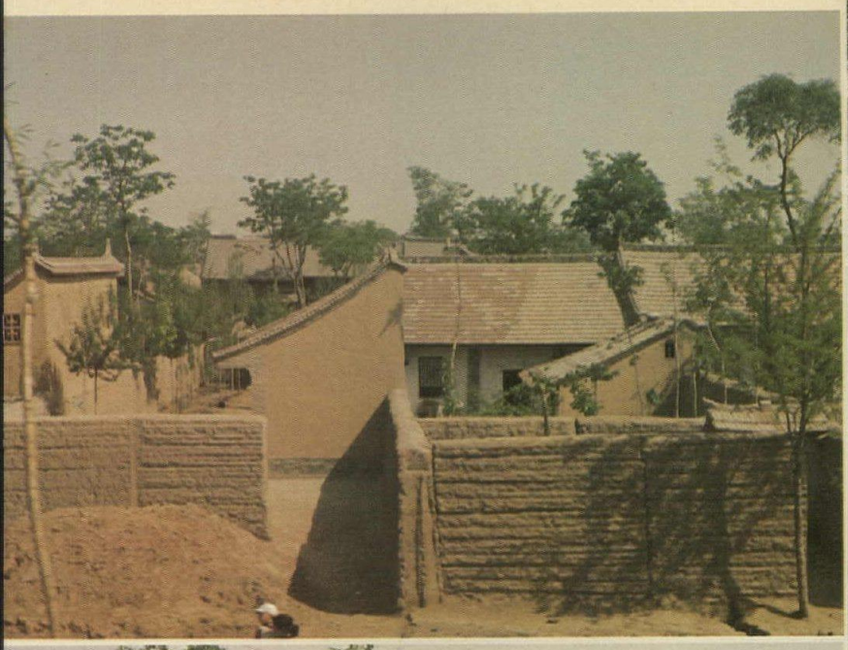
Housing in city or countryside is modest and crowded —but comfortable

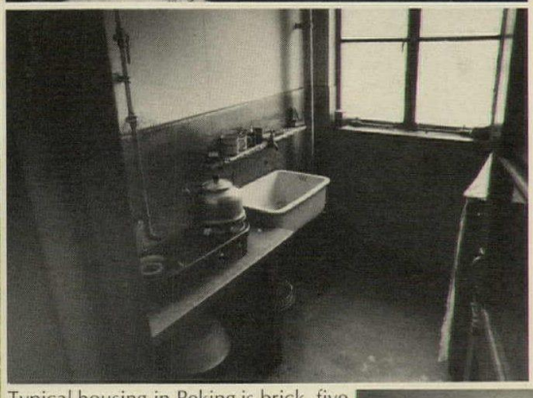






Many Chinese live in "pre-Revolutionary" housing that has been rehabilitated. The houses above are along a canal in Suchou, typical of housing in smaller cities. The picture at the right was taken from the upper floors of a pagoda in Sian, shows small courtyards formed by tightly packed houses. In Peking, four photos just above; houses—some of them hundreds of years old—built around courtyards have been remodeled. Single units of the rambling houses now serve a family. The interiors are modest but clean, with heating, electricity and running water. Toilet rooms off the courtyards are shared. In the house above, partitions have been built to create a bit of privacy.





Houses in country village outside Sian (top) were of mud block, with oddly contemporary "modified shedroof" form. "Row housing" just above is at farm commune outside Shanghai. Each family had several rooms, with handsome wood floors.

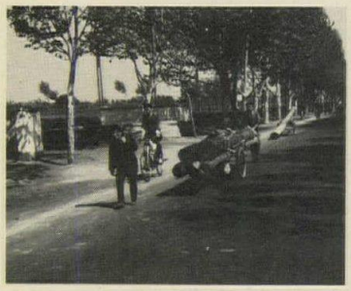
Typical housing in Peking is brick, five story walk-up, with small balconies. Buildings are arranged in long rows, not staggered patterns that would create more interesting courtyards.

Families with two children or less live in a single large room—typically 13 by 20 feet; and three families may share 1) an extra common room, sometimes set up as a living room, sometimes as a storage room; 2) a simple kitchen, here with gas stove but often with charcoal pots; 3) a toilet room and 4) a shower compartment. Units have heat, running water, and electricity. Most rooms needed paint, but were spotlessly clean.

It is hard to over-emphasize the importance of trees (photos below). The day construction is complete on a project, trees from nurseries outside the city are planted, soon offer treehouse views from all units and give a lot of welcome shade.

housing projects in various cities) had brightened their living space with flowers, paintings, colorful fabrics and world maps (which are nearly as ubiquitous as photos or statues of Mao). Everyone had a radio.

In Phase three the present very-high level of housing production will continue (while we got no meaningful figures on volume of construction, we observed new housing being built everywhere in every city we visited). But these



houses will have more space per family, with individual kitchens and baths—and as families move into these, the older units will be remodeled to the new and better standard.

In the cities, four- or five-story red brick buildings were almost universal. In the country, one-story row housing was the pattern—with all units placed quite densely to conserve land needed for farming (see photos and captions, pages 118 and 119).

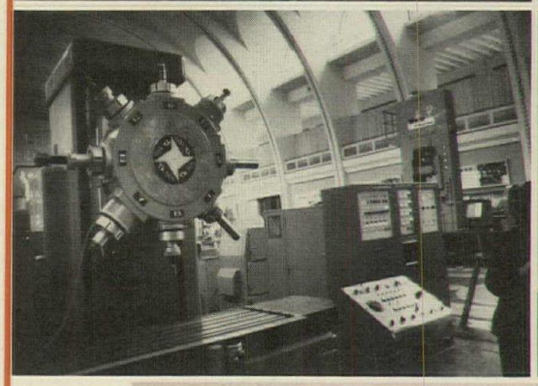
First education, then "productive work"

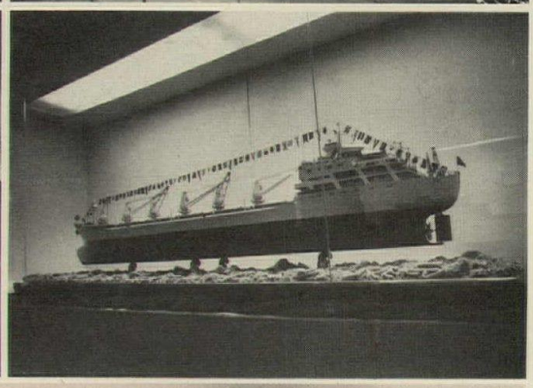
Education in China is compulsory and universal. It can begin as early as age three. Families can place their children in nursery school from ages three to six. Kindergar-

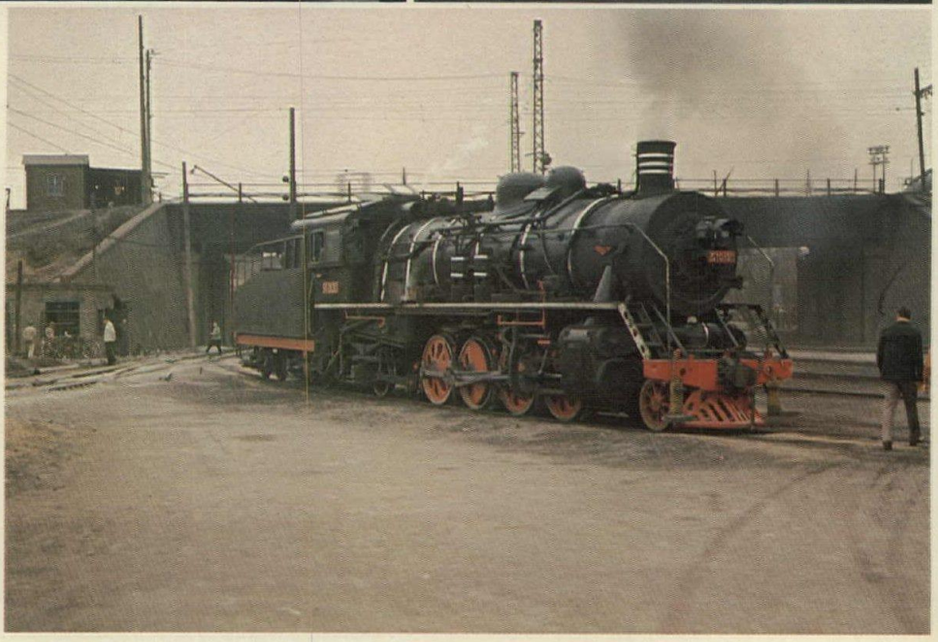
ten begins at seven, and children then attend school until age 16—reaching a level of education which seems comparable with our high school sophomores; and including, since our detente with the Chinese, study of English (which the children speak with American, not English, accents). Conversations with boys who came up and asked if they "could practice English with us" (girls

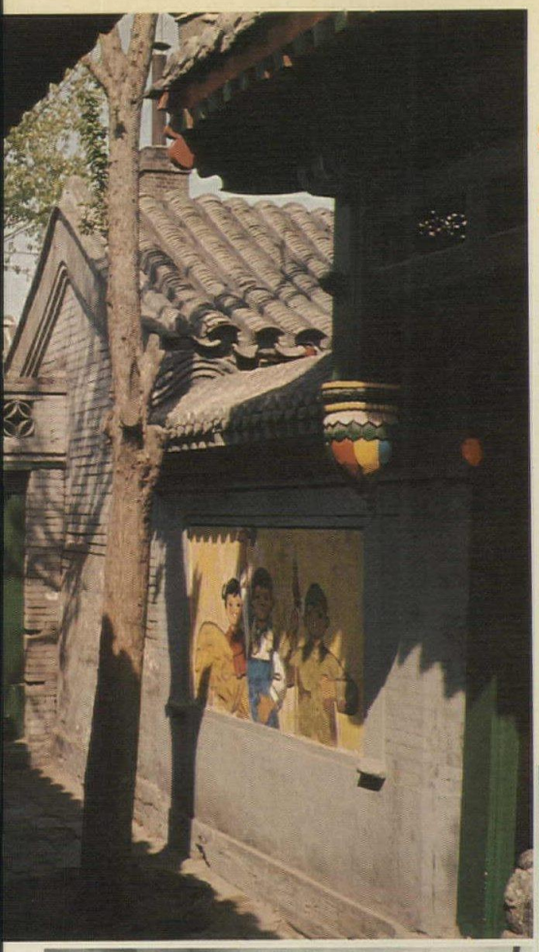
Products of heavy industry are proudly displayed

Building at left is the Canton Trade Fair building, just enlarged, which attracts buyers from around the world. Displays below of Chinese heavy production were in Shanghai's Industrial Exhibition Hall. Minibuses were smartly designed, quiet in operation, short on springs and shock absorbers. Dump trucks are built up to 400-hp, 32-ton units for mining work. Machine tools were tape- and computer-controlled. Chinese shipyards have built 26 ships of more than 10,000 tons since 1966. Locomotive was at work in Shenyang steel mill which the group visited.









Schooling is universal, compulsary, and apparently of high quality

At left, with the brightly colored art typical of such schools everywhere, is a nursery school in a remodeled courtyard house in downtown Peking. Right, a middle school in Shanghai. Children poured out onto balconies to see the visitors. With heavy emphasis on physical education and gymnastics, *all* of the girls in the schoolyard could do "no-hands" cartwheels. Below, a class off on its weekly excursion marches through Peking's vast Tien an Men Square outside the Great Hall of the People, which can hold one million people for rallies. This was as close as we saw to militarism.

Elementary school rooms are simple, but bright and clean. These children of a commune outside Peking were studying English, reciting (as seems to be the custom) at the top of their voices. Nursery schools have sleeping quarters since, at parents' option, children can stay all week—though many come home each night. Since both parents typically work, children can enter nursery school at three, must enter kindergarten at age six. Children are poised and cheerful, delight in dances (right) which tend to praise "working for the people." These girls are "happy sunflowers growing at the People's commune."

didn't) revealed that they had a good general knowledge of world geography and knew where the major U.S. cities were. While reluctant to ask questions (which seems to be impolite in China), they responded to openings we offered about world events, and seemed surprised at our descriptions of our houses and automobiles. No one could believe I commuted 50 miles to New York City each day.

After graduation, children may request their choice of "factory, farm, or army"—which is granted if possible, though "the needs of the people" come first. After two years of work, young people may apply for additional technical training, or for college—which again is granted not only on the basis of school performance and apparent aptitude—but on "attitude."

Chinese planners in Peking obviously intend no further concentration of industry—we heard many times that work will be spread around the country, breaking up the heavy concentration in the east. When new industrial facilities are needed, they are placed in satellite communities perhaps 20 to 30 miles outside the cities; and as we have read in this country, thousands and thousands of people are being required to open up new lands in the west.

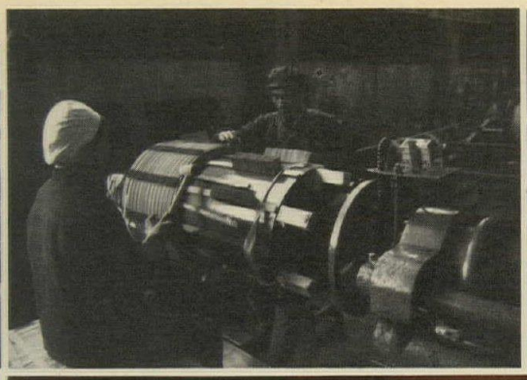
There is also a major effort underway to mechanize the hardest labor on the farms—plants around the country are busily producing tractors and rice-transplanting machines; and some of the communes have a good deal of such equipment, though many still use draft animals—and the sight of a farmer plowing behind a water buffalo, as the rice fields were tilled thousands of years ago, is not a rare sight.

As the communes are mechanized, the Chinese have no intention of permitting the mass exodus to the cities that has marked so many other civilizations. They intend—indeed are beginning—to set up small industrial plants at the commune. We saw such plants producing farm instruments, radios, cameras, and other light industrial goods at the communes we visited; staffed by commune members no longer needed in the fields.

At least some of the communes—and both we visited—were astonishingly large and populous. One outside Shanghai employed 42,000 people on 7,000

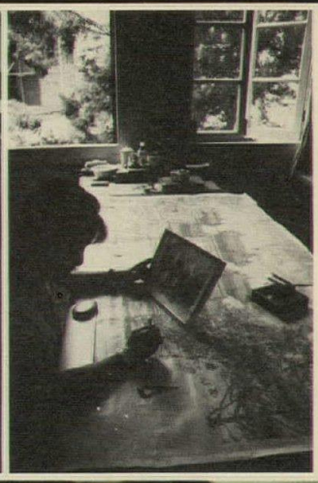
Work is glorified in China —and the Chinese work hard

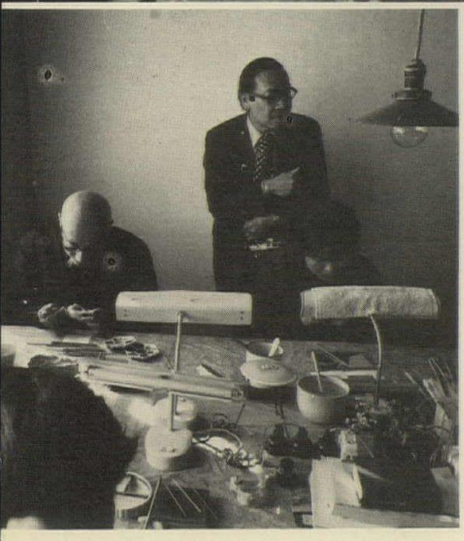
The photos on this page were taken on communes, the huge farm communities that ring each major city. Each commune is responsible for feeding an assigned portion of the nearby city—a simple and direct food distribution system. At top, the well-equipped infirmary of a commune outside Shanghai. While farm machinery is the top priority of Chinese industry, many fields are still cleared by hand, and rice-growing (right) is still a hard, wet, occupation. Fish are farmed in shallow pools about the size of a football field—breeding stock is moved from one pool to another. This commune grew 193,000 fish last year. Tools, baskets and other necessities are manufacturered at the commune.



Many of China's industrial plants are vast, the machinery a bit ancient and the buildings rather 1920-ish. But they produce! Above, a textile plant in Sian; a transformer plant in Shen-yang, where coils are wound by hand; and the inspection area of a textile mill in Shen-yang. Right, a steel furnace in Shen-yang is tapped. Workers have a six-day, 48-hour week; and normally live in housing located within walking distance of the plant. Plants have food service, infirmaries, and most have courtyards for rest periods which are—again!—heavily planted with trees. Workers are encouraged to devise work-simplification ideas; but there is little priority on more highly productive and automated equipment since China (to say the least) has plenty of labor.

Under Chinese system, foremen and plant managers are chosen by the workers.





The arts and crafts of China are still produced as they were a thousand years ago—except now the work is done in a factory. Above, the entrance to a pottery factory outside Canton. The workers, right above, work in brightly lighted rooms, and many of the workshops have beautifully tended window boxes. Far right, above, an artist transfers the outlines of a painting to silk. Such large embroidery hangings can take three or four women a year to complete. At right, perhaps the most extraordinary embroidery we saw (Sam Hurst is as boggled as I was). This embroidery of fish is two-sided—and equally perfect on both sides. At left, an elderly artist teaches the art of painting inside tiny bottles, as I.M. Pei looks on.

acres; another outside Peking was nearly as large.

The equipment in the industrial plants we visited appeared obsolescent, but not inefficient—though little was done "automatically." The drive for automation or labor-saving is clearly not critical, or perhaps even desirable, in China where—if nothing else—they have a huge and stable workforce.

Most interesting were the craft factories (photos and captions, bottom, page 123) where the arts of pottery, lacquer carving, jade and ivory carving, silk embroidery, and cloisonné are kept alive.

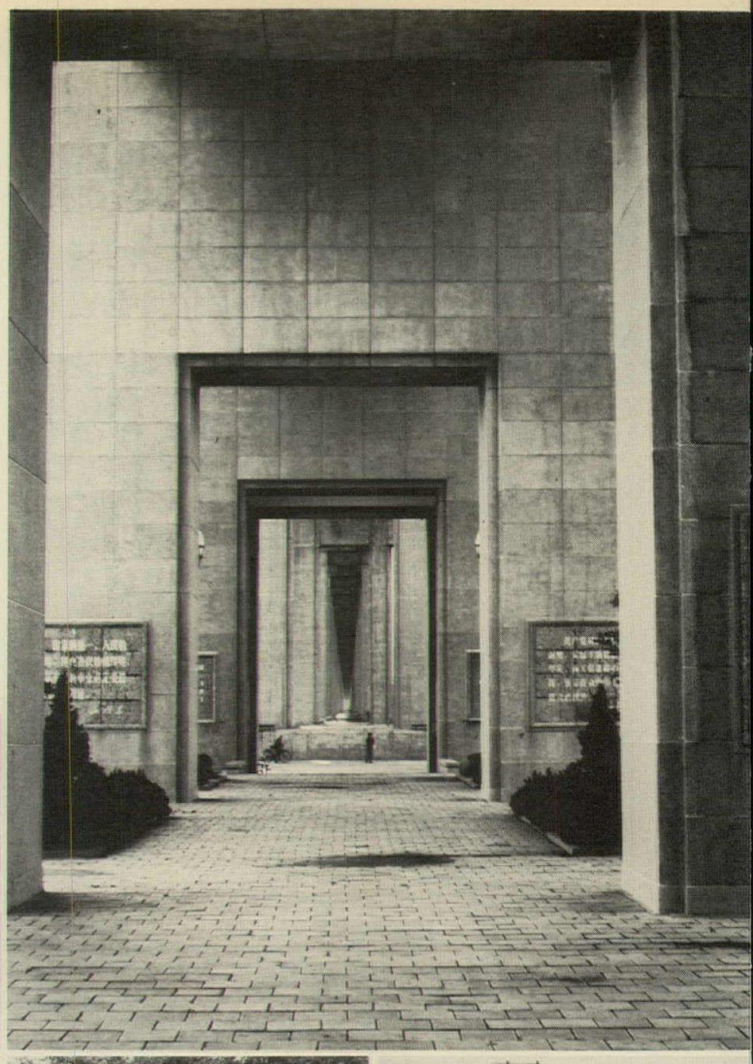
There, workers product art—by hand as they did traditionally—often under the critical eye of an older master craftsman. Work of lower quality is discarded or sold for domestic use; the best work is for sale abroad, and is one of the ways China gets hard currency for the purchase of Swedish steel mills, French oil refineries, and American Boeing 727s—for which, we're told, the Chinese pay cash. (We flew in a Boeing, so new the ashtrays were still clean, from Canton to Peking.)

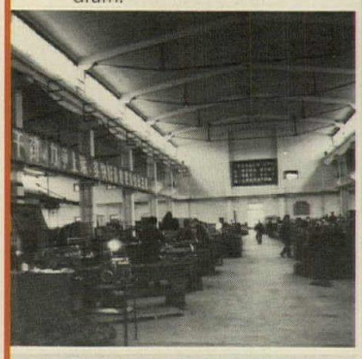
The construction industry—like other industry, and for the same reason (plenty of labor)—is surely not mechanized or highly engineered. Housing is hand-laid (and hand-made) brick and tile, with some pre-cast floor plank of a size easily placed by hand. Even the jet runway at Peking was made of concrete blocks—perhaps six- by three-feet—obviously placed by hand. We saw one lift-slab project—but it was an experiment by the university in Shanghai. Yet they are capable of building steel space frames spanning 400 feet—as in the "cultural palace" (top right, page 117)—and building a big domed stadium. But again, labor is the key to production—the enormous Great Hall was built in eight months by using three crews of 2000 men per shift!

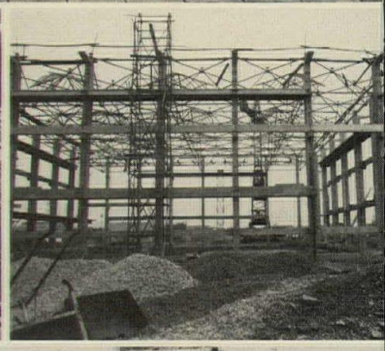
We hope that a reciprocal visit of Chinese architects to the U.S. is in the offing—they were formally invited by AIA president Arch Rogers and the president-elect Chick Marshall. Perhaps they will not see much that they can use—though surely they would be as fascinated by our country as we were by theirs. It will be difficult to be as gracious hosts.—*Walter F. Wagner Jr.*

Sophisticated engineering is well understood but not much used

The ultimate one-point perspective at right is the approach to Nanking's Yangtze River Bridge, one of their proudest achievements. Lightweight concrete trusses of many forms are used in plants. Cranes, mostly operated by women, are used on higher-rise work—here pouring concrete on an experimental slip-form job. The dome is a structural model for the roof of Shanghai's new round stadium.







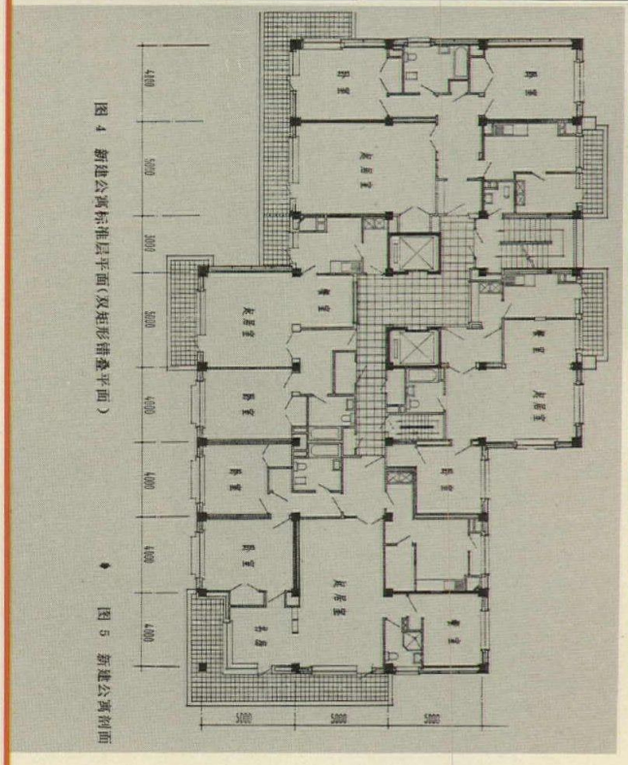
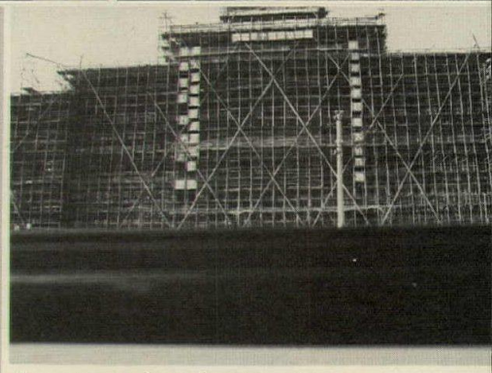


图 4 新建公寓标准层平面(双矩形错叠平面)

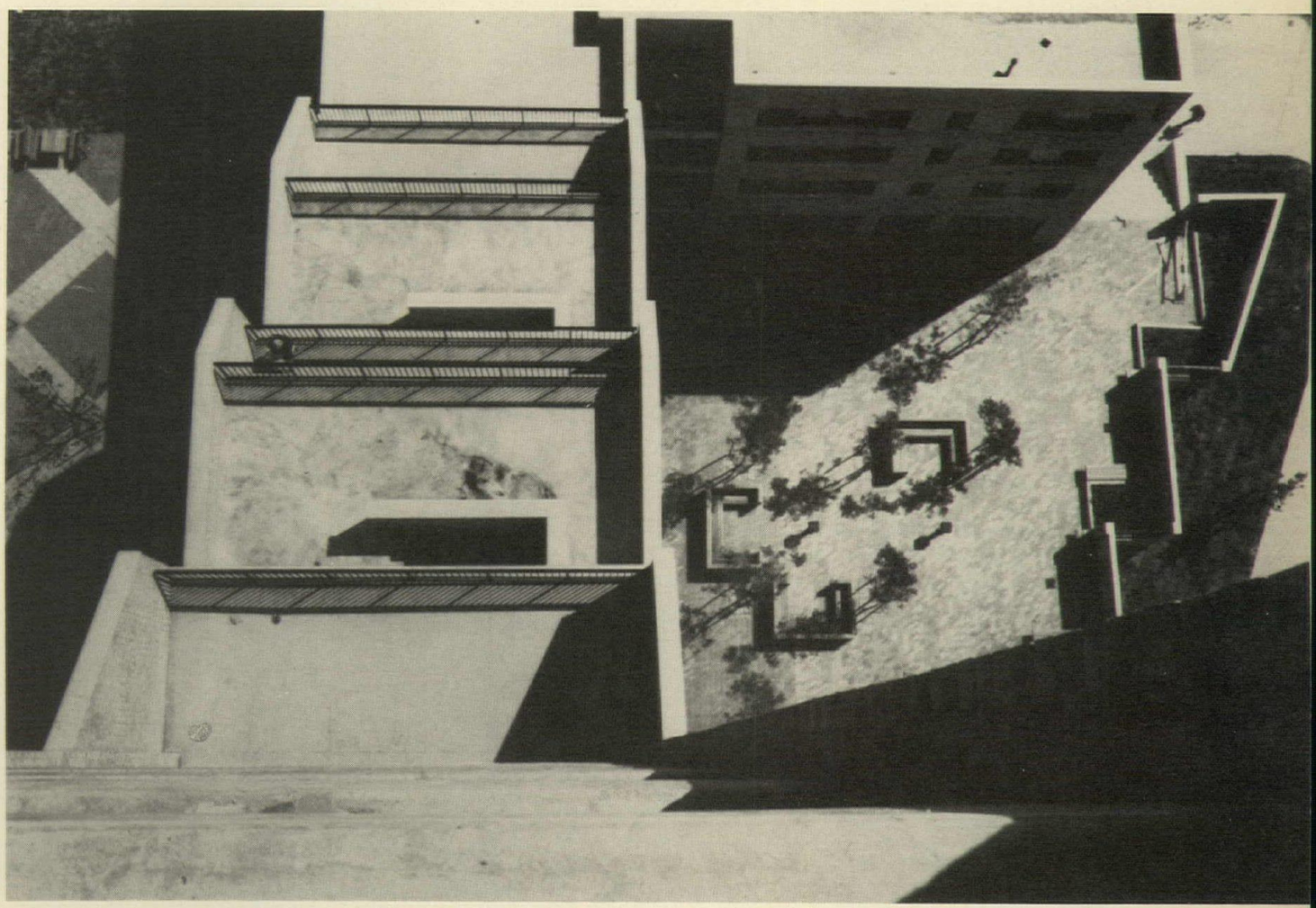
图 5 新建公寓剖面



Above, a space frame for a new gymnasium in Shanghai. Scaffolding, even for large buildings, is bamboo—and most jobs have safety nets draped over this framework. At left, an apartment house plan from China's architectural magazine, which is published bimonthly. They also have a two-volume "Architectural Graphic Standards," and current copies of all U.S. architectural magazines. One university had RECORD back to 1908.

THREE PROJECTS BY HOBERMAN AND WASSERMAN
Architecture in context

On the following pages are two residential projects designed for the elderly and one community center that started out to accommodate only persons of that age group—but grew into something quite different. The architects have had to work within the limitations of tight budgets and prescribed programming, but they have managed to accommodate the needs of the real users. They have also recognized the differing requirements of the areas in which the buildings would be built—helping to determine or reinforce local character. Each project is related more closely to its contextural considerations than to preconceived ideas of an architectural "statement." In each case, a statement had grown out of real needs.—*Charles Hoyt*



SCHEUER HOUSE

Providing more than normal facilities for 197 efficiency and one-bedroom apartments for the elderly built under the Federal 236 program, Scheuer House is a tribute to the determination of its architects and sponsors, The Jewish Association for Services for the Aged. It is also a determining influence on the character of the area in which it is built.

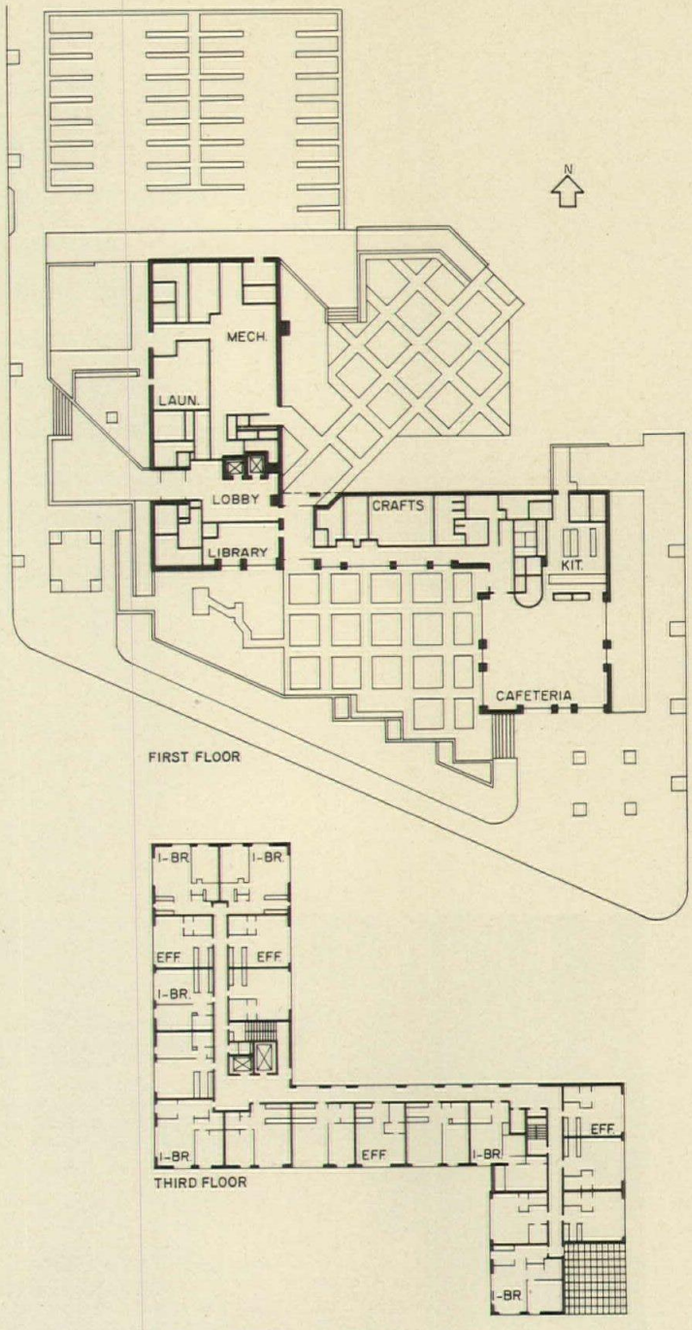
Unlike the fenced-in private community immediately to its west, the city-blocks on the other three sides of the project are undergoing a radical transition from vacation cottages to high-density residential use. New York City's Coney Island Urban Renewal Area (the western half is shown to the right) was created in 1967 to turn around a process of local social and physical deterioration by the construction of new housing for a mixture of tenants with varying incomes. Proximity to the ocean and boardwalk was an attractive factor. Architects Hoberman and Wasserman became active in the area through the patronage of the New York State Urban Development Corporation, one of the governmental agencies participating in the City's efforts. They are updating the entire plan for the area, and their concern over the eventual urban character that will emerge has been expressed in three individual projects.

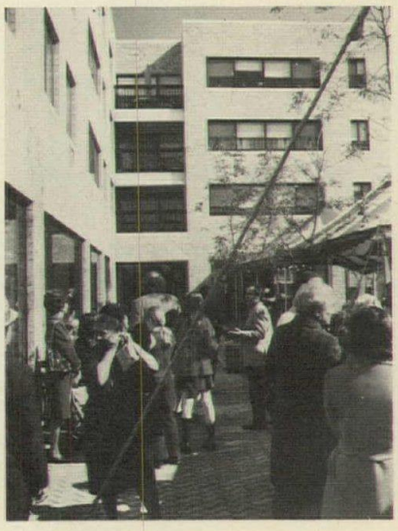
Site 5-6 was (urban renewal plan and RECORD, April, 1971) developed with moderate-income apartments and was the architects' definitive effort here. As opposed to the City's earlier projects, the building was brought forward to the street for as much of its length as possible. A sense of "urban-space" created by compressed human activities and heightened interaction was encouraged on the public sidewalk, while the interior of the site was defined as space for the residents. The building's profile was stepped down to provide visual variety and recognition of the heights of existing buildings in the vicinity. Similarly, Site 9—or Scheuer House—has a step-like profile, and the building is used to define public and semi-private space. But the approach here is modified (see caption).

As in the case of Lambert House (RECORD, January, 1974), the sponsors here were able to find supplementary monies to build more than the basic facilities provided in the FHA 236 funding. Accordingly, the project includes a cafeteria, craftsroom, library and visiting-nurse space for the residents and the aged in the surrounding community. Communal balconies are provided for each floor and are visible in the photos, opposite and preceding page.

The plan embodies the architect's insistence on natural light in corridors (in this case, by using a single-loaded segment). The construction is traditional in New York City: poured-in-place concrete, without edge beams, and brick veneer of eight- by eight-inch tan-colored units. The window framing is dark anodized aluminum. The need for pilings was produced by the sandy soil, and the one construction innovation is the use of prefabricated bathroom-plumbing stacks. Construction costs were $5,516,403 for the 159,000-square-foot building. An extension is planned to duplicate the existing tower toward the north.

SCHEUER HOUSE, Brooklyn, New York, New York. Owners: *The New York State Urban Development Corporation and The Jewish Association for Services for the Aged.* Architects: *Hoberman & Wasserman.* Engineers: *Robert Rosenwasser* (structural); *Barrett Associates* (mechanical/electrical). Interior design consultant: *Emily Malino.* Landscape architect: *Nicholas Quennell.* General contractor: *Starrett Brothers & Eken, Inc.*





The building is used to partially separate the street from semi-public resident spaces on the site's interior. But rather than carry this approach to its conclusion by placing the new construction on the lot line, part of the residents' outdoor areas has been provided on the main-street side of the building (photo opposite). This gives better sun orientation and satisfies the elderly's normal desire to watch the comings and goings of the general public. High walls replace the urban-planning aims of a building hugging the street and provide security. The contained seating area is raised from the sidewalk level to minimize the wall height in that space, and the wall is pierced by grilles for further visual connection.

Norman McGrath photos

AGNES MORLEY HEIGHTS

As does the Scheuer House on the preceding pages, this building more than meets the needs of a potential 223 elderly residents and was built with Federal funding by the Greenwich, Connecticut, Housing Authority. However, no additional construction monies were available here. This is straight public-housing, sympathetically placed in a neighborhood of large single-family houses near the shopping-center of the affluent suburb. The building-massing problem was almost the antithesis of Scheuer's in that the architects' aims were to create an unobtrusive-as-possible character with minimal impact on the surrounding neighborhood.

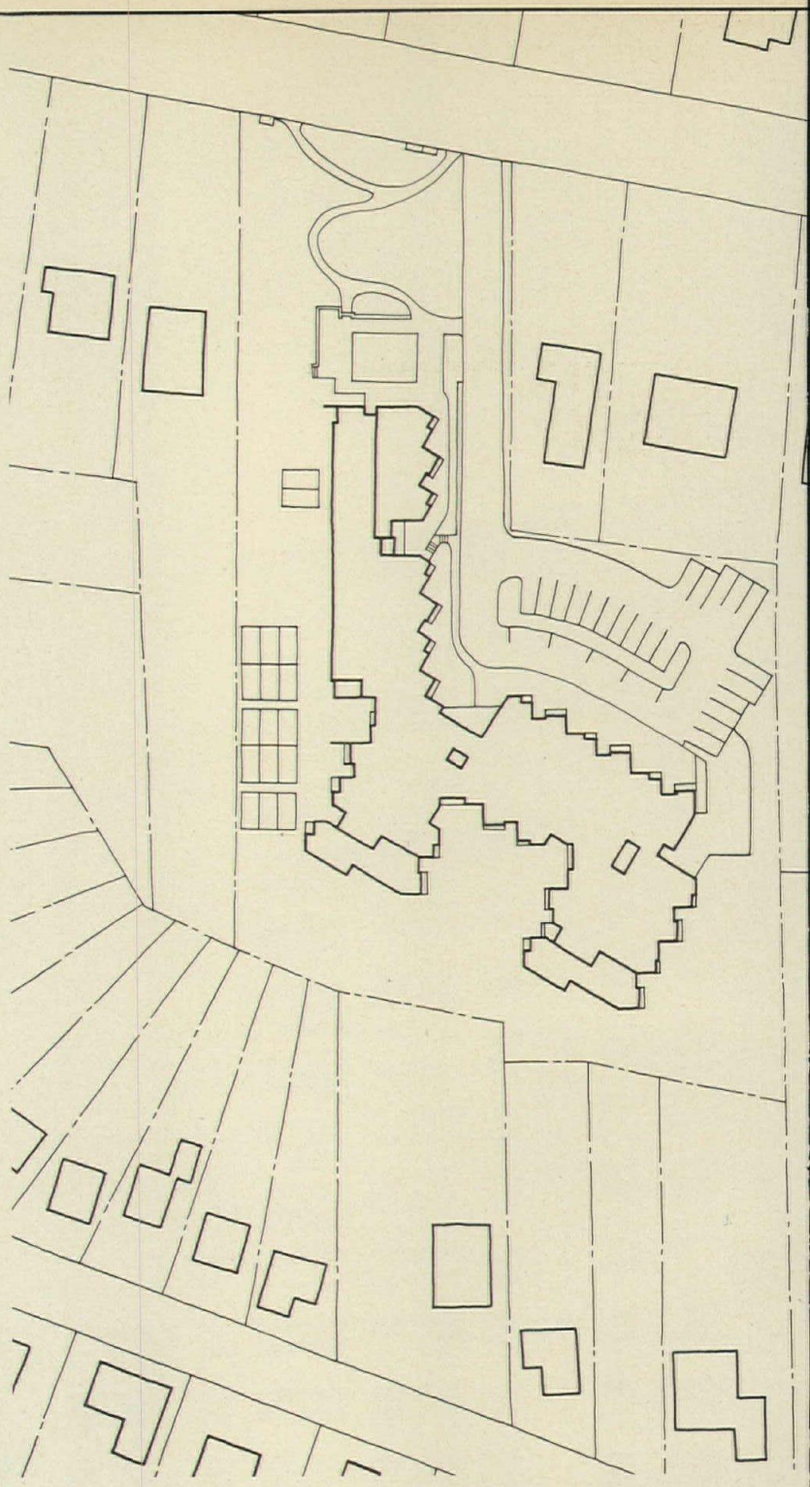
Although the Housing Authority had had an allocation of 100 units of housing for the elderly for several years, high local land-costs and low allowable densities precluded purchase under Federal guidelines. It was only after the architects, along with others, worked with the local Planning and Zoning Commission to produce special zoning for elderly projects, that a feasible density of 60 units per acre could be achieved. Allocation for an additional 50 units was obtained when the present affordable site of two and a half acres of rock out-cropping was made from backyards on the interior of a block which was completely ringed by detached houses (site plan, right). One house was removed for access, and the typical 80 foot set-back which prevailed on the remainder was established as the location of the street-wall of the new building.

Despite a good screen of existing trees, which were to be preserved, it was determined that a height of five stories, required to accommodate the programmed apartments would be overbearing on the community scale. Accordingly, the ground floor was partially depressed below the sloping grade (apartments at ground level are located on the downhill side and ancillary services occupy the remaining areas), and the ends of each wing are reduced in height by one story (photo opposite, bottom).

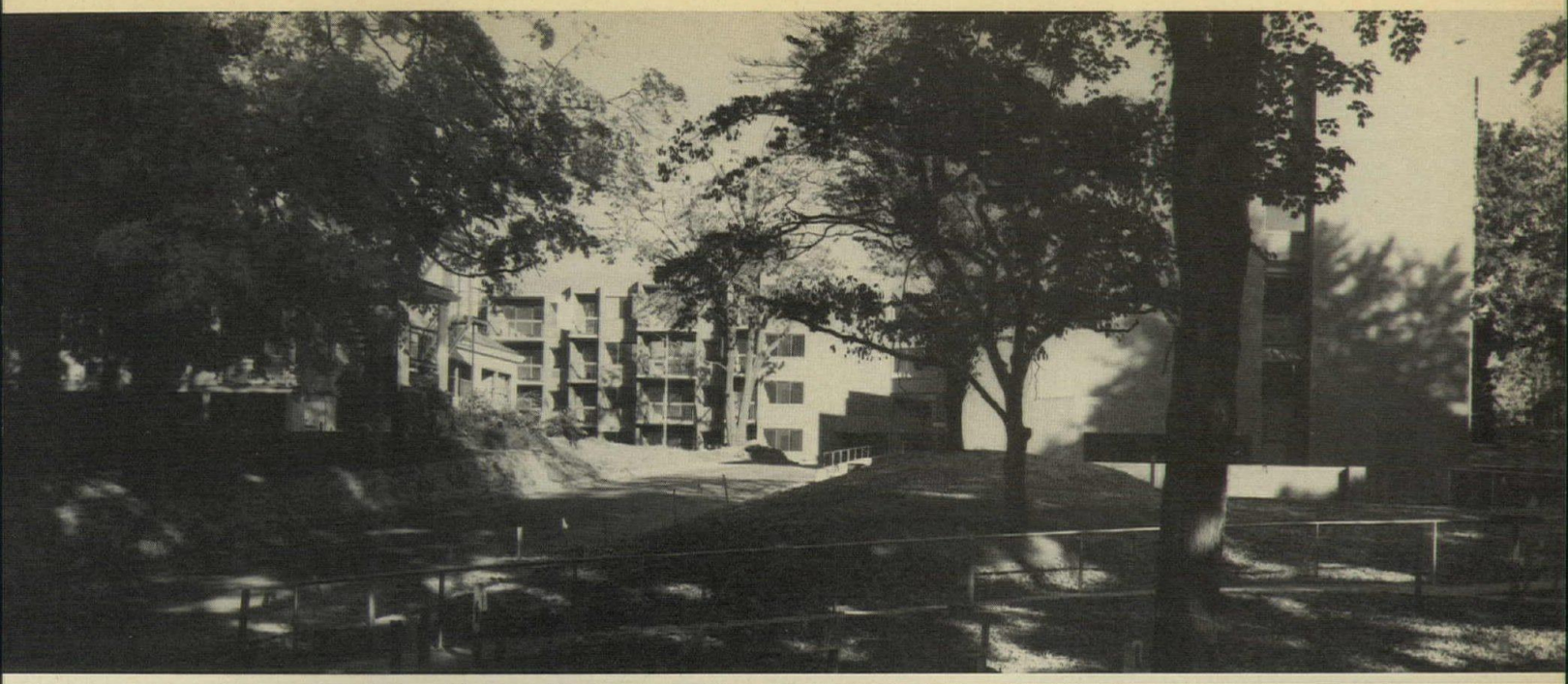
There are two remote entrances and elevators related to the parking and pedestrian access. Diversification of facilities decreases the one-way traffic aspect of many buildings where the extremes of centrality and isolation at the corridor ends are pronounced.

