



General Office Southern New England Telephone Company, New Haven, Conn. Architect: Douglas Orr, New Haven, Conn. General Contractor: Edwin Moss & Son, Inc., Bridgeport, Conn. Stainless Steel: General Bronze Corporation, Garden City, New York Porcelain Enamel Panels: Ingram-Richardson Mfg. Co., Beaver Falls, Pa.

Stainless steel curtain walls specified for New Haven's newest office building

Economies achieved with roll-formed stainless steel in Southern New England Telephone Company's new general office.

Newest unit in New Haven's progressive urban redevelopment is this sparkling stainless steel and porcelain enamel office building. Its handsome appearance is in keeping with the company's high standing in the community.

Stainless steel was chosen for all exposed metal-mullions, windows, sills, and muntins-because of its attractive appearance, assured durability, and low maintenance costs. Colorful porcelain enamel mullion strips and curtain wall panels were

specified for essentially the same reasons. These *proved* architectural metals not only give maximum value but also insure lowest over-all cost.

Roll-Formed Sections Cut Costs

Excellent workability and high strength of Armco Stainless Steel enable it to be readily roll-formed into a wide range of low-cost standard or custom architectural sections.



STAINLESS MULLION SECTION

This efficient fabricating method not only cuts the cost of stainless sections but permits the use of long members simplifying construction and design. Rolls are available for producing a wide range of formed sections. Custom designs are economical even for relatively small structures.

Give your architecture timeless beauty and insure maximum economy for your clients by specifying Armco Stainless Steel. For more information and data sheets on available roll formed stainless sections, write Armco Steel Corporation, 2999 Curtis Street, Middletown, Ohio.

ARMCO STEEL



Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation



See how B.F.Goodrich Koroseal helps



Colorful playroom brightens the hours for junior-sized patients. Koroseal Rope Square pattern—in golden-yellow, pale blue and lovely lavender—covers giant hassocks.

make an old hospital new again

AFTER 108 years, St. Joseph's Hospital in Philadelphia got a wonderful new look-thanks to a brilliant redecorating job by interior designer Ken White, who made abundant use of B.F.Goodrich Koroseal fabric-backed vinyl materials. Durable Koroseal keeps its original beauty for years, cleans easily with soap and water, cuts maintenance costs by eliminating the need for periodic painting. To give fresh charm to both walls and furniture, specify Koroseal.

For free swatches, write Dept. PA-9, B.F.Goodrich Industrial Products Company, Marietta, Ohio.



Rich-textured Koroseal Bali wall covering brings a subtle tropical touch to the conference room (see swatch).



Koroseal wall covering, white Koroseal bench and tangerine Koroseal chair accent the cypress paneling in the administrator's office.

wall covering and upholstery

B.F.Goodrich Koroseal supported vinyl fabrics



Reinforced concrete floors now

Cofar steel units provide both *form* and *reinforcement* for concrete floor slabs. Add special E/R (Electrically Ready) Cofar units to the system and, immediately, you satisfy the one remaining requirement of modern office floor construction—raceways for *complete*

electrification to meet present and future needs.

E/R units are wide troughs capped to form spaciou cells for wiring. They are placed between standard Cofa units. Result: a solid, continuous base for concrete Check these other features of the Cofar system:



ALL THE ELECTRIFICATION YOU NEED. By blending in one-, two-, or three-cell E/R units with standard Cofar sections you meet office electrical needs today and tomorrow.



FIRE RETARDANT. In a two-hour UL fire test, E/R Cofar became the first electrified cellular floor system (with header ducts and junction boxes in place) to earn a fire-retardant rating.



LESS FRAMING. Cofar reinforced concrete d sign permits wider spans, saves on structur framing costs, speeds up building completio and permits earlier occupancy by the owne



- LOW-COST, HIGH-STRENGTH FLOOR is made electrically flexible through the use of cellular E/R Cofar units.
- CLOSELY SPACED E/R CELLS permit you to place outlets where desired, give building owners extra flexibility in positioning their office equipment.
- NO COMPLICATED FORMS with Cofar! During construction, units serve as working platform and tight form for wet concrete.
- **4.** LARGE CELLS (5.2 sq. in.) carry power, phone, signal circuits direct to desks and machines *anywhere* on the floor.
- NO WASTED FILL. Cofar and concrete combine to give an intergated structural slab. No extra leveling fill is needed.
- AMPLE WIRING through E/R Cofar units. Each cell can accommodate as many as 110 single-station phones, 19 six-key phones or 250 service outlets.
- 7. PLACED ON ANY DESIRED CENTER, E/R units can meet present and future electrical needs. Spacing of units is "tailored" to your individual job. No wasted cells!

fully electrified with Ex R Cofar

Effective span range up to 16 feet. Long-span construction means less framing. Less framing means less fireproofing. No wood forms to erect or remove. Optional pre-set inserts are available. Other important advantages of the Cofar system are shown in the illustrations above and below. If you would like more information on Cofar and E/R Cofar details, design procedures and specifications, it's yours for the asking. Use coupon in lower right-hand corner.



AST TO COAST. Cofar and E/R Cofar are ilable through more than 100 Granco distribrs in the U. S. Granco also assures you fast, endable delivery and helpful field assistance.



FLOOR AND ROOF SYSTEMS FOR EVERY TYPE OF FRAMING

Granco Steel Products Company, 6506 N. Broadway, St. Louis 15, Missouri A Subsidiary of GRANITE CITY STEEL COMPANY

MAIL FOR COFAR-E/R COFAR MANUAL Just sign coupon . . . clip to your company letterhead...mail today. Att'n: Dept. P-98.

Our catalogs are filed in Sweets!

THREE FOR THREE IN HOUSTON

TEXAS that is . . .

use Duriron Pipe to handle corrosive waste



Rice Institute Keith-Weiss Geological Laboratories Architect: George Pierce-Abel B. Pierce, Houston, Texas Mechanical Engineer: H. E. Bovay, Jr., Consulting Eng., Houston, Texas General Contractor: Marshall Construction Co., Houston, Texas

Mechanical Contractor: C. Wallace Plumbing Co., Houston, Texas

University of Houston Science Building Architect: Lamar Q. Cato, Houston, Texas Mechanical Engineer: Reg. F. Taylor, Houston, Texas



Texas Southern University Science Building Architect and Engineer: Hedrick and Stanley, Houston, Texas General Contractor: Knutson Construction Co., Houston, Texas Plumbing Contractor: Natkin and Co., Houston, Texas

For full information, including complete dimensions, write for Bulletin PF/4c.

These three outstanding Texas universities have solved their acid handling problems by installing Duriron pipe and fittings. For over 30 years Duriron pipe has handled the *tough* corrosives, with an exceptional record for long service life. Many installations have proven that Duriron will outlast the building itself. Duriron pipe and fittings are doing an outstanding job in thousands of hospitals, laboratories, and schools. The next time you need a rugged acid handling pipe, specify Duriron.



THE DURIRON COMPANY, INC., DAYTON, OHIO

BRANCH OFFICES: Baltimore, Boston, Buffalo, Chicago, Cleveland, Dayton, Detroit, Houston, Knoxville, Los Angeles, New York, Pensacola, Philadelphia, Pittsburgh, and St. Louis



1		
		TRE
	1	

David Bradford Wilkin Publisher

Thomas H. Creighton, FAIA Editor

> H. Victor Drumm **Advertising Sales Manager**

Charles Magruder, AIA Managing Editor

Burton H. Holmes, AIA Technical Editor

llse Meissner Reese, AIA Associate Feature Editor

> James T. Burns, Jr. News Editor

Barbara J. Melnick Interior Design Editor

> Stamo Papadaki Art Director

Elmer A. Bennett Chief Draftsman

Ann Douglass **Editorial Production**

John N. Carlin

Keith Aldrich Research & Promotion Manager

Circulation Director David N. Whitcombe **Assistant Circulation Director**

> Joseph M. Scanlon Production Manager

Norman Coplan Frederick Gutheim William Hurd Hillver Ada Louise Huxtable William J. McGuinness Harold J. Rosen Judge Bernard Tomson **Contributing Editors**

Margaret B. Squire, Feature Ann Geddes, Technical Assistant Editors

> June Wetherell Frame Janice M. Helmer Dora Sue Melton **Editorial Assistants**

> > Nicholas Loscalzo Draftsman

Published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Second-class mail privilege author-ized at New York, N. Y. Profes-sional subscription—\$5. (For full data, see page 53.) Volume XL, No. 9

practice of architecture

- 53 Views

cover

7

9

11

15

- 95 Powerful Construction Details Mark Milan Skyscraper
- 96 Baltimore Civic Center to Have Unique Roof System