Working under the vagaries of Federal progams, the architects were given six weeks from time of preliminary approval to the time drawings were to be sent for construction bidding. Local prototype costs had just been introduced (as opposed to the former unworkable fixed allowances), but these were based on the minimum speculative construction in a given area. Even so, the architects provided the unusual amenities here for the cost of $20,600 per unit. The construction is masonry bearing wall with concrete-plank floors and poured-in-place balconies. The veneer consists of red four-by eight-inch "econo-bricks" (the largest size for labor savings in many areas), and the walls achieve their present homogenous quality by the use of colored mortar. Much of the paving is also brick.

AGNES MORLEY HEIGHTS, Greenwich, Connecticut. Owner: *Housing Authority of Greenwich.* Architects: *Hoberman & Wasserman.* Engineers: *Zoldos/Silman* (structural); *I.M. Robbins* (mechanical/electrical). Landscape architects: *Carol Johnson & Associates.* Cost consultant: *John Meadows.* General contractor: *Ray Adler.*

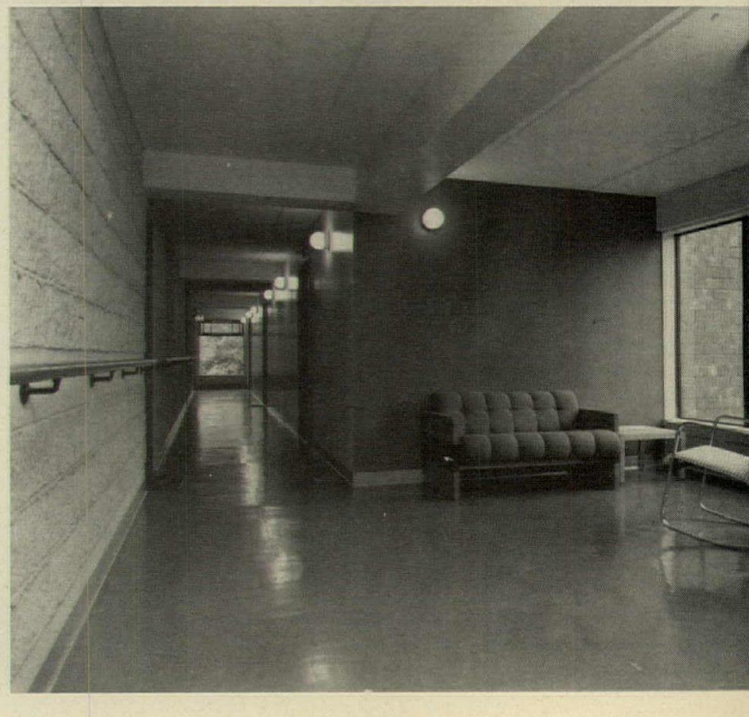


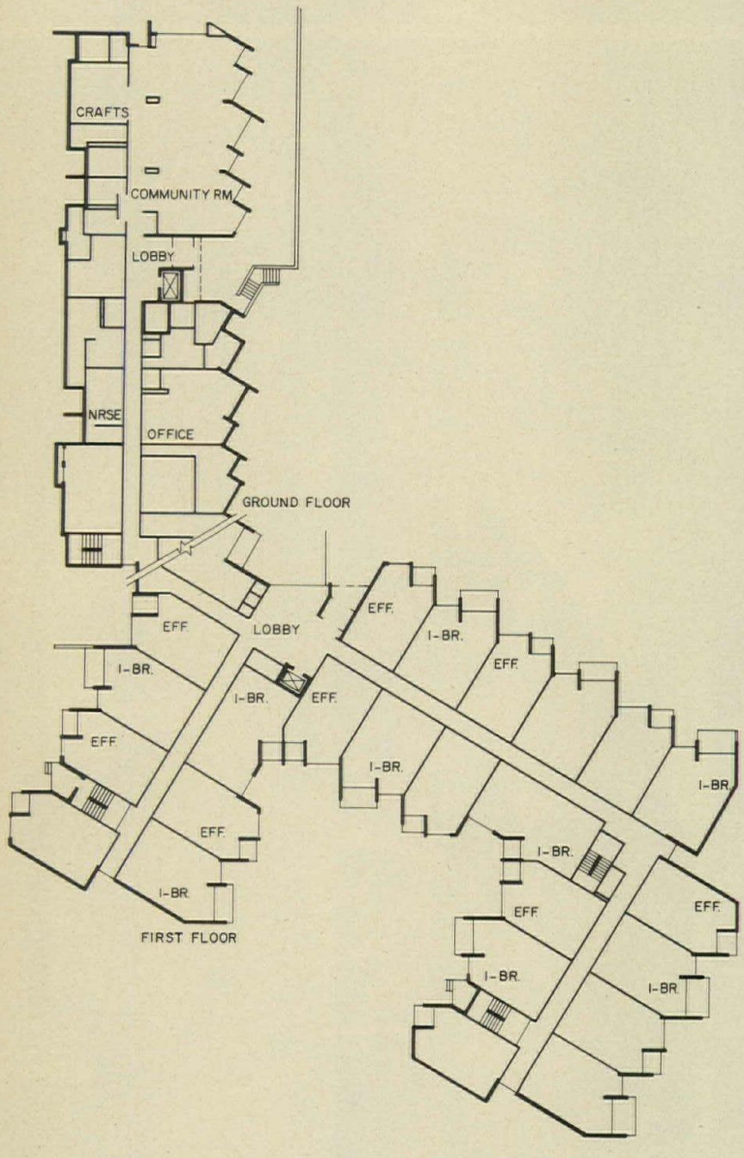
A ground coverage of 20 per cent was located in a central position on the site, and a low profile and segmented exterior walls were planned to minimize the visible bulk. Two views from the entrance drive illustrate the screening from the street provided by existing trees (top photo) and the configuration of the building, whose stepped heights become apparent on approach. The communal terrace for the residents (far right, each photo) is located on the street-side of the building for the residents' views of neighborhood activities, and—unlike the high street-defining walls at Scheuer House—a slight mound of lawn and shrubbery are the only barriers to the public view. The landscaping has accentuated a natural appearance and includes stone retaining walls by a local mason and rock out-croppings from the original site-configuration.



Norman McGrath photos

The corridors gain natural light through windows at their ends and are interrupted by communal seating areas at each elevator lobby (bottom photo). The community room is shown in the center photo, and a view into the court, created by the two wings away from the street, at the top. The almost equal numbers of efficiency and one-bedroom apartments are alternately distributed along the building's peripheral walls which gain visual interest by their 30 degree slant, (plan below) except on one side which maintains a more traditional appearance because of the need to respect an easement. Each apartment has a balcony and the efficiencies are oversized by Federal guidelines. The recessed balconies at the interior corners of the building allow both rooms of a one-bedroom apartment to occupy the lightless space that would normally occur in such locations by sharing outlooks onto the common exterior area.





TOMPKINS PARK

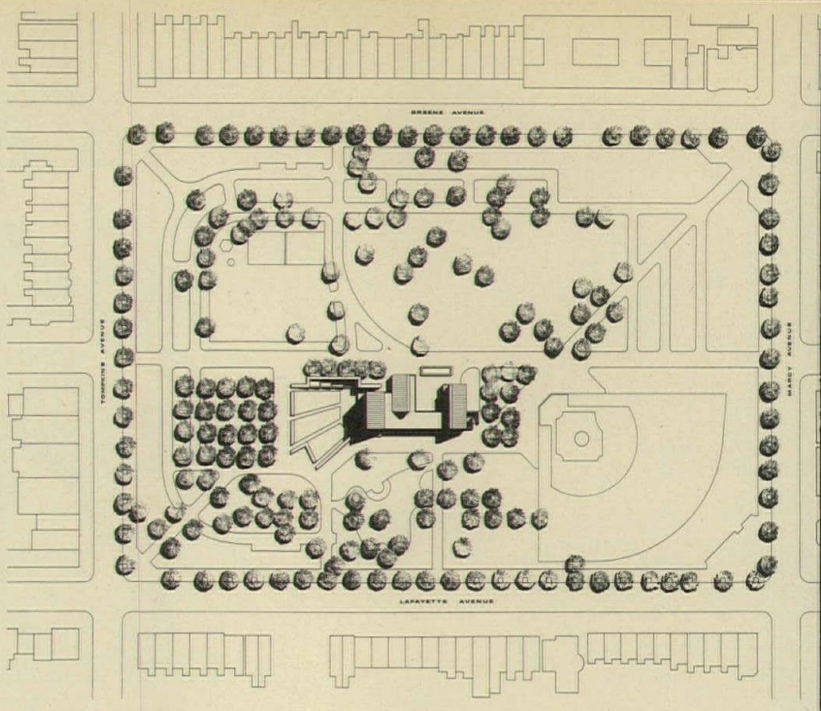
While the New York City Board of Estimate had appropriated monies for a community center for the aged within an existing green-space, a Parks Department program (designed to make its new facilities responsive to the users) allowed an expansion of purpose because of discussious between community groups, the city and the architects. Local performing-arts groups, other cultural organizations, social functions and community meetings also needed accommodation and the building that emerged was a cultural and recreational center for users of all ages. While Hoberman & Wasserman involved themselves in the discussions with the city on behalf of the local residents, they would not describe the activist role as an easy one.

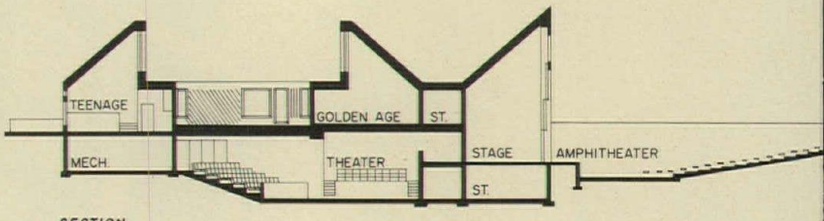
The original plan for this two-square-block area was designed by Fredrick Law Olmstead in the late nineteenth century, and—until recently—the park was surrounded by pleasant and substantial townhouses of the same era. The type of inhabitants has changed in the Bedford-Stuyvesant district, and local government is in the process of massive construction of new housing intended to eliminate the buildings associated with the present poverty—if not the cause.

When the architects received their commission, little of the original park as planned by Olmstead remained, and as it was designed for promenading it did not fit current community needs. Still, the building was placed to emphasize the original plan's axis, existing radial-walks were retained and a new fence, cutting off the western half, was eliminated. A playground, designed by Vollmer Associates, was a later-day addition and was incorporated in the new site plan.

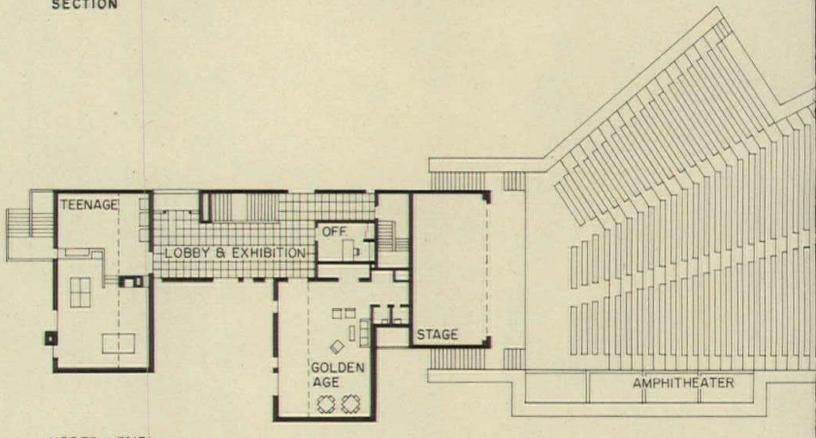
The final program for the building called for about 12,000 square feet of enclosed space plus an outdoor amphitheater. In order to reduce the potential impact of a large building-volume on the neighborhood's badly needed green space, the architects buried more than half of that volume under the grade and sloped the outdoor areas at the two ends down to the depressed floor levels. One slope accommodates the concrete benches of the amphitheater. The depressed area at the other end of the building provides an exit from the indoor theater at the lowest level, access to the toilets (placed for both park and building users) and an outdoor lobby during performances. The visible building mass was fragmented by a courtyard separating the various elements and transparency was created by the use of large lights of shatterproof plastic.

The poured-in-place concrete walls were formed with depressed vertical-ribs to provide texture and make the surfaces less attractive to graffiti artists. The latter function has been only partially successful despite daily cleanings and an applied chemical-surfacing. "There is something just too attractive about a concrete wall," says architect Hoberman. The total construction cost was $1,500,000 including extensive site work.

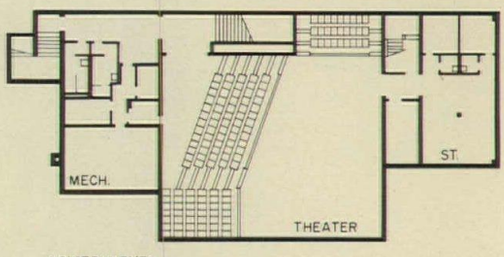




SECTION

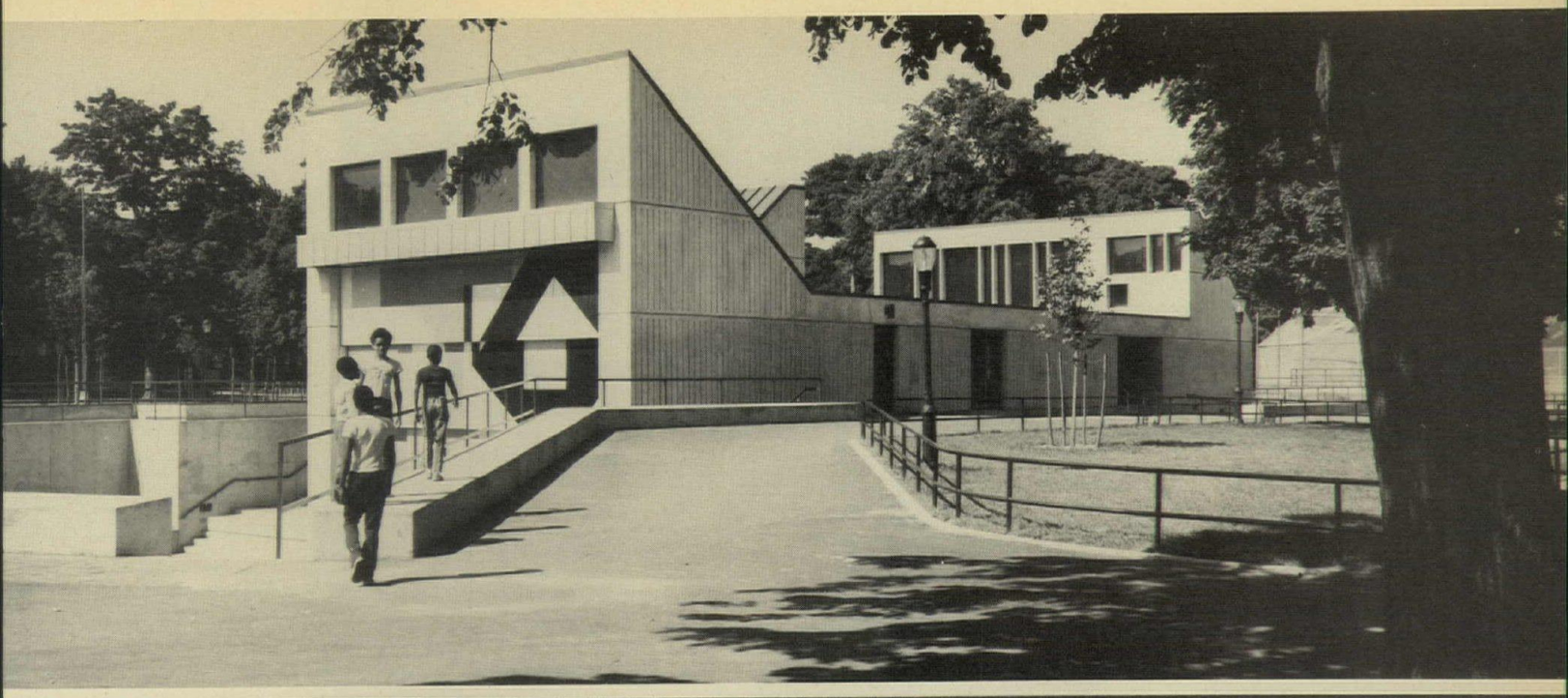


UPPER LEVEL



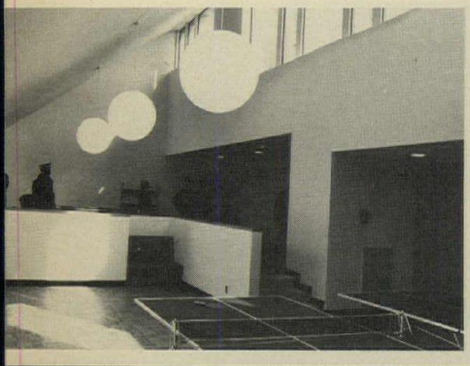
LOWER LEVEL

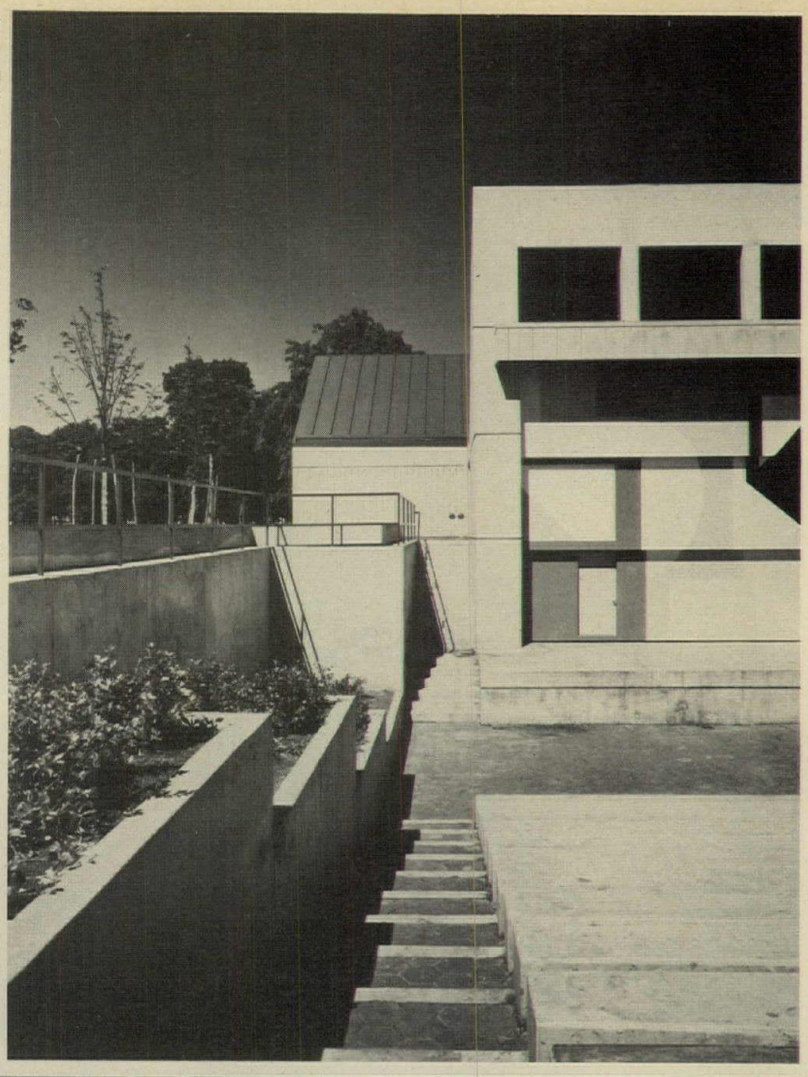
TOMPKINS PARK RECREATIONAL AND CULTURAL CENTER, New York, New York. Owners: *Parks, Recreation and Cultural Affairs Administration.* Architects: *Hoberman & Wasserman—job captain: Andrew Freireich.* Engineers: *Finley & Madison Associates* (structural); *Arthur L. Zigas & Associates* (mechanical/electrical). Cost consultant: *John Meadows.* General contractor: *Petracca & Sons, Inc.*

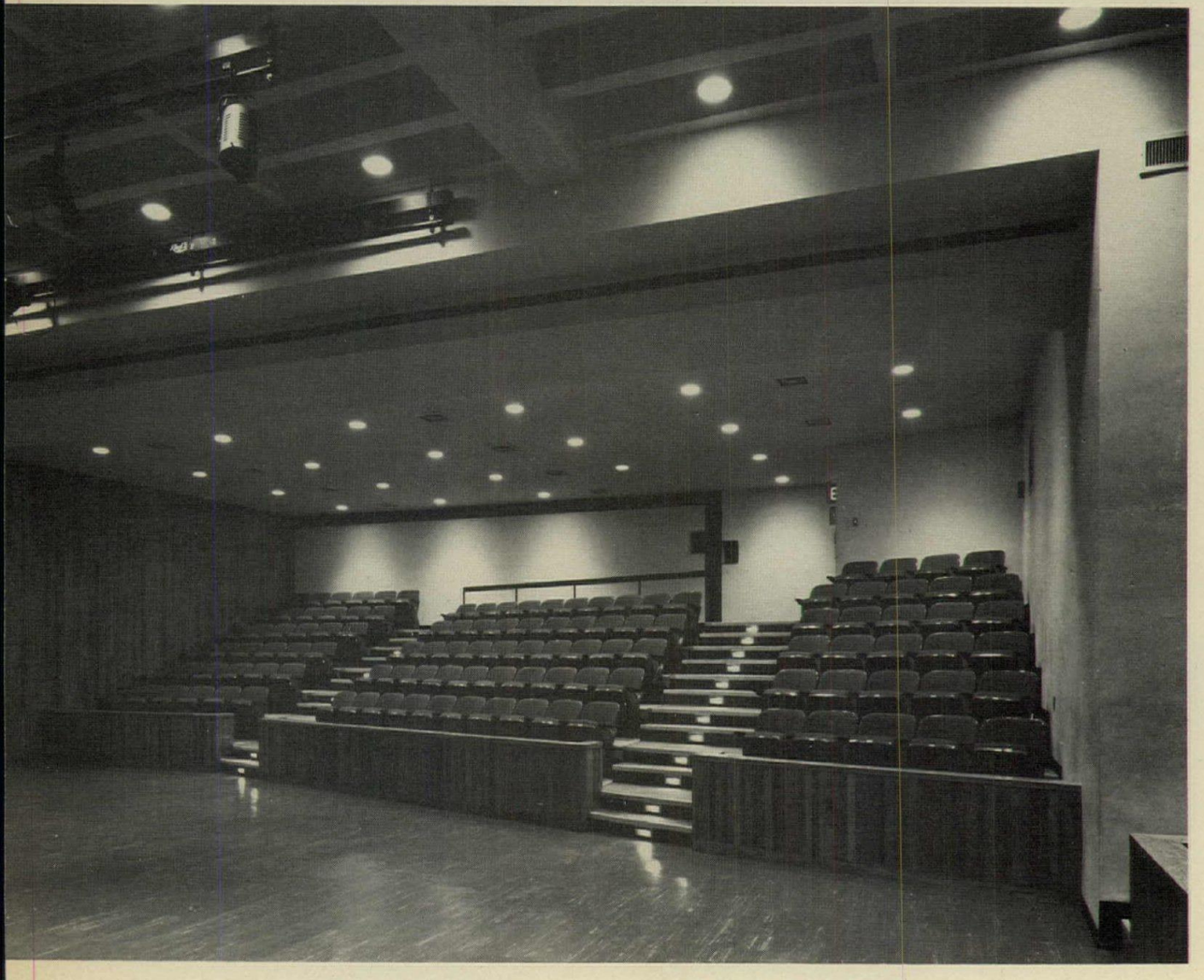


Norman Hoberman photos

The final plan designated about 10 per cent of the building's area for the social functions of the elderly and an equal amount for a teenage center (photo below). The photo at the bottom shows the auditorium, and the photo at the right, the amphitheater. The sloping roofs are covered in terne and accommodate clerestory windows designed to admit light to the amphitheater stage and the elderly and teenage-rooms. The resulting shapes provide spatial variation within and a sculptural quality to the building's profile. The aircraft-hanger doors, which seal the amphitheater stage when not in use were painted with a design by Norman Hoberman which was included in the construction contract by means of a drawing to be executed by the building painters. The paint is the same as that used for airplanes and was chosen for durability. Transparency in the building mass above grade was achieved by use of large lights of shatterproof plastic.







®

RELIGIOUS BUILDINGS

An age-old search for images that suitably express our changing values

Beyond the technical accomplishment they demonstrate so emphatically, the high vaulting and soaring buttresses of French and German Gothic cathedrals gave exquisite expression to their builders view that God was mysterious, awesome, distant and unapproachable. Griffins and other demonic creatures stare down from gargoyles and column capitals to remind the unpenitent of the fate awaiting them in the hereafter. A century or two later, the Renaissance churches of Italy reveal a different perception. Their rich gilding, plush velvets and emphasis on the mundane seem—to modern eyes at least—to suggest that, for Renaissance Man, God had become the Number One Merchant Prince, a rank or a rank and a half ahead of the Medici. As if to reinforce this idea, Italian painters of the period tirelessly depicted scenes of departed Doges being introduced to the Diety in azure realms beyond the clouds.

If we smile just a little at such paintings today, it is with a humor tempered by admiration. And when we troop through Châtres or St. Peter's—occasionally leaving our cigarette wrappers or orange peels behind, we are nearly overwhelmed by the fullness of artistic flowering these incredible structures represent. Most of all, perhaps, we cherish the clues these buildings yield about the collective values, joys and sorrows, fears and hopes of those who built them. Also present, at least by implication, are evidences of the socio-religious ligaments binding man to man, man to Church and Church to God. Then, as now, these ligaments are the very soul and substance of designing for worship.

Today, when the established churches are in a period of retrenchment, when attendance at services is down and new construction is flagging, many thoughtful churchmen are trying to redefine the role of the church—any church—in society. Younger ministers and rabbis, many of them products of the social turbulence of the '60s, are seeking their ministries in the streets among the underprivileged, the addicts, the rootless. Storefront churches are becoming a commonplace in cities across the country. Nearly all churches are expanding their social programs by providing facilities for community use: crafts, day care, drama groups, programs for alcoholic and/or drug rehabilitation. Some New York-area synagogues have been sponsoring "Las Vegas Nites"—fund-raising entertainments which have extended the traditional church bingo into more serious gambling.

Churchmen today, like architects, talk more and more about "people-oriented spaces"—flexible, multi-purpose spaces that will have something approaching seven-days-a-week use. They also talk about shared space (or "synergistic churches" as they are sometimes called) in which congregations would not have their resources frozen in specialized buildings. Whatever shape these new spaces take, neither height (as at Châtres) nor opulence (as at St. Peter's) are likely to be important design features. The value systems they represented no longer seem tenable. Churches, say many experts, can no longer be designed as monuments to a saint, a beloved pastor or even a mystery of faith.

Out of this shifting ethos, no Châtres or St. Peter's are likely to emerge. These were the culmination of centuries of architectural energies. The world moves too fast now. But signs of change, signs of ecumenicism, signs of expanded service are present in most of the churches shown in these pages. What other signals are visible, the reader will want to judge for himself.—*Barclay F. Gordon*

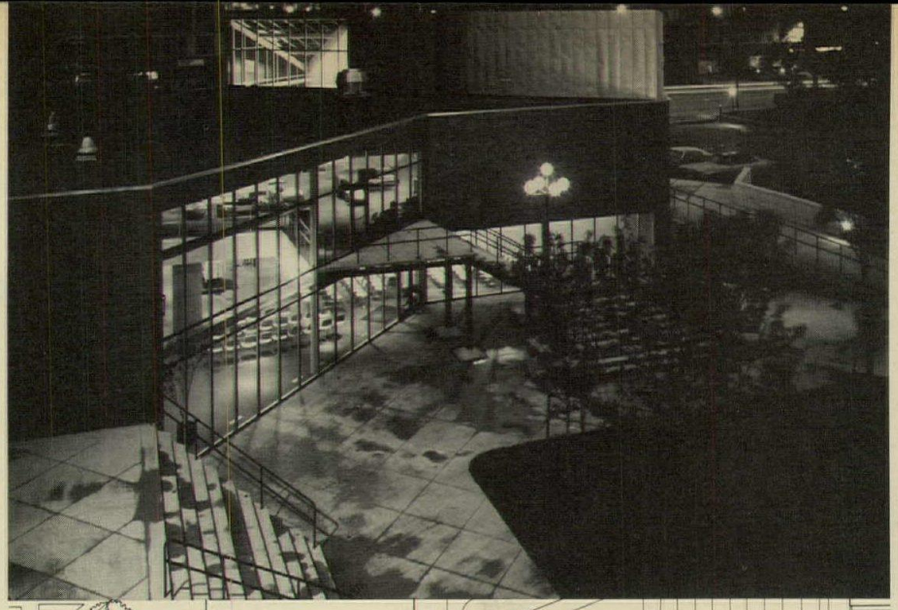
Campus Ecumenical Center: abandoned property lines and a shared plaza

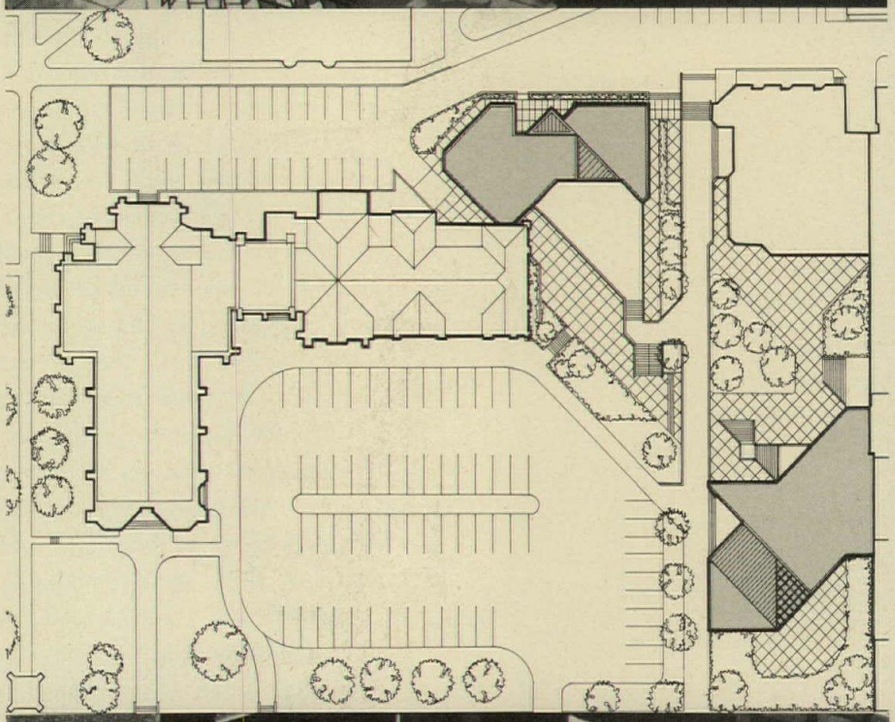
Six years ago, the University Circle Development Corporation initiated plans for a religious center on the Case Western Reserve University campus in Cleveland. The first buildings completed on the site were the Hillel Foundation, a Jewish center, and an addition, by Richard Fleischman Architects Inc., to the existing Church of the Covenant parish hall designed by Ralph Cramm. Fleischman's addition consists largely of educational space—rather open in plan—for youngsters engaged in an ongoing program of religious education. Standing in forceful contrast to Cramm's neo-Gothic structure, the new addition is expressed in sharply faceted forms of concrete and glass.

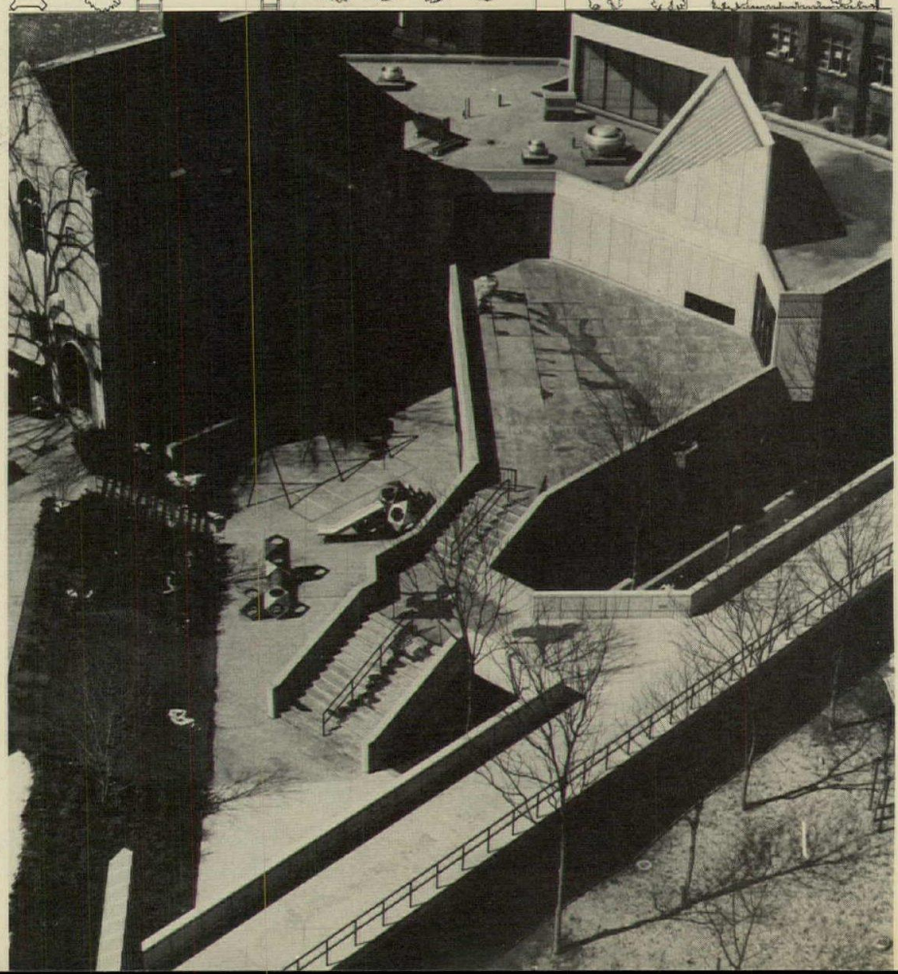
When these centers were operational, the Bishop of Cleveland commissioned Fleischman's firm to extend the ecumenical concept by designing a Roman Catholic center across the plaza and eventually to be known as the Hallinan Center. Two flexible areas were required in Hallinan Center: a large hall where Chaplain and students can meet to plan for worship, fellowship or related recreational activities and a small space to be used as a lounge and counciling area. The photo, page 138, shows the architect's solution with the small space on the balcony overlooking the larger space below. In contrast to the Church addition, the exteriors employ very extensive glazing to create a transparent quality from the plaza that, hopefully, acts as an open invitation to potential users.

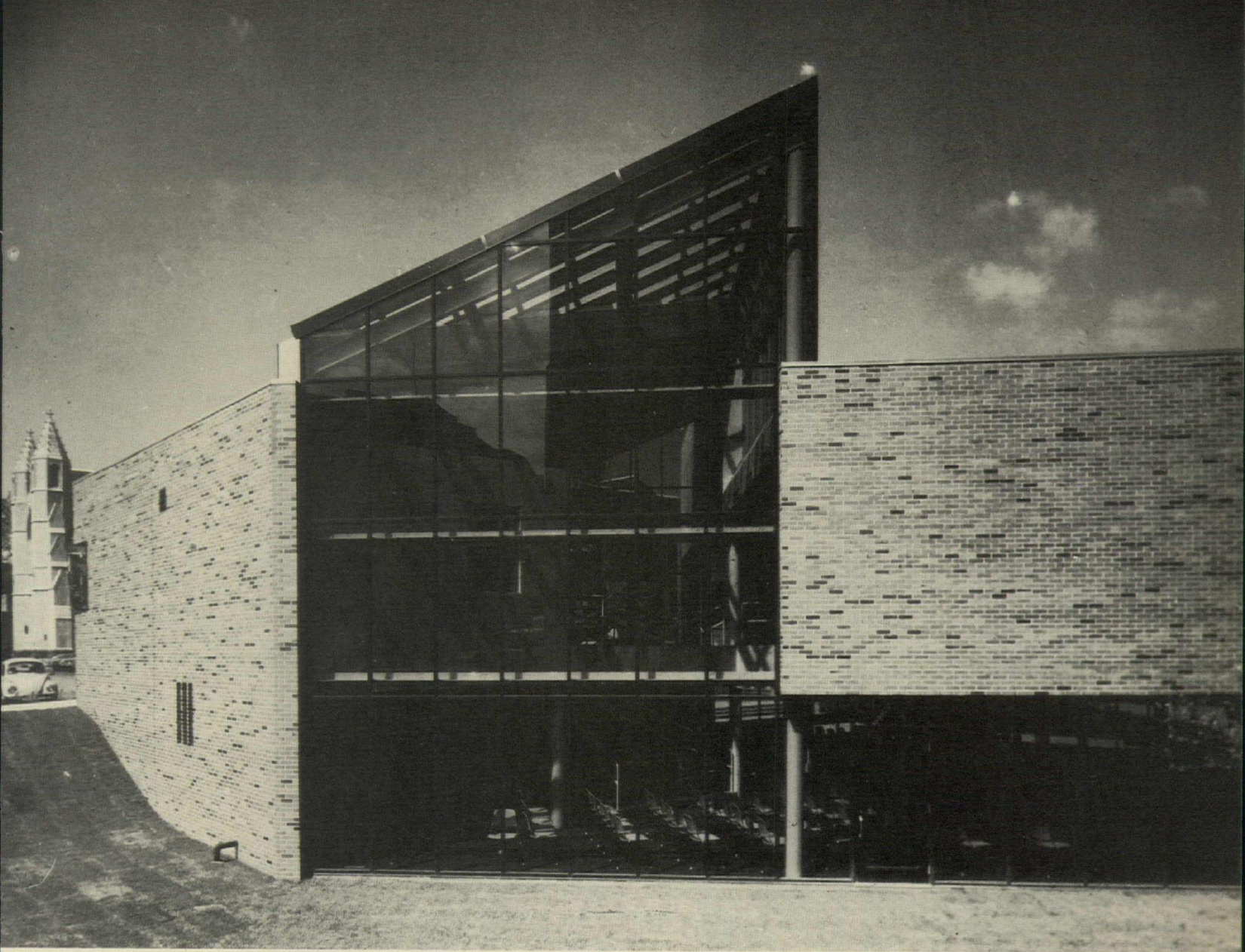
The connective tissue linking all the buildings is a multi-leveled plaza, much of it designed by Fleischman's firm. It is free and playful in design, but reflects the diagonal geometry of the new buildings and expresses symbolically the important ecumenical character of the entire complex.

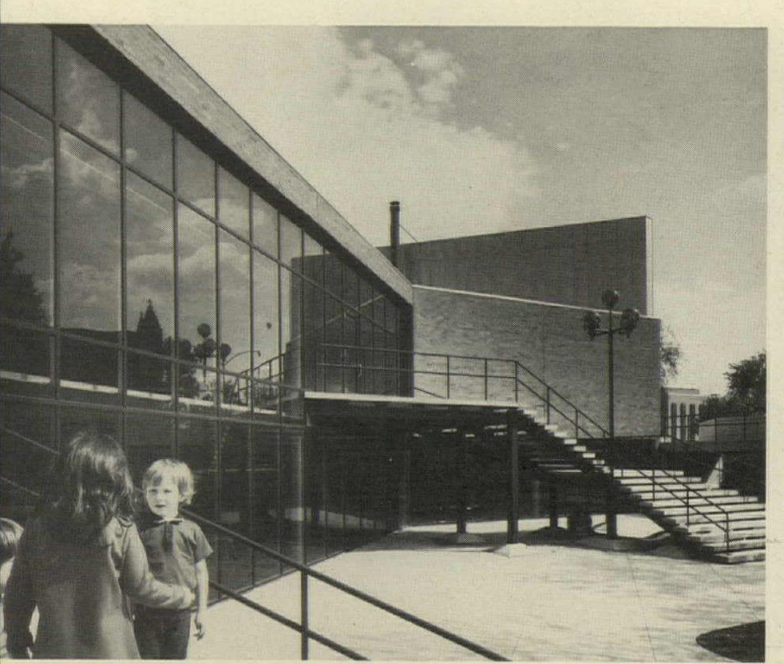
ECUMENICAL CENTER, Cleveland, Ohio. Architects: *Richard Fleischman Architects Inc.* Engineers: *Gensert Peller Associates* (structural); *Andrew Psiakis* (mechanical); *Ralph Linton* (electrical). Landscape architects: *John Litten & Associates.*



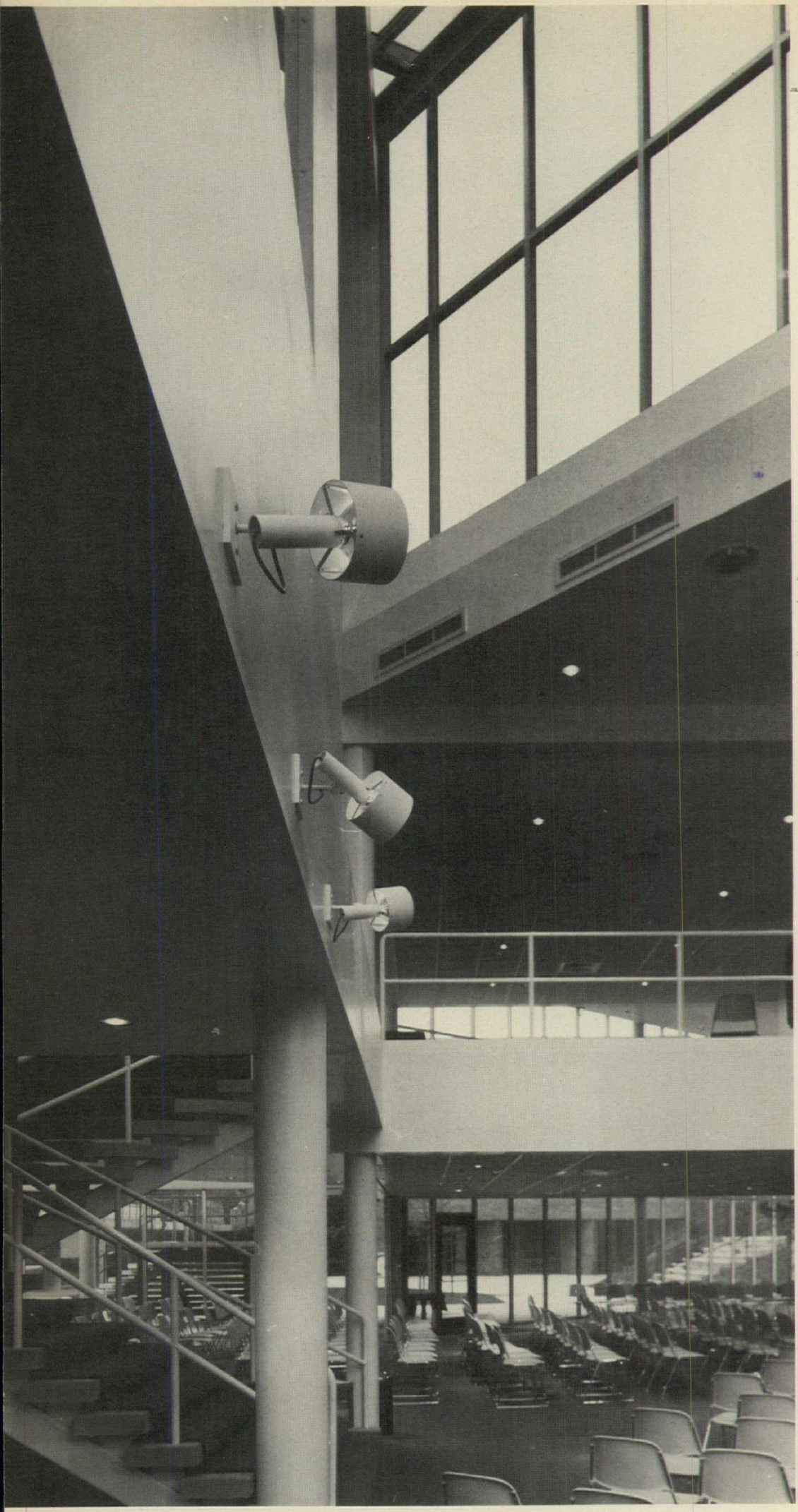


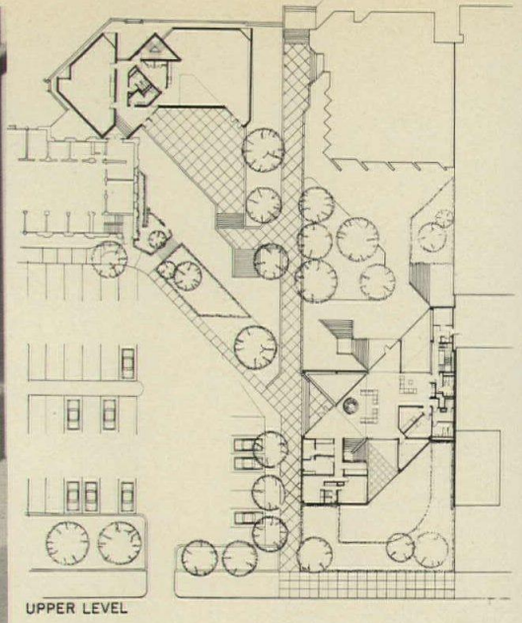


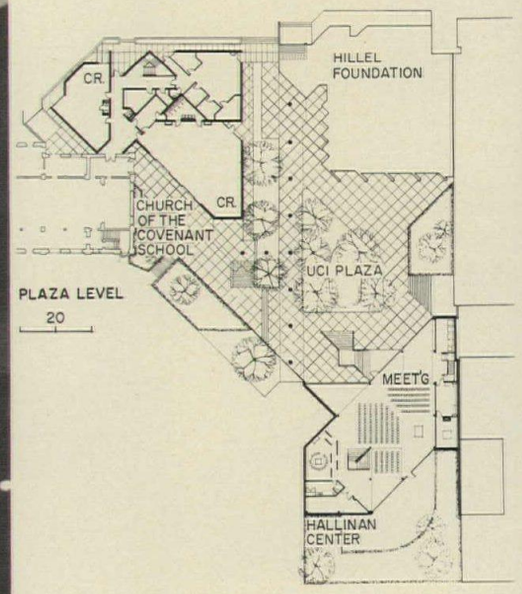




Erol Akyavas photos







The angular geometry of the project shows up most forcefully in plan. The two Fleischman projects face each other diagonally across the UCI Plaza. The plaza has also become part of a major pedestrian artery linking portions of the north and south campuses. And as a result of this spirit of urban cooperation the plaza has become accessible to both the university and the surrounding community.

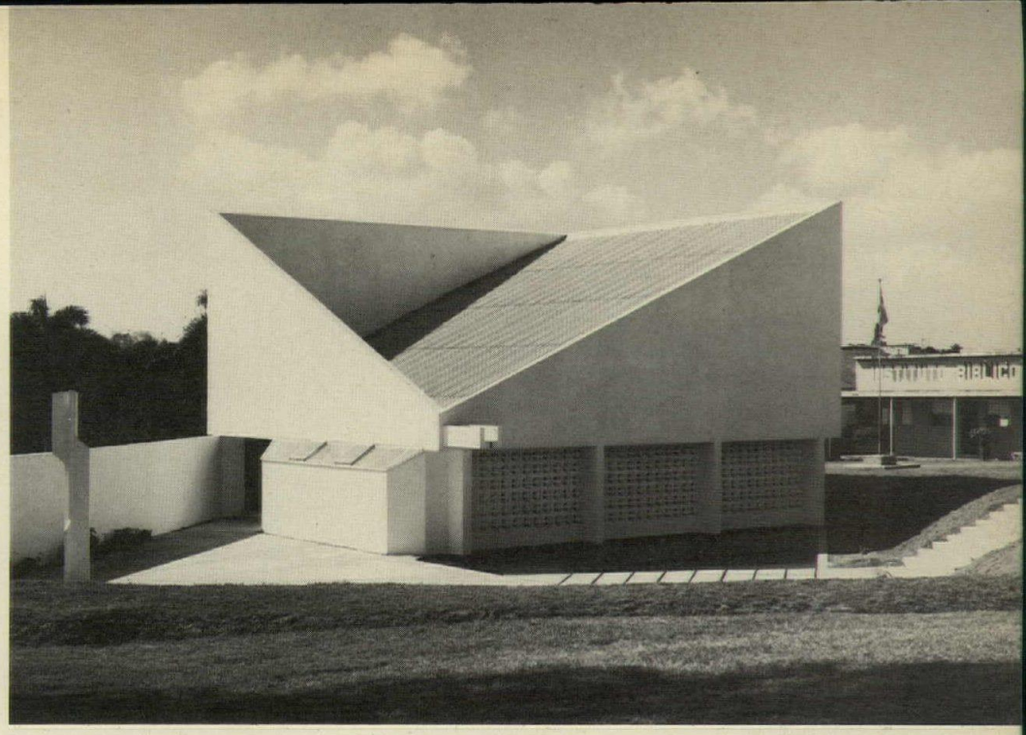
Assembly Church of God Mission: an exquisite response to function and climate

This extraordinary handsome small mission church in Santo Domingo, Dominican Republic was founded by the Houston-based Assembly Church of God. The structure was designed by Austrian architect Ernst Bliem while he was a visiting professor at the University of Houston's architectural school. Morning and evening services are held each day in the small sanctuary and, during the day, the space serves as a lecture hall for the mission's students who are preparing for the ministry.

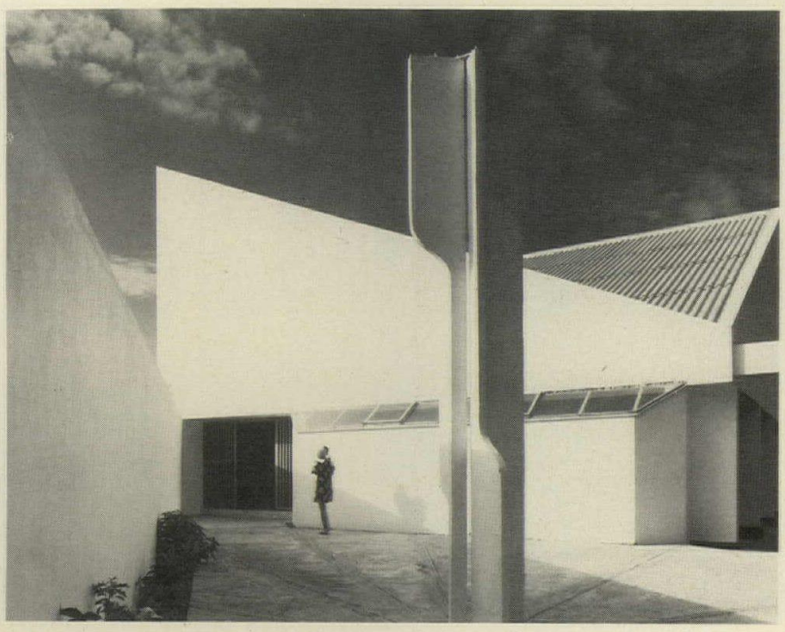
The structure is 8-in. concrete block, stuccoed and whitewashed. Concrete beams, cast on top of the walls, carry a roof structure of wood trusses, painted white which, in turn, support a roof deck of asbestos cement sheets. The floor is a slab dressed with terazzo which has been turned up, in a nice detail, to create a curb at the meeting with the wall. Screens built integrally with the walls in some sections provide natural ventilation and diffuse sunlight in a way that creates an aura of luminescence.

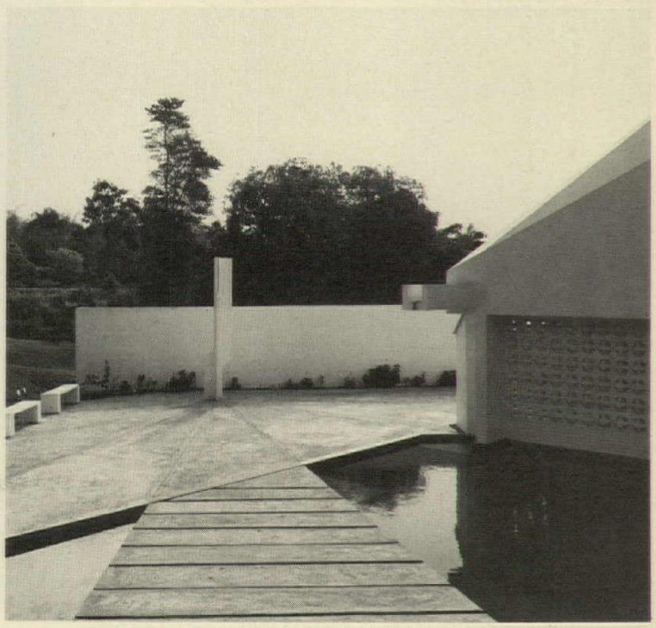
The mission is set on its site to create two outdoor spaces: a formal entry court with baptismal pool at the front and an active play space at the rear. The sculpture, photo below, is by the architect. Though some assistance was provided by the R.W. Johnson Construction Company and by Apex Engineering, Inc., both of Houston, most of the construction was carried out and supervised by local carpenters and masons.

The Assembly Church of God Mission is a beautifully designed structure, responsive to its tropical setting, modest and economical. The cost, including some of the sitework, was $10.20 per square foot.



Craig Kuhner photos





Temple Beth-El: spatial flexibility is still a paramount design concern

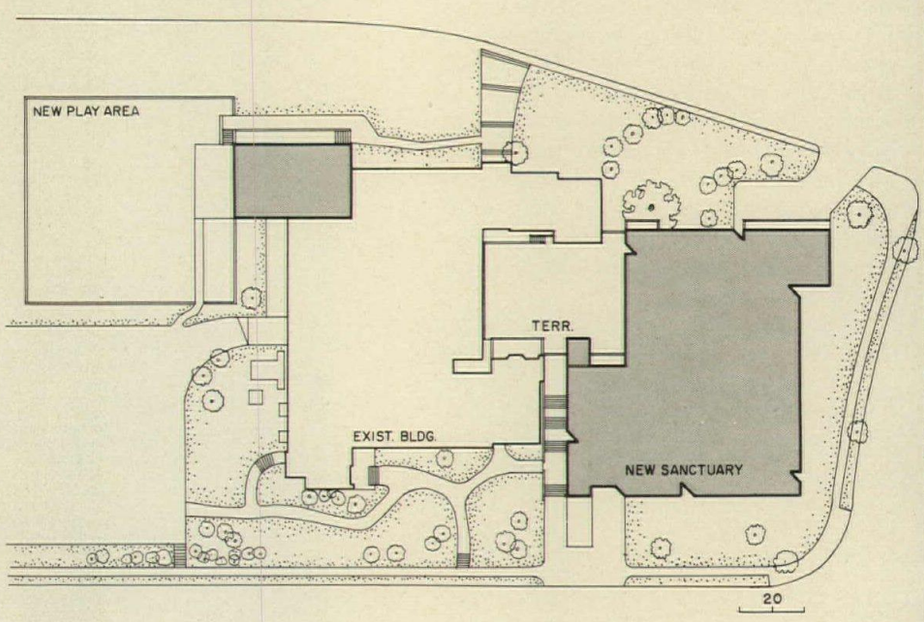
At the heart of the program for this Long Island Reform synagogue addition was the requirement that the new sanctuary function equally well for small daily congregations, bar mitzvahs and weddings, and for overflow congregations on High Holy Days. From a practical point of view, this meant anywhere from a few dozen worshippers up to 1900 or more. Architects Armand Bartos & Associates studied this requirement carefully and responded with a scheme that not only accommodates various numbers easily but vigorously expresses the various uses of this flexible space.

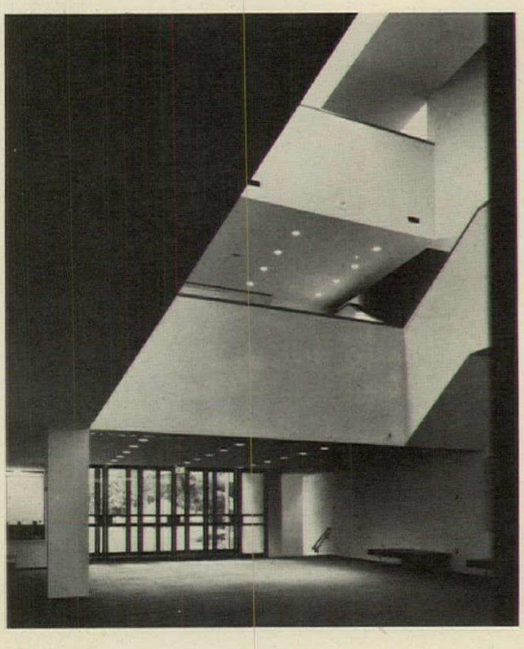
The components of the sanctuary are permanent main floor seating in two sections—one in a diagonal relationship to the bema, balcony seating above (including a projected section extending down to the main floor), and temporary seating under the balcony and in the social hall which may be opened through a sliding partition to become part of the main space. The front aisle of the balcony continues around the whole space, unifying it by providing the visual ligament that links all its elements. Also providing unity is a broad, suspended ceiling that follows the pattern of the pews below and conceals lighting fixtures and air conditioning supply ducts. Between the suspended ceiling and roof structure, over the bema, Bartos has introduced a canted skylight that brings daylight down to highlight the ceremonial area. A matching skylight (photo right) illuminates the rear wall of the balcony and aids in giving the whole sanctuary a clear spatial definition.

The building is framed in steel; dressed in brick. Interior walls are finished in white, textured plaster. Seats are upholstered and aisles are carpeted. Both the pews and the suspended ceiling are light oak. The total effect is lively but disciplined, quietly luxurious—at least in terms of its detailing and level of finish—but not in the least pretentious.

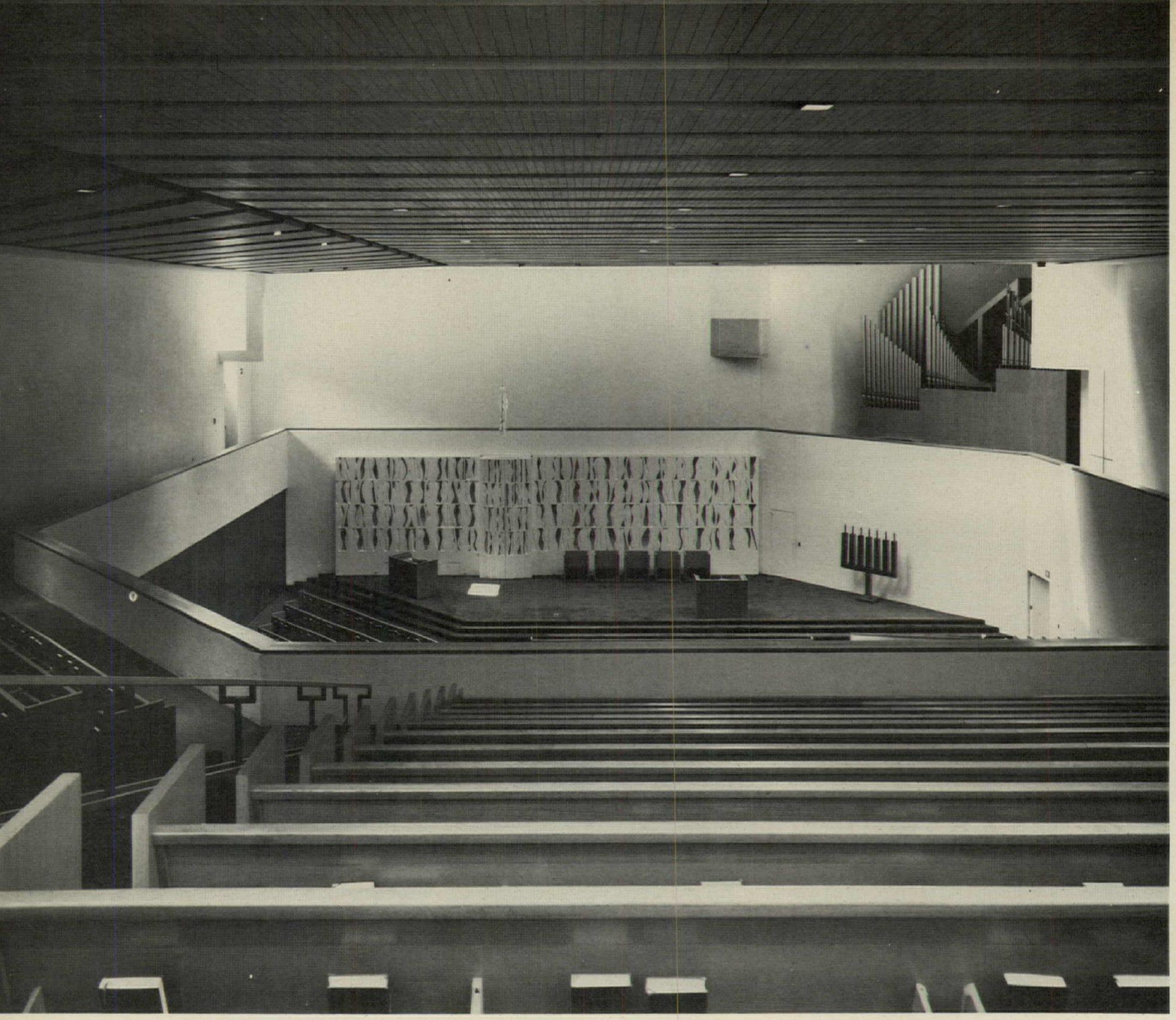
TEMPLE BETH-EL, Great Neck, New York. Architects: *Armand Bartos & Associates—Armand Bartos, partner-in-charge; Roy Friedberg, project manager; Martin Price (partner until May 1973), project designer.* Engineers: *Lev Zetlin Associates* (structural); *Flack & Kurtz* (mechanical/electrical). Sculptress: *Louise Nevelson.*

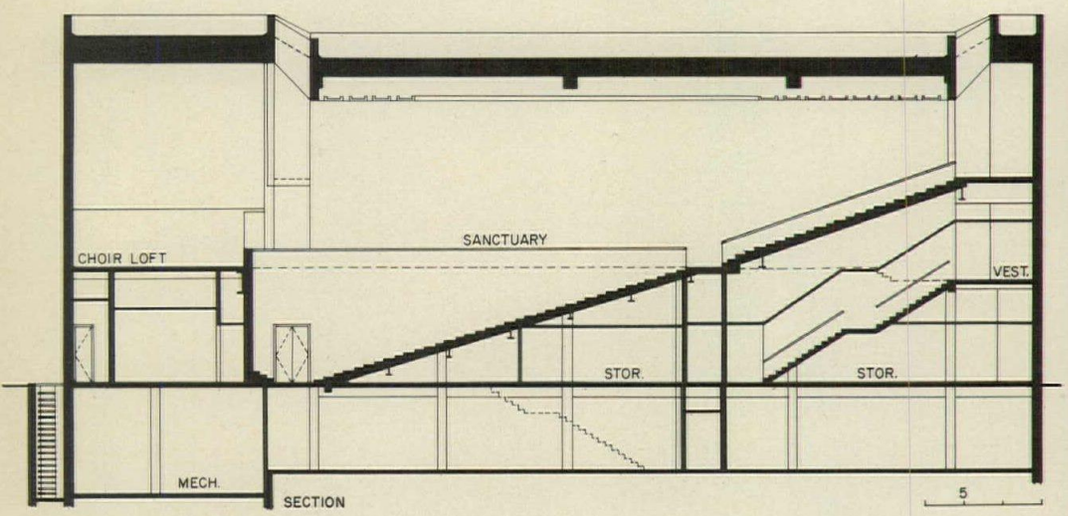
Norman McGrath photos

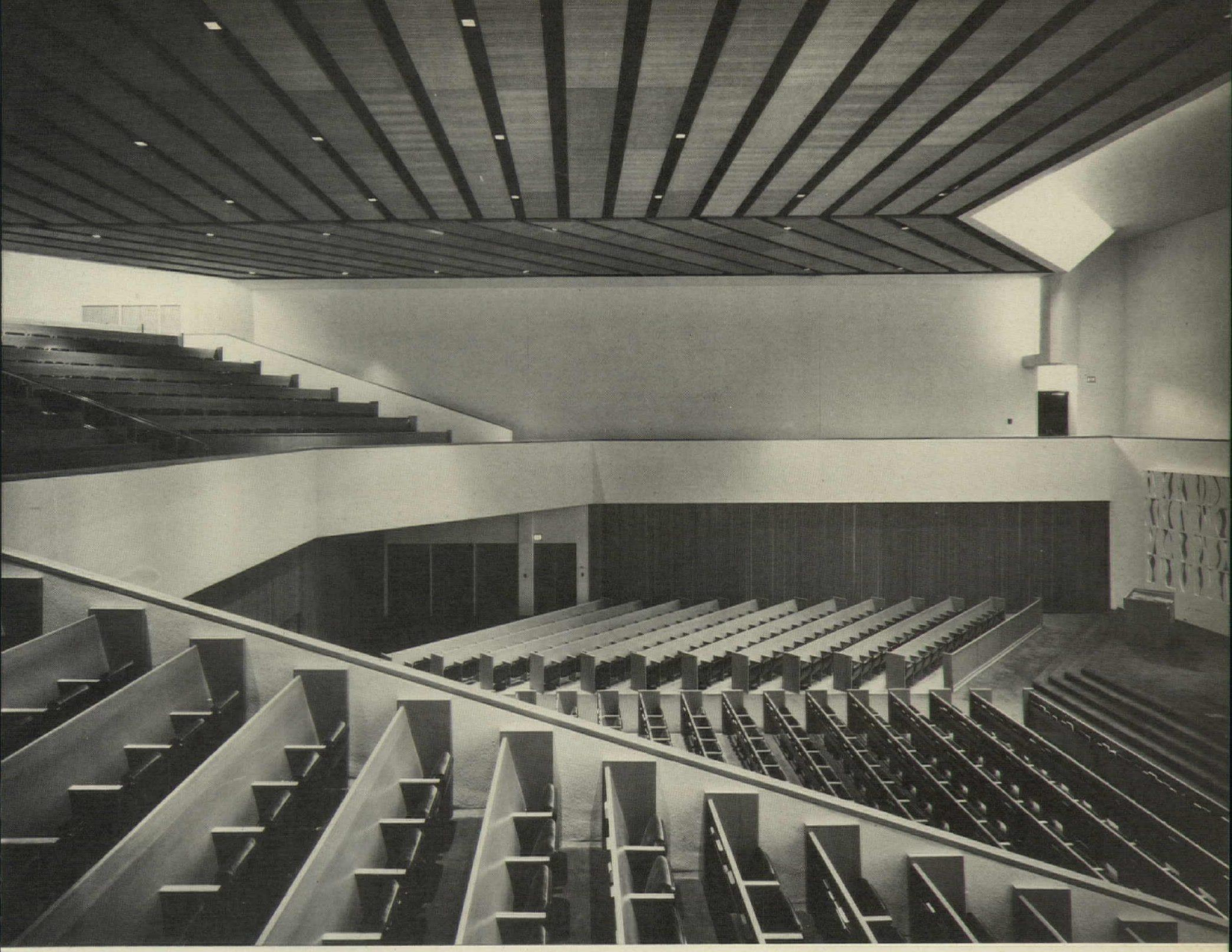


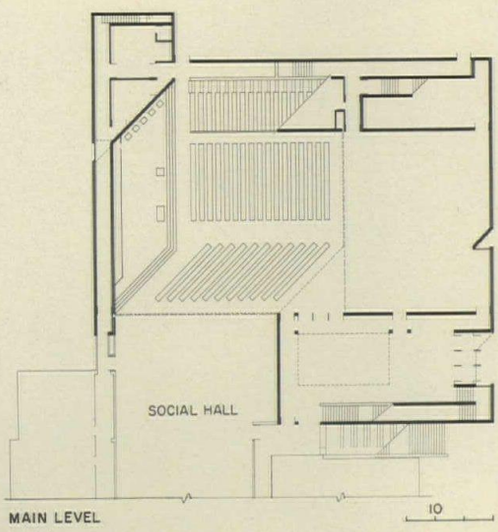


Main entrance is reached from the street by a stair set between the existing building and the new sanctuary. The visitor enters through a low vestibule (photo left) into a spatially exciting main reception space enlivened overhead by stairs leading to balcony seating. Photo (opposite) describes the relationship between inside and out. Skylight, at rear of balcony, illuminates the main avenue of circulation.

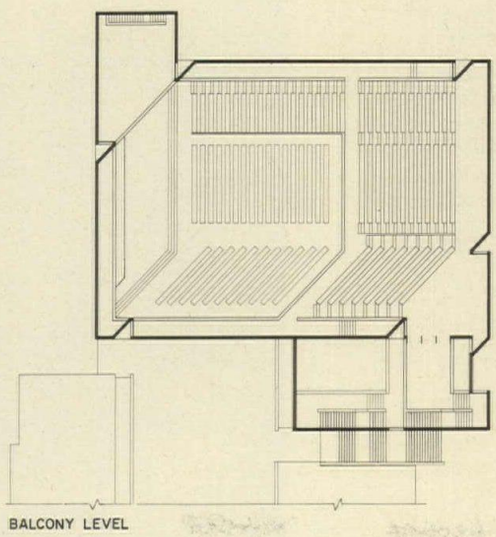



CHOIR LOFT
SANCTUARY
VEST.
STOR.
STOR.
MECH.
SECTION
5





MAIN LEVEL


BALCONY LEVEL

Flexibility is clearly expressed in the plans. Permanent seating includes 392 on the main floor, 133 in the diagonal side section and 364 in the balcony. In addition, a movable partition under the balcony may be opened to provide 370 temporary seats. When overflow crowds are anticipated, the social hall may also be opened to provide 620 more temporary seats, giving a grand total of 1900. All are within 100 feet of the bema and have unobstructed sight lines to the ark and pulpit.

St. Peter Claver: simple but powerful images for the revised liturgy

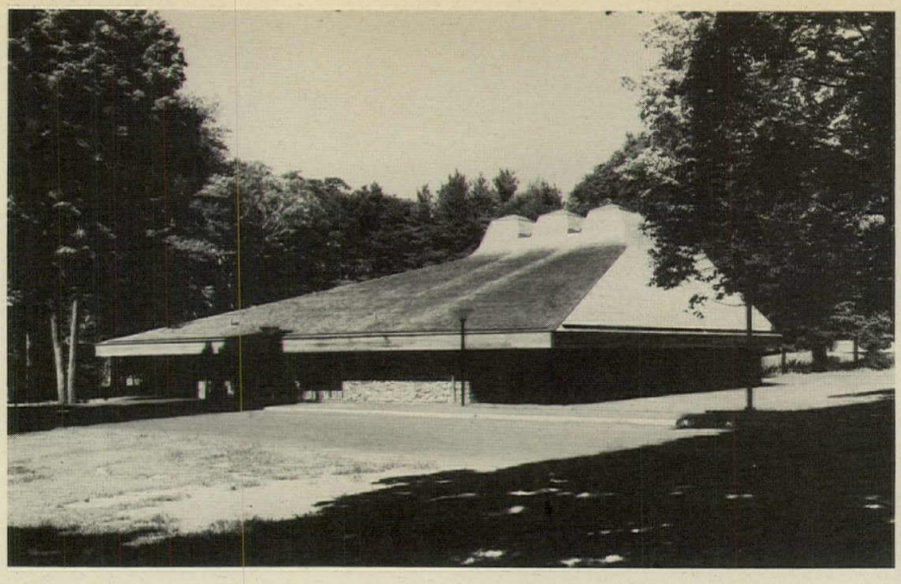
The gently-sloping roof forms, the natural materials, the domestic scale and detailing are all part of a conscious effort by architects, Russell Gibson Von Dohlen to respond to the quiet residential neighborhood in West Hartford, Connecticut that surrounds the new Church of St. Peter Claver. Working with fieldstone and with cedar planking for finishes both inside and out, the architects have designed a remarkably handsome church, the heart of which is a dramatic sanctuary framed with a laminated timber roof structure connected at its joints by heavy steel plates. A series of nine skylights over the nave suffuses the center of the space with a combination of artificial and natural light (photo opposite).

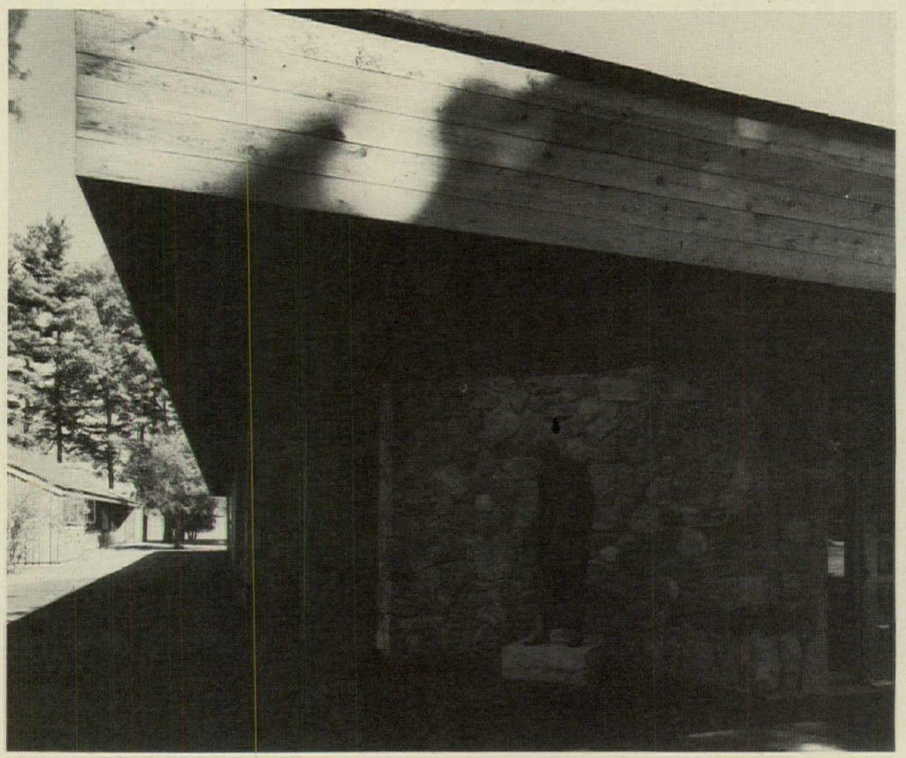
In response to the design dictates established by Vatican II, the seating fans out in a quarter circle around the altar, all pews are proximate to the sanctuary, and no altar rail or other visual obstruction separates the celebrant from the congregation during services. Even stained glass, at sides and rear, is used sparingly. The simple volumetric expression and the highly restrained use of religious ornament are also signs of Vatican II reform and impart to this religious space a heightened sense of simple faith. Only a pendant bronze crucifix, with Christ's head turned upward, reminds the worshippers of the resurrection and life to come.

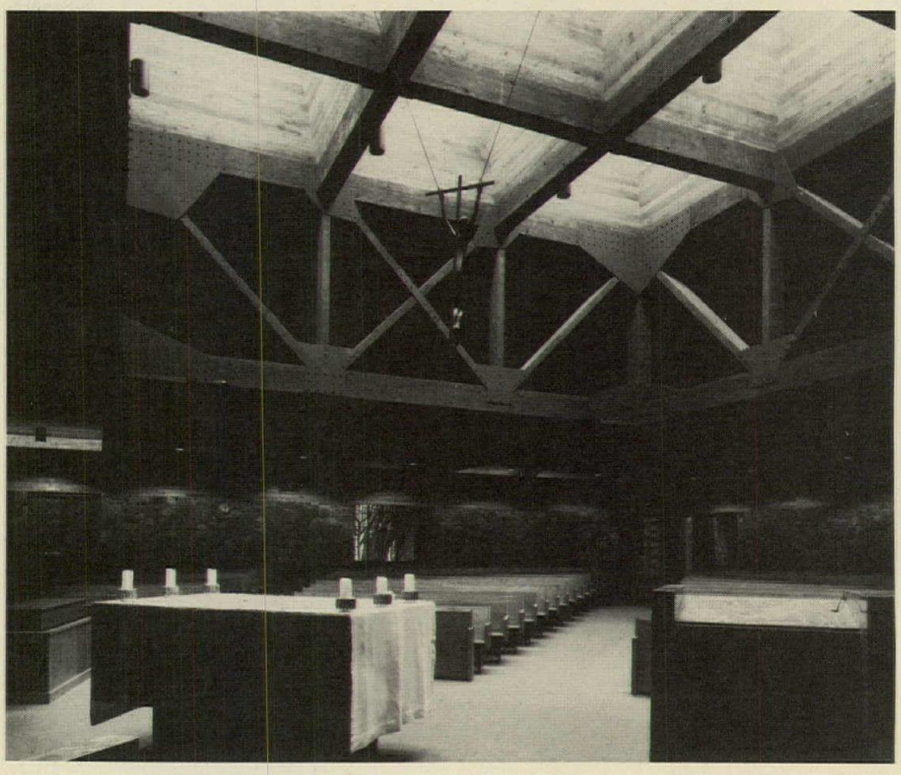
One result of this simplification is that St. Peter Claver's congregation has a church in which a few natural materials predominate. Floor plane, walls and ceiling structure read with elegant clarity and no design elements are visually thrown away in needless competition with other elements. All the elements receive their true—and properly propertioned—visual value.

The church contains 10,000 square feet, the nearby parish hall an additional 6,000 square feet, and a future rectory another 5,000 square feet. The unit cost for work completed to date is approximately $30 per square foot.

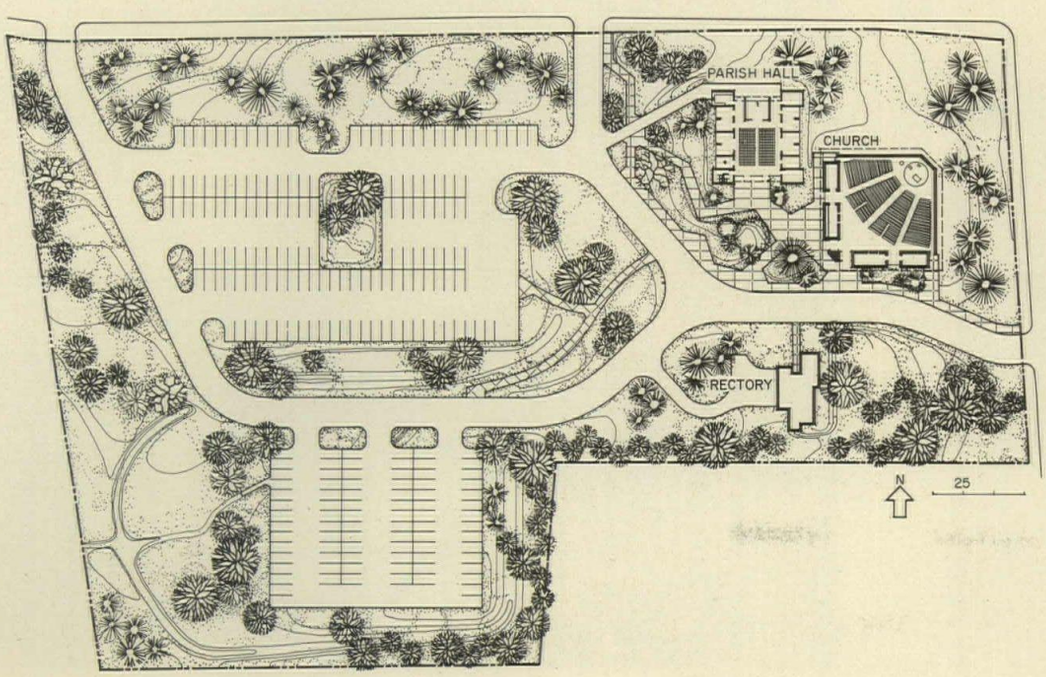
ST. PETER CLAVER, West Hartford, Connecticut. Architects: *Russell Gibson Von Dohlen—John L. Riley, partner-in-charge.* Engineers: *Joseph Hallisey & Associates* (structural); *Jerome Mueller* (mechanical). Landscape architects: *Maine and Tillapugh.* Contractor: *Stanley A. Macbeth, Inc.*







Charles N. Pratt photos



The parish complex consists of a church, rectory, and multi-purpose hall. In the site plan, the church assumes the central location of primary focus and is flanked left and right by the other two structures. The rectory, to be built later, will be isolated by an access road from the other two. Though the site planning seems sensible, and the wish to preserve the natural character of the site is commendable, one wishes the parking requirements had not been so heavy or that some system of off-street parking had been practical.

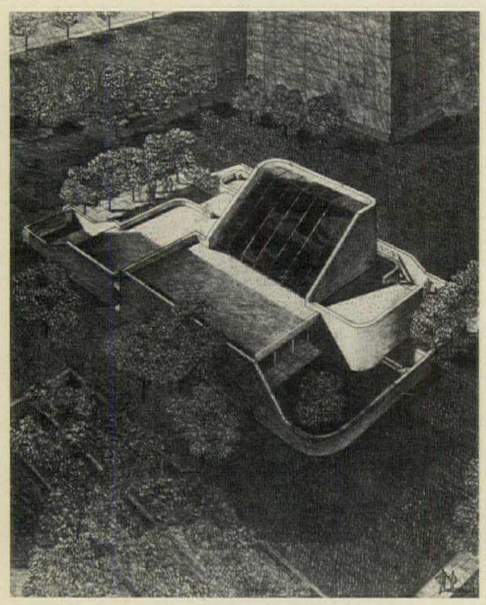
Charles River Park Synagogue: a David among the Goliaths of Boston's rebuilt West End

In the late 1950s, when urban renewal was still an acceptable euphemism for bulldozing, large areas of Boston's West End were condemned and cleared. Among the structures lost to this once thriving working class community was the old North Russell Street Shul—a synagogue that has served more than half a century as a center of worship for a 1500-member Orthodox congregation. After protracted court battles, the congregation finally received from the city compensation adequate to a new building program and commissioned Childs Bertram Tseckares Associates, Inc. to design the new structure shown on these pages.

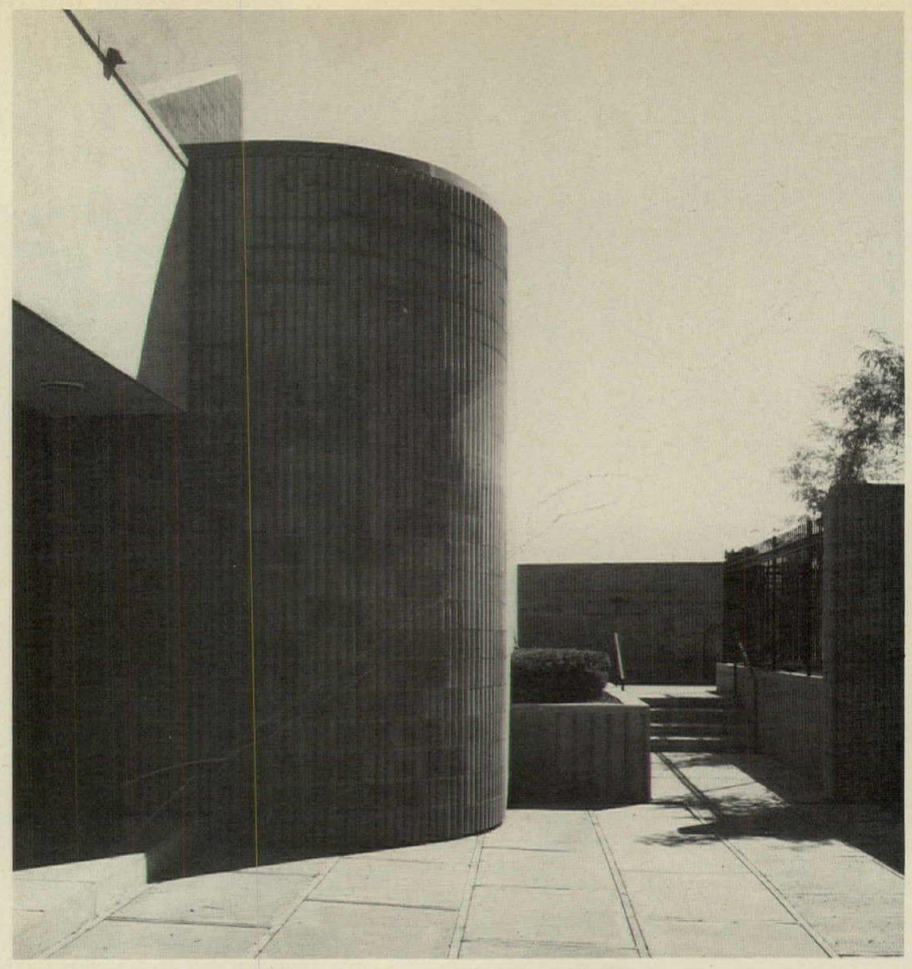
The site selected is on Martha Road and is surrounded by towering blocks of apartments. To ease the transition between a busy downtown street and a sanctuary of quiet contemplation, the architects developed a series of interlocking screen walls at the entrance. These walls, in an act of architectural "decompression," deliver the visitor through a landscaped courtyard and into the building's entry vestibule. The main sanctuary which can accommodate 250 worshippers, is located under a sloping translucent ceiling that reaches a height of 25 feet at its upper end. A social hall, separated from the main sanctuary by a concealed sliding partition, satisfies the need for overflow space at special services or High Holy Days.

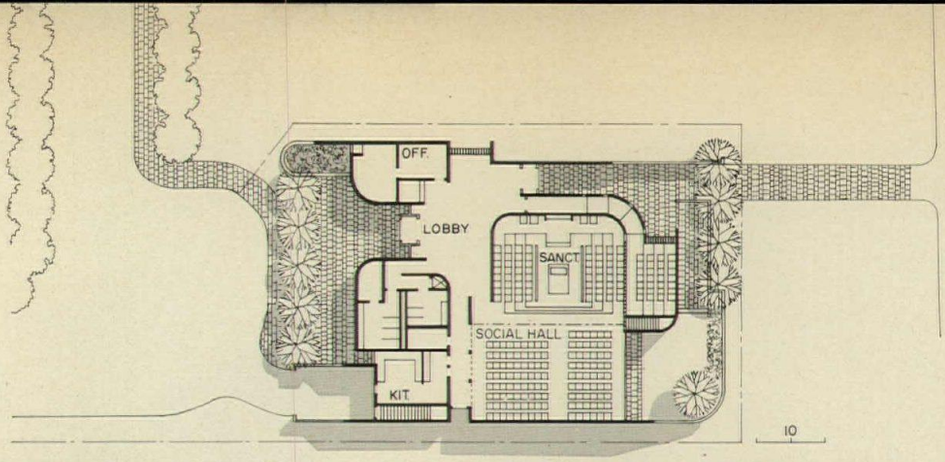
The 5000-square-foot building is faced with fluted masonry blocks both inside and out. The cambered, curving walls and self-conscious forms are designed to center attention on the synagogue itself and detach it visually from the massive rectilinear forms of surrounding buildings.