Study: National Headquarters for the Girl Scouts of the U.S.A. (see page 148)

Mechanical Engineering Critique by William J. McGuinness

It's the Law by Bernard Tomson and Norman Coplan

Specifications Clinic by Harold J. Rosen

The Owner-His Goals and Objectives I

97 Architectural Bulletins

By Irving D. Shapiro

- 106 Financial Column by William Hurd Hillyer
- Washington Column by Frederick Gutheim 108
- Curtain-Wall Spandrel Design Simplifies Construction 117
- 124 Manufacturers' Data
- The New Sensualism by Thomas H. Creighton 141
- Maximum Efficiency/Minimum Cost by Ada Louis Huxtable 148 National Headquarters for the Girl Scouts of the U.S.A. William T. Meyer, Architect
- 155 Introduction
- 156 **Electrical Workers Building** Francis Joseph McCarthy, Architect
- **IBM** Regional Headquarters 160 Pereira & Luckman, Architects
- Sun-Times Building 168 Naess & Murphy, Architect-Engineers
- Texas Instruments Laboratory and Plant 172 Ford, Colley, and Tamminga, Associated Architects
- 178 Frederick U. Conard High School Nichols & Butterfield, Architects
- 183 Brick Masonry; Aluminum Sash/Enameled-Glass; Ceramic Mosaic/Cement-Plaster Grout; Aluminum/ Concrete-Block; Marble-Faced, Precast Concrete; Stainless Steel; Thin, Glass-Block; Glass-Block Masonry; Plastic/Aluminum; Plastic/Paper-Core; Ceramic Veneer/Precast Concrete
- Curtain-Wall Specification by Ross W. Pursifull 194
- Curtain-Wall Sealants 199
- Restaurant by Barbara J. Melnick 211 The Golden Door Restaurant Knoll Planning Unit, Designer
- Reviews: The Curtain Wall Demands New Reference Data 233
- 302 Jobs and Men
- 310 Advertisers' Directory
- P.S.: Are We Going to be Sorry Later On? 312

P/A NEWS REPORT

wall assemblies

eleven wall-assembly details

interior design data

This structure was envisioned with **cast aluminum components** to assure flat textured wall panels without oil-canning. This degree of texture gives the building a quality of sculpture. In addition, the low cost of patterns, availability of polished or colored surfaces provide an opportunity for creative expression. **Panels are shop fabricated** for tight weatherproof joints and assembled into one-story sections for rapid field erection. **Let Michaels show you** what development of the "Structural Diaphragm" principle can do for metal wall construction and your next building. For additional information, complete construction details and technical data request CWA-5-P.

THE MICHAELS ART BRONZE CO., P. O. BOX 668, COVINGTON, KY. PLANT, OFFICE: ERLANGER, KY.



Design assistance for metal walls is available to architects.



Write today for complete construction details of VPA-1, see Sweet's Architectural File, 3a/Mic. Rigidly pre-tested, this aluminum pivoted window was designed for monumental construction.



Digest of Decisions Pertaining to Registration, Contracts

It's the Law Column by Bernard Tomson and Norman Coplan

P/A Practice of Architecture article supplementing Tomson's Architectural & Engineering Law (Reinhold, 1951) by reporting summaries of cases decided since publication of the book.

PART I. LICENSE LAWS FOR THE ARCHITECT, Engineer, Surveyor, and General Contractor

Chapter 2—Architectural Registration Laws

Pennsylvania. Baker v. Chambers, 133 A. 2d 589 (1957). In an action by a corporation against a home owner to recover compensation for architectural services performed in the preparation of preliminary plans for remodeling of the defendant's home, it was held that the corporation could revover, even though the Pennsylvania statute provided that a corporation could not qualify for registration as an architect, and could neither hold itself out as an architect nor practice architecture. The plans and specifications in question were prepared by a registered architect employed by the corporate plaintiff, and the Court ruled that the prohibition against practicing was "not intended as prohibiting any person from doing the work usually done by an architect, but aimed at such persons as claimed to be architects, but were not or who, at least, could not or would not register and who, notwithstanding still employed the professional title."

PART III. Architect, Engineer, and Owner-The Employment Relation

Chapter 9—Agreements with Owner

California. Pancoast v. Russel, 307 P. 2d 719 (1957). Where contract between owner and architect provides for general supervision the court ruled in an action by the owner for breach of contract, that superficial supervision in connection with the inspection and approval of the contractor's work does not satisfy the architect's obligations under the contract, since it was his duty to secure workmanlike adherence to the building contract, and adequate performance on the part of the contractor.

PART IV. The decision or certificate of the Architecy or engineer

Chapter 13—When Architect's or Engineer's Decision Is Not Final

U.S. Davies v. Kahn et al. 251 F. 2d 324 (C. A. 4th-1958). In an action by a subcontractor instituted against the prime contractor for damages as a result of an allegedly illegal cancellation of the subcontract, the prime contractor defended on the grounds that the architect had not approved the subcontractor. The court held that in the absence of an express provision in the building contract requiring the architect's approval of the subcontractor, such requirement would not be implied. The court further ruled, in rejecting the prime contractor's contention that the architect had not approved the subcontractor's product, that the materials called for by the specifications were intended to be ordered by description and not by brand and that the architect's approval is only necessary when specifications call for a designated product "or approved equal." In the instant case, the goods of the subcontractor were offered not as a substitute, for a designated brand, but as compliance with the detailed description.

U.S. Bush Building Co. v. City of Barbourville, 155 F. Supp. 394 (D.C. Kentucky 1957). Although a contract for the construction of sewer lines in a city provided that an engineering firm was to decide every question relative to the fulfilment of the contract on the part of the contractor, in an action by the contractor against the city for an amount due under the contract, it was held that where the certificates issued by the engineers with reference to the completion of the job were made in violation of a contract provision requiring the engineer's decision to be fair and impartial, and were the results of such gross mistakes as to imply bad faith, the said certificates were not binding upon the city, and the city was justified in both refusing to accept the work as completed, and to pay the final estimates as submitted.

PART V.

RIGHTS OF ARCHITECTS AND ENGINEERS: COMPENSATION

Chapter 21—Amount of Compensation

Kentucky. Ingram v. State Property and Building Commission, 309 S.W. 2d 169 (1957). Where a contract between architect and owner specified the maximum fee to be received for all services, and the architect agreed to make changes and additions as might be requested, and further to provide all professional architectural, engineering and, supervisory services required for the completion of the building, in a suit by the architect to recover compensation for alleged extras, it was held that the contract was clear and unambiguous, and that the alleged extras were within the scope of the contract, and were thus not compensable.

Chapter 22—Effect of Cost Limitations on Compensation

Utah. Parrish v. Tahtaras, 318 P. 2d 642 (1957). Where the building costs, based upon the plans and specifications furnished by an architect, exceeded the owner's budget and where, despite the architect's agreement to modify such plans and specifications to conform to such budget limitations, the owner abandoned the project, it was held, in a suit brought by the architect to recover compensation from the owner, that the architect was entitled to recover the contract price for his services or their reasonable value.

PART VI. LIABILITY OF ARCHITECT OR ENGINEER TO OWNER

Chapter 24—Liability for Negligence and Fraud

Oklahoma. Smith v. Goff, 325 P. 2d 1061 (1958). Where the owner and architect entered into a written contract providing that the architect furnish complete architectural services for the construction of a residence, and the contract did not require the use of any designated materials, but merely required the architect to use his professional judgment, in an action by the owner against the architect for breach of contract, it was held that the architect was only required to exercise ordinary professional skill and diligence to conform to accepted architectural standards; his contract did not guarantee perfect plans or satisfactory results, and the court would not overturn the jury's finding that the architect had exercised reasonable skill and diligence.

.

Miscellaneous—Gross Income Tax Payments Included in Costs Under Cost-Plus Contract

(Continued on page 9)

FOR SCHOOL FLOORS



School of Our Lady of Sorrows, White Plains, N. Y.

Make sure now — in the planning stage—that the floors you turn over to the school authorities will be economical to maintain, by properly treating the original installation for added years of wear.

The Hillyard "Maintaineer" will be glad to serve as your floor treatment consultant while your plans are taking shape. From his years of experience working directly with school administrators and maintenance suArchitects: McCoy & Blair, White Plains

perintendents, he can anticipate floor use problems, help you choose the specialized finish treatments that will do the best job on each individual floor.

During construction he will serve as your "Job Captain" for final cleanup and initial treatment. After client acceptance, the same man will be available to help the client institute the maintenance regimen you recommend.