CHARLES RIVER PARK SYNAGOGUE, Boston, Massachusetts. Architects: *Childs Bertram Tseckares Associates, Inc.* Engineers: *Thomas Rona* (structural); *Samuel Ussia & Associates* (mechanical/electrical). Contractor: *Poley-Abrams Co.*



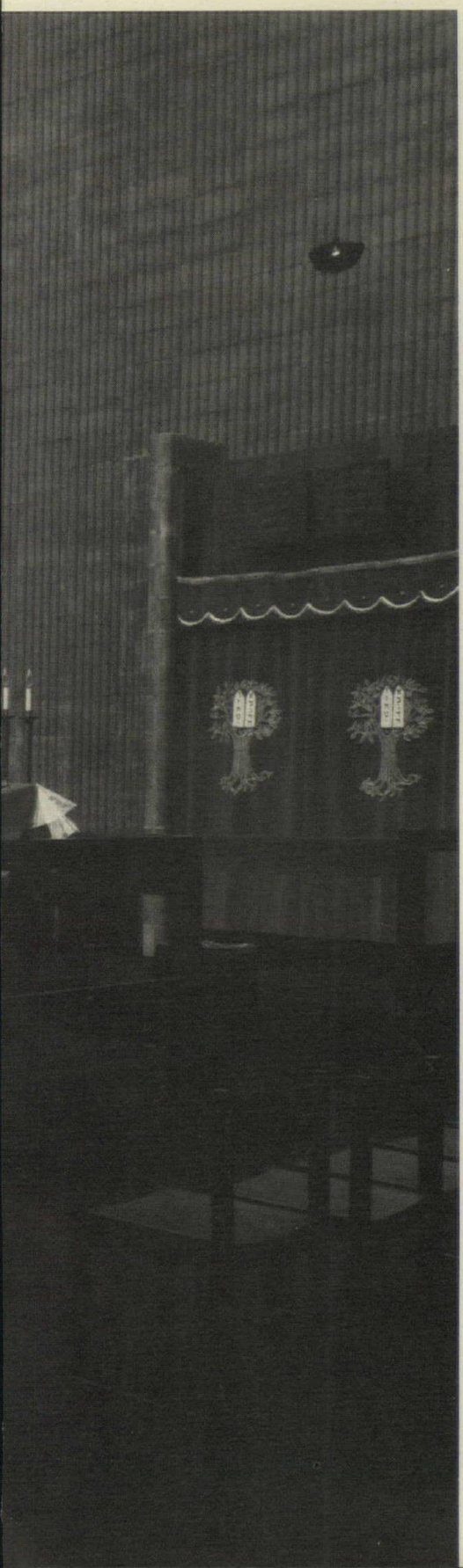
Ralph Hutchins photos



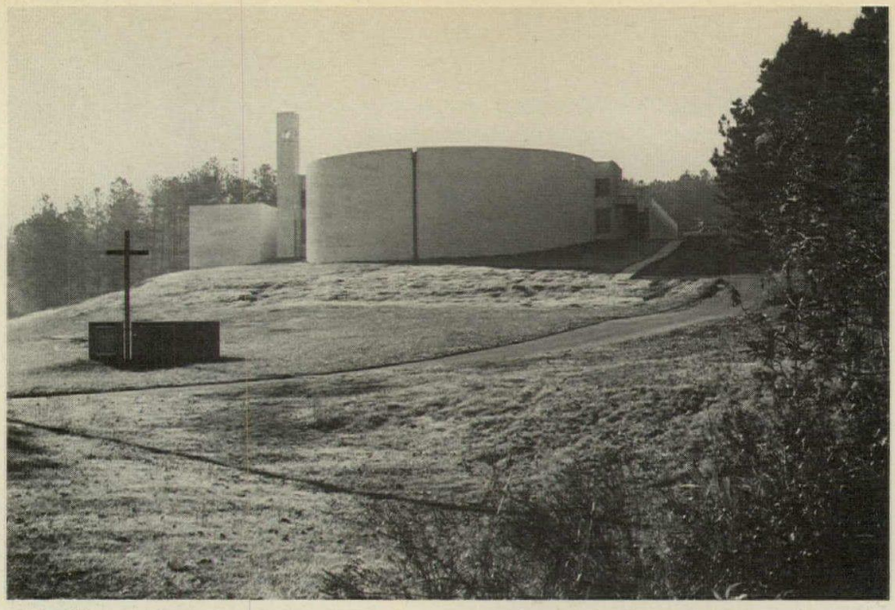

OFF.
LOBBY
SANCT.
SOCIAL HALL
KIT.
10


EXIT

Following Talmudic tradition, the tablets over the ark (photos below and right) are square shaped and fashioned of stone from Galillee. The eternal light is contained in a black metal holder designed by the architects, and hangs over the tablets.
Photo (bottom right) shows a small ceremonial courtyard used in good weather for weddings and at Sukkoth, the fall harvest festival.



Northwoods Presbyterian Church: old and new sensitively joined in this rural Georgia community



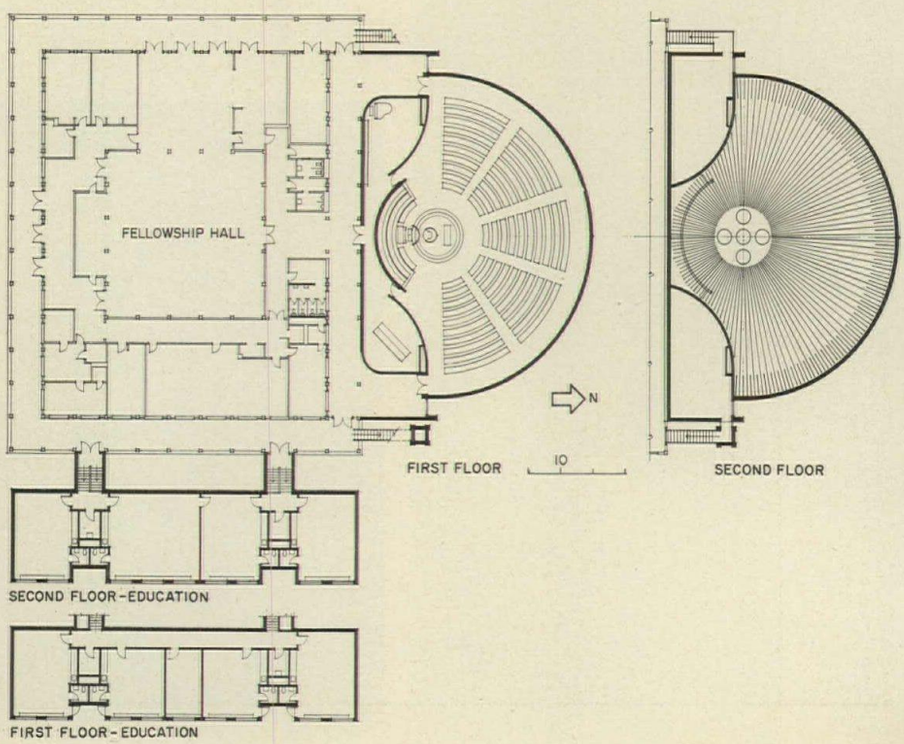
When the congregation for the Northwoods Presbyterian Church in Doraville, Georgia decided to expand its facilities, architect Jack D. Haynes was retained to design the addition. His budget was $250,000 and the program called for a new sanctuary seating 500 worshippers, new classrooms which will double during the week as kindergarten space, and parking for 150 cars.

The original structure consisted of a square fellowship hall surrounded by classrooms and on all sides by a narrow porch. Haynes retained the existing building, converting the north porch into circulation space that serves a new semi-circular sanctuary that centers on a raised altar platform. Two floors of new classroom space have been added in a split level arrangement to the east elevation of the existing building. New educational space, should it ever become necessary, can be added in similar increments to the building's other elevations. A bell tower on the east side of the new sanctuary completes the addition.

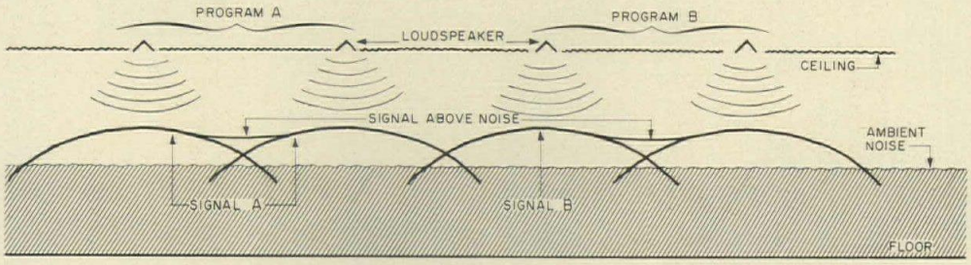
Construction materials are simple and economically assembled—stuccoed concrete block for bearing walls, bar joists for supporting upper floors and roof. Over the sanctuary, Haynes has used a radial pattern of fir 2x8s. This ceiling, suspended from the roof structure, screens out ductwork and diffusers located above and painted flat black. It also serves as an architectural device to focus attention on the area of the altar.

What lifts the Northwoods Presbyterian addition above many similar projects is the naturalness and simplicity with which old and new structure have been sensitively joined. There is dignity and elegance here but they have not come—as they sometimes have elsewhere—at the expense of liturgical function.

NORTHWOODS PRESBYTERIAN CHURCH, Doraville, Georgia. Architect: *Jack Durham Haynes.* Engineers: *Jack K. Wilborn* (structural); *Hartrampf, Powell and Associates* (mechanical); *Edwards and Rosser* (electrical). Landscape architect: *John Patton.* Acoustical consultant: *John R. Ballentine.* Contractor: *Aderhold Construction Co.*



Unobtrusive sound reinforcement for an open-plan school



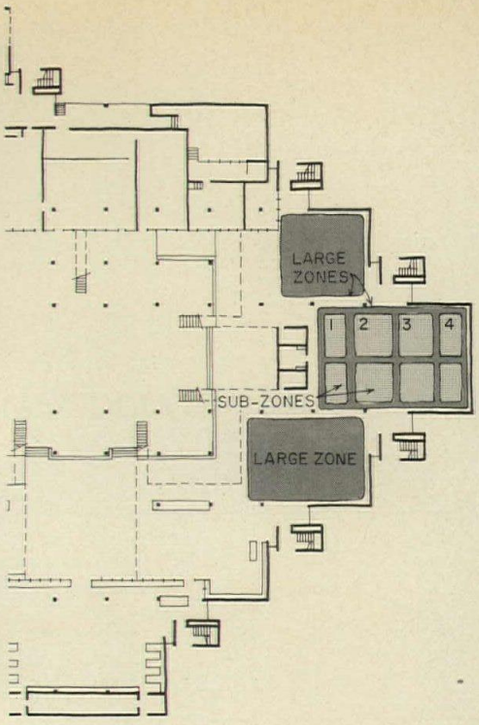
Peak of signal is directly below speakers. Sound is additive between two speakers carrying same program, but is not additive between two speakers carrying different programs.

A highly sophisticated audio-visual communications system in Branford, Connecticut Intermediate School gives ample sound in small, modular areas with clarity—not cacophony.

All open-plan schools face the potential problem of sound emanating in one teaching area disturbing students in an adjacent area. Typical solutions to this problem include: 1) the use of as much space between teaching areas as is economically and architecturally feasible, 2) carpeting on the floors, and 3) sound absorptive ceilings. Carlin, Pozzi & Associates, architects for the Branford Intermediate School, Branford, Connecticut (see RECORD, June 1973), and their acoustical consultant, Ranger Farrell & Associates, used all of these measures. At Branford there was a specific challenge, acoustically, because the educational program called for the heavy use of prerecorded teaching and audio-visual materials in the open spaces.

Small groups listening either to teachers' voices or to audio-visual materials, do not necessarily create sound interference. But as groups get larger (typical Branford classes range from 25 to 30 but can be as high as 100), the sound disturbance becomes larger.

In order to contain sound within a specific area and yet maintain adequate sound levels for comfortable listening, the consultants decided to install ceiling-mounted loudspeakers every 15 feet in both directions, to be used in conjunction with live or prerecorded teaching materials. These speakers can be seen in the photograph as the numbered boxes below the ceiling plane. It was reasoned that because of the low ceilings, and hence the proximity of loudspeakers to students, different program materials could be fed to each loudspeaker without disturbance from one coverage area to another. The fact that all speakers are oriented directly downward further confined their coverage. All loudspeakers within each of the 18 teaching zones are painted the same color. Within each teaching zone the speakers have



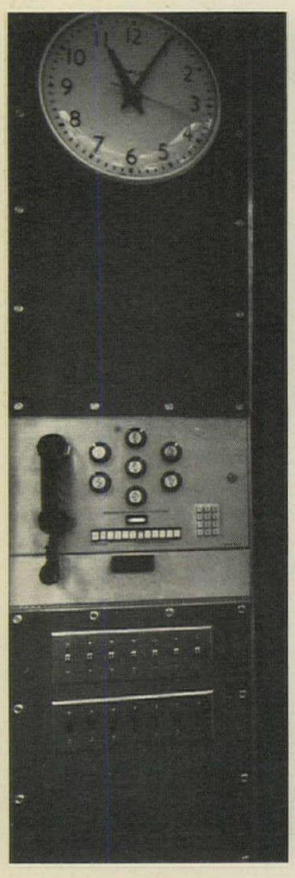
been grouped into subzones, all speakers in each being identified by a single number.

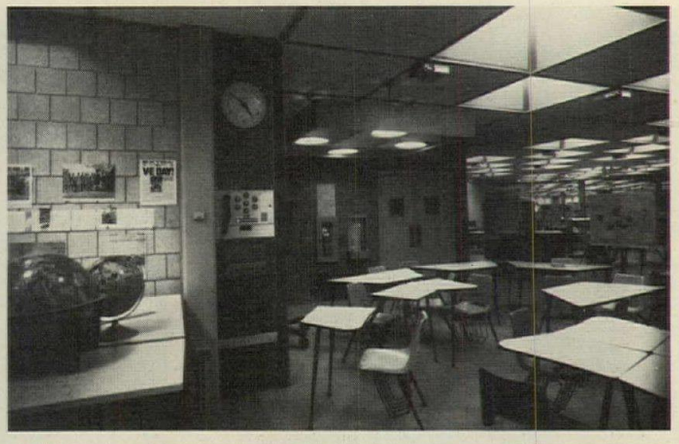
The first drawing shows schematically how the system works acoustically. Directly beneath each loudspeaker the signal level originating from a teacher's amplified voice, a motion picture projector, or a tape recorder is more or less uniform. Off to the sides, the signal level decreases until it is equal to or below the general ambient or activity noise, and beyond a given point it becomes inaudible. Another signal, over the next zone's loudspeakers will not cause interference.

In the planning stages it was thought that the smallest module would be that covered by one loudspeaker, and the largest, the whole school. However in the final design, in order to reduce control complexity, the smallest module is that covered by two loudspeakers, and the largest, by 20 to 28 speakers.

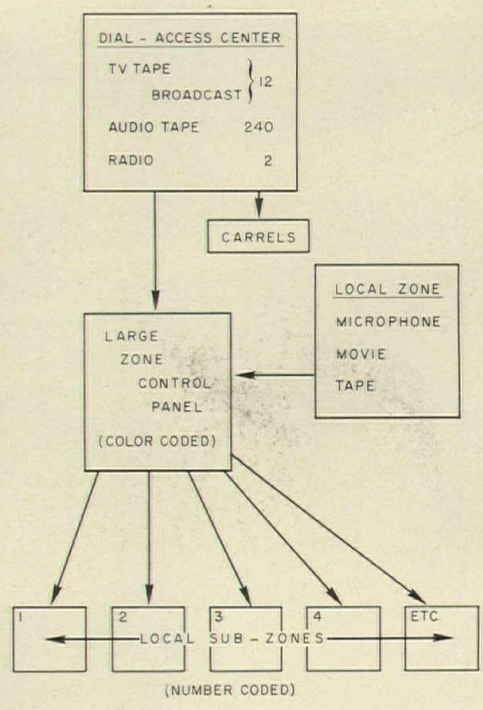
The drawing, below, right, shows the type and number of inputs that can be fed to the loudspeaker system. The inputs are from two locations: one in the dial-access office, and one within each teaching zone. At the large-zone panel, either one of two programs is accessible from the dial-access system for distribution to the subzones within each large zone. At any time, a choice can be made from a bank of 12 television programs with both audio and video signals, 240 audio-taped programs, and two radio programs for channel A and channel B at the zone control panel. Local equipment, including wireless microphones (used by the teacher for larger groups so that raised voice does not cause intrusion), motion picture projectors, or sound-film-strip projectors, can be fed into the large zone control panel by the teacher. Up to three local programs can be disseminated to subzones from the control panel, so it is possible to have as many as six audio programs playing within any large zone.

Audio and video signals also can be transmitted from the dial-access room to carrels in the instructional materials center (see photo).

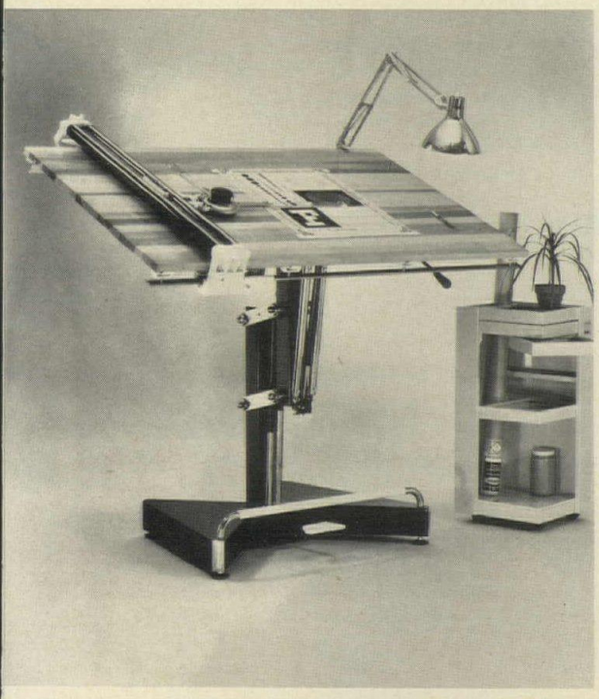




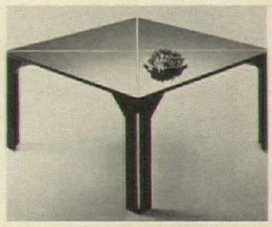
Robert Perron photos



For more information, circle item numbers on Readers Service Inquiry Card, pages 231-232.



Large-scale lounge seating and lacquered tables



A large-scale component lounge seating system (below) composed of numerous rectangular configurations and offering potential for ganging, features a body of polyurethane over steel. The basic armless unit is available with one or two arms, with special back elements said to form internal corners, and is complemented by an ottoman. All units gang at their recessed feet. Upholstery is offered in a selection of vinyls, fabrics and leathers. Shown at right are two tables from a series in natural wood and highly polished polyester lacquer elements, assembled in "puzzle-like relationships" according to the manufacturer. Square and rectangular dining-conference tables and a low coffee table comprise the series. Tables and seating are joined by a series of small-scale lounge seating (not shown), with companion tables, all part of the B&B Italia Collection. ▪ Atelier International, Ltd., New York City.

Circle 301 on inquiry card

European drafting furniture available in U.S.

Bieffe artists' furniture, winner of European industrial design awards, is now offered in the United States. Shown top is "Stabilus" with central leg construction. The stand incorporates a system of springs, which are said to offer easy counterbalance adjustment. Working height is adjusted by foot pedal, and inclination is controlled by a small hand lever. Shown below is "Architetto," made of square steel; it adjusts for height from 29 to 41 in. Maximum angle inclination is 25 degrees, and front and rear adjustments are independent. The table may be completely disassembled for transporting, and comes in white, gray, black, yellow, orange, red and green. ▪ Sam Flax, Inc., New York City.

Circle 300 on inquiry card

Made-in-the-Thirties furniture revived

Metal furniture of the late Thirties is now revived in hand-crafted polished chrome steel or weatherproof baked polyurethane colors, wrapped with polypropylene white, black or yellow cord. The line can be used as indoor or outdoor lounge furniture, and can be seen in Atlanta, Dallas, Los Angeles, San Francisco and Seattle showrooms. ▪ Benedetti Corp., Los Angeles, Cal.

Circle 302 on inquiry card

more products on page 158

VINYL WALLCOVERING / The product can be applied directly to concrete block with a minimum of surface preparation, and features a deeply-embossed, textured pattern. It is available in rolls 54 in. wide, and the finished weight is 34 oz. ▪ The General Tire & Rubber Co., New York City.

Circle 303 on inquiry card

HARDBOARD PLANKS / Shown here are horizontally-installed planks, each a 16 in. by 8 ft mini-panel one-third the size of a conventional 4-ft panel. These pre-finished hardboard planks can be installed over any solid backing or framing. ▪ Marlite Paneling, Dover, Ohio.

Circle 304 on inquiry card

SANITARY ALUMINUM CEILING / Called *Hygeniceil*, the product is said to eliminate peeling and falling paint chips and offers no breeding areas for bacteria and other micro-organisms. It is coated with a high-gloss white, baked enamel finish that is guaranteed for 20 years against chipping, cracking or peeling. Made from tongue and grooved interlocking aluminum panels, the ceiling system is caulked with silicone sealant. ▪ Alcan Building Products, Warren, Ohio.

Circle 305 on inquiry card

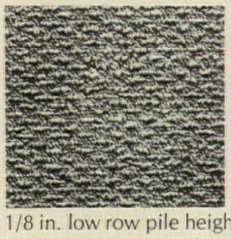
HOPSACK TEXTURED CARPETING / The carpet's hopsack texture resembles that of a woven velvet in appearance. Pile yarns are continuous filament *Anso* nylon and a conductive element has been added to reduce static electricity. The carpet carries a five-year guarantee, and is available in 15 stock colors. ▪ Burlington House Carpets, Atlanta, Ga.

Circle 306 on inquiry card

ACRYLIC COATING FOR TANKS / A water-based acrylic protective coating is a one-coat self-priming rust inhibiting product that protects against acids, salt spray, chemicals and abrasion, according to the company. It is available in 15 colors, including OSHA colors. ▪ Prufcoat, Cleveland, Ohio.

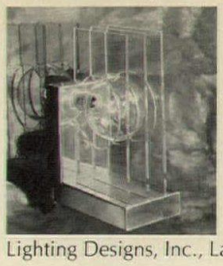
Circle 307 on inquiry card

NUBBY TWIST CARPET / The design of this carpet is executed in 100 per cent *Anso* continuous filament nylon in a 1/10 gauge textured loop construction. With continuous dyed three-ply fiber tufted 10 rows per inch with a 3/16 in. high row, 1/8 in. low row pile height and a 32-oz. face weight, *High Mark* is said to be durable, and is available in 11 stock colors ▪ Wellco Carpet Corp., Calhoun, Ga.



Circle 308 on inquiry card

WALL FIXTURE / The *Valencia* wall fixture measures 13½ in. high, 5 in. wide and extends 9¾ in. The unit accommodates one medium base bulb up to 60 watts. The ¼-in. thick clear acrylic may be complemented by a polished brass or pewter finish. ▪ Georgian Art Lighting Designs, Inc., Lawrenceville, Ga.

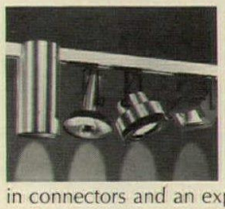


Circle 309 on inquiry card

AUDIO-VISUAL SYSTEM / A compact, low-cost audio-visual system that permits lighted rooms during presentations is completely self-contained requiring shallow installation space. The built-in non-glare rear projection screen is flanked by projection equipment. A remote control panel operates all elements, and projectors are accessible from the front of the cabinet. ▪ Jerome Menell Co., Inc., New York City.

Circle 310 on inquiry card

TRACK LIGHTING / A four-circuit track can handle four different types of electrical services and in terms of control, each circuit can be separately switched or dimmed. The four-circuit track includes a built-in raceway, push-in connectors and an expanded line of lampholders and accessories. ▪ Halo Lighting, Rosemont, Ill.



Circle 311 on inquiry card

more products on page 162

For more information, circle item numbers on Readers Service Inquiry Card, pages 231-232

REINFORCED PLASTIC GRATING / A fabrication brochure on corrosion-resistant structural systems made with reinforced plastic grating pictures 16 different examples of systems such as elevated floors in plating rooms, stairways, caged ladders, platforms, pipe supports, pipe joints, trash screens, doors, and walkways. Design, engineering, production, fabrication, and pretesting details are also illustrated and described. ▪ Fibergrate Corp., Dallas, Tex.

Circle 400 on inquiry card

WINDOWS, DOORS / The company's 1974 catalog shows a complete line of *Perma-Shield* windows and gliding doors, wood windows and gliding doors, and decorative *Perma-Shield* shutters in louvered and raised panel styles for windows and entry doors. Two styles of factory assembled 30- and 45-degree angle bay windows with double-hung or casement units are included, along with a description of an awning/casement window prefinished in white or earth color. ▪ Andersen Corp., Bayport, Minn.

Circle 401 on inquiry card

COMPACT KITCHENS / Schematic drawings of each kitchen unit and complete specifications as well as color photos are included in a new color brochure. Models range from 30 in. to 7 ft wide. In addition, five undercounter refrigerators, ice makers and a mini bar are shown. ▪ Acme-National Refrigeration Co., Inc., Astoria, N.Y.

Circle 402 on inquiry card

MULTIZONE UNIT / The company's energy saving package is designed to further increase the efficiency of *Roofpak Multizone* heating and cooling units. Solid state controls permit temperature to be varied to suit the load conditions, meaning that constant hot and cold deck temperatures do not have to be maintained. *Multizone* units are available in six configurations, in any combination of heating and/or cooling, in 15- to 40-ton sizes. Each unit is completely factory assembled, wired and piped. ▪ McQuay Perfex Inc., Minneapolis, Minn.

Circle 403 on inquiry card

NOISE AND THE LAW / A seven-page study provides the basic information needed to identify and measure the severity of industrial noise and to know the amount of noise exposure time permitted by law. Written by a company noise control specialist, the study includes definitions of the terms used in measuring and evaluating noise, details on the reduction of noise and a table of permissible noise exposure times. ▪ Clark Door Co., Inc., Cranford, N.J.

Circle 404 on inquiry card

NURSING STORAGE CABINET / A four-page bulletin describes a double-access cabinet which provides for the routine placement and removal of medication, clean supplies and linens from either the patient's room or the corridor. ▪ Powers Regulator Co., Skokie, Ill.

Circle 405 on inquiry card

CORROSION-PROOF STEEL FENCE / A full-color fence manual featuring vinyl-bonded to pre-galvanized steel chain-link fence—factory warranteed against rust and corrosion for 15 years—is said to give detailed technical information on the company's complete line, including: maximum security fence, tennis court fence, redwood privacy fence, post & cable fence, barbed wire, and park benches. All systems are available in three colors. ▪ Colorguard Corp., Raritan, N.J.

Circle 406 on inquiry card

STORAGE CATALOG / The varied uses and compatibility of a full line of steel shelving systems are reviewed in a 40-page, two-color catalog on standard open and closed shelving; mezzanine storage systems; special *Wide-Span* shelving; storage racks; and hi-rise shelving for automated systems equipment. The catalog gives complete description and data for all types of shelving. ▪ Penco Products, Inc., Oaks, Pa.

Circle 407 on inquiry card

SEALANT SELECTOR CHART / A four-page illustrated brochure on durable, flexible, weathertight sealants for all types of building joints provides architects, designers, and specifiers with a quick reference to performance characteristics, specification ratings, joint application sizes, surface types, life expectancies, and colors for the company's complete line of sealants. ▪ The Tremco Mfg. Co., Cleveland, Ohio.

Circle 408 on inquiry card

STEEL FRAMING / "Framing with Steel" is the title of a four-page report describing the total method of framing with steel for use in residential and light construction. The list guide contains the name and addresses of manufacturers of such steel building components as: non-load bearing studs for framing, exterior entry load bearing studs for framing, exterior entry doors, fireplaces, siding, door frames and steel rainware. ▪ American Iron and Steel Institute, New York City.

Circle 409 on inquiry card

PLAYGROUND EQUIPMENT / The 92-page book introduces a wide range of new equipment for parks and schools leading off with an entire Western theme playground. Other categories in the catalog include: playground equipment in metal or wood; outdoor nursery equipment; sports equipment such as obstacle courses, goal posts, bleachers and gear for basketball, volleyball and tennis; park equipment; shelters; and the company's custom-built mobile recreation units. ▪ Game Time Inc., Litchfield, Mich.

Circle 410 on inquiry card

PRIMITIVE TILE / An eight-page color brochure shows 11 glazed colors, ranging from off-white to red and one earthy, unglazed color in six shapes of *Primitive*, a ceramic tile said to have a handcrafted look. The brochure illustrates trim shapes available, architectural specifications, and residential and commercial applications. ▪ American Olean Tile Co., Lansdale, Pa.

Circle 411 on inquiry card

MOLDED CASE CIRCUIT BREAKERS / A 16-page data sheet describes Class 1410/1420 molded case circuit breakers for use in panelboards, switchboards, control centers, combination motor starters, bus duct plug-in units, and in individual enclosures. Incorporated in this device are overload protection for conductors and short-circuit protection for all conductors, motors, and motor starters. Current ratings correspond, in general, to the standard ratings in NEC paragraph 240-5b. ▪ Federal Pacific Electric Co., Newark, N.J.

Circle 412 on inquiry card

COMMERCIAL WINDOWS / The bulletin illustrates and describes consumer benefits of this new window which offers an integral screen track for full or half screens, a method of sealing the interlock between sashes, and other improvements. ▪ Season-all Industries Inc., Indiana, Pa.

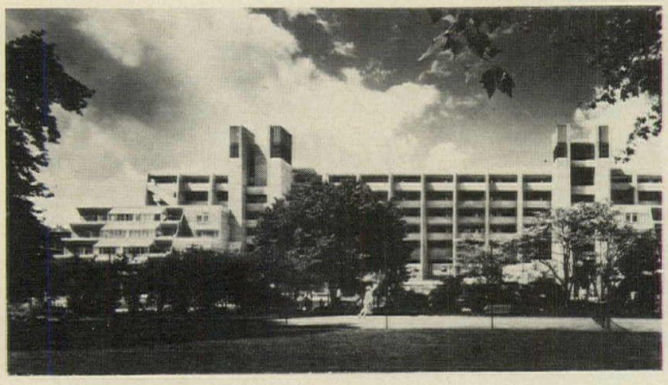
Circle 413 on inquiry card

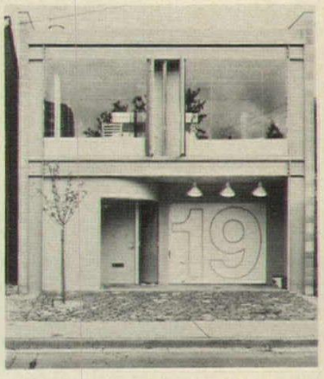
Britain's finest international architectural and design magazine

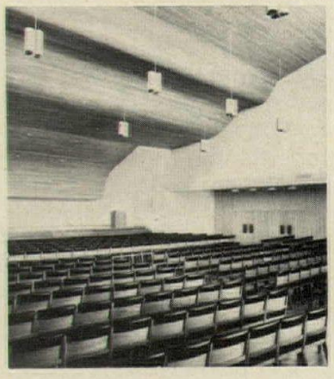
The Architectural Review

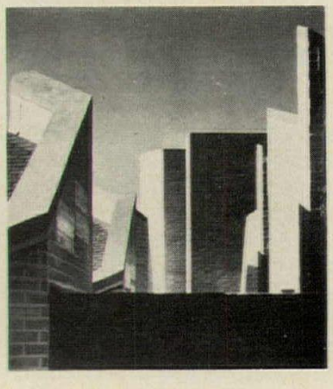
The Architectural Review is read and enjoyed in major architectural and planning practices and by people with an interest in buildings and fine design in a hundred countries. It is one of the world's important publications. Each month The Architectural Review is studied, quoted and argued about for its views on topography and townscape and for its thorough and thoughtful criticism of new buildings and their interiors. Then it is kept for future reference.

It has a reputation for superb photo-journalism, for fine detailed drawings and for a positive and creative approach to criticism of significant buildings and the problems of the built environment. Sometimes most of a complete issue is devoted to an interesting complex of buildings or to a single subject. These special issues can become standard works of reference. Years afterwards architects and planners ask us for back numbers on specific subjects. Almost every month interior design is featured and the current art scene is reviewed. The Review has a long history of encouragement to architectural and planning innovation and is continually searching for new talent. Awards are not usually given to publications in the UK but recently the Italian government's Gold Medal was awarded to The Architectural Review for outstanding international services to the better design of the human environment. The editorial director in 1971 won the annual Royal Gold Medal of the RIBA (previous holders included Buckminster Fuller, Le Corbusier, Lewis Mumford, Mies van der Rohe, Walter Gropius) and the retiring editor recently won the Royal Society of Arts Bicentenary medal. Recent editorial excellence is, apparently, being maintained as current sales of the Review are higher than ever before in its 76-year history.









The Architectural Review is a valuable professional aid for busy practices. An annual subscription also makes a memorable all-the-year-round present for friends and colleagues. To see this provocative and professionally-stimulating publication regularly, please fill in and send off this coupon :

Please send me The Architectural Review monthly (12 copies) at the annual post-paid subscription rate of $30.

MY NAME/POSITION

MAILING ADDRESS

Country

Type of Firm

I understand that the current issue will be despatched on your receipt of my cheque/int. money order/ bankers draft.

☐ Payment enclosed.

Signature 9–74

Indicate as appropriate.

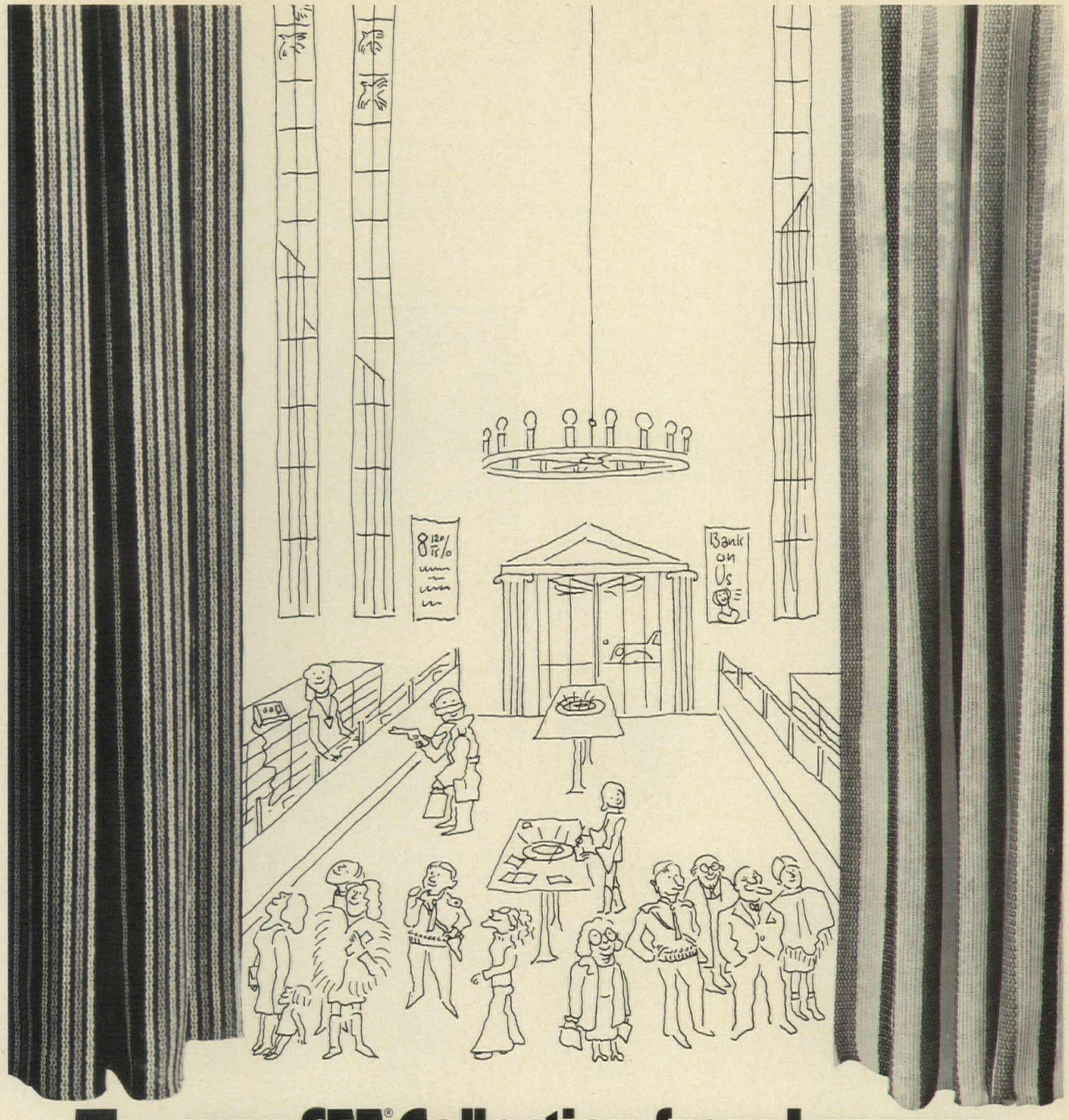
☐ Architect

☐ Engineer

☐ Other

The Architectural Press Ltd, Dept R, Registered Office 9 Queen Anne's Gate, Westminster, London SW1 H 9BY, England.

Registered England 75921



The new SEF® Collection from Lazarus: For banks who don't have money to burn.

If you specify contract draperies, you'll want to see the new SEF fabric collection from Lazarus. Here's an investment that will pay off with interest, because SEF fabrics offer superior flame retardant properties, along with the textures, patterns, drape, and soft, resilient hand you've been looking for.

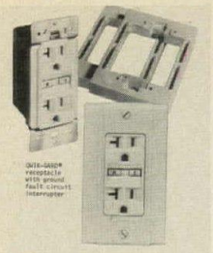
SEF, the new Monsanto modacrylic fiber, gives draperies the rich aesthetics of an acrylic that modacrylics could not duplicate before. It's also a great performer. These fabrics can all pass the California Fire Marshall Test. And, they have superior soil release properties, as well as sun resistance and colorfastness.

For banks who watch their money, or office buildings, motels, or any high-rise, specify SEF fabrics from the oldest, most reliable firm in the business. Lazarus, 516 West 34th Street, New York, N.Y. (212) 736-6200.

FABRIC MADE OF SEF® modacrylic fiber by Monsanto

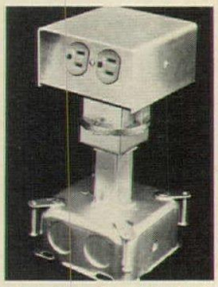
For more data, circle 71 on inquiry card

GROUND FAULT RECEPTACLE / Receptacles with ground fault circuit interrupters are available in both standard and feed-through models, in 15 and 20 ampere ratings. They are installed on either existing or new electrical installations. *Qwik-Gard* receptacles are UL-listed and are available in white, beige, brown or ivory finishes. ▪ Square D Co., Lexington, Ky.



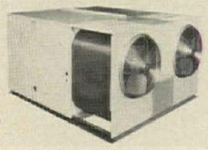
Circle 312 on inquiry card

POKE-THROUGH FLOOR OUTLET / The *Fire-I Model 300-21*, a UL-listed poke-through floor assembly, was developed to comply with the National Electrical Code Section 300-21, Prevention of Fire Spread. *Fire-I* fits 2½ to 8 in. concrete floors and consists of a floor service box on top, the fire-rated center coupling to provide sealed passage of wires through a 3-in. diameter hole in concrete, and a barriered junction box at the bottom for wiring feeds. ▪ Raceway Components, Inc., Linden, N.J.



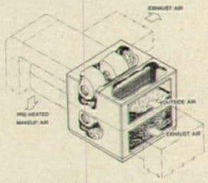
Circle 313 on inquiry card

YEAR-ROUND ROOFTOP UNIT / *Series 301* combines gas heating and electric cooling in two models of 240,000 Btu/8 ton and 300,000 Btu/10 ton. Key features of the line include lightweight, low profile, high energy-efficiency, and minimal cost, according to the company. The cooling system includes dual hermetic compressors to provide two-stage cooling. ▪ International Heating & Air Conditioning, Utica, N.Y.



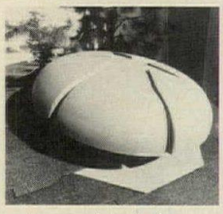
Circle 314 on inquiry card

THERMAL ENERGY CONSERVATION / The system is engineered to reclaim and reuse thermal energy wasted in exhaust air, and uses it to pre-heat make-up air. It is custom engineered to fit any structure's specific needs and merges with any type of HVAC system. Units are custom packaged and ready for quick installation, according to the company, which also says the system assures no contamination of air streams. ▪ Governair Corp., Oklahoma City, Okla.



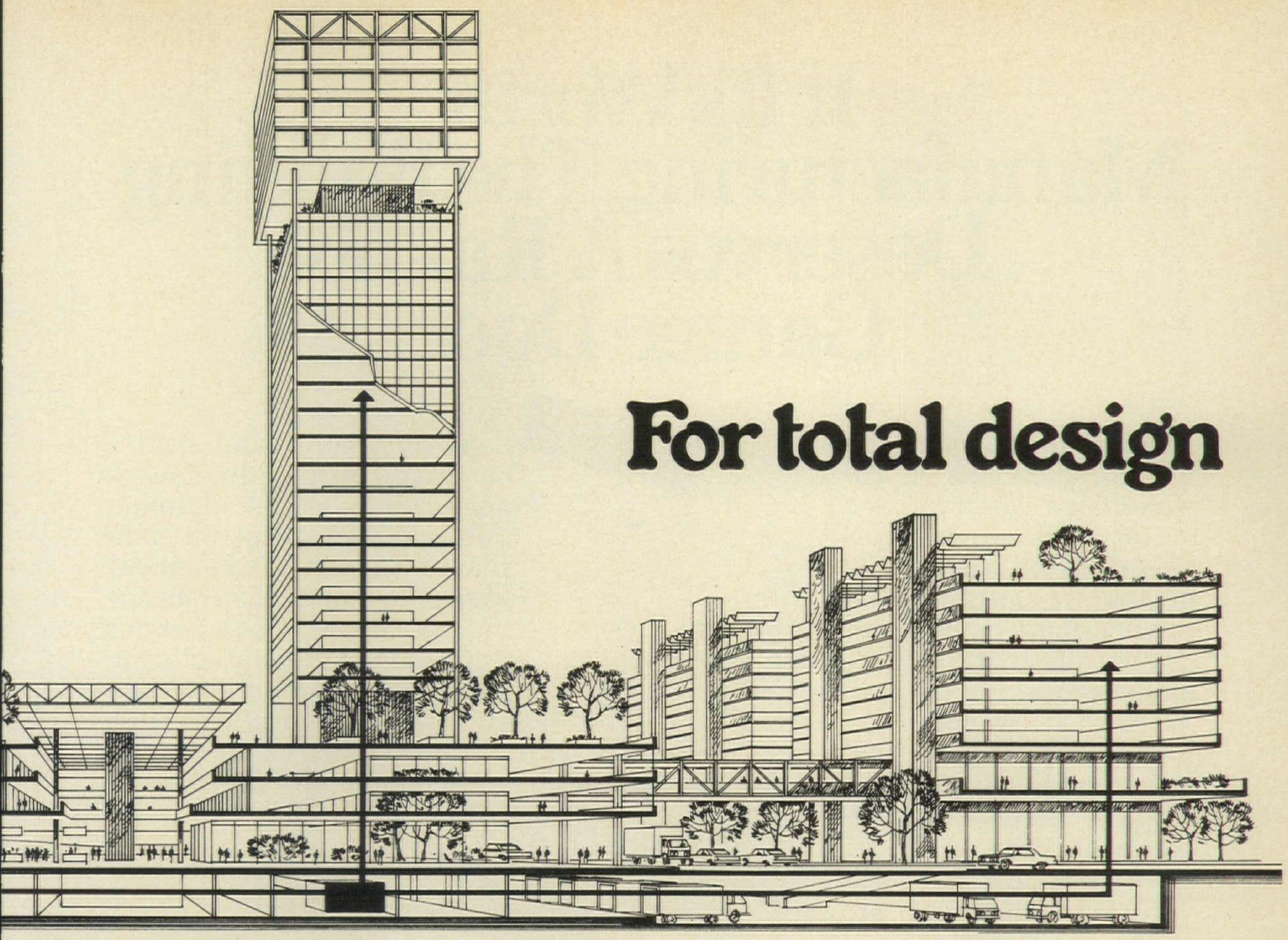
Circle 315 on inquiry card

POWER VENTILATOR / An electric-powered roof ventilator designed for residential or commercial use, offering weatherability and easy installation, is molded of *Noryl* engineering structural foam resin. The 14-in. fan is powered by a 1/15 hp motor, and includes a solid state thermostat with an operating range of 80 to 120 degrees. The unit is UL-listed. ▪ Wind-Wonder, Inc., Houston, Tex.



Circle 316 on inquiry card

more products on page 167



For total design

Bell System when preplanning.

Efficient buildings provide facilities to install today's sophisticated communications systems. Since these facilities should be integrated with your design, we want you to know about our Building Industry Consulting Service.

A Bell System consultant can advise you on local building codes which affect communications, and suggest a system that offers maximum efficiency and makes optimum use of space. And there's no extra charge for this service.

Calling us early can eliminate the need for expensive alteration, or exposed cables and wires.

Our insert in Sweet's Catalogue has basic information. For questions on current or future projects call a Building Industry Consultant at your Bell Company or send in our coupon. At AT&T and your Bell Company, we want to help you produce an efficient end product.

We hear you.

Building Industry Consulting Service
American Telephone and Telegraph Company
Room 2238D, 195 Broadway
New York, New York 10007

K

I am interested in the Building Industry Consulting Service.

☐ Please send me additional information.

☐ Please have a representative contact me.

Name

Title Tel.

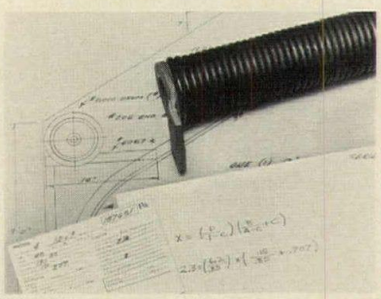
Company

Street

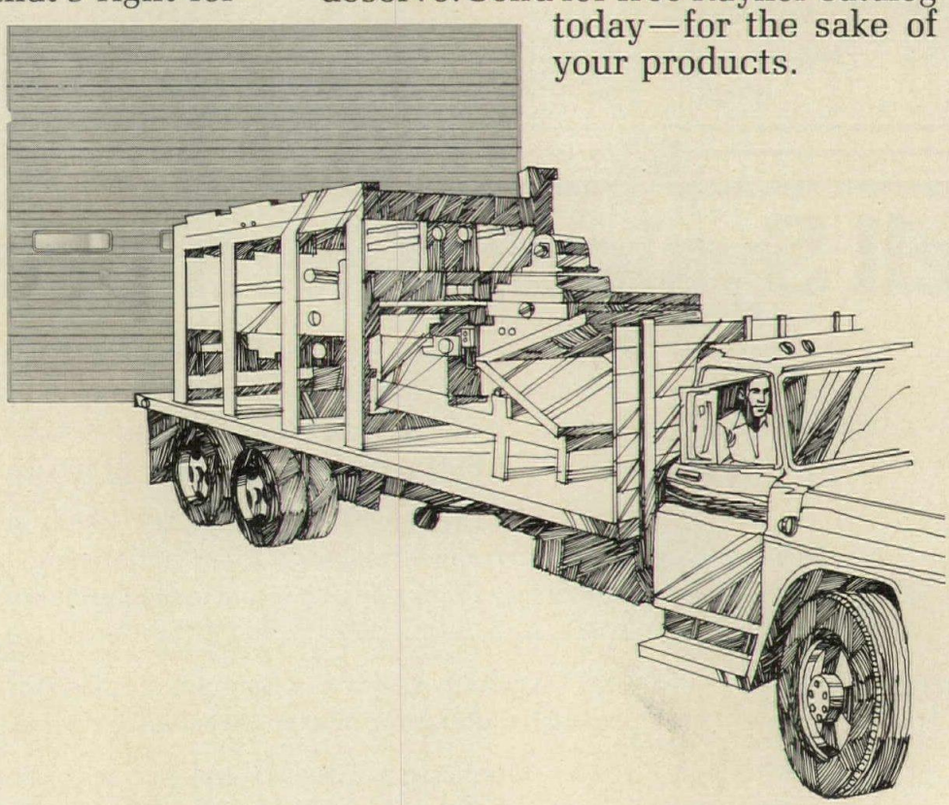
City State Zip

For more data, circle 75 on inquiry card

If It's Worth Manufacturing, The Building Deserves A Raynor Garage Door



Raynor offers one of the widest selections of garage door styles and sizes — in steel, aluminum, fiberglass or wood. This means you can job-match Raynor doors to your production facilities. Whether you manufacture small parts or huge industrial machinery, there's a Raynor garage door that's right for your needs. Every Raynor door has custom features, and they're yours at "stock" prices. Springs are custom wound and tested, all hardware is custom made just for a certain door model. And if accidents ever occur, now or years later, all the detailed information is kept on data film at Raynor. Replacement of parts is sure. It's reassuring to know that Raynor takes extra steps in manufacturing doors. So that your products receive the trouble-free protection they deserve. Send for free Raynor catalog today—for the sake of your products.



Raynor The Brand You Can Depend On

RAYNOR
The Brand You Can Depend On

Ⓢ SEE OUR CATALOG IN SWEET's

RAYNOR MANUFACTURING COMPANY Dept. AR-9 Dixon, Illinois 61021

For more data, circle 76 on inquiry card

The Earth Colors.

Introducing ten new colors as old as nature.

Now you can color your world in the same earthy, vibrant way Nature colors hers. With a whole spectrum of down-to-earth, back-to-nature solids from Textolite.

Ice White, Choco Brown, Yellow Bird, Suki Orange, Burnt Orange, Harvest, Goldenrod, Carmel, Sherwood Green, Midnight.

They're the colors of life. Of the earth. So we call them the Earth Colors. And we've rediscovered them because we know it's the kind of natural beauty you're looking for now. And leave it to Texolite to be first to anticipate special tastes, special trends.

For creative designers, Earth Colors provide a new dimension in decor. Colors to enhance the most innovative interiors.

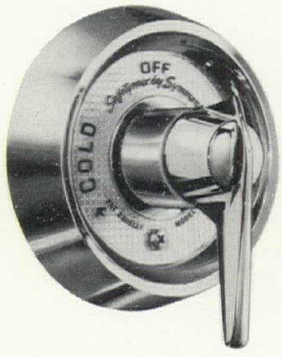
But Earth Colors are only part of our story.

Textolite offers a whole world of plastic laminates. One hundred twenty different and exciting abstracts, woodgrains, leathergrains and solids. As you'll see when you send for our full-line catalog. Just write:
Decorative Products Section,
General Electric Company,
Coshocton, Ohio 43812.

GENERAL ELECTRIC

It takes guts to make a shower this tough.

For years, Symmons Safetymix has outperformed and outclassed every other pressure-balancing shower system for hotels, schools, hospitals, dormitories, and marine applications. The reason is guts. It's built around a single moving part. It's built of the finest stainless steel and bronze. And it's built to a design that has no equal.



Safetymix Pressure-Balancing Valve 4-500

*(Patented January, 1943—#2,308,127)

In Canada, Symmons Canada Ltd., 155 Norfinch Drive, Downsview, Ontario M3N1Y2.

What it all means is that Symmons Safetymix, and all Symmons' shower valves, will hold the water temperature selected, and hold it steady and constant, no matter how many pressure demands are made elsewhere on the system. It does this with the original Symmons piston principle* that equalizes the pressure between hot and cold, instantly and continually. And all Symmons valves will do this for years and years under the most punishing conditions.

Safetymix, with flow restrictors and the single-handle concept, saves water, fuel, and operating costs, too. And in this day and age, when conservation is everybody's objective that's a dividend that shouldn't be ignored.

Get in touch with the Symmons rep near you. Or call us direct at (617) 848-2250. Or write us: Symmons Industries, Inc., 31 Brooks Drive, Braintree, Mass. 02184. We'll show you a variety of Safetymix systems that combine the guts and beauty to handle the toughest job you've got.

Symmons®
We've got the guts to be better.

For more data, circle 78 on inquiry card

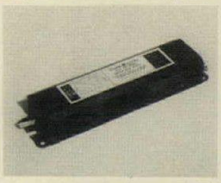
For more data, circle 77 on inquiry card

PRODUCT REPORTS *continued from page 162*

MODULAR CEILING FIXTURE / A modular fluorescent ceiling fixture is for varying ceiling heights and lighting intensities. The new fixtures come in a range of sizes and lamp combinations: 1 by 4 ft, 2 by 4 ft, 2 by 2 ft, and 4 by 4 ft. An over-all depth of 4⅛ in. is featured. The reflector finish of white enamel offers high reflectance. ▪ Keene Corp., Denver, Colo.

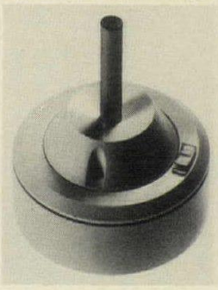
Circle 317 on inquiry card

LOW-ENERGY BALLAST / A special ballast capable of providing up to 20 per cent reduction in energy costs over today's most popular 40-watt ballast offers a light output reduction of 18 to 22 per cent which provides savings in energy while retaining modular lighting design concepts, according to the company. The lower heat from the lighting can also reduce air conditioning costs. The ballast may be used with standard 40-watt rapid-start fixtures or lamps. ▪ General Electric Co., Danville, Ill.



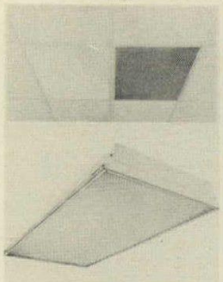
Circle 318 on inquiry card

THERMAL FIRE DETECTORS / A series of thermal fire detectors for use with early warning fire and smoke detection systems operates on the rate compensation/fixed temperature principle, which utilizes different expansion rates of the detector's metal shell and enclosed contact supports. All models are UL-listed and can protect up to 2500 sq ft each. Explosion-proof versions are also available. ▪ Pyrotronics, Cedar Knolls, N.J.



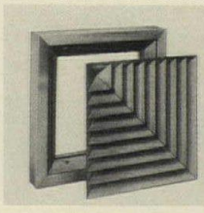
Circle 319 on inquiry card

FLUORESCENT TROFFER / A modestly-priced recessed luminaire in 2 by 4 ft, 1 by 4 ft, and 2 by 2 ft sizes reduces high-angle brightness (direct glare) up to 70 per cent as compared to the best previously existing light-controlling devices, yet increases the amount of useful light, according to the company. Constructed of one-piece die-formed 22-gauge steel, the fixture comes with a premium class P ballast. ▪ Holophane Div., Johns-Manville, Denver, Colo.



Circle 320 on inquiry card

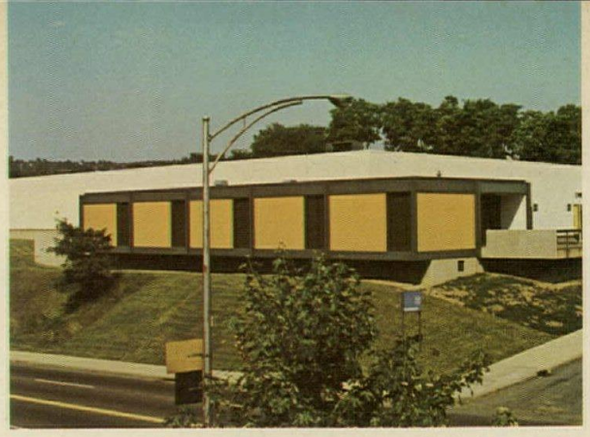
DIRECTIONAL DIFFUSERS / Square or rectangular directional diffusers consist of three frame styles plus a filler panel for T-bar ceilings and 23 removable core patterns. A selection of patterns plus a large range of sizes is claimed. Each frame and core section is made of an aluminum anodized extrusion. ▪ Lima Register Co., Lima, Ohio.



Circle 321 on inquiry card

more products on page 169

For more data, circle 79 on inquiry card ➧



Westinghouse Electric Corporation Homewood Plant, Pittsburgh, Pa. Architect: Walter Roberts Associates, Pittsburgh, Pa. C-Panel System, 4″ and 8″ Ribbed Exterior Profile.

Smith Walls create an environment for... industry

A plant doesn't have to look like a plant.

A really attractive industrial building is the starting point for a pleasant working environment. Smith Walls offer design possibilities limited only by the architect's imagination. An architect's idea, brought to life in the bright colors and interesting panel configurations of Smith metal walls, can make an industrial building a happier place to work. And Smith's Single Responsibility concept makes sure the walls *are* right. Single Responsibility is the Systems Approach to solving your metal wall problems. It's a complete system . . . from the earliest Architectural/Engineering contact through engineering, color coating, manufacturing to placement of the final product fastener on the job site. This Single Responsibility concept is the most important factor in Design Construction.

Specify Smith Walls, and Smith Single Responsibility, for your next building project. For full details and specifications, consult Sweets Architectural File or write.

The Dow Chemical Company, Newark Ohio Industrial Park, Newark, Ohio. Architect: Curtis N. Lindberg, Columbus, Ohio. C-Panel System, Shadowall Exterior Profile.

EGS-103

cyclops CORPORATION

ELWIN G. SMITH DIVISION

100 WALLS STREET, PITTSBURGH, PENNSYLVANIA 15202

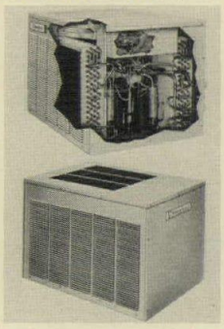
For more data, circle 86 on inquiry card

International Paper Company, Lewisburg, Pa.
Architect: Cassis Associates, Inc., St. Louis, Mo.
B-Panel System, Contourwall and Hilinewall
Exterior Profiles.

SPRINKLER / A small, low profile fire control sprinkler is available with either a brass or chrome finish, in temperature ratings from 155 degrees F to 360 degrees F, and all include a one-year guarantee. Deflectors distribute the water uniformly for fire control, according to the company. ▪ The Viking Corp., Hastings, Mich.

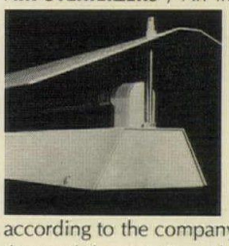
Circle 322 on inquiry card

ROTARY-POWERED CONDENSING UNITS / An energy efficiency rating of 11 Btu per watt has been announced by the company for an addition to its *Climator* line of air conditioning equipment. Eight models are now available in a cooling range from 18,000 to 60,000 Btuh. All models are UL-listed for outdoor use and rated in accordance with ARI standards. ▪ Mueller Climatrol Corp., Piscataway, N.J.



Circle 323 on inquiry card

AIR STERILIZERS / An improved line of germicidal ultraviolet lamps and fixtures for hospitals, laboratories, etc. features a modified deflector design that increases the efficiency of the lamps and provides optimal control of airborne micro-organisms, according to the company. They are available in either mobile or universal mounted models. ▪ Canrad-Hanovia, Inc., Newark, N.J.

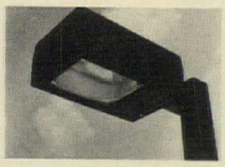


Circle 324 on inquiry card

STUD AND SUBFLOOR ADHESIVE / The adhesive has been formulated for strength and performance, and according to the company, exceeds APA's AFG-01 specification for subflooring and U.S. Steel's SC-1 steel joist system specification. It is recommended for such exterior applications as plywood siding and sheathing, and for a variety of interior uses. ▪ Inmont Corp., St. Louis, Mo.

Circle 325 on inquiry card

HID OUTDOOR LIGHTING / This contemporary luminaire is designed for use with 400-watt mercury and 150-, 250-, and 400-watt high pressure sodium light sources. It is formed of cast aluminum and finished in dark bronze thermosetting siliconized acrylic. The unit features a sealed optical assembly, utilizing an activated charcoal filter to keep the inside of the unit free of light-robbing contaminants. A removable ballast tray houses all electrical components. ▪ General Electric Co., Hendersonville, N.C.



Circle 326 on inquiry card

ASG SAFETY GLAZING

The Glass Company thinks safety should mean freedom of choice.

And we support that opinion with glasses like Pinstripe® wired glass, shown here. A unique combination of style and protection, manufactured and patented exclusively by ASG, and part of a complete line of safety glazing products in a variety of colors, patterns and finishes. Including Nuweld® wired glass, which qualifies as both safety and fire retardant glazing. Tru-Temp® tempered glass, produced with a special heat treatment that makes it four to five times stronger than regular annealed glass. Supratest® laminated glass to reduce the potential hazards of flying glass in case of breakage. And, now, Polyflow® and Acryflow®—new plastic safety glazing materials that are amazingly strong, light in weight and transparent. All quality products from ASG, where safety glazing means the beginning of great things—not the end. Write us for complete information.

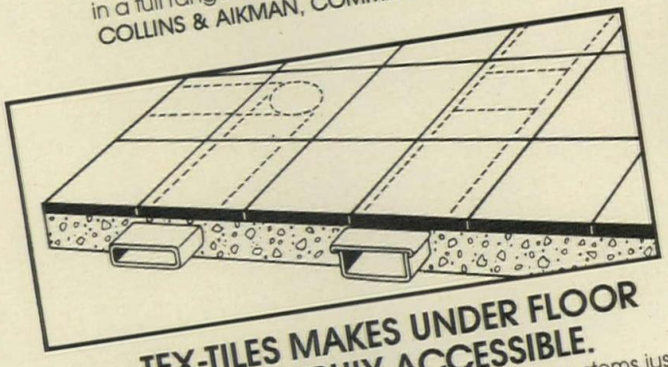
ASG Industries Inc.

The Glass Company, P.O. BOX 929, KINGSPORT, TENN. 37662

Collins & Aikman's Tex-Tiles™ The permanent floor system that lets you change your mind.

Tex-Tiles are an exclusive C&A group of bi-component vinyl backing systems integrated with a super-dense, man-made commercial fiber surface. Each Tex-Tile is 18" x18." Simple to install, Tex-Tiles can be laid down and picked up when required. Arrange and rearrange them however you want for maximum beauty and maximum wear. They require minimal care! Specify C&A Tex-Tiles. The mind-changing floor system in a full range of styles, textures and colors.

COLLINS & AIKMAN, COMMERCIAL FLOOR SYSTEMS, 919 THIRD AVENUE, NEW YORK, N.Y. 10022 (212) 953-4356



TEX-TILES MAKES UNDER FLOOR SYSTEMS TRULY ACCESSIBLE.

When you need to get to your underfloor systems just pick up a few Tex-Tiles. Put them back when you're through. And if for some reason you need to repair a Tex-Tile—replace it!

COLLINS & AIKMAN, 919 THIRD AVE., NEW YORK, N.Y. 10022 Box B-8

I'd like more information on Powerbond Floor Covering.

NAME_____

TITLE_____

ADDRESS_____

CITY_____ ZIP_____

STATE_____

For more data, circle 83 on inquiry card

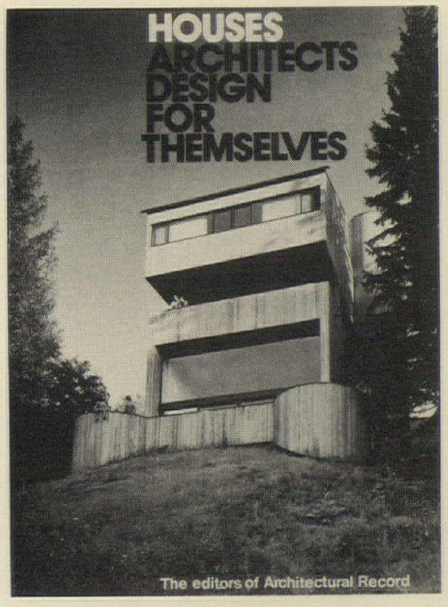
Bally Walk-Ins belong where food must be right and ready for the daily pupil parade

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 and Factory Mutual research approved. Choice of stainless steel, aluminum or galvanized. Easy to enlarge . . . easy to relocate. Refrigeration systems 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 & Cooler, Inc., Bally, Penna. 19503.**

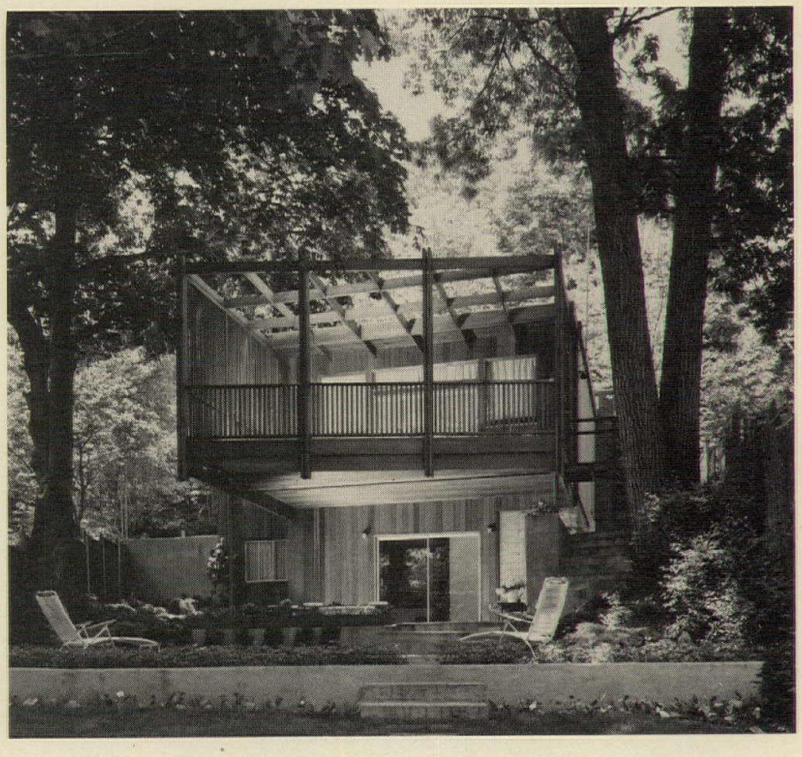
Bally®

ADDRESS ALL CORRESPONDENCE TO DEPT. AR–9

For more data, circle 84 on inquiry card



...ideas that reflect what you want, perhaps the way you want to live.



A handpicked collection of 61 beautifully designed houses by architects for their own use.

This extraordinary new and exciting book explains in the architect's own words, how each faced and solved their own home building needs, desires, and problems.

Using photographs (many in full-color), floor plans and site plans, each architect/owner describes the complex factors that determined his own design—site, budget, family needs, preferences, etc.—and shows how the plans evolved and were carried through to completion.

The houses cover all price levels and styles, ranging from traditional to experimental, from new country home to remodeled city dwelling; some having special and seldom-seen custom features; often solving difficult legal, construction, site or other design problem.

Each stimulating design is taken from planning stage to lived-in finish, and as such will be of immense help to all about to undertake a home building or remodeling effort, and to all interested in or involved in housing design.

To order your copy now, use the handy tear-off coupon below, or write Architectural Record Books, Department C, 1221 Avenue of the Americas, New York, New York, 10020.

Order your own copy now with this handy coupon.

23K–126–4000–3

Architectural Record Books, Dept. C,
1221 Avenue of the Americas, New York, N.Y. 10020

Please send me__copy (ies) of HOUSES ARCHITECTS DESIGN FOR THEMSELVES @ $16.95 each. Send to:

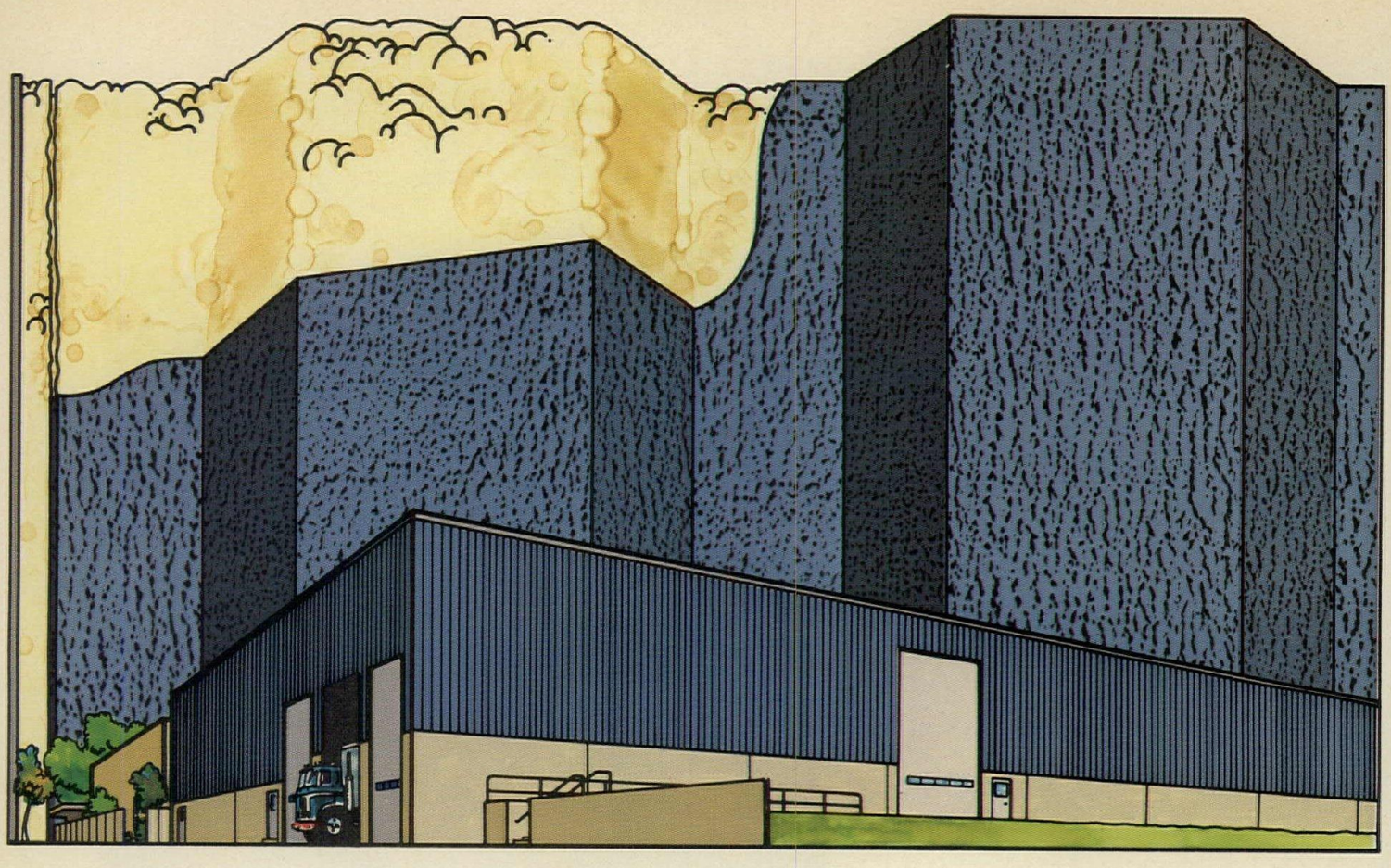
Name_____

Address_____

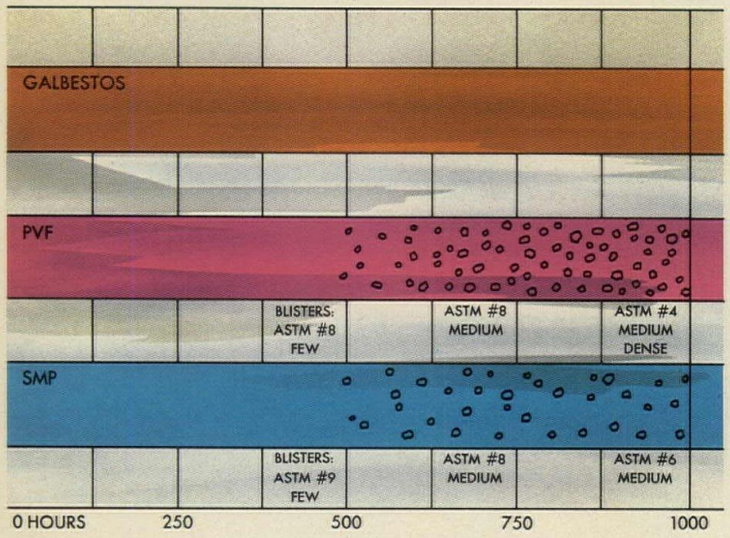
City_____ State_____ Zip_____

☐ I have enclosed payment. ☐ Bill me.

AR 9–74

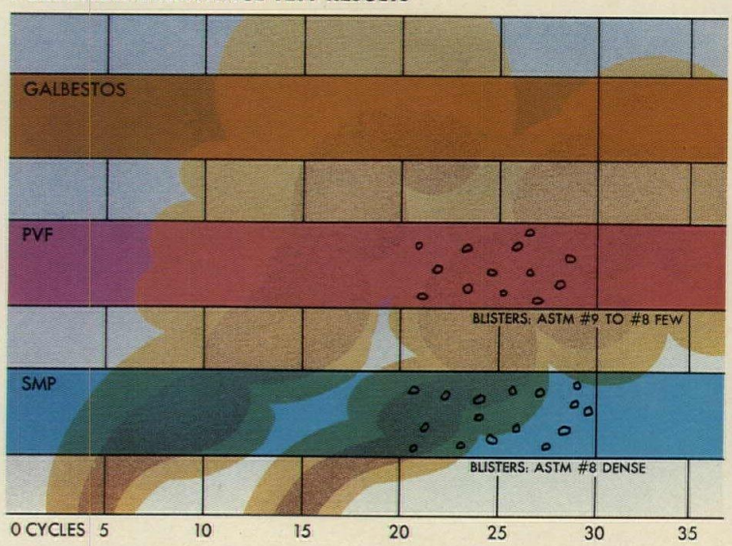


COATING SYSTEM INTEGRITY TEST RESULTS



ASTM B-117-64 SALT FOG TEST PROCEDURE: Samples continuously exposed to 5% salt fog at 95° for 1000 hours. Results: PVF_2 showed few #8 blisters at 500 hours, medium dense #4 blisters at 1000 hours; SMP showed ASTM #9 few blisters at 500 hours, #8 medium blisters at 750 hours, medium #6 blisters at 1000 hours; no blisters on Galbestos. Significance: **Galbestos resists corrosion and other forms of environmental attack. Galbestos coating system has superior film continuity and integrity.**

POLLUTION RESISTANCE TEST RESULTS



KESTERNICH TEST PROCEDURE: Expose panels to a specified number of cycles, each consisting of 8 hours in enclosed cabinet holding 2 liters distilled water and 2 liters each of dry sulphur dioxide (SO_2) and dry carbon dioxide (CO_2) at 104°F (40°C), followed by 16 hours of drying at ambient temperature. Results: After 20 cycle PVF_2 showed blistering ASTM #8 to #9 few, SMP showed blistering ASTM #8 dense. No blisters on Galbestos. Significance: **Galbestos has superior resistance to the airborne pollutants, sulphur dioxide and carbon dioxide.**

New Ribbed-Line TWO is low cost insulated wall

It is a one-piece construction with the insulation foamed in place in the factory. This yields several economies over conventional profiled panels, which are field assemblies of three or more components. This is why new Ribbed-Line TWO can price out as low as $2.75 per square foot . . . installed.* And much of the economy occurs during the more efficient installation. Its effective insulation helps the Ribbed-Line TWO achieve a U-factor of 0.13. All of this is combined with the colorful but tough Galbestos® finish. Those are some of the reasons that architect Davie G. Crawley of Henderson, Kentucky was able to specify this high performance wall system for the new Eaton Manufacturing plant, Humboldt, Tennessee, within a tight budget. This efficiency of insulation was important in the project planning, because conservation of energy is a high priority of the owner.

The colorful finish of the Galbestos exterior is critical for two reasons. First, the owner is determined to have a pleasant appearance for the facility so that it will be an asset to the community. Secondly, a highly durable finish that has proved itself over 60 years of performance will keep long-term maintenance costs to a minimum.

with the tested high performance Galbestos finish.

New Ribbed-Line TWO is given exterior protection against corrosive atmosphere and future maintenance costs with the tested wall finish system, Galbestos. This proven performer is not only time tested on thousands of buildings around the world, but also thoroughly laboratory tested. (Note. Page opposite, two of the battery of tests by independent laboratories are illustrated.) This is why Robertson can offer an unusual performance promise.

"Robertson will, when specifically required by specifications, pay for coating system integrity and pollution resistance tests. The tests to be conducted under the supervision of an independent laboratory on Galbestos samples jointly selected at random from material on hand at the job site. The failure of the material to meet the minimum requirements of these tests shall be cause for rejection of the entire lot of material intended for the project and replacement at Robertson's expense."

New Ribbed-Line TWO, the low cost insulated Q-Panel® with premium performance Galbestos, is worth a detailed study by the architect searching for value.

*This is an average cost applied to typical wall areas of large expanse. Other wall elevations and local conditions may vary this budget cost. For the cost of your project's wall, consult your Robertson salesman.

For full product specification information, and test reports of independent laboratories, call your local Robertson salesman. Or, write H. H. Robertson Company, Dept. 711, Two Gateway Center, Pittsburgh, Pa. 15222.

Robertson

For more data, circle 85 on inquiry card

Transform building codes into beauty codes

with Hager's new Torsion Hinge.

Now, meet institutional building codes with the clean, crisp, uncluttered lines and enduring strength of Hager's new Torsion Hinge. Eleven tempered spring steel torsion bands provide even, adjustable closing strength for doors weighing up to 100 lbs. No more cluttered appearances. One center mounted torsion hinge eliminates the unsightly coils of bulky spring hinges. It installs easily like an ordinary mortise hinge. Specify one of several beautiful decorator finishes.

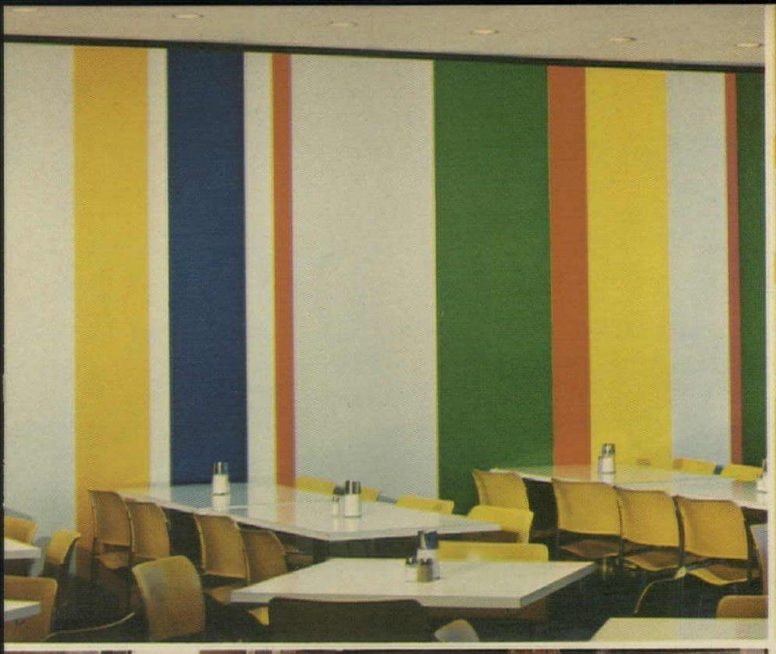
Ask your architectural hardware consultant for an interesting look at Hager's complete line of fine quality door hardware. Or, write Hager Hinge Company, 139 Victor Street, St. Louis, Mo. 63104.

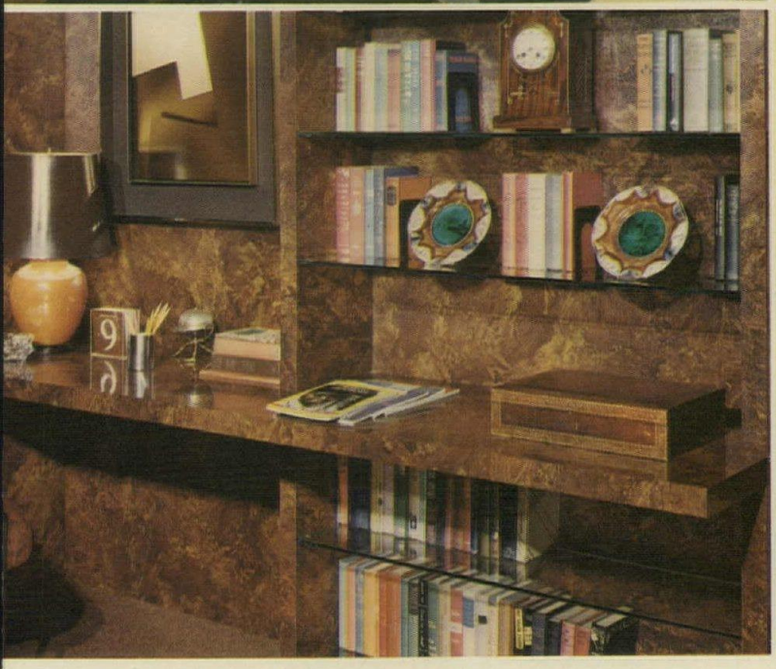
UL LISTED

Hager®

EVERYTHING HINGES ON Hager!

For more data, circle 80 on inquiry card





Upper left: Employee Cafeteria, Financial Institution, New York.
Lower left: Private Study, New York City Condominium, Louis Tregre, F.A.I.D., Architect.

Upper right: Reception Area, Seattle Chapter Office, A.I.A., Wendell H. Lovett, A.I.A., Architect.
Lower right: Patio Piano, Everett Piano Company.

Tell us the mood you want to create and we'll show you FORMICA®

brand laminated plastic

Moods are made by the colors, patterns and textures you choose for your interiors. With FORMICA® brand laminated plastic, you have well over 100 choices to help you create the effect you desire. You also have a choice of materials for vertical and horizontal applications . . . even complete panel systems that retard flames as well as wall paneling that resists moisture.

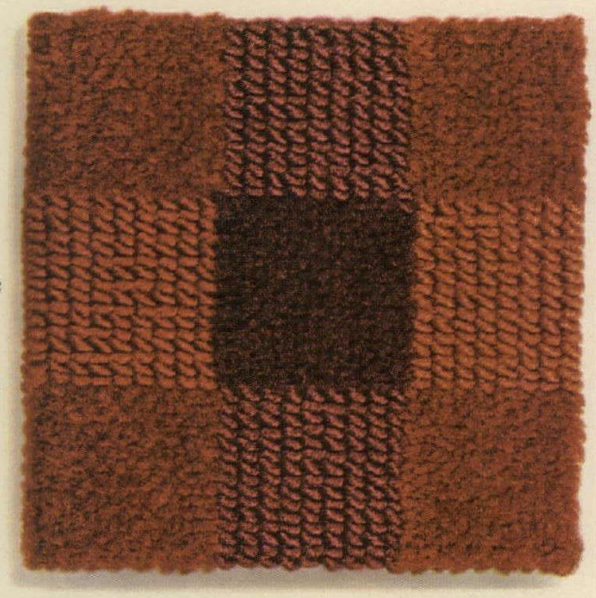
And the mood you create won't wear off, fade, scratch, chip, or peel away. FORMICA® brand laminated plastic resists all these things, keeps its new-looking beauty for years. Get more when you specify FORMICA® brand laminated plastic, give more when you install it. Your Formica man will be glad to help you create the mood you want. Contact him today. For complete product information, consult Sweet's Files 8.3/Fo, 9.12/Fo and 6.14/Fo, write Dept. AR–9, or call our toll-free Speciphone service—800-543-7155.

FORMICA® BRAND

laminated plastic

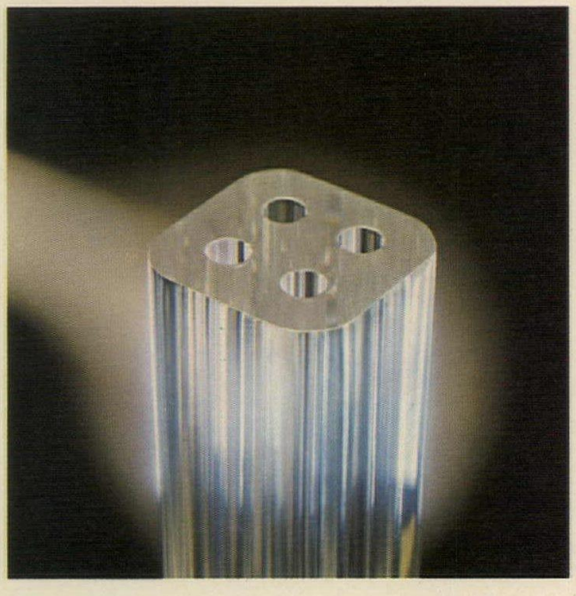
Expect quality carpets
And expect their

to be in Antron® nylon. look to last.



The Buck Hill Inn, Buck Hill Falls, Pa., wanted the carpet in their newly remodeled business conference center to be distinctive and they wanted the look to last. Their choice was this woven, block pattern cut/uncut carpet with pile of continuous filament Antron* nylon. Knowing it was "Antron" was the assurance the Inn needed that their new carpet would stay new looking.

What you see is what you'll get for a long time. "Antron" is a soil-hiding carpet fiber. It is the leading commercial carpet fiber brand with more than twice the available styles in "Antron" than those made of the next brand. Its ability to diffuse light helps blend soil concentrations into the overall look of the carpet. Also, being nylon, "Antron" gives carpet exceptional durability and crush resistance.



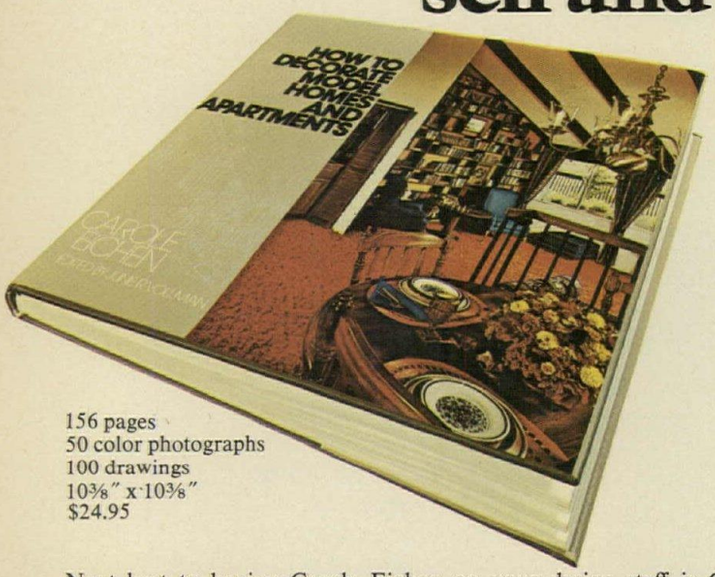
How "Antron" keeps carpet looking fresh. Its filament structure is remarkable, as simulated in this greatly enlarged model. The four microscopic holes scatter light to minimize rather than magnify the dulling effects of soil, while maintaining an attractive, subdued luster. This property of the fiber, together with its outstanding wearability, helps the look of the carpet to last.

NEW! "Antron" III nylon for static control is now available in selected styles.

DU PONT
REG. U. S. PAT. OFF.

*Du Pont registered trademark. Du Pont makes fibers, not carpets.

House & Home presents Carole Eichen's new book of interior design ideas to make your model homes and apartments sell and rent faster



156 pages
50 color photographs
100 drawings
10⅜" x 10⅜"
$24.95

Carole Eichen, prominent interior designer for the housing industry and Contributing Editor to House & Home.