WRITE FOR FREE A.I.A NUMBERED FILES

Practical floor treatment guides with draft specifications, product

oncrete Floors

ST. JOSEPH, MISSOURI San Jose, Calif. Passaic, N. J. Branches and Warehouse Stocks in Principal Cities U.S. Herlihy Mid-Continent Co. v. Northern Indiana Public Service Co., 245 F. 2d 440 (C.A. 7th 1957). Under a costplus construction contract which defined the "net cost" as including "all expenses

incurred by contractor which are *directly* chargeable to the work," including Federal, State and local taxes, it was held, in an action by the contractor against the owner for reimbursement of a State Tax on gross income, that the contractor was entitled to reimbursement of amounts paid by it on income attributable to monies received from the owner under the construction contract.

New Materials Development

Specifications Clinic by Harold J. Rosen

P/A Practice of Architecture article discussing the role of the manufacturer in the development and advancement of materials. Two new major achievements are described.

There is a constant parade of representatives of manufacturers of building materials into the offices of architects to show specifications writers their new wares. In addition, the building industry trade journals are replete with advertisements glowing over new material developments. One could almost devote full working time to seeing representatives and reading about the purportedly dramatic results that can be obtained wth these new products.

Occasionally, out of this mass of information, one can discern the possibilities of a new material or be struck by the announcement of a material for which everyone was waiting.

For years, prefabricated acoustical units were designated as to their fireresistant qualities as (a) incombustible, (b) fire-retardant, (c) slow-burning, and (d) combustible. These terms have since been superseded by the designations, Class A, Class B, Class C, and Class D. However, no matter how these units are defined, the fire-resistance ratings are applied to the acoustical units only, and bear no relationship to safeguarding materials behind them. Now there comes a major break-through in prefabricated acoustical units by an announcement from Armstrong Cork Co. that they have developed an acoustical unit called "Fire Guard" which not only is incombustible, or Class A, but which can provide a 2hour and 4-hour fire resistance rating to the structural components of a building and combines with a floor structure to help check the spread of fire by resisting dangerous transmission of heat from one area to another.

This means that it is no longer necessary to include intermediate fire protection between ceiling acoustical units and steel structural members. Previously it was necessary to protect steel structural members or the underside of metal decks with a protective coating of insulating material or by suspending metal lath and plaster fire-stop to which the acoustical ceiling tile could be applied. Now two materials can be eliminated—the metal lath and the plaster fire-stop—and the prefabricated acoustical unit alone, with its metal suspension system, will serve as a fire barrier.

The manufacturer's claims are substantiated by fire tests conducted in accordance with Underwriters' Laboratories Standards at Underwriters' Laboratories. The units were further subjected to other tests and examinations by the Underwriters' Laboratories. Test Reports Nos. 4177-1 and 4177-2 describe tests conducted by the Underwriters and the recommendations for the Underwriter's Label Service.

Aside from its fire-protection features, several other factors are attributed to this new acoustical tile. Since it is installed by a completely "dry" method no costly delays are necessitated by wet operations and no extra moisture is introduced into the building. Because of its extra density and composition, the unit minimizes room-to-room sound transmission through the suspended ceiling.

The foregoing represents a *new* product for which many architects and specifications writers can see and appreciate an immediate use. Another material which has been used for many years as a structural roof deck material is now offered to Architects for use in exterior cavity wall construction. It takes a little longer to recognize the potentialities of this material for its projected use.

The material proposed by the manufacturer for use in nonloadbearing cavity wall construction is "Tectum," which has heretofore been used for roof decks. Tectum is composed of wood fibers and an inorganic binder. It is lightweight and non-combustible, and affords structural, insulating and acoustical properties. As a structural roof deck it has served in that capacity very well. However, this is indicative of some far-sighted manufacturers, who to the betterment of the building industry, are constantly seeking to improve their products, and to find new uses for these existing products.

"Tectum" is now offered as the inner wythe of an exterior, masonry, cavity wall as a result of tests conducted at Ohio State University laboratories in order to obtain New York City Board of Standards and Appeals approval. They consisted of fire exposure tests, hosestream tests and wind-load tests performed in accordance with the requirements of the New York City Administrative Building Code. The cavity wall was constructed by using an outer wythe of brick, a 23/4" air space and an inner wythe of Tectum 21/2" thick with a 1/2" thick coating of plaster. The tests indicated that this assembly provides 4 hours of protection against penetration of fire and dangerous transmission of heat and also that the assembly could withstand wind loads of 30 lb per sq ft with a substantial safety factor.

Some of the advantages which may accrue to an exterior cavity wall designed with the use of this material in lieu of conventional concrete-block material are as follows:

- 1 Insulation: Heat transmission losses are reduced by almost 100% as compared with walls using 4" cinder concrete. This advantage can reduce the capacity of installed heating plant and reduce annual heating costs.
- 2 Economy in Construction: The Tectum slabs are about 18 inches high by 12 feet long. Erection time should decrease with consequent cost savings.
- 3 Light Weight: The material weighs only 2 pounds per sq ft per in. of thickness and is much lighter than concrete block which it replaces. Reduction in dead load permits adaptation of lighter steel.

This system might be the answer that the masonry trade unions and the masonry manufacturers have been waiting for as a possible solution to the inroads that the metal curtain wall has made in masonry wall construction.



functional design

and beauty

....it's Follansbee Terne

Alexander Memorial Arena Building, Georgia Institute of Technology Architect: Aeck Associates, Atlanta, Georgia General Contractor: Mion Construction Company, Atlanta, Georgia Roofing Contractor: R. F. Knox Company, Inc., Atlanta, Georgia

> Follansbee Terne performs its job of providing shelter beautifully. Terne will last a lifetime, is fireproof, windproof and weathertight. It can be painted any color, any time. Its versatility allows you to put design in any roof. Distinctive effects can be achieved with the use of standing or batten seams or with the new horizontal seam Bermuda roof.



Complete specifications in Sweets Architectural File

STEEL CORPORATION FOLLANSBEE, WEST VIRGINIA Cold Rolled Strip • Terne Roll Roofing • Polished Blue Sheets and Coils Sales Offices in Principal Cities

The Owner – His Goals and Objectives I

by Irving D. Shapiro*

P/A Practice of Architecture article (to be concluded next month) on the nature and the aims of the Owner in today's architecture—and how, in the eyes of an urban-land economist, these aims shape the design of a "spatial unit."

The assembly of an urban spatial unit implies the existence of an Owner who is the prime mover in the process by which the spatial unit is assembled.1 A spatial unit may be assembled for any of many kinds of activity, but such an assembly cannot legally be effected without the involvement of an Owner. In addition, the practical aspects inherent in the assembly of a spatial unit are such as to require factors to be evaluated, judgments to be exercised, decisions to be made, and a planned sequence of events to be set into motion. Hence, the assembly of a spatial unit must be motivated by an Owner.

The assembly of a spatial unit also implies the existence of a goal or objective, the fulfillment of which is to be accomplished by the assembly of the spatial unit. A spatial unit may be assembled to serve as an income-producing vehicle, to enhance the social prestige of the Owner, to maximize the amenities of life for the Owner, to propagandize something of importance to the Owner, and so on. Indeed, the range of possible alternative goals and objectives which may be involved in the assembly of a spatial unit is almost infinitely large.

Due to the intricacies and expense of the process by which a spatial unit is assembled in society today, it is most unlikely that an Owner would assemble a spatial unit without the existence of a goal or objective whose attainment he plans to achieve by this act of assembly. To hold that no goal or objective need motivate such action would be to imply that the process of assembly could be the result of mere whimsy or caprice. Though highly improbable, these motive forces in themselves would constitute objectives. We may well conclude, then, that a goal or objective is present in the assembly of every spatial unit.

Within the process by which a proposed spatial unit becomes a reality, goals and objectives play a dominant

role. It is the goal or objective behind the assembly of a spatial unit which conditions the four factors of architecture, giving substance to the relationships among them;² otherwise such relationships can only dwell in an abstract world far removed from reality. The objective of the Owner in assembling a spatial unit influences the choice of site, the kind of activities to be performed at the site, the quality of services to be produced by the spatial unit to facilitate these activities, the capacity of the spatial unit to produce these services, and the approximate length of time the spatial unit will be able to produce them. These considerations, in turn, determine the structural system which bestows physical stability upon the improvements, the most desirable pattern of space allocation within the spatial unit, and the dominant esthetic expression of the spatial unit.