Builders and developers turn to Carole Eichen—President and Chief Designer of Carole Eichen Interiors—for decorating ideas to match their market for condominiums, rental apartments and single-family homes.

Carole is one of those rare people who know people. With an uncanny sense of merchandising, she designs model homes and apartments in the mirror-image of what homebuyers are really looking for.

Next best to having Carole Eichen on your design staff is Carole Eichen's new book of design ideas on how to decorate for your particular segment of the market. Step-by-step, Carole walks you through the complex process of design decisions leading to that single telling moment when the prospect says, "Yes, I like it. I'll buy it."

Drawing from long years of experience, Carole tells not only *why*, but also *how* to put more sell into model homes and apartments.

Her best-selling designs are presented in clear-cut text illustrated with *fifty* large, full-color photographs, each accompanied by before-and-after schematic diagrams moving your mind from the design *problem* to the design *solution* to the ready-to-sell *results*.

HOW TO DECORATE MODEL HOMES AND APARTMENTS explains the key factors to be considered in creating best-selling interior designs for

- Kitchens
- Bathrooms
- Living Rooms
- Dining Rooms
- Master Bedrooms
- Children's Bedrooms
- Family Rooms
- Built-ins
- Dens
- Sewing Rooms
- Sales Offices
- Patios & Balconies

Presenting an array of interior design ideas adaptable to your own condominiums, rental apartments and single-family homes, this masterful guide also gives you special insight on the major elements of residential design: *color, lighting, built-ins* and *accessories*.

HOW TO DECORATE MODEL HOMES AND APARTMENTS also details the design decision-making process involving fundamental judgments on

- How to match interior decor to your markets,
- How to make interior design costs pay for themselves,
- How to keep abreast of current decorating trends,
- How to bring your models in on schedule,
- How to plan for effective model maintenance,
- How to coordinate salesmen with the marketing team, and
- How to put it all together for total impact.

Equally important to the workings of successful interior design are Carole Eichen's suggestions on what builders should expect of designers . . . what designers should expect of builders . . . how to draw up a good contract with the interior designer . . . how to control schedules, deadlines and the countdown for installations.

Inexpensive ways to avoid costly mistakes, budgeting do's and don'ts, and matching design to your market parameters are other practical aspects which make this new book an effective working tool for selling condominiums, rental apartments and single-family homes successfully in *any* locale at *every* price level.

Builders and developers who have profited from Carole Eichen's services would readily agree that your model homes and apartments will never look quite the same after you get your hands on this practical book of successful interior design ideas. Order the book today and add Carole Eichen's expertise to your own experience in selling homes.

CONTENTS

Yes! Send me
Carole Eichen's new book on
HOW TO DECORATE MODEL HOMES AND APARTMENTS
Enclosed is check for $24.95 payable
to House & Home Press.

Mail this coupon with remittance to:

House & Home Press
1221 Avenue of the Americas
New York, N.Y. 10020

Your Name_____

Firm Name_____

Mailing Address_____

City_____ State_____ Zip_____

AR 9–74

Polymarble passed the school board's exam.

The requirements were very demanding. "Give us durability, light weight, attractive design, and accent color at a cost comparable to ordinary cast iron fountains."

Haws had the answer with polymarble. Offering color at no extra cost. Color that won't chalk, fade or yellow. Color that runs through the entire material thickness.

The enduring quality of polymarble helped win final approval. Today many polymarble models are excelling in practical application.

For further details on highly rated Model 1070, in a choice of five colors or white, write Haws Drinking Faucet Co., 1441 Fourth St., Berkeley, California 94710.

HAWS Since 1909 **DRINKING FOUNTAINS**

Haws offers the world's best drink.

For more data, circle 89 on inquiry card

Centralized motor control needn't be costly and complicated.

Here's an easy way to provide simplified motor control. This is a line-up of I-LINE® motor starter centers; control units with many of the basic features of the more elaborate motor control centers, but at considerably less cost.

Utilizing I-LINE panelboard construction and locally available starter modules, I-LINE motor starter centers can be assembled in your warehouse and moved to the job site. Moving assembled sections is no problem because each is a rigid, bussed assembly—self-contained and self-supporting. Or if you prefer, we'll factory assemble each section and ship ready to wire.

The I-LINE starter center sections feature integral internal bussing which accepts 15 through 225 ampere plug-on breakers. A Type S magnetic starter, available in Sizes 0 through 4, mounts over the breaker to make up a complete control unit.

For specific data on the I-LINE motor starter center, contact your Square D distributor or field office. Or write us: Square D Company, Dept. SA, Lexington, Kentucky 40505.

SQUARE D COMPANY

Wherever Electricity is Distributed and Controlled

For more data, circle 90 on inquiry card

Build a 10 story building with loadbearing masonry and get the 11th story free.

When you build with a modern loadbearing masonry system, you can save as much as 10% on construction costs.

Because masonry lets you save on the two biggest expenses of building. Time and materials.

Instead of building separate structural systems and enclosure walls, you can have them both in one step. Masonry walls work together with roof and floor systems to create one solid structural shell. Complete with enclosure walls and inside partitions.

And you can begin finish work on each floor as soon as the masons begin erecting the floor above it. So your building is finished faster. And you can stop paying interim interest and start charging rent.

You save on maintenance costs too. Because masonry doesn't warp, dent, bend, buckle or rot. It gives superior fireproofing and sound control. And with its inherent beauty, it never needs painting.

When you add all these savings up, you can save enough money to add that eleventh story. If that sounds like an interesting prospect to you, mail this coupon. We'll send you the complete story.

For more data, circle 91 on inquiry card

International Masonry Institute
Suite 1001 823 15th Street, N. W.
Washington, D. C. 20005 AR

Send me information on the modern loadbearing masonry building system.

Name

Title

Company

Address

City State Zip

Nature of Business

When a job calls for beautiful, textured doors with better durability than wood . . .

Next to the three prefinished embossed hardboard door facings in the Legacy Series from Masonite Corporation, any other door facing is out of its depth.

No flat surface door with a mere grain finish has the deep-textured feeling of Legacy or its deep-rooted durability.

Legacy comes closer to nature than competitively priced doors. The texture is embossed into the substrate before the durable finish is applied. It won't scratch off. The total effect mirrors that of an actual wooden planked surface, each plank with its own personality.

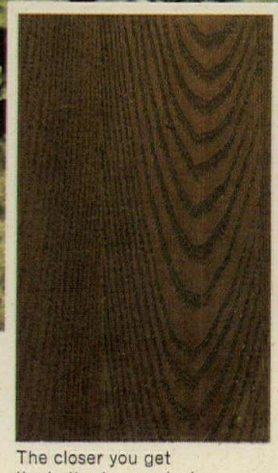
Mar-resistant Legacy won't split, splinter, crack or check. It can be easily repaired on site in event of damage. Legacy's high dimensional stability and great structural strength make it suitable for use with both solid and hollow core doors.

And the price is right.

Want the names of some quality door manufacturers currently using Legacy? Write Masonite Corporation, 29 North Wacker Drive, Chicago, Illinois 60606.

Legacy and Masonite are trademarks of Masonite Corporation.

MASONITE CORPORATION



The closer you get the better Legacy looks.

Legacy series of embossed hardboard door facings: Walnut tone, New White and Oak tone.

*Locksets by Kwikset®.

...Legacy™ stands alone.

SIMPLY BEAUTIFUL

GUTH LIGHTING'S "Project E. C." environmental ceiling system is an achievement in simplicity. It's simple to integrate, simple to install, simple to maintain. And simply good-looking.

Your local GUTH Representative is equipped to conduct a ten-minute demonstration on the Project E. C. system. Just give us your phone number and we'll have him call for an appointment. Or send in the reader service card for the literature. It's as simple as that.

P. O. Box 7079, St. Louis, Missouri 63177 (314) 533-3200 **GUTH LIGHTING** SOLA BASIC

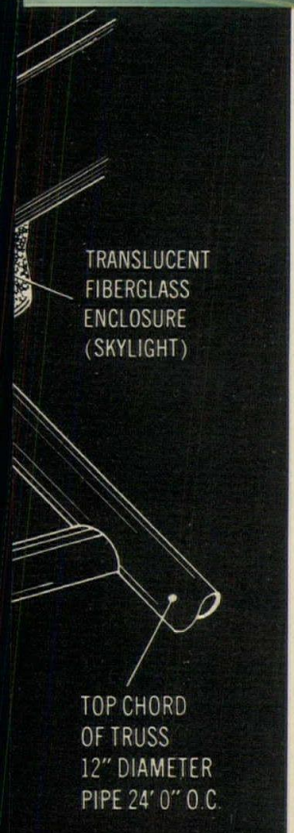
For more data, circle 93 on inquiry card

SOLA BASIC DIVISIONS: ANCHOR ELECTRIC • BISHOP ELECTRIC • DIELECTRIC COMMUNICATIONS • DOWZER ELECTRIC • GUTH LIGHTING HEVI-DUTY ELECTRIC • LINDBERG • NELSON ELECTRIC • SIERRA ELECTRIC • SOLA ELECTRIC • TEMPRESS TOMIC ELECTRIC • WARREN G-V COMMUNICATIONS

structural, acoustical.

Gund Hall Graduate School of Design, Harvard University, Cambridge, Mass.
Architects: John Andrews, Edward R. Baldwin and John Simpson, Toronto.
Structural Engineers: Le Messurier Associates, Boston.
Tectum Contractor: Bay State Structural Specialties, Boston.

Texture is the thing about Tectum, but not the only thing.



There's no end to the ways you can be constructive with Tectum® Roof Deck. Look at the way it was used in Gund Hall, shown at left. As a structural material, Tectum gives the roof a thin, efficient section, and demonstrates impressive insulating values as well. In the two-inch thickness, resistance to heat transmission is 3.50. With its Noise Reduction Coefficient in the .50-.60 range, it soaks up sound. And with its rugged finish, Tectum looks good exposed.

The reason Tectum is so constructive is because of the way it's put together. An exclusive inorganic binder bonds long wood fibers into a compact sheet under heat and pressure. Like wood, it's easy to cut, shape and install. Tectum has been given an uplift rating of Class 90.

Long Span Tectum Roof Deck

Tectum is also available in Long Span® Tectum. This adaptation allows even greater areas of the exposed Tectum surface to remain unbroken by purlins. Tongue and groove edge of Long Span Tectum is designed for galvanized 16-gauge steel channels. These channels permit spans of up to 6′ for 3″, 5′ for 2½″, and 4′ for 2″ thick Long Span Tectum.

Like other Tectum Roof Deck, Long Span Tectum has factory-applied asphalt felt membrane, and is applicable to flat or pitched roofs with steel, wood or concrete framing.

So for a good-looking way to cut roofing costs, why not cut down on the number of materials you use? With Tectum, or Long Span Tectum.

Tectum is one of the reasons that we're gypsum and then some.

For more information, write Gold Bond Building Products, Division of National Gypsum Company, Dept. AR–94T, Buffalo, New York 14225.

We're gypsum, and then some.

Gold Bond®
DIVISION OF NATIONAL GYPSUM COMPANY

For more data, circle 98 on inquiry card

E CUBE: A COMPUTER PROGRAM TO HELP YOU MAKE MONEY-SAVING, ENERGY-SAVING DECISIONS.

A THREE-PART LIFE CYCLE ANALYSIS_

1. ENERGY REQUIREMENTS.
E CUBE computes the hour-by-hour energy requirements of your building or planned building for an entire year—taking into account U.S. weather data, solar loads, building design, operating and occupancy schedules, and other operating factors. It sums them coincidentally—for single or multiple zones, even multi-building projects. And there's an easy manual check for every calculation.

2. EQUIPMENT SELECTION.
E CUBE lets you build, on the computer, a model of an energy system. Lets you "operate" that system so you can evaluate its performance. E CUBE can simulate many systems for you to compare—from all-electric to total energy, or any combination along the way—so you can choose the one that works best for you.

3. ECONOMIC COMPARISON.
E CUBE compares the total operating and capital costs of each system you study—takes project life and equipment life into account, provides for irregular and replacement expenses, and ranks the systems comparatively for life cycle costs.

E CUBE is accurate. There are other computer programs in this field, but E CUBE is by far the most advanced and has the experience of thousands of runs made by the American Gas Association member companies, industry, and people in private practice. The U.S. government is among the many successful users of E CUBE.

E CUBE is fast, private, moderately priced. When we say it's private, we mean you give your information directly to the computer. Your project data and the results are never seen by any third party. E CUBE is available to you through the Cybernet® System of Control Data Corporation, with installations in 44 major cities. Of course, we stand ready to provide assistance at your request.

An energy saver for new buildings and existing ones. Whether you're in the construction-planning stage, remodeling, upgrading and replacing old equipment, or simply want to check your building's efficiency, E CUBE can help you make the right decision. Right financially and right for conserving America's energy.

Helps you prepare many required reports. Here's another reason you'll find the impartially, statistically calculated results of E CUBE a tremendous help. It provides information for environmental impact statements, cash flow projections required by senior lenders, and is useful in profit planning.

For further information, mail in the coupon below or telephone Ken Cuccinelli, American Gas Association, (703) 524-2000.

Kenneth T. Cuccinelli
Manager, Gate/Energy Systems
American Gas Association
1515 Wilson Boulevard
Arlington, VA 22209

Name_____

Organization_____

Address_____

City_____

State_____ Zip_____

ENERGY CONSERVATION UTILIZING BETTER ENGINEERING.

AGA American Gas Association

For more data, circle 99 on inquiry card

For more data, circle 100 on inquiry card

Ceramic tile, the decoration you build with.

Alhambra (The Red Citadel), Granada, Spain. Built by Muhammad I (1230) and Yusuf I (1350).

Inspired architects have been using ceramic tile to unify the decorative and structural aspects of their concepts for more than 5,000 years.

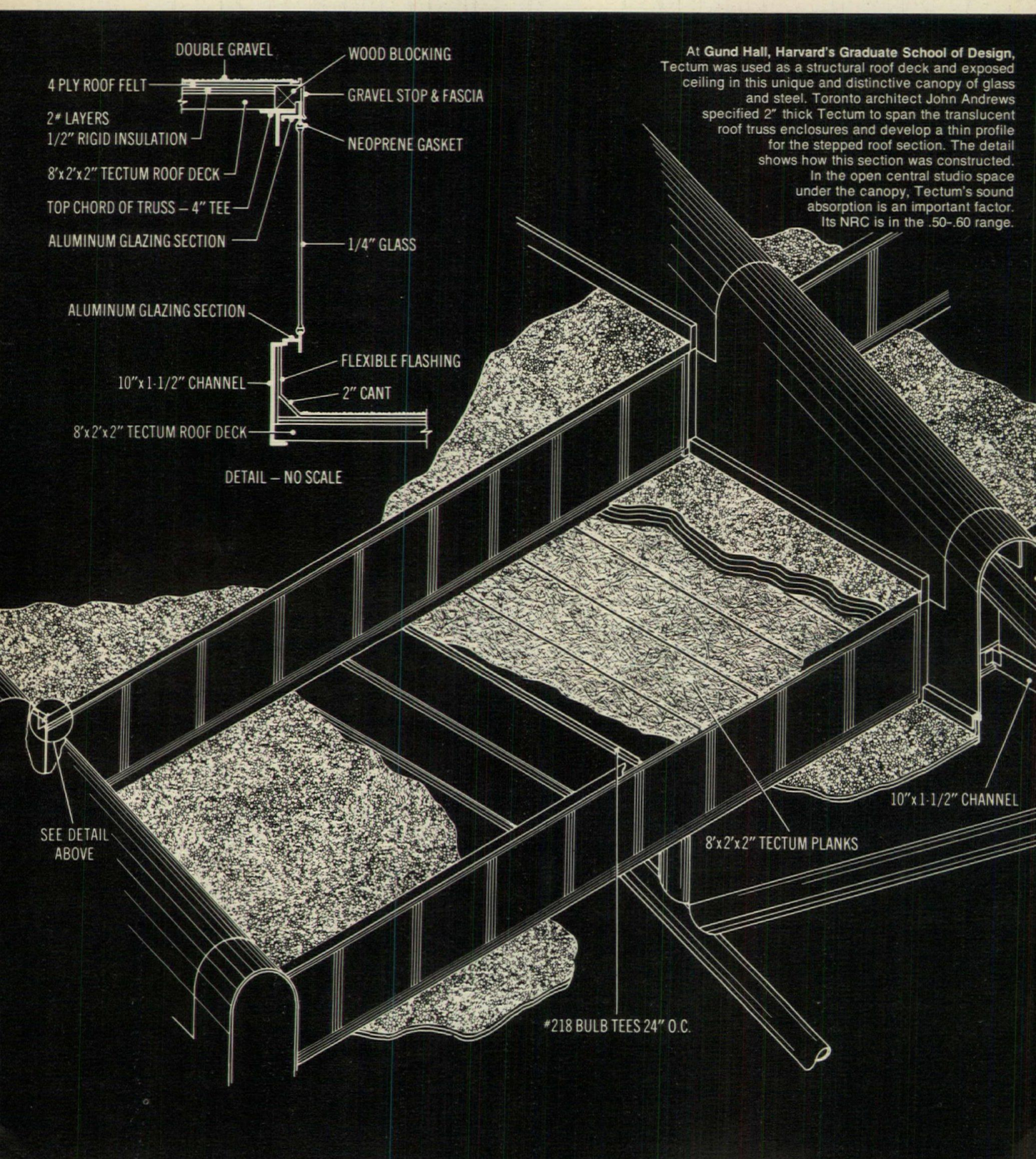
And today's technologies make lavish use of ceramic more feasible, in terms of cost, than ever before.

For a free copy of the Tile Council Handbook, spec sheets, and a full-color brochure of innovative residential tile installations, write to P.O. Box 2222, Room 473, Princeton, New Jersey 08540.

Tile Council of America, Inc.

Photographs courtesy of Photo Researchers, Inc.

Tectum:
decorative, insulating,



At Gund Hall, Harvard's Graduate School of Design, Tectum was used as a structural roof deck and exposed ceiling in this unique and distinctive canopy of glass and steel. Toronto architect John Andrews specified 2" thick Tectum to span the translucent roof truss enclosures and develop a thin profile for the stepped roof section. The detail shows how this section was constructed. In the open central studio space under the canopy, Tectum's sound absorption is an important factor. Its NRC is in the .50-.60 range.

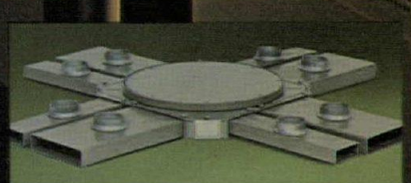
Solve a communication problem with no strings.

The communication explosion can teach you a lesson. If you aren't ready for it, things can come to a screeching halt. While you're trying to make room for more phone wiring, more new equipment.

So take note. Put a Walkerduct Underfloor System in your building specs. Keeps up property value. And isn't that nice to hear?

By running all the communication, 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® WALKER/PARKERSBURG

A textron Company

ARCHITECTURAL RECORD

PRESENTS

HOW TO MARKET PROFESSIONAL DESIGN SERVICES

A series of two-day PROFESSIONAL MARKETING WORKSHOPS® produced for ARCHITECTURAL RECORD by the Continuing Education Division of Building Industry Development Services, Washington, D.C.

- Understanding marketing fundamentals
- Organizing for a productive, professional business development program
- Where and how to attract new clients—while retaining the old ones
- Planning for change, expansion and professional growth
- Evaluating existing and potential markets
- Using business development tools—from job histories to preparation of Standard Form 251
- Specialized intelligence gathering and investigation of leads
- Effective selling preparations—what to do before, during and after the interview
- Successful strategies for getting the job
- Political action
- Associations and joint ventures

"Up to now, the design professional traditionally has had to learn selling techniques essentially by experience, through trial and error, and with no real standards against which to measure the degree of his successes and failures."
from HOW TO MARKET PROFESSIONAL DESIGN SERVICES
a McGraw-Hill book by Gerre L. Jones

These workshops are *not* for the design professional who believes that his client acquisition activities have reached a stage of perfection—or for the firm that, for whatever reasons, is satisfied that it has more clients and contracts than it can comfortably handle over the next 3 to 6 years.

Nor are the workshops geared to firms whose principals are convinced they have achieved the ultimate in
—organization and staff participation in business development
—practice and client mix
—productive, customized, *selling* presentations
—public relations
—all of the tools of job search and acquisition

If you have never attended a professional workshop or seminar on business development, be assured that ARCHITECTURAL RECORD and Building Industry Development Services have assembled the faculty from among the most experienced, knowledgeable people in the field. Discussion leaders will include successful, sales oriented directors of business development from small-to-large firms and client representatives of both public and private sectors. For the first time, participants in ARCHITECTURAL RECORD's Professional Marketing Workshops® will have the opportunity to hear it like it is—from both sides of the marketing fence.

Senior coordinator for the workshops is Gerre L. Jones, executive vice president of Building Industry Development Services, and author of the authoritative McGraw-Hill book, HOW TO MARKET PROFESSIONAL DESIGN SERVICES.

Each participant will receive a set of invaluable course materials for his continuing use. The specially produced course handbook contains ideas, suggestions and sample materials available from no other source.

A unique periodic follow-up program to the workshops assures every participant of continuing interest and advice for up to six months beyond the concentrated two-day workshop session itself.

---

b.i.d.s. Building Industry Development Services • 202/785-2133
1301 20th St., N.W., Suite 104, Washington, D.C. 20036

Please enter ___ reservations in my name for the Professional Marketing Workshop© checked at the right of this form and rush complete details about the workshop.

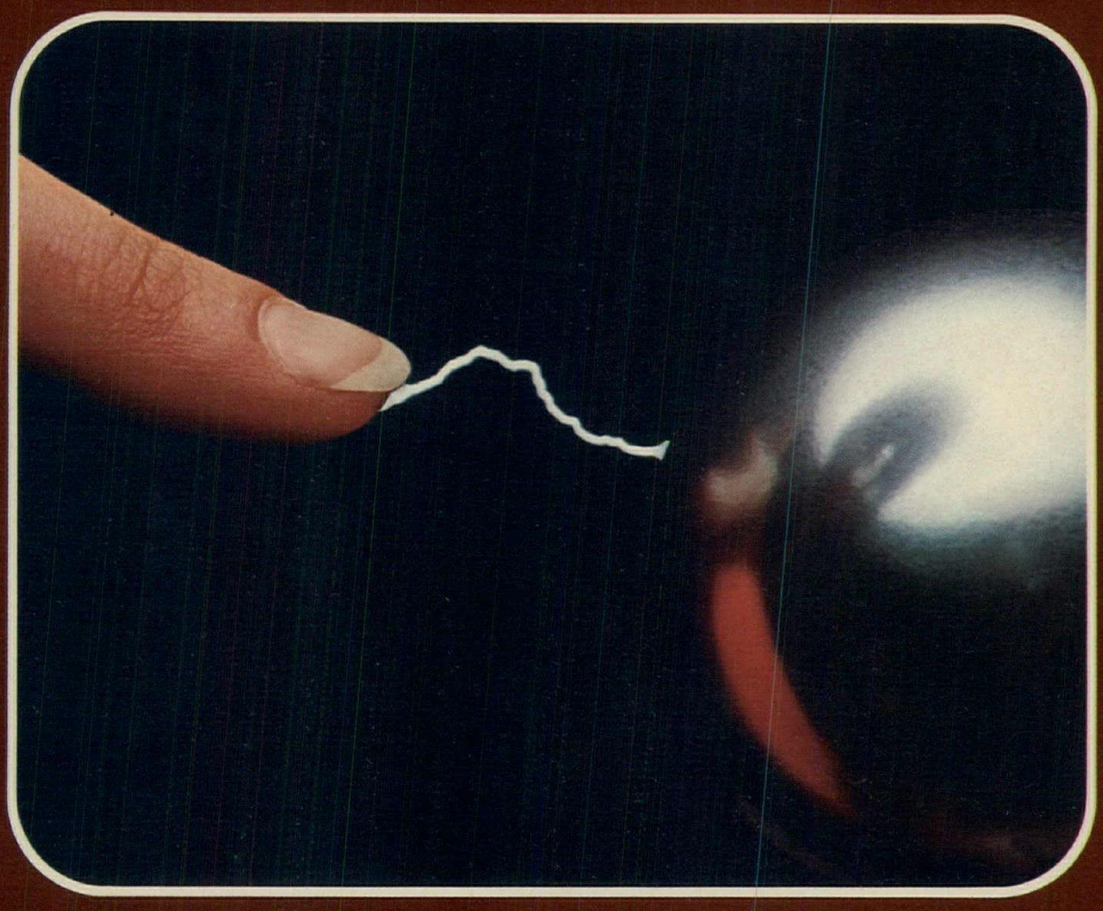
Name _____
Title _____
Firm Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____
Architect ☐ Engineer ☐ Planner ☐ Designer ☐
Other ☐ _____

☐ Check for $350, payable to Architectural Record-PMW Enclosed.

1974-1975 Professional Marketing Workshops® are planned for the following cities:

		1974
September	17-18	Newark, New Jersey
October	10-11	San Francisco, California
November	4- 5	Houston, Texas
December	5- 6	Phoenix, Arizona
		1975
January	9-10	New Orleans, Louisiana
February	6- 7	Miami, Florida
March	6- 7	New York, New York
April	3- 4	St. Louis, Missouri
May	1- 2	Dallas, Texas
June	5- 6	Seattle, Washington

Dates and locations of workshops in other areas for 1975-1976 will be announced.



A carpet that passes our Static Generation Performance test can never give you a shock treatment.

Most carpets for hotels, offices or other contract uses have some sort of static control system. However, most of these systems do not keep the static out permanently. Our system does. For we not only engineer static control into Dow Badische fibers and yarns, we performance-test the carpets made from them in our lab—to make sure no shock has slipped in during construction.

Our Static Generation test determines, under controlled temperature and humidity conditions, that static electricity build-up and discharge caused by foot traffic are kept below the average level of human sensitivity. We even give carpets that pass our Zefstat™ Anti-Shock Carpet Guarantee that ensures static control for 5 years or for the useful life of the carpet.

We also put carpets through seven other tough lab tests for tuft bind, flammability, light fastness, compression and abrasion resistance, delamination, wearability and appearance retention. They are only entitled to carry our well-known Performance Certification label if they pass them all!

The next time you specify contract carpets, look for the ones that carry our Performance Certification and Zefstat labels. They will never give anybody a shock treatment. Write for our Contract Carpeting Selection and Specifications Guide.

Dow Badische Company
Create® Center
Williamsburg, Va. 23185
(804) 887-6573

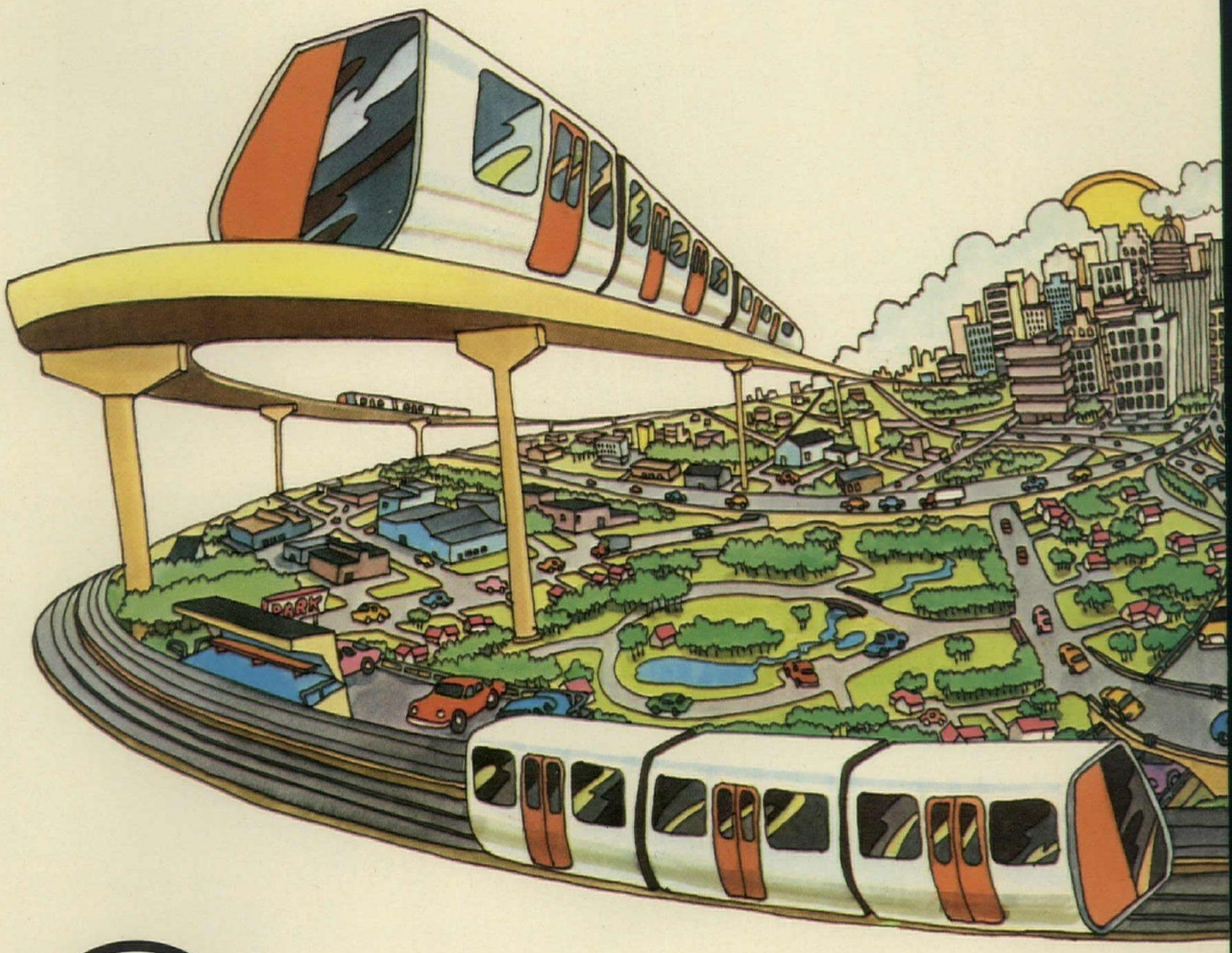
DOW BADISCHE CARPET
PERFORMANCE CERTIFICATION

CREATE® is a service mark of Dow Badische Company.

Zefstat™ is a trademark of Dow Badische Company.

Our cities can work better today ...and tomorrow.

Modern ways to transport people.
Cities are having a rebirth, largely because developers are taking a new look at the tremendous investments in urban property. And modern mass transit ideas are helping make this rebirth happen. The automated, computer-controlled vehicles that have helped move people safely and conveniently through airports, are now being applied to the needs of downtown areas, colleges, industrial complexes and recreation centers. Westinghouse is helping make it happen.

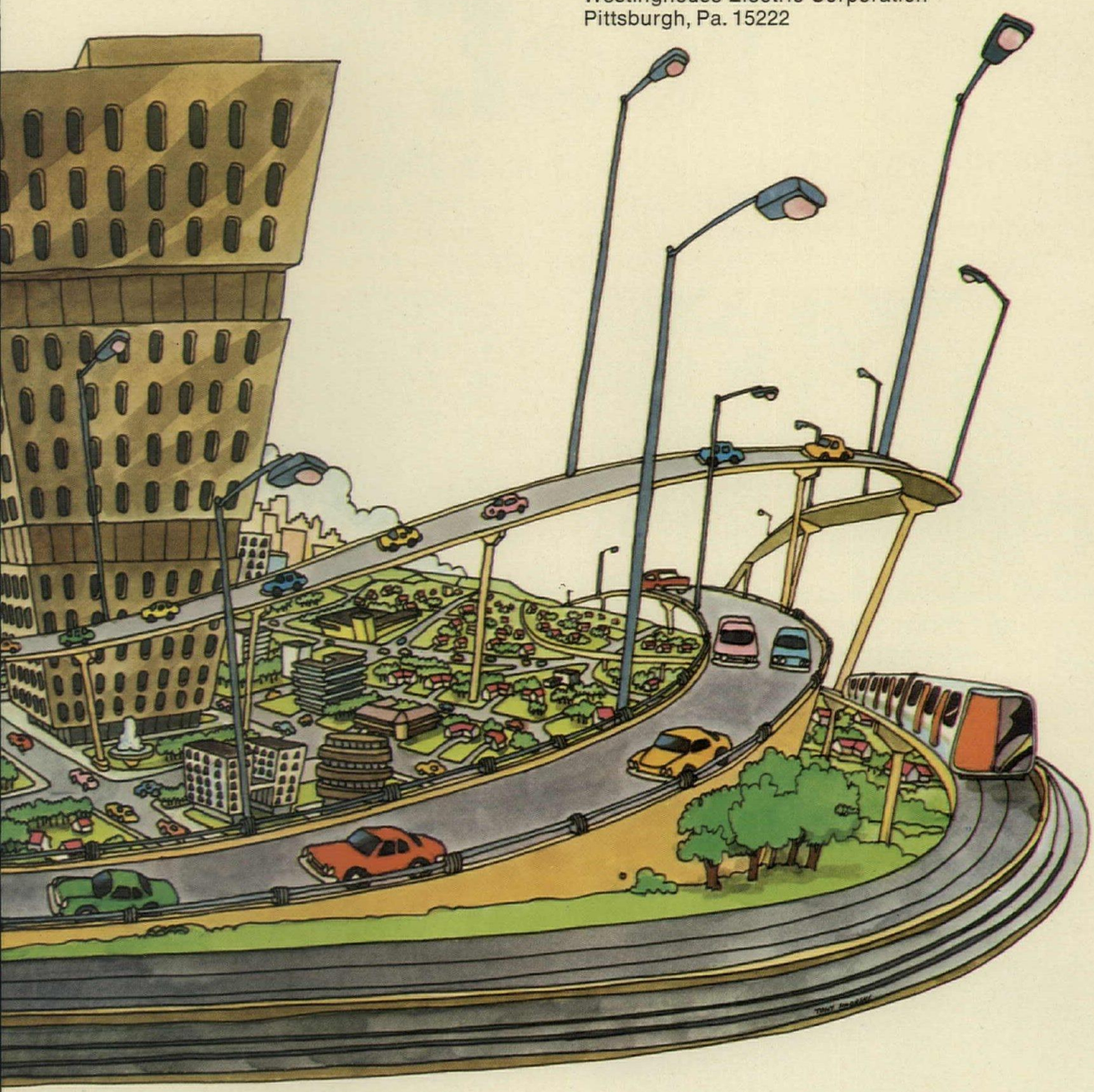


Westinghouse

Buildings designed to use less energy.
New buildings are saving energy these days by using existing heat . . . from the lighting systems . . . to cut heating loads. Circulating water or air picks up the lighting heat and redistributes it throughout the building. In summer, the same system carries the heat out of the building to cut air conditioning needs. Total energy savings can amount to 10% or 15%.

Better lighting for better safety.
New Westinghouse Ceramalux™ high-pressure sodium lamps for residential streets deliver twice the light of ordinary mercury vapor lamps for 10% less power, helps discourage street crime. Ceramalux systems are being installed now in New York City, Washington, D.C., and dozens of other cities.

Westinghouse Electric Corporation
Pittsburgh, Pa. 15222



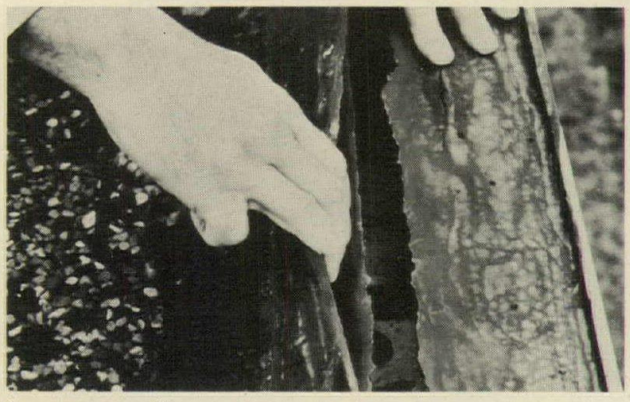
helps make it happen

For more data, circle 102 on inquiry card

Three ways to ruin your roof.

Edging damage is involved in 80% of all roof losses.

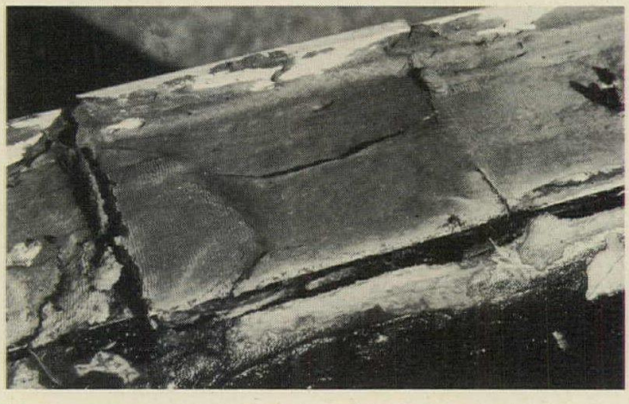
Recently, Factory Mutual Systems studied 145 roof losses. They found that perimeter failure and edge damage were involved in four out of five of these losses. If you want your roof to last, you must do something about these three common roof edging problems.

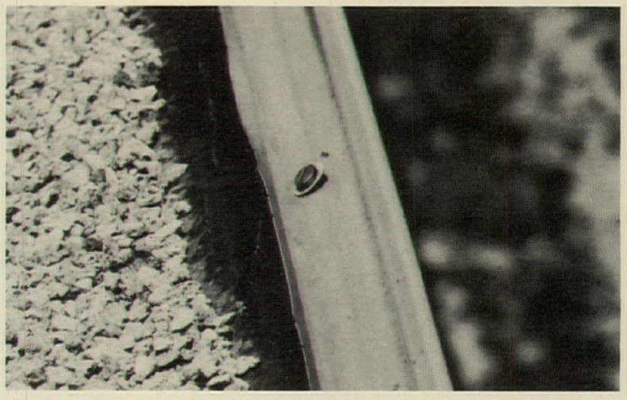


Ignore roof movement, and you'll have problems.

Whenever two structural planes meet, there is movement in different directions and at different rates. Exterior walls move laterally in response to thermal expansion and contraction. Roof decks move in a direction perpendicular to the wall movement. This differential movement literally tears apart laminated felts.

There's no way to stop movement, but you can use a system that accommodates movement in all directions. Our Tremline® edging system lets you live with movement. Tremline's easy-to-snap-together components are designed to be free-floating. They accommodate thermal shock and structural movement along the entire roof perimeter.





Use exposed fasteners or ones that puncture the membrane, and in comes trouble.

Alternating expansion and contraction often causes exposed nails to pop, nail holes to enlarge and leaks to begin. Thermal changes and ice pressure all pull on exposed fasteners, making the problem even worse.

If you use fasteners that puncture the roof membrane, water can leak in. The insulation can get wet and become ineffective. That's just the beginning of trouble and the beginning of the end of the roof.

The Tremline system uses no exposed fasteners or ones that puncture the membrane. So you have two less problems to worry about.

◂ Don't isolate the roof membrane from wall movement, and you'll have headaches.

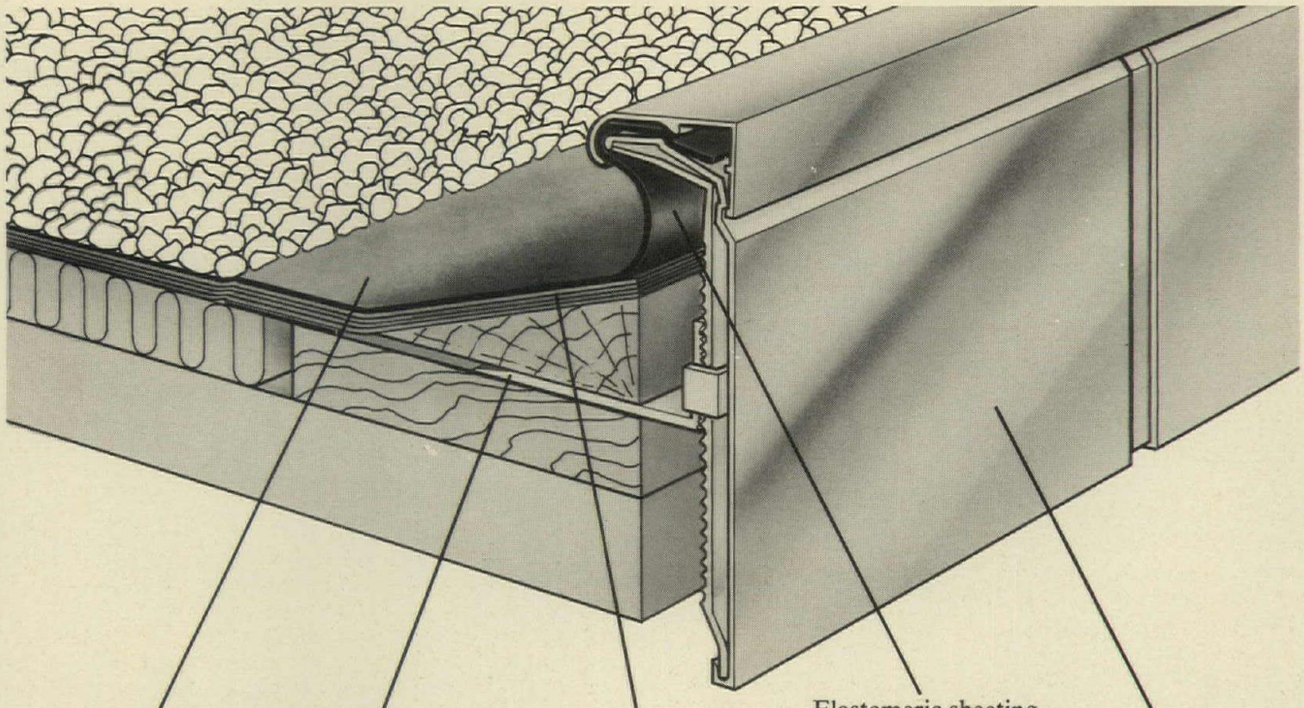
Movement between the vertical and horizontal surfaces of your edging is one of the most difficult movements to live with. The best way to do it is to isolate the roof membrane from wall movement.

Tremline's reinforced elastomeric sheeting functions as an expansion joint. It provides a flexible watershed or dam from the metal fascia to the roof membrane.

One beautiful way to preserve it.

Tremline: the trouble-free roof edging system.

A patented system, Tremline has more than seven years of proven performance and meets insurance wind requirements (approved by Factory Mutual Systems).



No exposed nail heads or fasteners.

The only fasteners are located under the cant strips. They can't puncture the membrane.

The membrane is unbroken.

Elastomeric sheeting works as an expansion joint by absorbing movement between roof and fascia.

Fascia sections are free-floating, designed to take movement in stride.

The Tremline edging system does away with most of the problems that ruin roofs. Tremline is uniquely beautiful, too. It gives a clean line appearance to the roof edge.