The dominant role played by goals and objectives in the assembly of all spatial units does not end with their influence upon considerations of the four factors of architecture; they also provide the one relevant yardstick of measurement against which the architectural success or failure of the spatial unit can be evaluated. For, if the objective in assembling a spatial unit is to maximize the profit of the Owner involved, the fact that the improvements represent a new design concept worthy of an award by the American Institute of Architects is completely irrelevant. For the Owner, the only meaningful yardstick of measure-ment with which the architectural success or failure of the spatial unit can be evaluated would be profits.

That there exists a necessity to base considerations of the four factors of architecture upon the goal or objective of the Owner in assembling the spatial unit may seem platitudinous at this point. It may be argued by some that Owners as diverse in type as a business enterprise and a public enterprise would certainly not assemble similar spatial units; the objectives of the business enterprise are presumably economic while those of the public enterprise purely social. The validity of this argument, even if it were acceptable, would be small comfort indeed to the local public officials of a community who plan to make application to the Urban Renewal Administrator of the Housing and Home Finance Agency

for Federal assistance under the provisions of Title I of the Housing Act of 1949, as amended. Their application must be accompanied by a workable program for the elimination and prevention of slums and urban blight. What would a purely social program consist of?

Furthermore, to hold that the motivating force behind the assembly of a spatial unit by a business enterprise to facilitate the recreation of its employes is an economic one while that which lies behind the assembly of a spatial unit by a public enterprise to facilitate trade is purely social, would be to accept a hypothesis which depends upon dictionary definitions of terms rather than socially acceptable meanings. Such a fixed taxonomic arrangement of types of Owners and their objectives would indicate a basic naïveté concerning the complexities of motivational patterns in contemporary society.

There is yet another aspect of goals and objectives to be considered. In 1954, the New York Stock Exchange conducted a series of personal interviews which highlighted the investment motives and preferences of a sample of investors taken from the upper-income groups. Among the objectives offered by those interviewed were: comfortable and secure old age, security for family, education for children, building an estate, greater current income, and a long-term accumulation of wealth. Though all the objectives enumerated above could be placed within the broad classification of the economic. they reflect a wide diversity of drives and, indeed, would require a wide diversity of investment portfolios in order to be satisfied.

Similarly, a single type of Owner may have one purpose, which is to be satisfied by the assembly of a spatial unit, out of many possible alternative purposes, all of which can be encompassed within one broad objective. For example, a business enterprise may assemble a spatial unit to facilitate the retail sale of gasoline.

presumably an economic objective. Yet, the primary purpose may be to maximize its profits, to maintain or increase its share of the market, to serve as an instrument of market research, or to establish a foothold within a new community, where a competitor is strongly entrenched. These varied purposes may all be placed

¹ An urban spatial unit is usually composed of the land, the improvements made to the land, and the air space above the land. It refers to the physical volume of space to which specified legal rights pertain and its extent depends upon the type of legal claim in question.

² Structure, function, esthetics, and land use. See I. D. Shapiro, "Land Use-The Fourth Factor of Architecture," JUNE 1959 P/A.

⁽Continued on page 13)

^{*} Partner, Naidurf & Shapiro, Architects-Urban Land Economists.

³ New York Stock Exchange, The Public Speaks to the Exchange Community (New York: February, 1955), p. 34.

Size	ize CARBON		
Tubes	Cold Rolled	Hot Rolled	STAINLESS
181278-12783478	14-22 14-22 13-22 13-22 13-22	13-16 13-16	20-25 16-25 16-25 14-25 14-25 14-25 12-25 12-25
1 1/8/4/8	11-22 11-22 11-22 11-22 11-20 11-20 11-20 11-20	11-16 11-16 11-16 10-16 8-16 8-16 7-16	11-25 11-25 10-23 10-23 10-23 10-23 10-23
21/8	11-20 11-20 11-18 11-18 11-18 11-18 11-18 11-18	6-16 5-16 5-16 4-16 4-16 4-16 4-16	9-23 9-22 9-22 8-22 8-22 8-21 8-21 8-20
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	11-18 11-18 11-18 11-18 11-18 11-18 11-18 11-18	4-16 3-16 3-16 3-16 3-16 3-16 3-16 3-16	8-20 8-20 8-20 8-20 8-20 8-20 8-20 8-20
4 41/8 43/8 43/8 43/8 43/4 43/8 43/4 47/8	11-18 11-16 11-16 11-16 11-16 11-16 11-16 11-16	3-16 3-16 3-16 3-16 3-16 3-16 3-16 3-16	8-20 8-18 8-16 8-16 8-20 8-18 8-18 8-18
5 51/2	11-16 11-16	3-16 3-16	8-18
6	11-16	3-16	9-20

Square, rectangular and other tubing shapes are also available in peripherie: from 1" to 20" inc.

Grade	Carbon	Manganese	Phosphorus	Sulphur
Designation	%	%	% Max.	% Max.
MT 1010	0.05/0.15	0.30/0.60	0.040	0.050
MT 1015	0.10/0.20	0.30/0.60	0.040	0.050
MT X1015	0.10/0.20	0.60/0.90	0.040	0.050
MT 1020	0.15/0.25	0.30/0.60	0.040	0.050
MT X1020	0.15/0.25	0.70/1.00	0.040	0.050
	HIGH C	ARBON GR	ADES	
Grade	Carbon	Manganese	Phosphorus	Sulphur
Designation	%	%	% Max.	% Max.
C 1025	0 21/0 28	0 30/0 60	0.040	0.050

STAINLESS STEEL PIPE SIZES

0.050 0.050 0.050

Stainless Steel Pipe Sizes are available from $\frac{1}{20}$ "1.P.S. through 2" 1.P.S. in A.S.A. schedule 40S; from $\frac{1}{20}$ "1.P.S. through 4" 1.P.S. fn schedule 10S; and from $\frac{1}{20}$ "1.P.S. through 4" 1.P.S. in schedule 5S wall thicknesses, Inquiries for larger diameters should be referred to a quality stainless steel pipe producer listed below.

STAINLESS GRADES				
Type No.	Carbon (*)	Chromium	Nickel	Other Elements
302 304 304L 309 309S 309S 309SCB	.15 .08 .03 .20 .08 .08	17-19 18-20 18-20 22-24 22-24 22-24	8-10 8-12 8-12 12-15 12-15 12-15	cb10XC Minimum—1 Maximum
310 310S 316 316L 317 321	.25 .08 .08 .03 .08 .08	24-26 24-26 16-18 16-18 18-20 17-19	19-22 19-22 10-14 10-14 11-15 9-12	Mo. 2-3 Mo. 2-3 Mo. 3-4 Ti 5 X C Minimum
329 330 347 348	.20 .15 .08 .08	23-28 14-16 17-19 17-19	2½-5 33-36 9-13 9-13	Mo. 1-2 Cb-Ta 10 X C Minimum CB-Ta 10 X C Minimum Ta 10 Maximum
430 442 443	.12 .20 .20	14-18 18-23 18-23	****	Cu .9-1.25

(*) Maximum-unless otherwise indicated.

WELDED TUBING

THE SIZE

- THE GRADE
- **THE SHAPE**

For a versatile tubular product, nothing equals Welded Steel Tubing. The quality producers offer a broad range of sizes and wall thicknesses in all weldable grades of carbon; stainless steel and other alloys. It is particularly adapted to shapes ranging from round, square and rectangular to the most complex special cross sections.

Welded Steel Tubing—as manufactured by the quality tube producers—offers a concise answer to most design problems. Specify Welded Tubing on your next order.



850 HANNA BUILDING CLEVELAND 15, OHIO

 Armco Steel Corp. • The Babcock & Wilcox Co., Tubular Products Div.
• The Carpenter Steel Co., Alloy Tube Div. • Clayton Mark & Co. • Damascus Tube Co. • Jones & Laughlin Steel Corp., Electricweld Tube Div. • National Tube Div., United States Steel Corp., • Ohio Seamless Tube Div. • National Weld Steel Co. • Republic Steel Corp., Steel and Tubes Div. • Revere Copper and Brass Inc., Rome Manufacturing Company Div. • Sawhill Tubular Products, Inc. • Southeastern Metals Co. • The Standard Tube Co. • Standard Tube and T. I. Ltd., (Canada) • Superior Tube Co. • Trent Tube Co., Subs. Crucible Steel Co. of America • Van Huffel Tube Corp. • Wall Tube & Metal Products Co.

C 1026 C 1030 C 1035

The Owner-His Goals and Objectives I (continued)

within the framework of an economic objective even though they may seem to be at cross-purposes with each other. Yet, each purpose would probably require a different kind of spatial unit in order to be satisfied.

It may be of interest at this point to examine the diverse types of Owners one may find in conjunction with the practice of architecture and how the goals and objectives can vary with each type. Owners will generally fall within three broad groups: (1) the business enterprise; (2) the public enterprise; and (3) the quasipublic enterprise.⁴

The Business Enterprise may take many forms, the most common being the sole proprietorship, the partnership, and the corporation. It may operate in virtually every sector of the economy such as manufacturing, wholesale and retail trade, transportation, and service.

Though the concept of the "economic man" advanced by Adam Smith has long been exploded, the validity of the "economic firm" concept has yet to be seriously questioned except by students of human behavior and by the business community *avant-garde*. Sociological and psychological studies have revealed that men who direct the business enterprise do not strive for profits alone. Security, power, and prestige also have their places in the motivational patterns of businessmen, often in harmony with the profit motive but, at times, in opposition to it.

Of course, to hold that the quest for profits plays but a minor role in the conduct of a modern business enterprise would be folly, for there can be no doubt that the function and role of profits is a substantial factor in its conduct. Therefore, one may hold that, in a sense, the so-called nonpecuniary motives are generally interwoven with those of profit maximization within the fabric of business affairs.

To understand the objectives of a business enterprise in assembling a spatial unit, one must begin with the variety of factors which have been found to enter into a motivational pattern lying behind the decisions of the business managers who guide such firms.

The biological needs that drive men to secure subsistence have always existed. This force is closely related to another basic motivational force, the relief of economic anxiety. In the case of business activity, the latter usually leads to a striving for security. And, in the money economy of America in which we live, one may secure subsistence as well as security by making money. At times the means-that is, money-become the ends and profits are pursued for the sake of profits themselves. More generally, however, the quest for security results in a striving for continuous regular income rather than short-run maximum profits. Sometimes, the anxiety-security mechanism exerts negative pressures that are stronger than positive ones. The avoidance of bankruptcy, business losses, and/ or a decline in profits become more powerful drives than those directed toward profit maximization. And, indeed, the attitude toward profits of those who guide the destinies of a business enterprise wields a significant influence upon the shape of the spatial units they assemble. These attitudes may manifest themselves within a temporal framework and can mean the difference between long-run investment and short-run speculation, between a Rockefeller Center type of spatial unit and one of the many so-called "jerry-builts."

There are also social needs whose fulfillment is sought by those involved in the conduct of business affairs. Being a gregarious animal, man is usually activated by a desire to occupy an esteemed, a high, or even an outstanding position in society. As a member of a group, he generally strives for approbation by those belonging to his group. Thus, a businessman may desire a position of prestige among his business associates, as well as among his neighbors and fellow citizens, his actions carefully linked with the esteem and opinions of these others. This drive may materialize in the assembly of spatial units characterized by "wasted space" within areas of high "land values" -for example, those similar to Manufacturers Trust Company on Fifth Avenue and Seagram House on Park Avenue, both in New York. There are some who might even hold that this type of spatial unit could serve as an illustration of Thorstein Veblen's concept of "conspicuous waste."

The result of the interplay of these diverse motivational forces will vary greatly under different conditions of financial solvency. In general, the management of a business enterprise that is in a precarious position—a new firm with insufficient capital struggling to stay in business or any business firm operating in the midst of a severe depression—has little interest in long-range transactions that promise large profits after many years. The immediate problems are more pressing; the major objective is survival. Transactions promising liquidity and solvency become of paramount importance. Quick profits are sought though they may be less than possible future profits. Under these conditions, not only will the pecuniary motives be of short-range but they will also generally prevail in preference to nonpecuniary motives. Satisfaction of social needs, self-realization or the urge for growth will move to the background. Consequently, one could hardly expect the spatial units that are born out of these conditions to be characterized by locations with a "ripening" potential, by the use of low maintenance but costly materials, etc.

On the other hand, the management of a well established business enterprise operating under prosperous conditions will probably extend its time perspective well into the distant future. It will usually favor transactions and investments characterized by prospective large profits accruing to the firm in the future. The company's long-term volume of production, share of the market, and intensity of new product activity may assume greater prominence with time. The good will of the company, the reputation of its brand name, and the depth to which they both penetrate the market may acquire greater weight in the consideration of alternatives than the size of its liquid assets and profits. The interest of the directors of the enterprise may even extend beyond the market in which the firm operates to encompass cultural sectors as well. Out of this situation could grow spatial units characterized by new design concepts and the use of new building materials such as the handsome General Motors Technical Center in Michigan.

Other motivational patterns usually exist for old and new business enterprises, for business firms in old and new industries, and for firms in relatively competitive and relatively monopolistic fields of business. Further, motivational patterns generally vary with cyclical fluctuations in the American economy. Adventuresomeness in the expansion phase could well turn to timidity during the contraction phase, hesitancy in the contraction phase to boldness in the expansion phase. And, since goals and objectives play such a dominant role in the assembly of spatial units, the expectations of the leaders of a business enterprise at the time they assemble a spatial unit wield a significant influence in the decisions which will shape it.

In a concluding article, next month, we will discuss goals and objectives of public and quasi-public enterprises.

⁴ The owner who assembles a spatial unit which is intended for his own use as single-family dwelling cannot be accommodated by this method of classification. However, this sype of Owner is of relatively little importance in the real-estate sector of the economy inasmuch as the vast majoriy of such spatial units are assembled by business enterprises from whom the control over these spatial units is purchased.

New hessureseal 162.3 combines two proven products

1. elastic compound tape for intimate bonding

2. neoprene for lasting resiliency

Here at last is double insurance for a positive, lasting seal. New PRESSURESEAL unites . . .

Presstite No. 162 Elastic Compound Tape, already in wide use in the construction field where its excellent plasticity, adhesion and weather resistance are helping to achieve the controlled comfort found in many of today's new skyscrapers, with . . .

Neoprene, PRESSURESEAL's "core", a synthetic rubber well-known for its ability to "give and take" with the contraction and expansion of modern design.

United, these two proven products provide an *elastic bond* to seal . . . and a *resilient cushion* to absorb pressure loads.



WANT A SAMPLE? It's yours on request, along with illustrated literature. Call or write Dept. B-4.



3766 CHOUTEAU AVENUE . ST. LOUIS 10, MISSOURI

*Patents applied for.

Floors Integrate Structure/Services

Mechanical Engineering Critique by William J. McGuinness

P/A Practice of Architecture column on mechanical and electrical design and equipment devoted this month to the combination of structure and the distribution of mechanical and electrical services.

In office buildings there are, at each story, two essential layers: one of selfsupporting structure and one composed of the horizontal distribution of heating, ventilation, air conditioning, electricity, and telephone wires. A well-studied and well-planned merging of these layers is the constant effort of architectural and engineering offices. Lower over-all story height, resulting in less wall construction, slimmer spandrels, and smoother ceilings are all dividends accruing from this effort. It would be nice to think that there were a few simple rules to follow or several standard solutions. Such is not the case, however. Much depends upon the structural system; one-way. two-way, flat-plate, deep-steel beams. open-web joists, or prefabricated elements. The mechanical systems also have distinctive personalities. The arteriesducts, pipes, conduits-may be quite lumpy with air-mixing chambers, convectors, and electrical distribution boxes. Early space-studies are highly essential and quite individual to each project.

Quite logically, a new office building for American Concrete Institute* would be a concrete structure. Such a one-story and basement building designed by Yamasaki, Leinweber & Associates, Architect-Engineers, was recently completed in Detroit, Michigan. The single story of offices has a roof of folded-plate precast concrete. Its floor structure between the basement and the first story is of precast cellular-concrete plank. At this level the distribution of electricity, telephone wires, and air for heating and cooling posed a problem in the integration of structure and equipment. The use of the basement for conference room and dining space suggested a smooth ceiling. This narrow building consists of a central corridor with single bays on each side. Use was made of the hollow cores in the concrete plank for lateral distribution of air and wiring to serve the story above it.

Heating and cooling in the 16 zones depend on air ducted longitudinally in the basement and below the main corridor. In each first-story zone, air passes

* October 1958 P/A

from the central longitudinal duct, through the dual-cell openings in each third plank, to a floor-register slot cast during the manufacture of the plank. Direct air delivery at the exterior wall is combined with the radiant effect of heated or cooled floor slabs. After blanketing the outer walls, the air returns through the corridors to a central collection point in the basement.

Longitudinal distribution of electrical power and telephone wires is in parallel raceways (electrical headers) in each exterior bay just outside of the corridor walls and parallel to them. These are accommodated in 2 in. of fill above the cellular-concrete plank. At the intersec-

> Cells in various planks carry air to registers, telephone wires, and electric power for use at desks.