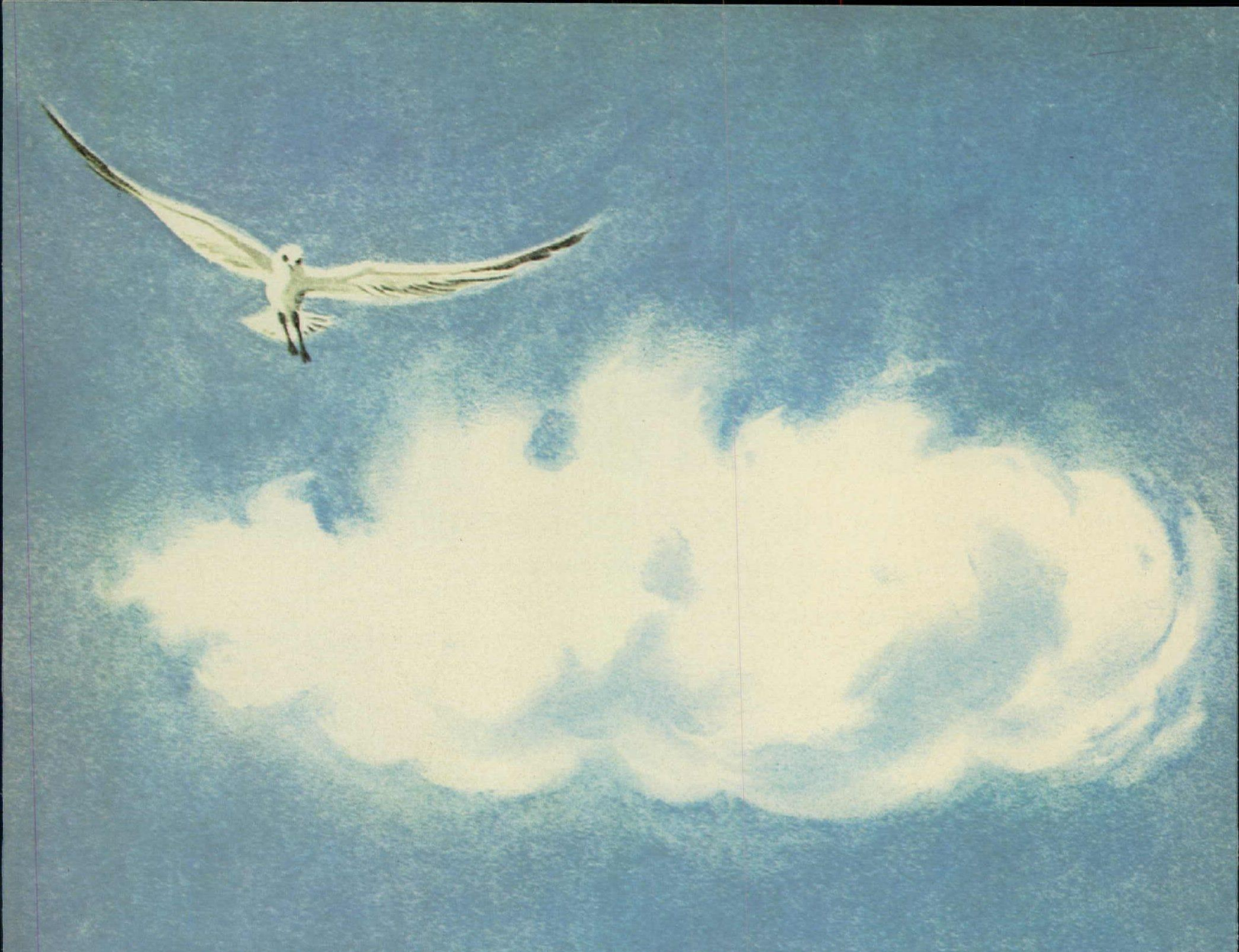
The Tremline edging system is only one of the ways we can solve your weatherproofing problems. For over 45 years we've been caring for buildings with some 15 job-proven glazing and caulking sealants such as MONO®, DYmeric®, and Lasto-Meric® plus our unique TREMproof® waterproofing systems. Your Tremco man can recommend complete waterproofing systems that are exactly right for your job.

So talk to us. Contact your Tremco rep. Or Tremco, Cleveland, Ohio 44104. Toronto, Ontario M4H 1G7.

THE ALWITRA EDGING SYSTEMS FROM TREMCO.

TREMCO®

For more data, circle 103 on inquiry card



FOR A NATURAL BEAUTY IN ANY CONCRETE CONSTRUCTION,
use Medusa White Portland Cement. Used naturally
or color tinted, this extremely versatile true white cement meets the architect's
creative needs — moldable to any shape, design or texture. And
Medusa White is dependable and permanent. When
specifying or using white cement, insist on Medusa quality — developed and
improved by the originator of white portland cement since 1907.
Medusa would be pleased to work with you. For brochure
containing specific examples of white cement construction,
write Medusa Cement Company, P. O. Box 5668, Cleveland, Ohio 44101.

MEDUSA CEMENT COMPANY Division of Medusa Corporation

For more data, circle 104 on inquiry card

New-Carpeted Air Wall®

PATENTED

PARTITIONS PRICED COMPARABLE TO VINYL PANELS

Exclusively yours with Air-Wall partitions: the luxurious decor, outstanding sound retardation and long-life of carpeted panels, all at an attractive price comparable to vinyl surfaces ■ New "First Dimension" Series won't scratch, become marred or unravel even when bumped by chairs, carts or tables ■ Carpeting on both surfaces provides a full height tack board surface; nail or tack marks will not show ■ Colorfast and easy to keep clean with all conventional methods.

Ask your R-W Salesman to show you color swatches and tell you about the economical pricing

FREE BULLETIN

Richards-Wilcox
MANUFACTURING COMPANY
116 Third Street, Aurora, Ill. 60507
Phone: 312/897-6951
One of the White Consolidated Industries
WCI

For more data, circle 115 on inquiry card

INTRODUCING NEW Spectra-Glaze® II

STRUCTURAL GLAZED MASONRY UNITS

after 6 years research a major technical breakthrough

A REVOLUTIONARY SATIN-GLOSS GLAZED FINISH FOR CONCRETE BLOCK

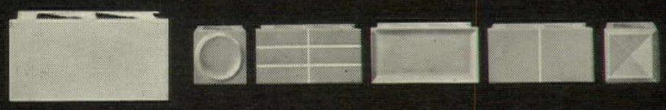
NOW easy to clean and keep clean. Quick-and-easy cleandown for the masons. Soap-and-water maintenance from then on.

TOUGHER facing. Less job-site breakage.

FOOL-PROOF color constancy in a finish that resists marking and chipping.

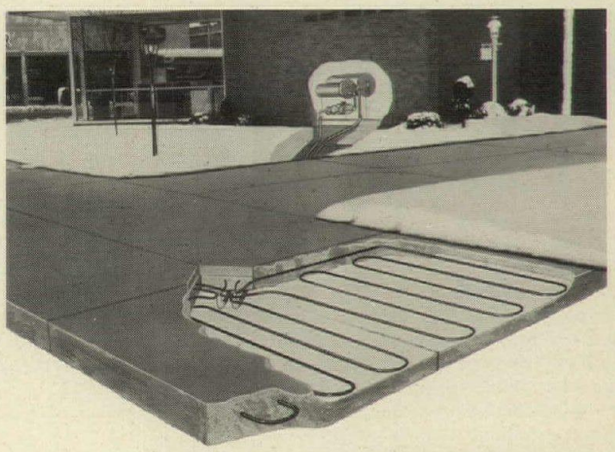
HELPS save energy with good insulating advantages. **ALSO** helpful re USDA & OSHA . . . And it's **AVAILABLE!**

EXTRAORDINARY design flexibility. **LOCAL** suppliers. **PLUS** all the economic advantages of traditional block.



®U.S. Patent Office, Canada and other countries by THE BURNS & RUSSELL CO. Box 6063, Baltimore, Md. 21231. 301/837-0720. Cataloged 4.4/Bu. in SWEET'S Ⓢ

For more data, circle 114 on inquiry card



AUTOMATIC SNOW CONTROL with GUARANTEED Reliability

The patented Hume system sets state-of-the-art performance standards for in-ground automatic snow melting. So reliable, it's backed by a full five-year pipe system warranty. Our latest illustrated brochure contains full details and system specifications. Send for your copy today or see us in Sweets under Section 15.13.

HUME SNOW MELTING SYSTEMS, INC.
4405 FERNLEE AVENUE • ROYAL OAK, MICHIGAN 48073
(313) 549-2830

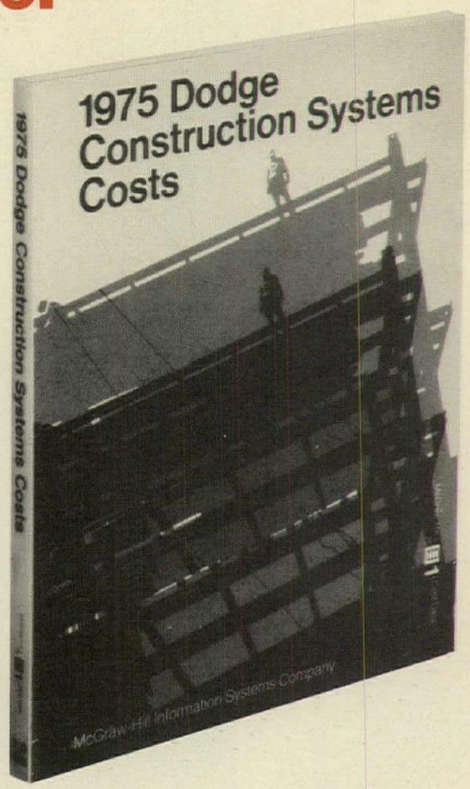
For more data, circle 113 on inquiry card

NEW...a more effective way to analyze and manage the cost impact of your design decisions...

When are the key cost elements of a building project really "locked in"? In the early stages when you make major design decisions, of course. Simply put, early design decisions are crucial cost decisions . . .

And yet, until now, there have been no aids to help you understand and manage the cost implications of your designs. Until now, you could only *look at* costs *(often after decisions had been made)* through guesswork, through detailed unit costing of alternates, or some combination of the two.

Many architects have come to realize that such inaccurate and time-consuming methods render them incapable of *managing* costs. That's why our entirely new method of cost impact management is worthy of your attention.



Announcing

1975 DODGE CONSTRUCTION SYSTEMS COSTS

Published specifically for architects—with emphasis on the data architects use and need most.

You'll indoubtedly be reading quite a lot in your professional publications about this completely different type of reference. It provides to-the-minute cost data on hundreds of alternative assemblies within the different systems that could be used for each functional part of a building—superstructure, floors-on-grade, exterior walls, partitions, interior wall finishes, floor finishes, roofing and ceilings. Also provided are accurate factors by building type for electrical, plumbing, HVAC and other engineering systems—in a format designed for the *architect's* use.

Here you'll also find computer-generated *guidelines for efficient planning of useable space . . .* and *detailed geographical adjustment indexes so that you can localize all cost data.*

How You Can Put This New Method To Work

1975 Dodge Construction Systems Costs provides cost data on systems for dozens of different building types . . . and shows the percentage each system is of the total building square foot cost. This expands your capacity for making rapid cost trade-offs.

If, for instance, your design solution results in your exceeding your budget but you want to stick to the exterior wall you've selected, say, you can "trade off" by going to less expensive wall finishes, partitions or ceilings. You can do this now without guesswork. All the alternative solutions are presented in one authoritative, convenient source.

You can also use this book to (1) compare average building systems costs to your design; (2) "shop" for alternative assemblies within a particular system; (3) make preliminary estimates; (4) check out change orders; (5) analyze area overages or underages.

IMPORTANT— This Is *Not* A "Unit Cost" Book— IT'S MUCH MORE

Unit cost books, which give thousands of detailed labor and material rates for everything that goes into a structure, serve a different purpose. They do not help when you're trying to quickly understand the cost implications of different structural systems.

DODGE CONSTRUCTION SYSTEMS COSTS permits you to analyze and manage the cost impact of major decisions at the crucial early stages. It should not be compared (or confused) with our own Dodge Manual, with the R. S. Means' publication, or with any other unit pricing aid.

Published and Complied by the Leading CONSTRUCTION COST AUTHORITIES

Extensive market research conducted by Dodge Building Cost Services (already a noted publisher of construction cost data and part of McGraw-Hill Information Systems Company) revealed a major informational void and prompted development of this new design analysis aid. Working with Dodge Building Cost Services and the Development Department of Sweet's Construction Services is the noted construction cost management firm of Wood & Tower, Inc., Princeton, N.J. All data is updated and processed through Wood & Tower's computer facilities. The McGraw-Hill Information Systems/Wood & Tower team is one you can *rely* on for accurate, meaningful construction systems cost data.

When you begin to use Dodge Construction Systems Costs, you may well feel like the man who has been making fires by rubbing sticks together and who discovers the match.

ACT IMMEDIATELY AND SAVE $4.00 (or more)

Copies of the 1975 DODGE CONSTRUCTION SYSTEMS COSTS will be available September 1st. By sending in your order with payment now (before September 17th) you can save $4.00 from the regular price of $33.80. In addition you avoid the $1.35 postage and handling charge on invoiced orders.

We're sure you'll find that the 1975 DODGE CONSTRUCTION SYSTEMS COSTS is a high quality, time-saving professional aid . . . sure enough to offer you a 10-day "no-questions-asked" full refund privilege if you're not completely satisfied.

So there's nothing to lose by ordering this pioneering reference *now*—and more creditable cost analyses to gain. Mail in the Order Form today.

Save $4.00 (or more) IF YOU ACT NOW ORDER FORM

Dodge Building Cost Services, McGraw-Hill Information Systems Company, 1221 Avenue of the Americas, New York, New York 10020

YES, please send me _____ copy(ies) of the 1975 Dodge Construction Systems Costs at the special Pre-Publication price of $29.80.

(Regular price $33.80 effective September 17, 1974). By acting now I save $4.00 on the book, plus $1.35 postage and handling. I understand I may return the book within ten days of receipt for a refund if I am not completely satisfied. M67322

Name _____

Company _____

Street _____

City _____ State _____ Zip _____

Payment must accompany all orders at Pre-Publication Price. Please add local sales tax applicable.

For more data, circle 125 on inquiry card

Help protect people from the horrors of fire and smoke...

specify FENESTRA all steel doors

Smoke and deadly toxic fumes account for about 80 percent of fire victims, according to documented fire records.

Every door in your building should serve as a fire barrier . . . but in addition it should protect life by minimizing increased generation of smoke and toxic fumes to the atmosphere.

Some doors do restrict the passage of flame — however, under exposure to intense heat they can decompose, thereby adding to the content of smoke and toxicity. These doors may utilize craft paper, certain plastics, or foam as a structural core. Wood doors are big violators.

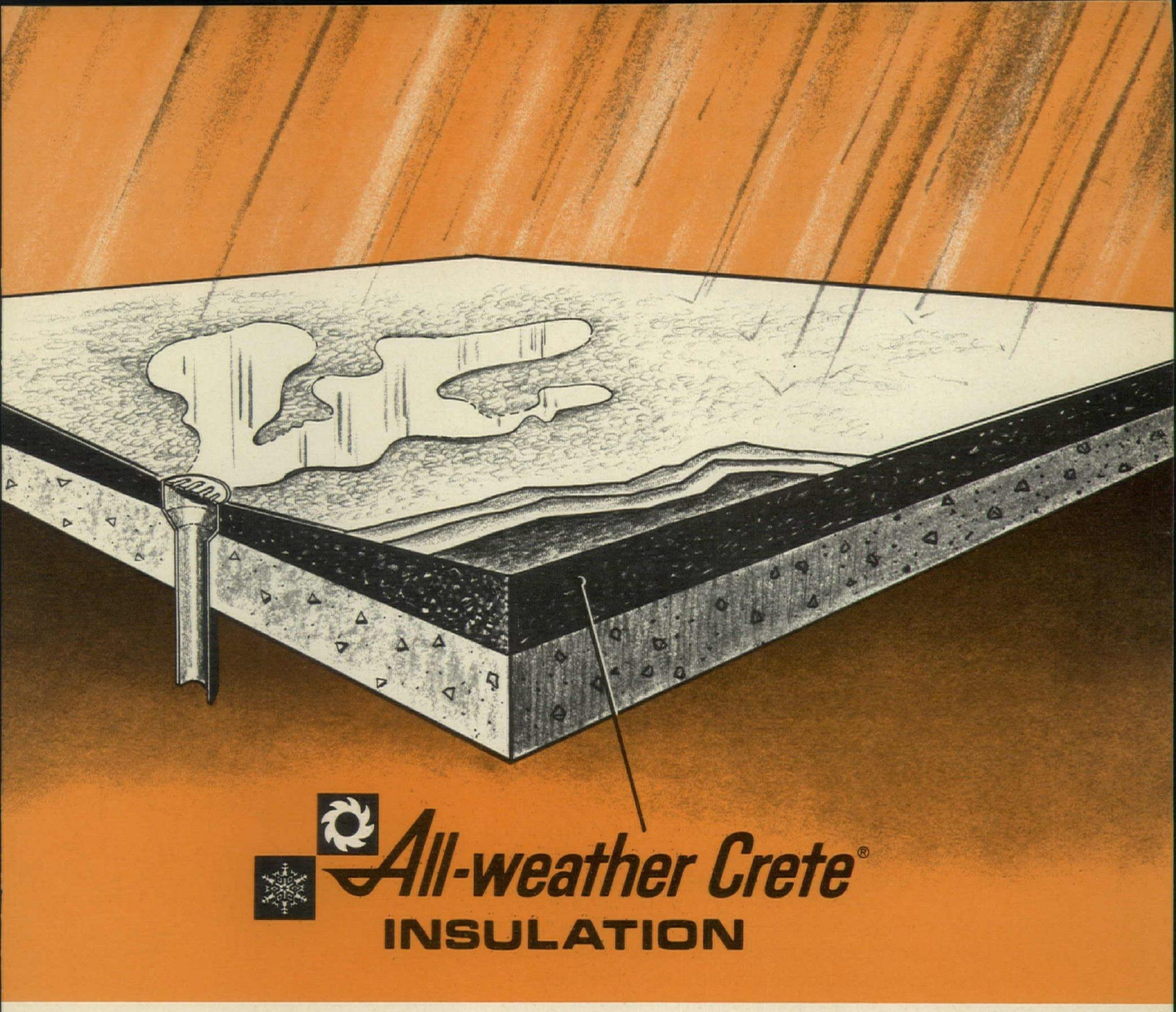
Steel cannot generate toxic gases and is non-combustible. Fenestra's all-steel inner grid system assures *maximum* protection against fire as well as smoke and toxic fumes.

And you can get the style of doors and frames you need *with this protection,* when you need them, right from your nearby Fenestra distributor.

At Fenestra, we think safety. Think Fenestra when *you* think safety. Call your local Fenestra distributor today. He's in the Yellow Pages under "Doors-metal" or call 814/838-2001. Or check Sweet's . . . 82/Fe.

FENESTRA
DIVISION OF THE MARMON GROUP, INC. (MICHIGAN)
ERIE, PENNSYLVANIA 16505

For more data, circle 116 on inquiry card



All-weather Crete®
INSULATION

How to achieve slope to drains when you insulate the roof deck!

Few things deteriorate a roof and cause leaks faster than ponding water. That's why roofing experts, architects and engineers unanimously agree that roof decks should slope to drains. The efficient, economical way to accomplish this is with All-weather Crete Insulation! This unique material not only provides the finest insulating value of any poured fill insulation, but it can be positively sloped to drains, all in the same operation. All-weather Crete is applied hot and dry (even in freezing temperatures) and compacted to form a smooth, seamless, sloped to drain deck which is ready for roofing immediately - no curing is necessary. It speeds construction!

No wonder All-weather Crete is also a top choice for plazas where slope to drains is critical. Compare the life/cycle costs of All-weather Crete with other methods. None can surpass it in the thousands of dollars saved through energy conservation and roof life longevity. Get the facts – contact your local All-weather Crete applicator or Silbrico Corporation, 6300 River Rd., Hodgkins, Ill. 60525, (312) 735-3322.

SILBRICO CORPORATION

For more data, circle 118 on inquiry card

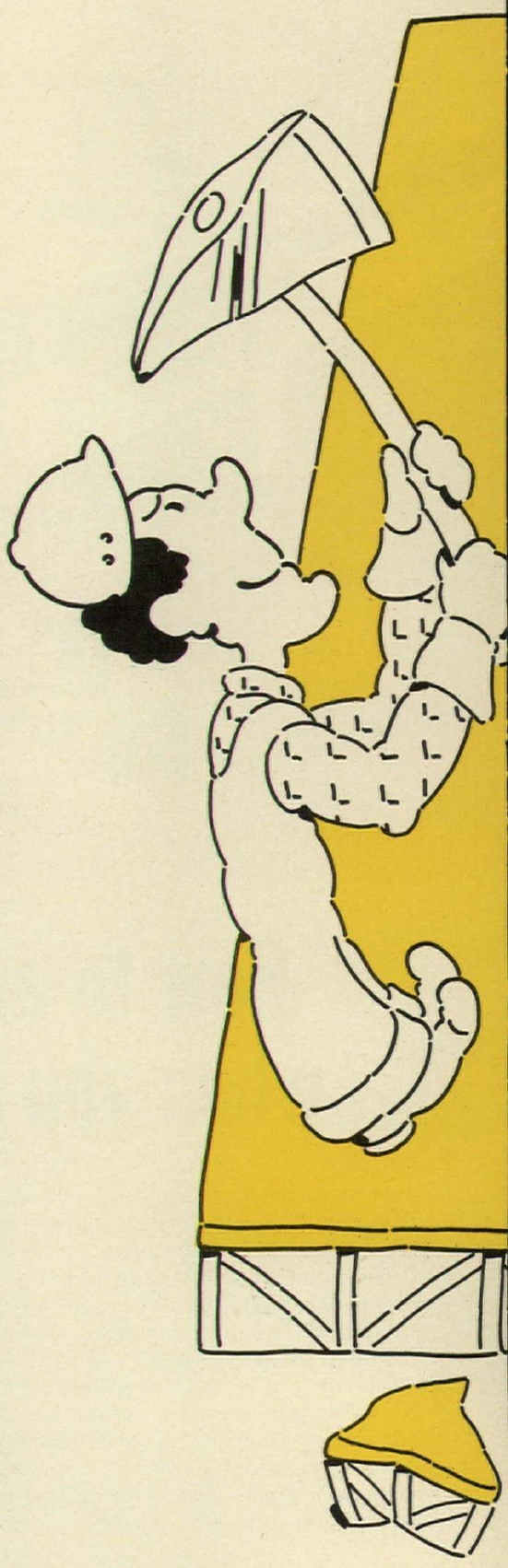
When it comes to safety, we're not afraid to flunk any product that can't cut it.

Surprisingly, perhaps, there are times when the sum comes out less than the parts. A system, such as a floor and ceiling assembly, can fall short of prescribed fire resistance requirements, even though it contains materials previously Classified by UL, if such materials are Classified for use in other ways. We rate the complete construction assembly to determine how long it will retard the passage of heat and flame. A drawing and specification of the acceptable assembly, and its hourly rating, are published in our **Fire Resistance Index.**

What we do, as an independent third-party, is originally test and evaluate products, materials and designs with an eye to specific hazards and performance standards. Any product or material meeting these recognized requirements is eligible to bear the UL Classification Mark. The manufacturer's name is then published in UL's **Classified Product Index, Fire Resistance Index,** or **Building Materials Directory** for the benefit of jurisdictional people, safety experts, building inspectors and contractors.

Then we counter-check to see that his products continue to merit UL classification through our Factory Follow-Up Service with periodic unannounced visits to the maker's plant by UL inspectors. UL Inspectors pull products off the production line for testing and evaluation. When required, product samples are also secured from the open market and thoroughly examined to verify that they conform to applicable standards.

Why are manufacturers, here and in 36 other countries, so willing to go along with us? Because they know no matter how extensive their own factory testing, there's really no substitute for the credibility of testing and evaluation by the world's largest independent, not-for-profit safety testing organization.

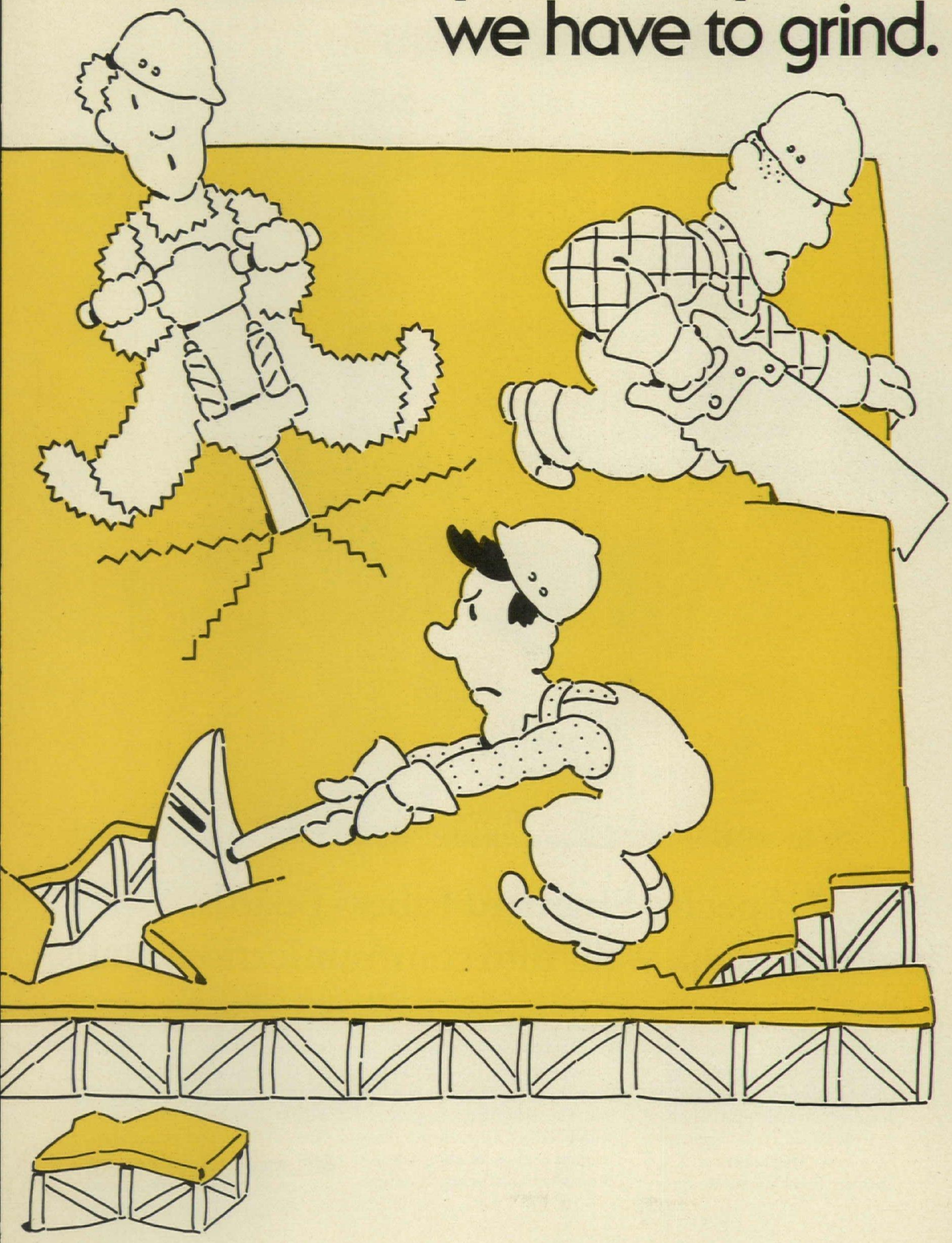


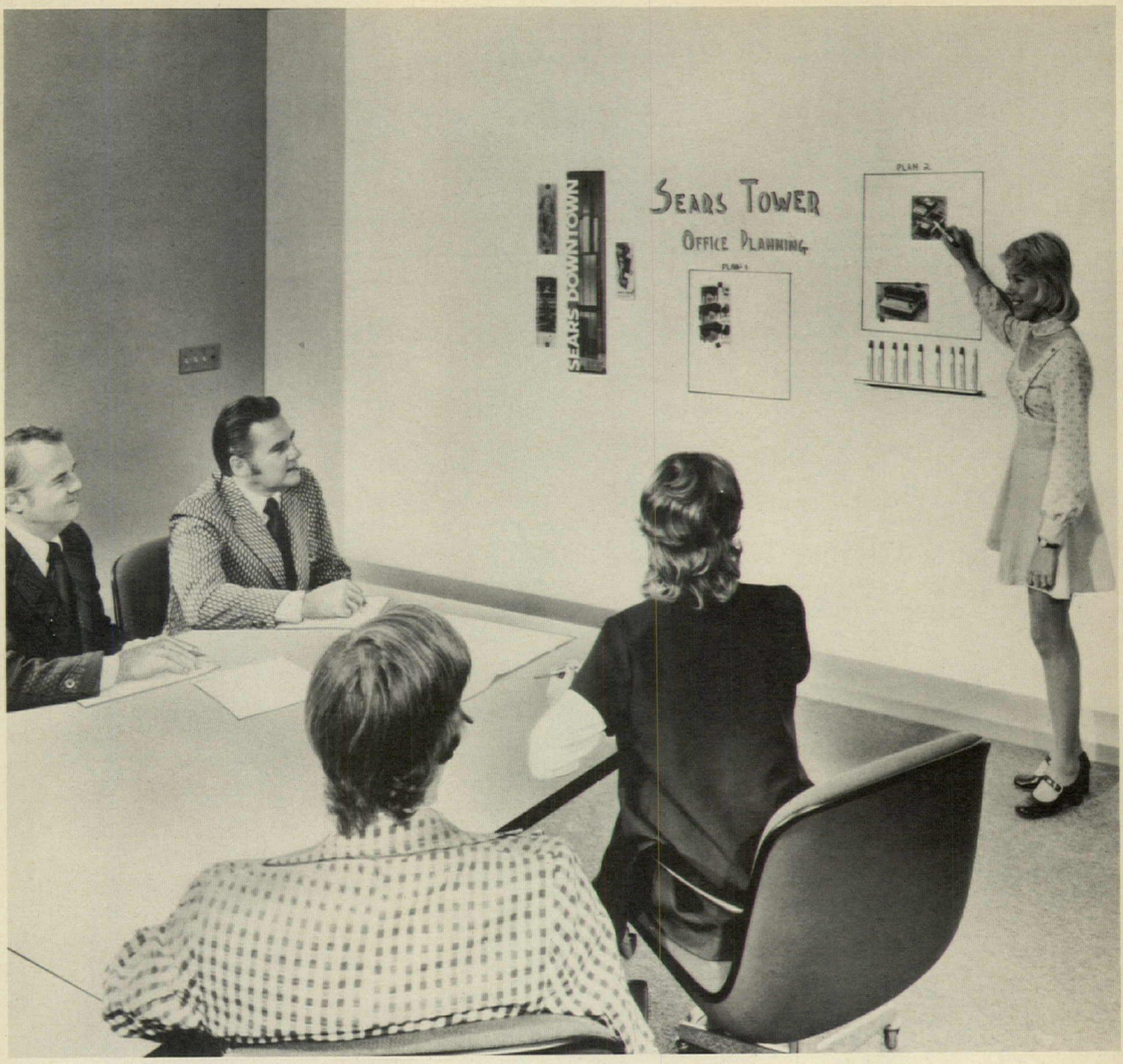
Underwriters Laboratories Inc.

An independent laboratory testing for public safety.

Chicago and Northbrook, Ill., Melville, N.Y., Santa Clara, Cal., Tampa, Fla.

At UL, safety's the only axe we have to grind.





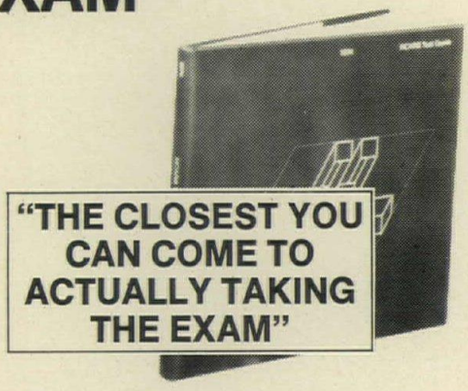
Specify Eberhard Faber-Boards and turn blank walls into communications walls.

More and more leading architects are specifying our Eberhard Faber-Board® panels for some of the biggest jobs going up today. Like the new Sears Tower and Standard Oil building in Chicago. And the World Trade Center in New York. They're versatile. Eberhard Faber-Boards are applicable for new or present construction or renovations. They're the visual aid panels that really aid communications. Because they're three communications areas in one. The surface lets you write with Eberhard Faber-Board color markers because it's white. Lets you project without distortion because it's lenticular. And lets you post or schedule without hang-ups because it has magnetic capability. For a kit with sample material, information on types, sizes and all specifications on the visual aid panels of the future, write today.

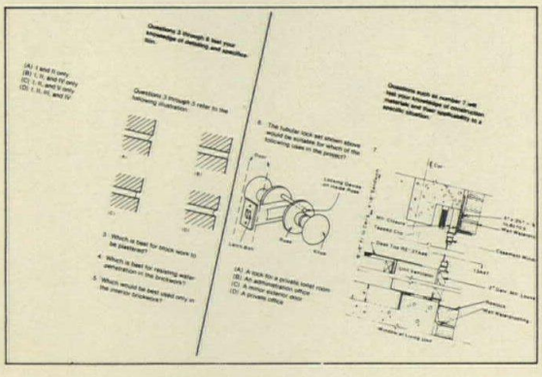
EF EBERHARD FABER®
CRESTWOOD, WILKES-BARRE, PA. · 18703
Products for Graphic Communications.

For more data, circle 120 on inquiry card

THE BEST WAY TO PREPARE FOR THE 1974 ARCHITECTURAL REGISTRATION EXAM



"THE CLOSEST YOU CAN COME TO ACTUALLY TAKING THE EXAM"



Here—within the pages of a single book—you'll find the information and help you need to prepare for the December, 1974 Architectural Registration Exam. This 186-page Test Guide is the only one sponsored and recognized by the NCARB, the organization that prepares the examination.

New—and expanded—this edition draws its material directly from the December 1973 exam. The questions are the same ones confronted by the candidates who actually took the exam—*all the test information for all four parts is reproduced in the Guide.*

EXCLUSIVELY THIS TEST GUIDE FEATURES:

- INSTRUCTIONS AND QUALIFICATIONS for applying for the new professional Examination as well as the equivalency examination.

- The 1973 EXAM—with questions and answers from the actual examination which tested candidates knowledge and judgment in environmental analysis, architectural programming, design and technology, and construction administration.

- RESULTS OF THE 1973 EXAM—how the candidates did nationally, by region and state . . . what the candidates thought of the exam . . . what they thought of their education/training.

- WHAT THE NEW EXAM WILL BE LIKE—with answers to such questions as: How is the new examination structured? . . . graded? . . . scored? . . . Is guessing a good idea? . . . Is there a predetermined pass/fail point? . . . What scores will be reported and to whom? . . . Will credit be given for passing individual parts?

- A GLOSSARY OF TERMS AND IDEAS with which candidates must be familiar with to deal effectively with each problem area.

- A BIBLIOGRAPHY OF RECOMMENDED READING AND REFERENCES encompassing the periodicals and books of special relevance to candidates for the Professional Examination.

- INDISPENSABLE INFORMATION FOR ALL CANDIDATES, describing the philosophy of the new Professional Exam, the new exam and the law, and how the NCARB intends to help the professional after registration.

- REQUIRED READING FOR ALL PRACTITIONERS by shedding light on the whole institution of registration and licensing as a professional prerequisite. Architects already in practice, both here and abroad, can benefit professionally from having their own copy.

RECOMMENDED BY LAST YEAR'S CANDIDATES

Candidates who bought the first edition in preparation for the 1973 exam readily endorsed the Test Guide as a practical and useful tool in their studies. The expanded 1974 edition is of the *utmost* importance to anyone taking the Professional Exam and will be of professional interest to all educators and practitioners.

The first edition of the Test Guide was completely sold out and paper and printing commitments will also limit the second edition. To ensure that you'll receive your own copy, send your order and payment to:

ARCHITECTURAL RECORD BOOK · BOX 682 · HIGHTSTOWN, N.J. 08520

ORDER NOW! USE THIS HANDY COUPON

9–74

ARCHITECTURAL RECORD BOOK · BOX 682 · HIGHTSTOWN, N.J. 08520

Please send _____ copies of the Architectural Registration Handbook

Name _____

Address _____ City _____

State _____ Zip _____

Full payment of $21.00 per copy (plus 50¢ postage) must accompany your order

OWNERS ACCLAIM FIRE SAFETY OF PRESTRESSED CONCRETE

Three years ago in Nashville, Tennessee, the Malone Market, built with conventional construction methods, burned to the ground before fire trucks arrived. The store was out of business for seven months. It was rebuilt using prestressed concrete double tees, girders, and concrete masonry walls. Fire struck again following a series of three explosions that blew out the windows. This time, because prestressed concrete was used, the fire was isolated to the back of the store near the incinerator where it originated. The 12 people in the store all scrambled to safety. Although smoke damage occurred following this second fire, the store was out of business only 31 days.

▲ In a letter to the builder following a major fire at the Fountainhead Apartments in Westboro, Massachusetts, the owner said: "The firemen reported that because of the Class I construction techniques . . . it was possible for them to contain and control the fire within one dwelling unit. No one was hurt, and we were inconvenienced only with the temporary loss of one unit while it was being redecorated, with all other apartments continually occupied. A fire of similar intensity in a building constructed with materials other than concrete would have caused a real tragedy endangering many lives and destroying the entire structure."

Prestressed concrete helps save lives and property if fire strikes

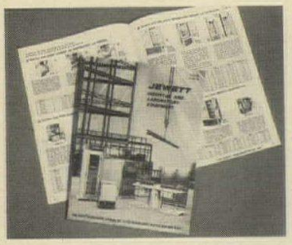
For more information about fire-safe prestressed concrete building components, write to:
"Fire-Safe"
Prestressed Concrete Institute
20 North Wacker Drive
Chicago, Illinois 60606

ARCHITECTURAL
STRUCTURAL
PCI
PRESTRESSED CONCRETE INSTITUTE®
20 NORTH WACKER DRIVE / CHICAGO, ILLINOIS 60606

For more data, circle 121 on inquiry card

AE/UPDATE

A classified advertising section devoted to helping architects and engineers keep up to date on building product manufacturers.

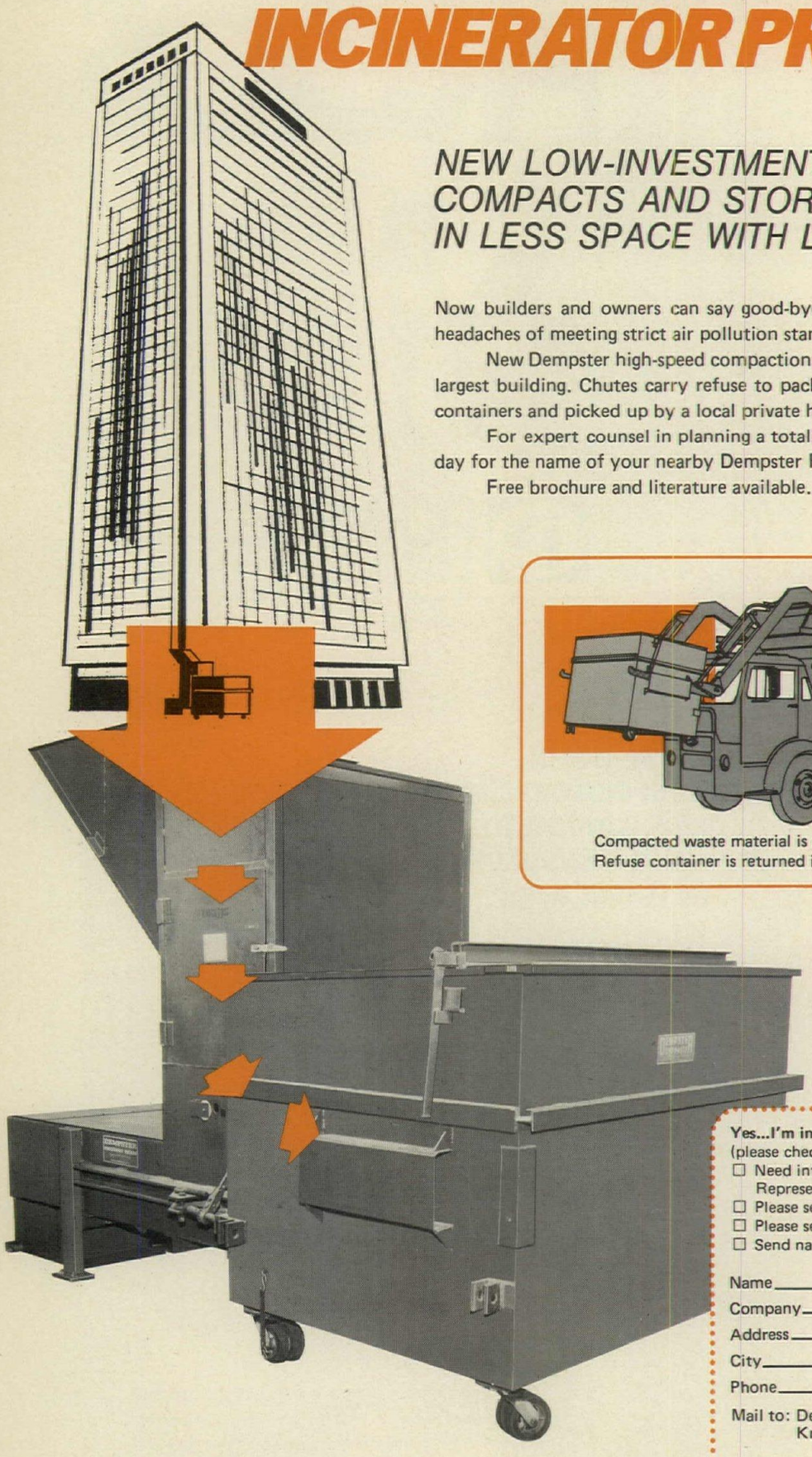


HEALTH CARE EQUIPMENT CATALOG describes and illustrates Jewett's comprehensive line of stainless steel refrigerators and freezers for hospital and lab installation as well as autopsy and morgue equipment. The line includes free-standing, counter-top, under-counter and wall-mounted models. The new 8 page brochure includes metric as well as English dimensions and temperature ranges. Write: Jewett Refrigerator Co., Inc., 2 Letchworth St., Buffalo, NY. 14213.

For more data, circle 122 on inquiry card

SEND FOR A COMPLETE NEW 1975 catalog and samples of famous Melflex Products Company molded rubber stair treads and flooring material. New 1975 catalog detailing the Melflex molded rubber stair tread and flooring line is now available. A complete offering of square nose and round nose stair treads in selection of six most popular rubber and vinyl styles including matching flooring and cove risers.—All in nine decorator colors are featured. Several types of floor mats and matting material are also listed in this Melflex 44th Annual Catalog. For catalog and samples, circle 123 on inquiry card.

CHUTE-FED REFUSE PACKER SYSTEM ENDS HIGH RISE INCINERATOR PROBLEMS!



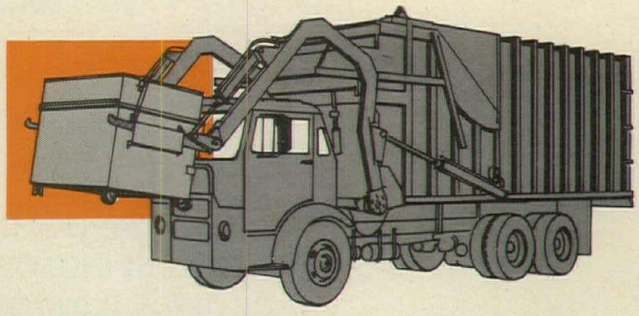
NEW LOW-INVESTMENT DISPOSAL SYSTEM COMPACTS AND STORES MORE REFUSE IN LESS SPACE WITH LESS COST!

Now builders and owners can say good-bye to smoky, sooty incinerators and the headaches of meeting strict air pollution standards.

New Dempster high-speed compaction systems meet refuse output of even the largest building. Chutes carry refuse to packers where it's compacted into enclosed containers and picked up by a local private hauler.

For expert counsel in planning a total system for your new building, write today for the name of your nearby Dempster Refuse Consultant.

Free brochure and literature available.



Compacted waste material is emptied into disposal truck.
Refuse container is returned immediately for more service.

Division of Garner Corporation

Dempster Brothers

Home Office: P.O. Box 3127, Knoxville, Tennessee 37917
Western Division: P.O. Box 5703, Compton, California 90221

Yes...I'm interested in chute-fed packer systems.
(please check)

- ☐ Need information right away. Have Dempster Representative call.
- ☐ Please send literature.
- ☐ Please send name of Dempster Consultant.
- ☐ Send name of dependable refuse hauler near me.