Air for heating and cooling is passed through cells of planks to registers below glass walls. tion of these longitudinal raceways, with each of the cells chosen for lateral distribution of telephone and electrical power wiring, there are handhole junctions that facilitate the circuiting of wire to almost any point on the working floor. Convenience outlets and floor connections for desk telephones may be installed by drilling at any point above the proper cell and fishing the wires through.

The use of this two-directional system of raceways and masonry cells does much to minimize the use of metal ducts and conduits, in addition to providing an effective multi-zone air-conditioning system plus a flexible electrical and communications network.



AIR DUCTS ELECTRICAL FLEXICORE SLAB TELEPHONE

SECTION - USE OF CELLS IN GENERAL OFFICE FOR AIR DUCTS AND ELECTRICAL RACEWAYS



TYPICAL DISTRIBUTION OF MIXED AIR (ZONES 6 AND 11 ON FIRST FLOOR SHOWN)



* WALLGLIDER

Architects: Skidmore, Owings & Merrill

Specified for the new Chase Manhattan Bank building for exterior maintenance

Sealed curtain wall construction has achieved acceptance for its economy of first cost, beauty and functional simplicity. Maintenance of these walls requires specialized equipment that has been integrated with the building's design and is soundly engineered to assure performance and safety.

Manning & Lewis are pioneers in the design and construction of rugged, efficient and economical power-operated maintenance machines. M&L has the imagination to solve the unusual and difficult problems, and above all, builds into its equipment the sound engineering "extras" that provide maximum safety.

As designers of many other major buildings have done, architects for the Chase Manhattan Bank building specified poweroperated "Wallglider" by Manning & Lewis. Manning & Lewis engineers will be glad to consult with you on the application of the "Wallglider" to your particular building design.



MANNING & LEWIS Engineering Company 30 Ogden Street • Newark, New Jersey



A section 10' wide by 14' high with operating sash was tested in a 140mile wind and 30 gallons of water spray per minute (equivalent to 8" of rainfall per hour) with no leakage.

1

Endine

With Robertson Versatile Wall, architects and engineers can enjo full freedom of expression in the use of modular units and colo and still be sure of the precision of fit necessary to resist the ravag of weather. Developed after years of experience, research an testing, this curtain-wall system combines the advantages of standard ard units with the artistic latitude of tailor-made walls.

The results of extremely severe tests proved beyond a dou that the rugged, weathertight construction of Robertson Versati Wall can more than withstand the devastating forces of hurrican and tornadoes. Units are designed to expand and contract to tal care of building movement and steel framing tolerances witho loss of tight seal. Yet infinite design variety is available. Vertica can be made with a variety of sizes and shapes in stainless ste aluminum, bronze or porcelain enameled metal. Spandrels also c be designed in a great variety of colors and textures.

ightness plus extra design freedom



ROBERTSON V-WINDOWS

Exclusive new side hinged inswinging windows make cleaning easier and safer, and seal positively when locked. There is no interference

from pivot pins if hopper is used below, and the entire window can be removed in minutes for easy shop reglazing.

MULLIONS AND SILLS

Great versatility is yours. Trim members can be porcelainized aluminum, stainless, aluminum or bronze. Trim also can vary greatly in depth and surface because of new positive "snap-on" design. A system of weep holes provides positive drainage and ventilation for condensation.

SPANDRELS

Here the designer has infinite choice. The V-Panels are available with a wide variety of surface patterns and can be fabricated in aluminum, bronze, stainless steel. Color Galbestos or vitreous enameled aluminum or steel. Versatile Wall is as individual as your signature!

Though any type of window can be specified, there are many dvantages to the new Robertson V-Window. Hinged at the side, swings into the room for safer and easier cleaning, plus a more ositive seal than possible with a pivoted window. An ingenious inge allows the window to be removed and replaced with a spare, o that any reglazing can be done in the shop. Moreover, when a opper window is specified underneath, weight is better distributed a the sill, and it is not necessary to accommodate pivots.

When you design your next curtain-wall building, take advantage f this completely "weather-wise" system which allows so much chitectural latitude. Write for literature.

ith 150 trained sales engineers and 60 qualified service dealers, Robertson is ady to serve you in any part of the country. You will always have the best of chnical assistance when Robertson products are specified.



Please send additional information.			
NAME	Entited		
TITLE			
COMPANY			
ADDRESS	CITY		





First floor, partitions are J-M Class A Movable Walls with glass top filler. These are pre-fabricated panels with a non-combustible core, asbestos faced on both sides. Panels are $1\frac{3}{4}$ " thick can be painted or veneered in any number of ways to meet architectural requirements.

Second floor, laboratory sections are divided by J-M Imperial Movable Walls—asbestos panels attached to slotted steel studs. These walls can accommodate plumbing and service lines—can be varied from $3\frac{7}{5}$ ", up to any necessary thickness.

J-M Sanacoustic[®] units make up the acoustical ceilings and J-M Terraflex[®] Vinyl Tile covers the floors.

Good-looking walls with a future

This "showplace" is designed with Johns-Manville <u>Movable</u> Walls, for beauty and ease of making changes later on

An architectural designer was given this proposal:

A large company plans a research and development center in the suburbs. The building should be highly functional, yet striking. It must satisfy professional scientists and meet their needs for specialized equipment and services. It should contain attractive offices for executives and provide for future rearrangement and expansion. At the same time it should be a showplace for visitors and travelers along a nearby highway.

How well J-M Movable Walls are used to meet all these requirements is shown in the illustrations. Laboratory walls are the thickness necessary to enclose all required service lines. Other walls of minimum thickness with glass fillers separate administrative offices. All can be used together, are erected easily and can be readily relocated as needs change.

J-M Movable Walls come in modular components. They are functional, attractive, and can be decorated in any way. They are supplied and installed complete with all items such as doors, hardware, trim and glass by J-M trained construction crews.

For illustrated brochure, "Johns-Manville Asbestos Movable Walls," write to: Johns-Manville, Box 158, New York 17, N.Y. In Canada, Port Credit, Ontario.





"Our <u>Gulistan</u> Carpet sets the scene! And in the long run...<u>Gulistan</u> costs less than hard-floor coverings,"

says ELLIOTT MURPHY, Owner, Sky Club Restaurant, Roosevelt Field, L. I.



Sky Club Restaurant, Roosevelt Field, L. I. custom carpet by Gulistan Design Department. Installed by D. Kalfaian & Son, Inc.

"With Gulistan Carpet, we enjoy luxury underfoot and keep down the overhead, too. Our beautiful Gulistan wears so well, costs so little to maintain."

With all these advantages—beauty, long wear, permanently mothproof – Gulistan needs so little care it cuts costs of floor maintenance up to 50% over other kinds of flooring. In limitless colors and original designs. Ask your Gulistan dealer about them. Or let us work out a one-of-a-kind design carpet for you.

More distinguished restaurants, hotels, theaters, banks choose Gulistan than any other carpeting.

Write: Commercial Department PA-9, A. & M. Karagheusian, Inc., 295 Fifth Avenue, New York 16, N.Y.

REPUBLIC STEEL LOCKERS

There's a certain pride in being leader of the class. Be it ribbons, letters, cheers, or the medallions that identify Republic Steel Lockers in schools everywhere.

Republic Steel Lockers offer architects, engineers, and designers builtin beauty and economy that go with the pride of any school. Interiors are spacious, well designed for convenience and good ventilation. Hooks and hardware are the best obtainable. Positive locking and heavy-duty hinges assure complete protection of personal effects.

Republic Steel Lockers are *Bond*erized for long life under continuous conditions of hard service. This exclusive feature provides a superior base for enamel and protects against rust and corrosion. Restricts damage due to bumps, scratches, and abrasions to the site of the injury itself.

Republic Steel Lockers are available in a choice of lighter, brighter colors and feature any of the popular locking devices including the new fully chrome-plated locker handle that operates with fingertip control. Built-in padlock strike protects the beautiful finish. Foolproof—the handle is attached with a tamperfree Gulmite screw and lockwasher.

And Republic Planning and Engineering Service takes the whole job off your hands. Recommends the right locker for the job in upright or recessed styles and assumes full responsibility for the complete installation.

For over-the-years economies with low original costs, low installation costs, practically no maintenance costs, specify Republic Steel Lockers.

CALL YOUR REPUBLIC REPRESENTATIVE OR WRITE ...



REPUBLIC ELECTRUNITE[®] TUBING offers architects a building material with unlimited freedom in design ... squares, rectangles, rounds ... easy to use. Pound for pound, tubing is strongest of all structural 'shapes. Lincoln Elementary School, Euclid, Ohio. Architect: Fulton, Dela Motte, Larson, Nassau and Associates — Architects-Engineers, Cleveland, Ohio; General Contractor: Robert Lee, Cleveland. Call your nearest Republic representative ... or send for complete information.

ođućtsi			
1, OHIO Repúblic pr			State
RATION CLEVELAND e following	bing	Title	Zone
L CORPO JILDING • 1 JILDING • 1 Juckers	ess Steel tectural Tu		
BLIC STEE 3A.7571 REPUBLIC BL send inform oublic Steel	oublic Stainl		55
DEPT.I		Name. Firm_	Addre City_



When the proper door is a problem...

The bucolic scene above good-naturedly presents (with only slight exaggeration) an important thought for those concerned with closure problems:

There is a Cookson Door for every need!

There are extruded aluminum Cookson Counter Doors, for example—the practical and attractive idea in closures for cafeterias, schools, offices and ticket windows; Cookson Side Coiling Partitions to cut giant auditorium and gymnasium spaces down to size; Cookson Rolling Grilles that give free visibility and air circulation in garages and corridors; and, of course, standard Cookson Steel Rolling Doors and "Servire" Fire Doors, regularly specified for scores of applications everywhere.

All Cookson Doors are custom-built to the job, with the special problems of architect, engineer, builder and user constantly in mind. By comparison, you will find them easier to specify, install, operate and maintain, with every consideration given to the desired architectural effect. Typical installations are shown here. For additional information see Sweet's, or write for Bulletin No. 901.



"THE BEST WAY TO CLOSE AN OPENING"









Smartly styled Cookson Extruded Aluminum Counter Doors provide lifetime beauty, durability and practical service. Crank or push-up operation.

Cookson Wood Side Coiling Partitions provide complete flexibility, rugged service, top acoustical qualities. Designed for areas up to 250' wide, 24' high.

In steel or aluminum, Cookson Rolling Grilles combine strength, security against entry, high visibility and full ventilation. Equally suitable for indoor or outdoor use.

Cookson Steel Rolling Doors, available in both a crown type and architectural flatslat design, effectively coil out of the way, assuring full safety and clean appearance.

In the Union Carbide Building...

11 Acres of Curtain Walls made weathertight with the help of "ADHERENTLY DIFFERENT SEALANT"

Again—sealants based on THIOKOL Liquid Polymer meet the highest standards of architectural design

Many joints in this towering new landmark are being sealed with the help of material based on polysulfide rubber. This special kind of sealant—the "adherently different sealant"—is specified for over 80% of all curtain wall structures.

Its unique bonding action—adhering to all types of structural materials in any combination . . . its elastomeric nature, giving with the stress of thermal change . . . its sympathetic quality, meeting the variations in expansion and contraction of the materials it joins without breaking away . . . its extreme length of life . . . these characteristics inherent only in THIOKOL polysulfide type sealant make it basic for curtain wall design. For complete data, write THIOKOL at address below. Building... Union Carbide, 270 Park Ave., N. Y. C. Architects... Skidmore, Owings and Merrill General Contractors... George A. Fuller Co. Curtain Walls... General Bronze Corp. Polysulfide Sealant Applicator... Grenadier Corp.





Timeless, dignified, substantial, the Union Carbide building features a black stainless steel and glass "skin." Starter panels, mullions and window frames are sealed against weather with the help of THIOKOL polysulfide base sealant.



In Canada: Naugatuck Chemicals Division, Dominion Rubber Co., Elmira, Ontario

®Registered trademark of the Thiokol Chemical Corporation for its liquid polymers, rocket propellants, plasticizers and other chemical products.



Simplify your specifications, assure quality....

Roddis announces the most complete wood door in the industry

wholly designed and manufactured in our own plant

> Whatever your design, whatever the decor . . . Roddis has a flush veneer door to fit your need. For Roddis' new, expanded line offers you the widest choice for residential, commercial or institutional applications.

> Another Roddis "plus." Every door bearing the Roddis trademark is manufactured *only by Roddis!* Consequently there is complete control of construction all the way through the manufacturing process—from the forest to the finished door. Each one is produced under the watchful eyes of our experienced door craftsmen.

> **Choose from 7 classifications.** Select the doors best suited for your job: Solid Core, Fire (B and C-label), Hollow Core, Institutional, Plastic Faced, X-ray and Sound Retardant. They all have famous "Roddis quality" built in, for greater beauty, longer life, ease of installation.

What the Golden Dowel means to you. Roddis identifies its finest, top-quality doors with a special golden dowel set in the edge. It is proof to your clients that these doors will stay straight, true, beautiful for the life of the installation. And Roddis backs up these facts with a written, registered lifetime guarantee on every Golden Dowel Door.

Send for free brochure. The coupon brings complete details and specifications on all Roddis doors. Clip it now and send to Roddis . . . for 60 years the quality name in wood doors!

One source for all your wood doors



lid Core Doors. Choose the Golden Dowel or with lifetime guarantee. Or Standard solid e doors. Ideal for interior and exterior usage. eptional beauty, long wear.



Hollow Core Doors. New 7-ply Housemart hollow core door gives economy, flexibility of installation. Strength without extra weight. Ideal for limited budget applications.



Plastic-Faced Doors. Designed for hard wear, easy maintenance. In restaurants, offices, schools, public buildings. Choice of many colors and patterns. Mar-proof.





X-ray Doors. With continuous sheet of protective lead midway between divided core. Combine vital protection, outstanding beauty. For hospitals, medical and dental offices.



Sound-Retardant Doors. For offices, music rooms, radio and TV studios, sound stages anywhere passage of sound needs control. Available veneered to match regular Roddis doors.



titutional Doors. For hospitals, offices, ools, churches. Built for special hardware ... sures, kick plates, panic bars. Laminated nes add strength. Economy priced.



Fire Doors. Roddis patented core assures equal strength in all directions, extra weight gives outstanding fire resistance, high sound resistance. B-label, 1 hour; C-label, ¾ hour.

RODDIS DOORS NOW AVAILABLE WITH FACTORY PRIME AND SEAL PROTECTION or COMPLETELY PREFINISHED

You gain important on-the-job costsavings—assure beauty—when you specify factory "prime and seal" for your Roddis Doors.

This service makes possible a uniform, perfect first coat on every door. Dirt, moisture and stains are locked out during transportation and storage. Final finishing is faster, more foolproof.

If you prefer, Roddis will *completely finish* your doors to your own specifications. Colors may be selected and Roddis' famous finishes (or those of other manufacturers) are available.



LIFETIME GUARANTEE! The Roddis Golden Dowel and B-label Fire Doors are guaranteed for the life of the installation. All other Roddis Doors are guaranteed for 2 years!

RODDIS PLYWOOD CORP. MARSHFIELD, WISCONSIN (DEPT. PA-959)

Please rush illustrated brochure and detailed information on famous Roddis wood doors to:

NAME		
FIRM		
ADDRESS		
CITY	STATE	



Strong, durable, lower in cost

You can now specify windows of sturdy, lasting stainless steel—at a cost much lower than you may think. Reason? Manufacturers now *roll-form* windows from Allegheny Stainless and pass the fabrication economies on to you.

In actual bidding recently, the price of roll-formed Allegheny Stainless windows averaged only about 10% higher than another non-stainless metal.

Vital to architecture, durability and compatibility are inherent in Allegheny Stainless. It never requires chemical films for surface protection, and virtually cleans itself with normal rainfall. Because of an amazing resistance to corrowww 7299 sive atmospheres, the brightness and freedom-from-pitting of Allegheny Stainless are recorded history; yet different patterns, textures and colors make news each day.

Stainless steel windows—of all-welded design and tubular construction—are available in Allegheny Stainless Types 202 and 302.

Include Allegheny Stainless in your design-thinking now. Learn how you can get the quality of stainless steel windows for much less than you think. For additional facts, and manufacturers' names, write to Allegheny Ludlum Steel Corporation, Oliver Bldg., Pittsburgh 22, Pa. Dept. PA-21.



ALLEGHENY LUDLUM for warehouse delivery of Allegheny Stainless, call RYERSON Export distribution: AIRCO INTERNATIONAL

EVERY FORM OF STAINLESS . . . EVERY HELP IN USING IT



GLYNN · JOHNSON door control hardware



Quincy Senior High School, Quincy, Illinois. Architect & Engineers: Behrensmeyer & Horn; Contractor: J. L. Simmons Company, Inc.





When the standards for a product call for perfection in performance . . . when anything less would be considered a failure . . . there can be nothing on the market to top it. Such are the standards for Ceco Curtainwalls.