AR–9–74

Name_____ Title_____

Company_____

Address_____

City_____ State_____ Zip_____

Phone_____

Mail to: Dempster Brothers, P.O. Box 3127
Knoxville, Tennessee 37917

For more data, circle 126 on inquiry card

Enclosed passageway—
Installation: Westminister Village, Indianapolis, Indiana
Architect: Woolen Associates
Materials: Aluminum and Acrylic

Write for Complete details and specifications.

o. o. McKINLEY co., inc. Box 55265, Indianapolis, In 46205

SPECIALISTS IN METAL FABRICATION • METAL FINISHING • PLASTICS FORMING

For more data, circle 127 on inquiry card

TRANS-LOGIC™ pneumatic tube systems can be expanded to 999 stations—more than any conceivable requirement. As your needs grow—so can your system. No central exchangers. Upgrade from the simple System 200 to the computerized System 400. Trans-Logic grows with you. 4" and 6" dia. carriers.

Trans-Logic, the breakthrough system.

POWERS
Powers Regulator Co. Transitube Division
Skokie, Illinois 60076

UNLIMITED EXPANSION

For more data, circle 128 on inquiry card

Most doormats say "welcome" to dirt. Pedigrid keeps out 80% of it.

C/S Pedigrid recessed foot grilles are right in step for easy maintenance, safety, beauty. In fact, 80% of all dirt, mud and water stops right at your doorstep!

The recessed entrance grid system consists of separate, replaceable strips of deep pile Acrilan and nylon set securely in structural aluminum rails. They wipe the shoe clean as it passes over the treads. Dirt or mud drops between the treads into the catch basin below. Easy to maintain. Available in 3 styles and 17 colors. Other types include abrasive, serrated aluminum and vinyl. Write or call for new literature.

SAMPLES AVAILABLE.

CONSTRUCTION SPECIALTIES, INC.
P.O. Box 380, Muncy, Pa. 17756/(717) 546-5941
725 Twin Oaks Valley Rd., San Marcos, Ca. 92069

44

For more data, circle 129 on inquiry card

J-M puts it

A J-M asbestos roof saves energy.

A built-up roof can take a lot of asphalt. Or it can take a lot less. That's the one big advantage of using J-M asbestos roofing felts. It makes possible a smooth surface roof—one that doesn't need a poured asphalt-gravel protective surface. Use asbestos roofing felts and you save a lot of asphalt. Save asphalt and you're also doing your part to conserve petroleum, a vital energy source.

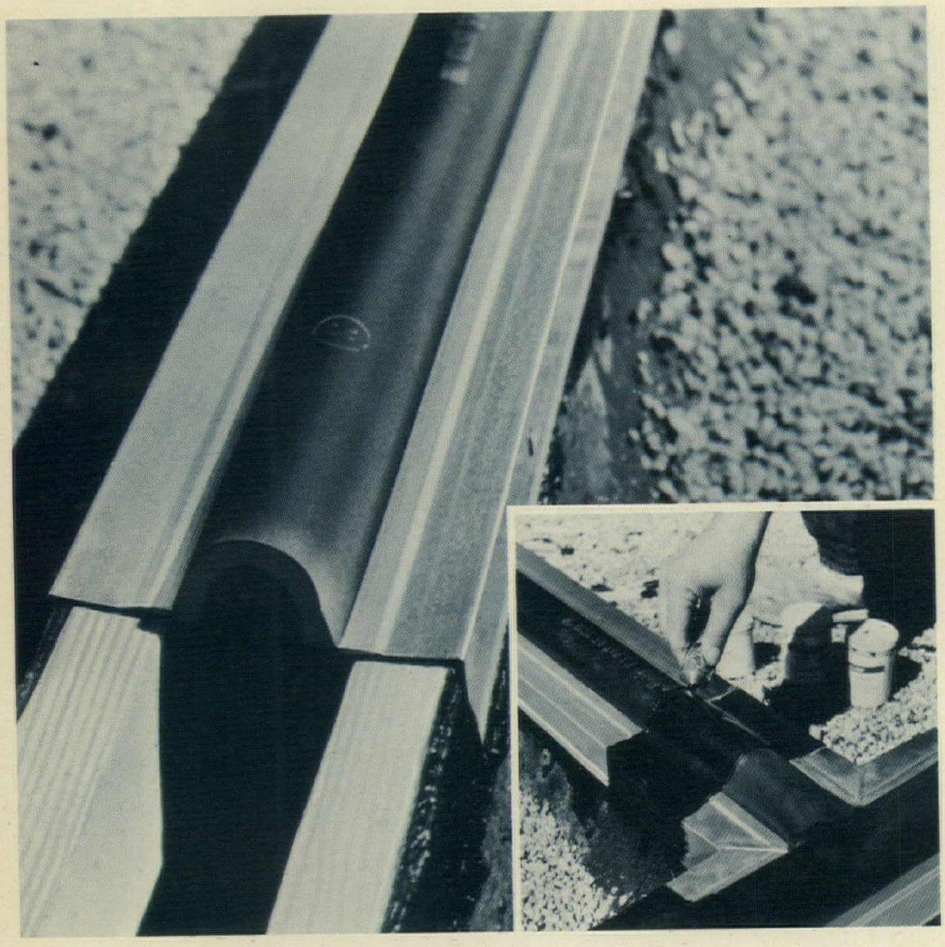
A J-M roof ... a systems approach to quality.

A quality built-up roof is no better than its component parts. And no better than the techniques used to put them together. That's why it's so important when you specify a roof, to consider every aspect of the system, if you expect true value and lasting protection when the job is done. And that's why a J-M built-up roof makes sense. You benefit from the experience of over 100 years in the roofing business—on J-M quality in a complete line of roofing products built to work together—and on the skills of the J-M team of roofing specialists.

A J-M roof means single-source materials responsibility.

Because J-M makes everything that goes into a built-up roof, you can have Johns-Manville quality all the way—from the deck up. From vapor barrier to top dressing, you're assured of components made to go with each other. And when those materials are applied in accordance with J-M specifications, the result is "from-the-deck-up" dependability. Plus, another important benefit: Clear-cut responsibility for the performance of the materials used in the finished assembly. And that can be a real advantage in case follow-up is needed after the roof is completed.

all together.



SPECIFYING A ROOF IN A PERIOD OF RISING PRICES.

Because of the energy crisis, prices of all petroleum-derived products—and that includes the bitumen used in a built-up roof—are rising. As a result, a roofing manufacturer cannot guarantee prices for as long a time as normally transpires between the submission of a quote and shipment of materials to the job. For that reason, it is imperative that the specifier and building owner alike allow for that situation and accept the inclusion of escalation clauses in bids. This gives the contractor the flexibility to adjust prices over which he has no control and enables him to make a fair return on a job bid in good faith.

A J-M roof includes Expand-O-Flash®, the original prefabricated roof expansion joint cover.

When we say J-M can supply the total roof, we really mean it.

J-M built-up roofing products line includes Expand-O-Flash, a name you've come to respect in flashing.

Expand-O-Flash expansion joint covers are prefabricated at the factory. They come to you ready to install.

They're available for all types of expansion joints, including corners, outside corners, tees and crossovers.

They permit three-way movement while retaining a weather-tight seal.

For long-lasting roof protection, be sure your roof specifications include Expand-O-Flash expansion joint covers.

For assistance of any kind with a built-up roofing problem, contact your J-M District Office. Or contact Dick Ducey at Johns-Manville, Box 5108, Denver, Colorado 80217. (303/770-1000, Ext. 3740.)

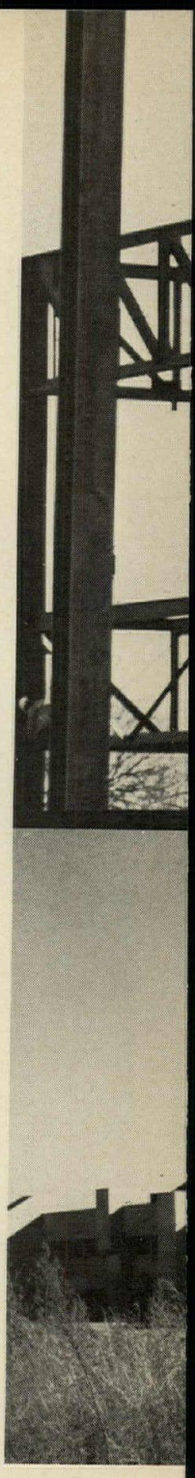
The single-source built-up roofing system.

JM

Johns-Manville

For more data, circle 135 on inquiry card

STEEL FRAMES FOR HOSPITALS: BECAUSE THERE'LL BE SOME CHANGES MADE!



A hospital is a very special kind of building. Through the years it must be able to adapt to many functional changes—to enlarge outpatient areas, to accommodate new equipment or new facilities, or modifications to the mechanical system. These are some of the reasons why steel is proving to be *the* most practical and economical structural framing system for hospitals.

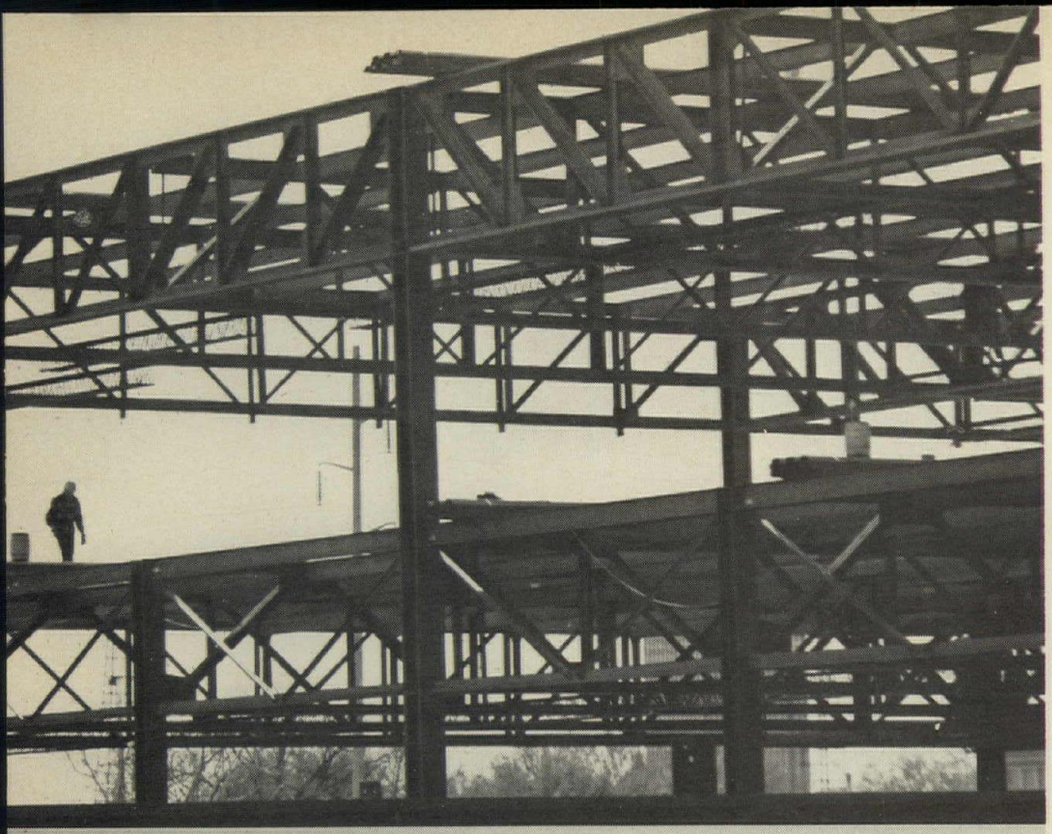
Steel allows sufficient design flexibility to meet the constantly changing needs of medical facilities. Steel frames also mean competitive costs and minimum erection time.

A fine example of imaginative and economical structural steel design is the new 409-bed Presbyterian Hospital in Oklahoma City, Oklahoma. This hospital offers patient care to the general public and a full teaching program for medical students attending the adjacent University of Oklahoma campus.

The new facility consists of two distinct building units: an eight-story NURSING TOWER and a three-story Diagnostic/Treatment Center. Because of the difference in function, the tower requires shorter spans and lower floor-to-floor heights than the necessarily longer spans and deeper trusses of the three-story Center. However, both of these units use a form of interstitial space design.

This technique provides a building framework that is essentially a series of structural sandwiches or full height service levels between patient floors. Within these intermediate spaces (service levels) certain equipment and virtually all mechanical, electrical and communication lines, and distribution and collection systems are housed and maintained. Thus achieving an absolute minimum of servicing interference with normal hospital functions.

The Center has 7′-0″ deep interstitial spaces, while the NURSING TOWER has only 3′-6″ deep spaces: The reason for the deep trusses (where men can work efficiently) is that the *functions* of the Diagnostic/Treatment Center require frequent alteration due to changing



Owner: The Presbyterian Hospital, Inc.

Architect/Engineer: (Including Mechanical and Electrical Engineering) Benham-Blair & Affiliates, Inc., Oklahoma City, Oklahoma.

Hospital Consultants: Block-McGibony+Associates, Inc., Silver Spring, Maryland.

General Contractor: Manhattan Construction Co., Muskogee, Oklahoma.

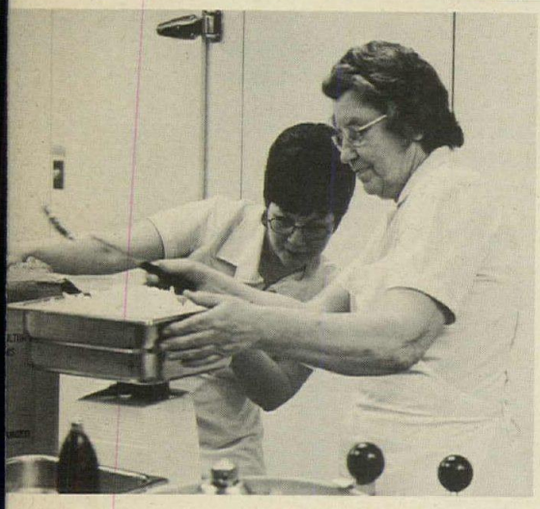
Structural Fabricator: W & W Steel Co., Oklahoma City, Oklahoma.

Steel Erector: Allied Steel Construction Co., Oklahoma City, Oklahoma.

modifications and advances in the technology of health care delivery. Conversely, the nursing function is relatively static requiring only limited access to the interstitial spaces—and that is why the height requirement of those levels is less.

The interstitial space design is a developing concept. Over the past 6 years, 35 hospitals and clinics are known to be using this system. They are finding it effective in reducing maintenance and operating costs because of the inherent flexibility of interstitial space design—functions can be modified or replaced at will. We'd like you to know more about structural steel framing for hospitals and other medical facilities—and how it can accommodate long-range needs. For a copy of the Presbyterian Hospital Structural Report (ADUSS 27-6220-01), or for any other information, contact a USS Construction Representative through your nearest U.S. Steel Sales Office, or write: United States Steel, Room C317, 600 Grant Street, Pittsburgh, Pa. 15230

USS TRADEMARK **United States Steel**



With 1,800 hungry children to feed, you don't want refrigeration equipment that tests your patience.

Making lunch for an energetic group of high school students is a full-time job. And a complex one. One that requires a variety of food service equipment to help you get the job done and take advantage of the efficiencies that are built into today's food service systems. Equipment selection, however, is an equally complex job. Because there is so much available. And because the equipment you select has to satisfy you, and the people who work for you, and the students that you serve.

Every piece of Nor-Lake refrigerated food service equipment is designed to do a job, consistently and conveniently, day in and day out. Week after week. Month after month. Year after year. With doors that open easily and close tightly. Insulation and compressors that control in-use temperature variation. Designs that maximize storage and minimize cleaning. We make them that way because Nor-Lake equipment is used, day in and day out, by people who can't settle for anything less.

Please send me information on your ☐ Refrigerators, ☐ Freezers, ☐ Walk-in Units, ☐ Beverage Coolers, ☐ full line.

I don't need information, I need answers. ☐ Have someone call me.

Name _____

Title _____

Firm _____

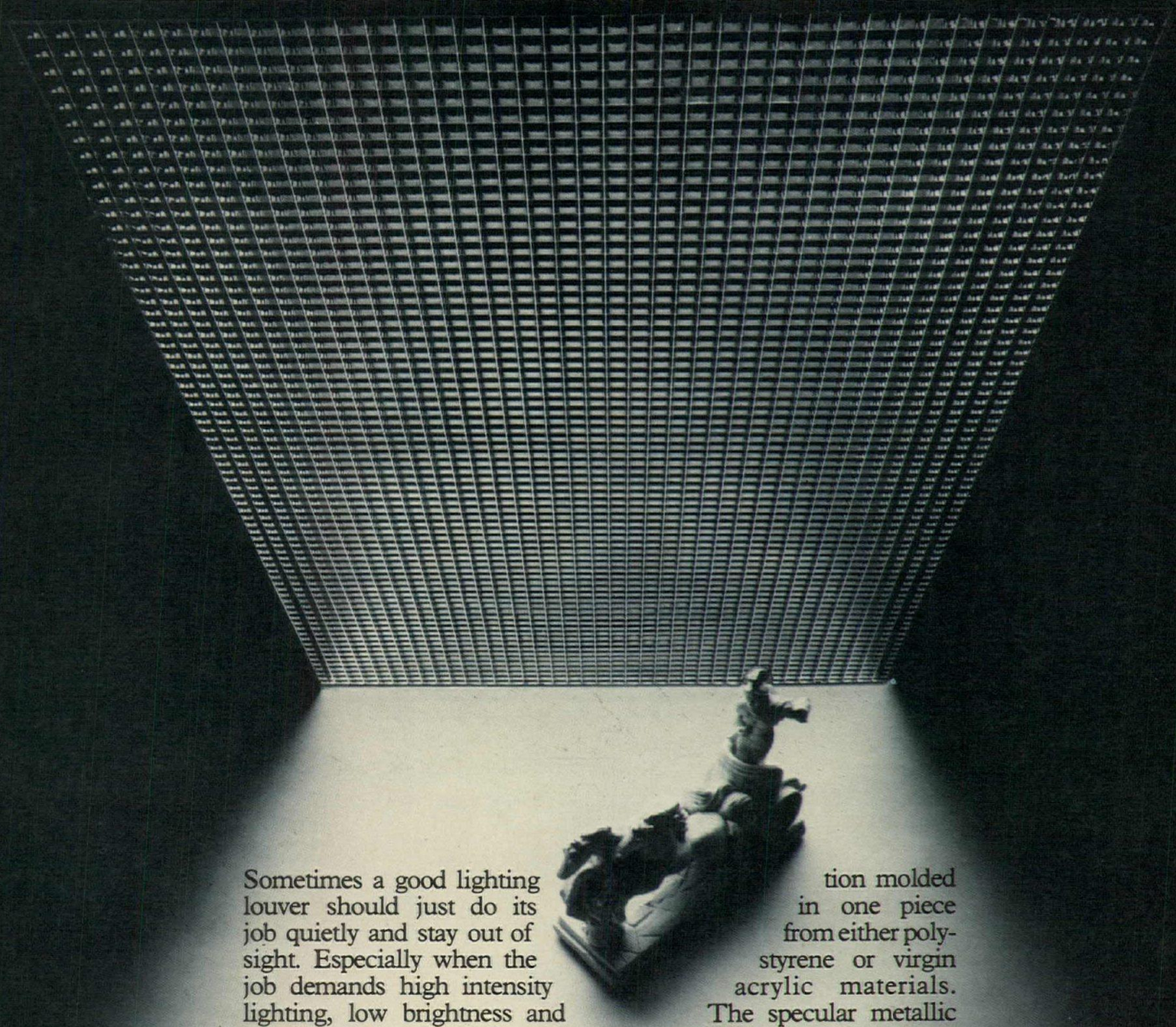
Address _____

City _____ State _____ Zip _____

NOR-LAKE INC.
Second and Elm, Dept. 3181
Hudson, Wisconsin 54016
Phone: 715-386-2323

For more data, circle 8 on inquiry card

Keep light out of sight with Paracube® Louvers



Sometimes a good lighting louver should just do its job quietly and stay out of sight. Especially when the job demands high intensity lighting, low brightness and visual comfort.

Paracube does it with mirrors—over 18000 perfectly formed parabolic mirrors per gridsize panel!

Under illumination this produces a true physical phenomenon. Regardless of lighting intensity, the panels appear dark at normal viewing angles. Brightness is under control.

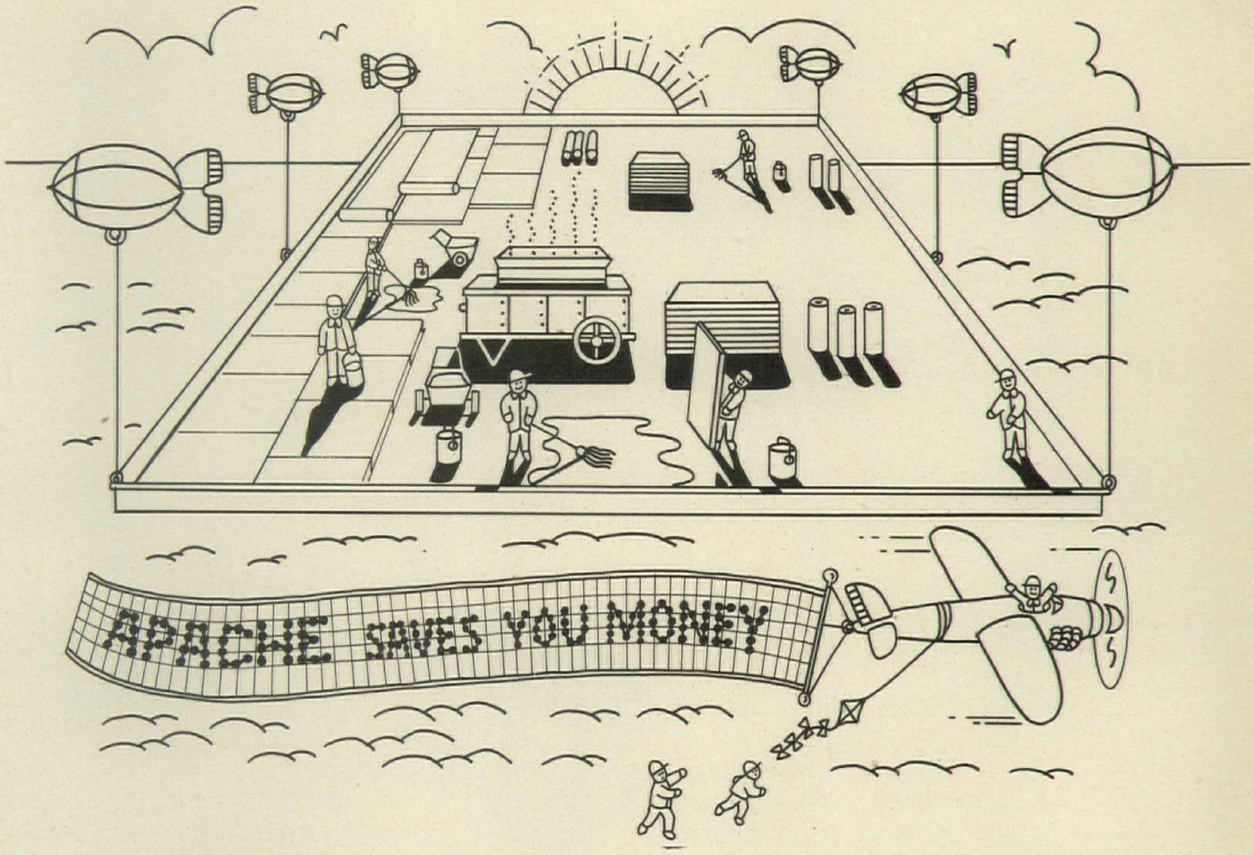
Paracube panels are injection molded in one piece from either polystyrene or virgin acrylic materials. The specular metallic finish is protected by a coating of clear acrylic lacquer for permanency. Available in silver or gold tint. Panel sizes to fit most popular fixtures or standard grid systems up to 3′ x 3′. Smaller panels can be cut to order.

Send for Bulletin #100. Paracube just might make a nice reflection on your taste in lighting.

AMERICAN LOUVER COMPANY
7700 AUSTIN AVENUE • SKOKIE, ILLINOIS 60076 • (312) 966-0300

For more data, circle 130 on inquiry card

On some buildings, starting with the roof will save you money.



We make roofing insulation panels with urethane foam—panels which can save you money in two ways.

First, installation costs. Both manufacturing processes and experience help us to produce reliable, dimensionally stable insulating panels that go down fast and easy, and cut handling time 30% to 50%.

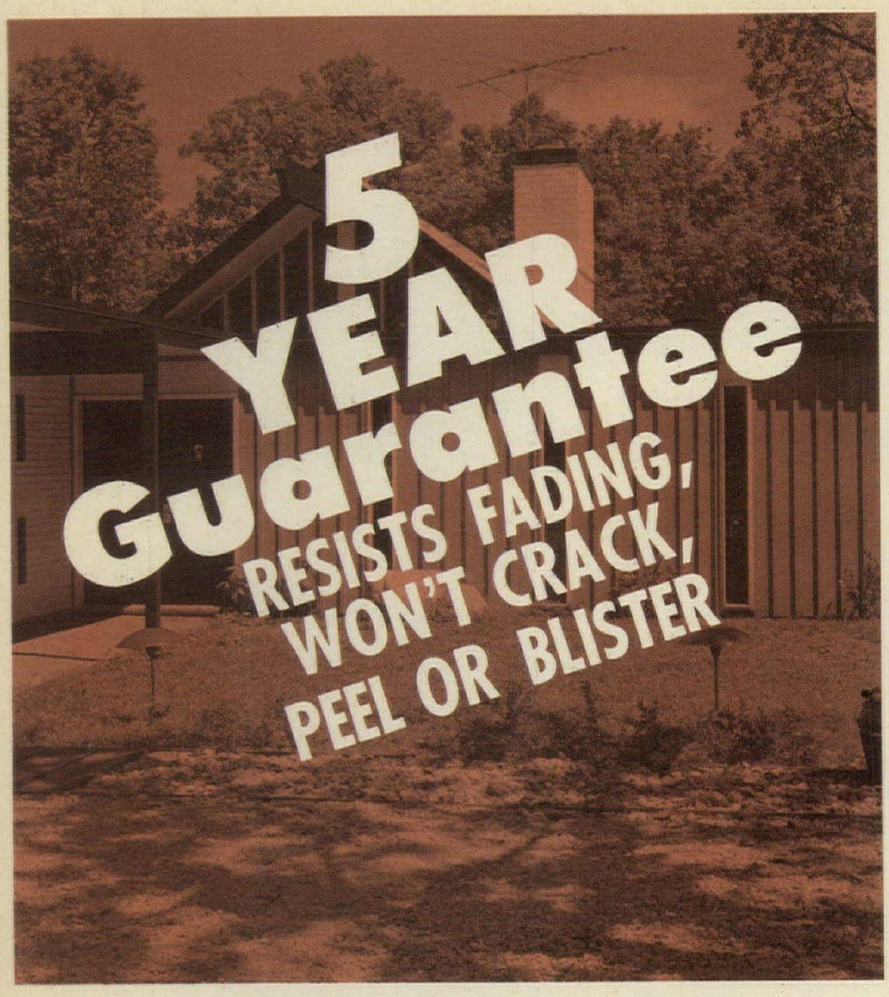
Second, life-cycle costs. That's because Apache foam panels have extremely high insulation values that won't deteriorate over the years (no wicking, no creeping, no buckling). And, their integrally bonded skins resist wind uplift beyond 170 mph (better than any fibrous insulation).

Consequently, when we analyzed the savings recently on one relatively small building (a 20,000 square foot professional building in Pennsylvania), the architects and engineers came up with more than $38,000 savings in two areas—lower installation plus predictably lower heating and cooling costs.

Apache offers four main types of foam insulation roofing panels — Lightweight for non-combustible and Class II decks, Millox® for Class I type metal decks, Plaza® and Plaza/Protek® for plaza decks. For information, look us up in Sweet's or write for descriptive literature and our data sheet on savings to Apache Foam Products. In New Jersey, 2025 E. Linden Ave., Linden, 07036. Phone: (201) 486-6728. In Illinois, 1005 McKinley Ave., Belvidere, 61008, Phone: (805) 544-3193.

apache

For more data, circle 131 on inquiry card



Rez®

Solid Color Latex Stain

On exterior or interior wood surfaces, REZ Latex Stain forms a tough, flexible film—so tough that we **guarantee*** that it won't crack, peel or blister for 5 years. And the color stays "like new."

There are other advantages, too—like easy application with less spattering, fast dry, and soap and water cleanup. Choose from 38 vogue solid or semi-transparent colors.

Detailed information on REZ Natural Wood Finishes can be found in Sweet's Catalog (9.9/Re). Or write to The REZ Company, One Gateway Center, Pittsburgh, PA 15222.

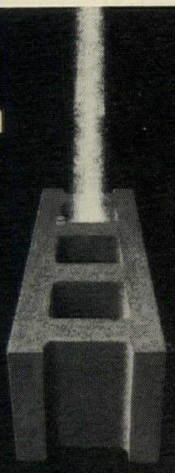
*** Guarantee**

REZ Latex Stain is guaranteed for 5 years to resist fading and not crack, peel or blister if applied according to the instructions on the label. If REZ Latex Stain fails to perform as stated in this guarantee, replacement stain will be furnished without cost or a refund will be made of the purchase price.

Rez® Natural Wood Finishes
by
PITTSBURGH® PAINTS

For more data, circle 132 on inquiry card

Space age insulation for masonry walls available now!



For space age insulation in cavity wall construction, specify Permalite perlite. It's the material used more than any other in cryogenic installations to insulate rocket and other exotic fuels stored at temperatures as low as —400 degrees F.

SILICONE TREATED

Permalite®

PERLITE MASONRY FILL INSULATION

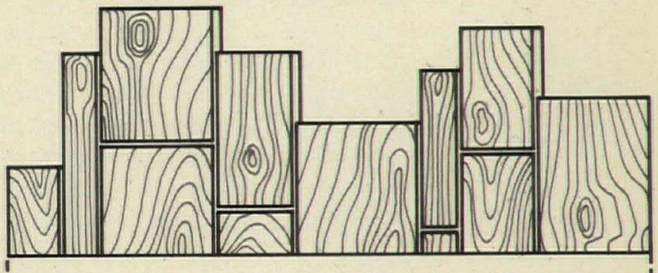
Stays dry because it's silicone treated. Out-performs other types of loose fills, but costs no more. Provides permanence; fire-proofness; freedom from rot, termites, vermin. Write for data and name of nearest processor. *He can fill orders promptly!* GREFCO, Inc., Building Products Division, 3450 Wilshire Blvd., Los Angeles, CA 90010

grefco A subsidiary of General Refractories Company

For more data, circle 30 on inquiry card

Townsend real wood wall planks

Solid hardwood available in a choice of 14 exciting species. Random widths and lengths are all end matched for easy installation. Prefinished to protect the full natural beauty and richness.



Potlatch

Wood Products,
Southern Division
P. O. Box 916,
Stuttgart, Arkansas 72160

☐ Here's my check for $3.00. Send me the Townsend Designer's kit of hardwood samples.
☐ Please send additional literature.

Name_____ Phone_____

Firm_____

Title_____

Street No._____

City_____ State_____ Zip_____

For more data, circle 134 on inquiry card

Architectural Record and L'Architecture d'Aujourd'hui announce the formation of The International Architectural Foundation, Inc. for the purpose of conducting . . .

An international design competition for the urban environment of developing countries

Desirous of helping the developing countries of the world to meet the challenges of unprecedented urban growth,

Inspired by the United Nations Resolution 3001 to hold a major United Nations Conference-Exposition on Human Settlements (Habitat '76) in Vancouver, Canada from May 31 to June 11, 1976, and wishing to contribute to its success,

The International Architectural Foundation, Inc. (IAF) has been formed for the purpose of organizing an International Design Competition open to the professions of architecture and planning throughout the world.

The IAF proposal has been described as "exciting and innovative" by Helena Z. Benitez, Coordinator, Preparatory Planning Group for Habitat '76. And Eric Carlson, its Deputy Director, has stated, "the IAF Competition has great potential for providing useful inputs to the important Vancouver meeting." In addition, prominent architects, planners and government officials around the world have expressed their enthusiasm and encouragement.

The Competition, scheduled to start in the late summer of 1974, when full details will be available to entrants, proposes to challenge the design professions to address themselves to a problem of grave and growing international concern: the human and environmental problem of *accelerating urbanization.* The challenge will be to design within a largely pre-existing urban-regional context a new and beneficent cell of urban growth—one that will foster human well being and development and one that will be fully considerate of environmental impacts. Thus, within a framework reflecting the universal problem of urbanization, three specific sites for a human settlement of moderate size will be selected to which designers can respond in the specific detail of both their physical characteristics and their social and economic factors. These sites will be located in three cities: one each in Central/South America, the Middle East/Africa, and Asia/Oceania. Sponsoring local agencies will participate in the development of the Competition programs and agree to construct the winning designs and appoint their designers as project architects. In this unprecedented effort three design competitions, with three awards, to be built in three locations is projected; but the worldwide creative effort generated will yield the further benefit of many new ideas for urban community development which it is expected will be displayed at the Vancouver Conference-Exposition, featured in the world's leading architectural magazines, and published in book form.

The international consulting firm of Gutheim/Seelig/Erickson has been appointed by The IAF to organize and manage the Competition.

Funds needed to meet the Competition budget will be contributed by a small number of philanthropic sources in several countries and by interested business firms. The IAF is pleased to announce that the Graham Foundation has already endorsed its Competition and pledged its financial support.

If you would like to consider the possibility of joining a small group of financial sponsors, and being identified over a three-year period with a major effort to help developing countries find creative and practical solutions to some of their crucial problems of human settlements, write (in the U.S.) Blake Hughes, The International Architectural Foundation, Inc. (41), 1221 Avenue of the Americas, New York, N.Y. 10020, or (in France) Jean-Louis Servan-Schreiber, The International Architectural Foundation, Inc., 10 Rue Lyautey, Paris 16.

1221 AVENUE OF THE AMERICAS, NEW YORK, N.Y. 10020.

IAF

The International Architectural Foundation, Inc. is pleased to announce that

THE ASIA FOUNDATION

has joined with

THE GRAHAM FOUNDATION
THE INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (CANADA)
THE JOHNS-MANVILLE FUND

in pledging its financial support to
The International Design Competition
for the Urban Environment of Developing Countries

* * * *

Problems of excessive population growth, unemployment, environmental decay, disease, alienation and urban squalor are all interrelated, rooted in ignorance and disability, breeding despair and desperation.
Nowhere are these ugly problems more clearly focused than in the urban slums of the developing world. Nowhere is there a greater need for human solidarity and creative contributions.

The International Design Competition is a modest means to these ends and aims to

- alert architects and planners to the gravity of the accelerating urban crisis in developing countries;
- increase the fund of talent and expertise available for planning human habitations;
- involve architects and planners in the design of demonstration projects in three cities of the developing world;
- contribute to the success of the important United Nations Conference-Exhibition on Human Settlements (Vancouver, 1976);
- act as a catalyst for further contributions by individuals, institutions, organizations, and governments to the solution of the multi-faceted problems of housing the urban poor.

To assure the success of the Competition, The IAF is seeking grants from a limited number of private organizations, foundations, and governmental agencies around the world.

If you would like to consider the possibility of becoming a sponsor, please read the brief announcement on the facing page and let us hear from you.

The International Architectural Foundation, Inc. 1221 Avenue of the Americas, New York, NY 10020. (212) 997-4685.

"Help Make a World Where Hope Makes Sense"

ADVERTISING INDEX

Prefiled catalogs of the manufacturers listed below are available in the 1974 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)

ARCHITECTURAL RECORD

McGraw-Hill, Inc., 1221 Avenue of the Americas, New York
New York 10020
Advertising Sales Mgr.: Louis F. Kutscher (212) 997-2838
Eastern Sales Mgr.: Robert G. Kliesch (215) 568-6161
Western Sales Mgr.: James A. Anderson (312) 751-3770
Advertising Services Mgr.: Joseph R. Wunk (212) 997-2793
Marketing Services Mgr.: Elizabeth Hayman (212) 997-2858
Research Mgr.: Camille Padula (212) 997-2814
Classified Advertising: (212) 997-2557

District Offices:

Atlanta 30309
Edward G. Graves, 100 Colony Square, (404) 892-2868

Boston 02116
Robert L. Tagen, 607 Boylston St., (617) 262-1160

Chicago 60611
James A. Anderson, Robert T. Franden, Edward R. Novak,
645 N. Michigan Ave. (312) 751-3770

Cleveland 44113
Willis W. Ingersoll, 55 Public Square, (216) 781-7000

Denver 80202
Harry B. Doyle, 1700 Broadway (303) 266-3863

Detroit 48202
John W. Maisel, 1400 Fisher Bldg., (313) 873-7410

Los Angeles 90010
Richard R. Butera, 3200 Wilshire Blvd.-South Tower (213) 487-1160

New York 10020
Blair McClenachan, 1221 Avenue of the Americas (212) 997-3584

Philadelphia 19102
Robert G. Kliesch, George T. Broskey, Three Parkway
(215) 568-6161

Pittsburgh 15222
Edward C. Weil, III, 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, Chausée 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 16e, France

Tokyo
2-5, 3-chome, Kasumigaseki, Chiyoda-ku, Tokyo, Japan

CLASSIFIED SECTION

POSITIONS VACANT

Architects and Architectural Draftsmen—Nationally known A-E firm has permanent positions with excellent opportunities for graduate architects and architectural draftsmen with a minimum of 2 years experience. Full benefits, insurance, and profit sharing. Please submit confidential resume and/or contact R. L. Engler, Henningson, Durham & Richardson, 8404 Indian Hills Drive, Omaha, Nebraska 68114. An Equal Opportunity Employer.

Architects—for positions in working drawings, project management and design. Many challenging projects in an office with highly qualified personnel in architecture and engineering. Location excellent in community of 300,000. Send resume or call Greg Slaybaugh, Daverman Associates, Architects and Engineers, 200 Monroe N.W., Grand Rapids, Michigan 49502 (616) 451-3525.

Michigan architectural firm, located in university town, with established varied practice seeks to expand its practice and to find successor to soon-to-retire principals. Seeks individual who can develop and implement effective marketing plan. Opportunity for equity participation. P-5948, Architectural Record.

Architects—We have many career openings for architects to serve as project architects for large designer-builder of medical and institutional facilities. Excellent companies. Good salary, bonus and car compensation packages. Send resumes with salary history. Management Recruiters of Green Bay, 115 S. Jefferson St., Green Bay, Wis., 54301. Or direct dial 414/437-4353.

Architectural Interior Designer—for nationally known design-build Architect-Engineer firm specializing in hospitals and clinics. Midwest location. Experience required in selection and specification of furniture, color arrangements, carpeting, signage, graphies. Degree in architecture preferred. Strong art background a MUST. Salary to $16,000+. All fees paid by employer. Send resume with salary history or phone Harry Case at office or evenings and weekends at home at 1/414/435-0685. Management Recruiters of Green Bay, 115/S. Jefferson, Green Bay, Wis., 54301. Direct Dial 1/414/437-4353.

An established Midwest architectural and engineering firm is looking for a young partner to head a branch office in a metropolitan center. Role would be as firm principal establishing all policies for office. Stock available in corporation after successful trial period. If running your own show and marketing turn you on, here is a great opportunity for professional growth, recognition, and $. All replies confidential to corporation president. Reply to P-5888, Architectural Record.

NEWSLETTER

POSITIONS VACANT

Dean, School of Architecture and Fine Arts—The University of Southern California is seeking to fill the position of Dean of Architecture and Fine Arts. The University of Southern California is a private university with a total enrollment of 20,000. Approximately 500 undergraduate and graduate students are enrolled in the Architecture and Fine Arts Departments. The School has 50 faculty members and a number of visiting professional personnel and is located in the Los Angeles Metropolitan area. The candidate for Dean should have academic and administrative experience, or equivalent professional experience, should have demonstrated outstanding achievement, and should be prepared to take leadership of a School of Architecture and Fine Arts which has an international reputation of excellence. Resumes or nominations of qualified persons should be sent to Dr. V. I. Weingarten, Co-Chairman, Search Committee for the Dean of the School of Architecture and Fine Arts, Vivian Hall of Engineering #402, University Park, Los Angeles, CA. 90007 (an equal opportunity employer).

AIA-approved program in architectural technology is accepting applications for faculty position available Fall 1974. AIA registration and/or master's degree desirable. Areas of instruction in curriculum include drafting, graphics, history, working drawings, design, engineering, estimating and specifications. Send resume to Assistant Dean Donald Harbert, School of Technical Careers, Southern Illinois University at Carbondale 62901.

Instructor—Building Construction Areas of instruction, materials, estimating, surveying, testing, structural design, codes, specifications and architectural, mechanical, electrical and structural drafting. Three years experience in field construction is essential with some office and drafting room experience preferred. Teaching experience helpful. Salary range $9,800-$23,765. Contact: Director, Professional Personnel, College of DuPage, Glen Ellyn, Illinois 60137. (Equal Opportunity Employer Community College, 30 miles west of Chicago, with current enrollment of 10,000 students.)

Design oriented graduates of strong program interested in team approach to environmentally oriented projects. One individual with 3-5 years experience in project management and one individual with 3-5 years of creative design involvement. Outstanding opportunity for advancement and growth as key member of interdisciplinary design team for individuals with demonstratable leadership capability. Full benefit package. Outstanding community with University environment. Submit complete resume and brochure in confidence to Hansen Lind Meyer, 116 South Linn Street, Iowa City, Iowa 52240. An equal opportunity employer.

Manager—Architecture & Engineering (Medical Facilities). Leading firm in design and construction of medical facilities requires registered architect to direct it's A-E operation. Qualified candidate will have recent experience in medical facilities planning and design, prior supervisory background, and be oriented toward "Design to Cost". The person selected will report to the President and will be a key member of the management team. This position provides substantial personal and professional growth for a skilled manager of human or financial resources. Compensation includes excellent salary, management bonus and stock options in publicly held parent company. Please send complete resume of education, work history, and earnings history. . .in confidence, to: Frank P. Massa, BBC Health Care Industries, Inc., 1130 Hampton Avenue, St. Louis, Missouri 63139.

POSITIONS VACANT

Architectural Draftsman position involving production of working drawings, details, specifications, and rendering for restaurants, shopping centers, and office buildings. If you are interested in working on totally unique projects and have ten years experience, send resume to: Bill Hunzinger, 6715 West Colfax, Denver, Colorado 80214.

POSITIONS WANTED

Building Estimator experienced in Institutional and Industrial projects, conceptual and working drawing estimates, desires position with large architecture/architecture-engineers. Situated Midwest. Will relocate. Resume on request. PW-5723, Architectural Record.

Design Director, AIA, NCARB, B. Arch., M. Arch., 20+ years diverse practice, management, awards and published work. Design experience includes facilities, furniture, graphics, contract interiors, land planning and automated procedures. Seeks position in South or West Coast to administer facility programming and design, leading to partnership or equity status. PW-5513, Architectural Record.

Architect, AIA, NCARB, young athletic 50 desires position in Tampa Bay Area, Caribbean, or Overseas, 24 years comprehensive experience University buildings, schools, housing, hospitals, and general practice. Phasing out 7 year private practice. Strong in construction supervision, contract negotiation, administration and project followup. Own home in Georgia and Condominium in St. Pete. Former V.P. of one of South's largest A & E firms. Desire responsibility and travel. Housing for wife and self required overseas. Only executive salary accepted. Resume on request, Sterling E. Wilhoit, Jr., P.O. Box 5899, Athens, Ga. 30604, Tel. 404-769-6389.

Architect and Engineer. Degrees and registrations in both. 12 years experience in all phases of practice including promotion, design, technology, management and contracts. Presently in charge of architectural division in large a/e office. Seeking key position in architectural firm leading to partnership. Boston area preferred. PW-5885, Architectural Record.

Industrial Designer, proficient in product design, illustration, architectural rendering, lettering, signage and graphics. Early retiree from executive position seeks best place to be of service in the San Francisco Bay area. Contract, consultant or part time. Salary or fees reasonable. PW-5882, Architectural Record.

PARTTIME WORK WANTED

Logo/Graphics Designer—Part time, free lance, individual and speculative assignments. Specialist on corporate logos, letter heads. Creative, versatile. B. Lipson, 316 Fifth Ave., N.Y., N.Y. 10001.

EQUIPMENT FOR SALE