Against such requirements, the promises of "cheaper construction" can have little meaning to thoughtful architects. For they know, in the long run, quality construction is truly the most economical. Especially is that true of curtainwalls, where adequate engineering plays such an important part. And it's basic engineering that makes the difference in Ceco Curtainwalls... engineering that gives you these assurances: (1) mullions designed to meet wind loads... (2) proper allowance for expansion and contraction, permitting windows and caulking to move together to ensure a tight weather-seal ... (3) no accumulative expansion of wall panels... (4) firm anchorage of the wall to the skeleton of the structure.

So, call on Ceco in the planning stage of your next project. Then you can be sure of curtainwall construction where the unusual is the usual, for Ceco Curtainwalls are engineered for perfection in performance.

When it comes to low-rise Curtainwalls... come to CECO-leaders in the field

TOTAL MANUFACTURING FOR THE BUILDING INDUSTRY FROM

Medical Professional Building, San Antonio, Texas. Architects: Marmon & Mok, Jerry Rogers; Contractors: Harwell & Harwell.



... ENGINEERED FOR PERFECTION IN PERFORMANCE

Bloomfield Junior High School, Bloomfield Hills, Michigan. Architect: Smith, Tarapata, McMahon; Contractor: Pulte-Strang.

RAW TO FINISHED PRODUCTS

Not made to a price to "get by" temporarily under optimum conditions, but engineered to perform perfectly . . . year after year after year. Such is the standard for Ceco Curtainwalls, where the unusual is the usual in performance.

Basic engineering principles developed through technical research on the job and in the laboratory provide these assurances: (1) mullions designed to meet wind loads . . . (2) proper allowance for expansion and contraction, permitting windows and caulking to move together to ensure a tight weather-seal . . . (3) no accumulative expansion of wall panels . . . (4) firm anchorage of the wall to the skeleton of the structure.

Yes, you can be sure creation and construction will work together with Ceco Curtainwalls. You can blend artistic expression with practicality and be confident of perfection in performance. Call on your Ceco man in the planning stage. Take advantage of Ceco's "library of experience." Ceco Steel Products Corporation. General offices: 5601 West 26th Street, Chicago 50, Illinois. Offices, warehouses and fabricating plants in principal cities.

Curtainwalls, Windows, Screens / Hollow-Metal Doors / Steelforms / Concrete Roofing Products / Cecoframe Buildings / Metal Lath	Reinforcing / Steel Joists
CECO STEEL PRODUCTS CORPORATION 5601 West 26th Street, Chicago 50, Illinois	PA
Please have Ceco engineer bring me curtainwall data from your "li	ibrary of experience."
Please mail me Ceco's 1959 Curtainwall Manual No. 1069-C.	

firm

city

CECO ENCINEEDING MAKES THE

FOAMGLAS[®] insulation gives Gulf constant U-value in these low-cost, open-edge panels

The porcelain enamelled steel panels here owe much of their low cost to FOAMGLAS core insulation. The attractive structure is a new Gulf Oil Corporation office building in suburban Philadelphia. An open-edge panel design is possible because FOAMGLAS is impervious to both water and vapor.

Zoned air conditioning makes constant U-value in the curtain wall vital. The insulation must stay dry since moisture absorption could destroy its effectiveness. FOAMGLAS insures a constant U-value of just 0.21. And, since the insulation needs no all-enclosing pan or edge seal, costs are surprisingly low.

FOAMGLAS insures Gulf still more benefits. Its rigidity and strength insure an exceptionally flat panel. It is dimensionally stable, and it can't burn . . . eliminating fire hazards.

No other insulation offers so many benefits in one material. Try FOAMGLAS, the only cellular glass insulation, in your next curtain wall design . . . roof or core wall. Write for our new curtain wall brochure: Pittsburgh Corning Corporation, Department AB-99, One Gateway Center, Pittsburgh 22, Pennsylvania. In Canada: 3333 Cavendish Boulevard, Montreal, Quebec.



Niagara County Court House Lockport, New York Architect: Cannon Thiele Betz & Cannon



series 5212 for multi-level structures

engineered to slash erection time

MARMET curtainwall

To assist architects in developing outstanding contemporary designs on closely bid work . . . MARMET has engineered two forms of curtainwall . . . each type erected differently . . . yet in each one labor assembly time is cut significantly. Result: more structures can be sheathed in gleaming aluminum . . . with no sacrifice in quality even on tightly budgeted jobs. And, special dip treatment for every kind of finish, keeps MARMET fenestration "gleaming new" indefinitely . . . saving owners the cost of periodic maintenance painting. For successful execution of your next closely bid job . . . specify MARMET.

> series 6442-43 for 1 story or multi-story gridwall structures

wall panels stack from inside

Once the large, vertical mulls are hung from each story of the building . . . lite sections and wall panels can be stacked one atop the other. Units are small enough that two men can easily handle and install them . . . working from the inside in most cases . . . saving the time and cost of erecting scaffolding.



For detailed specifications on the complete line of MARMET products --consult Sweet's Catalog File No. <u>3a</u> or write to MARMET for Catalog Mar. 59a, 59c, and 59d.

Cheshire Kyger Elementary School Gallia County, Ohio Architect: Lage, Drest & Walter

large interlocking grids

Available with mating vertical mulls, 4½" or 6" deep for a varying of shadow lines, the large interlocking grids of this series can quickly be erected by two men. Mortise and tenon joints are connected with bolts, carefully concealed by the glass race. Special expansion joints are employed at the proper intervals.

Corporation



ARMET



How a folded piece of paper and Armstrong Classic Cushiontone helped inspire a unique ceiling treatment

by Welton Becket, F.A.I.A.

THE problem before us was to design a restaurant for a Middle Eastern resort hotel. We were searching for a bold approach that would still be in harmony with certain local architectural traditions.

"A folded piece of paper started us in the right direction. It inspired a dramatic umbrella-like ceiling treatment to cover the glass-enclosed pavilion and its lush tropical garden setting.

"Armstrong Classic Cushiontone was chosen to

provide acoustical treatment and a pleasing surface for the fluted planes of the ceiling. The casual random openings in the surface of the tile blend together to form a pleasing background for the fanciful lanterns and the special lighting effects.

"Armstrong Classic Cushiontone works in harmony with perforated geometric screens and rich oriental hues to give the entire restaurant an exotic Arabian Nights atmosphere."


Armstrong Classic Cushiontone is one of the newest of the many Armstrong ceiling tile designs. It is a low-cost wood-fiber ceiling that combines an attractive appearance with excellent acoustical efficiency. Classic Cushiontone has an N.R.C. range of .55-.80, depending upon thickness of material and installation method. It is factory-finished with two coats of washable white paint.

For further information and complete specifications, call your Armstrong Acoustical Contractor, call your nearest Armstrong District Office, or write to Armstrong Cork Company, 4209 Watson Street, Lancaster, Pennsylvania.

Armstrong ACOUSTICAL CEILINGS

The Applications for PRC Sealants are as varied as the Building Material

Years of use on all building materials have proven that PRC Sealants remain as firmly bonded and effectively pliable as at the time of installation. PRC "Rubber Calk" Sealants are a two-part polysulphide liquid polymer base material compounded for applications where adhesion, elasticity and long life are essential. For convenience and service PRC has established carefully selected and trained Franchised Dealer/Applicators in all principal cities.

LONG LIFE

PRC "Rubber Calk"[®] Sealants provide savings from maintenance and repeated replacement of conventional caulking. Laboratory tests and years of exposure in applications have proven its value.

WATERTIGHT PROTECTION

PRC "Rubber Calk"[®] Sealants will retain an elastic and permanent seal through repeated exposure to high wind, rain, and extreme heat, Serviceable temperature range: --40°F to +200°F.

STRUCTURAL MOVEMENT PROTECTION

PRC "Rubber Calk"[®] Sealants have been especially compounded to provide those properties required for a positive seal in curtain wall and tilt-up construction.

PERMANENTLY SEALS

PRC "Rubber Calk"® Sealants maintain "Locked-on" adhesion to glass, metal and masonry under the most adverse weather conditions, vibrations and structural movement.

For information and technical data, write for illustrative booklet.



Products Research Company

Manufacturers of

Liquid Synthetic Rubber Products for the Construction Industry.

Western Factory: 3126 Los Feliz Blvd. Los Angeles 39, California NOrmandy 5-5951 Eastern Factory: 410-416 Jersey Avenue Gloucester City, New Jersey WOodlawn 4-3010

CURTAIN WALL... as you like it

ALBRO custom curtain wall—in aluminum, bronze and stainless steel—gives the architect a complete range of systems to meet his every design requirement. From engineering to installation, ALBRO assumes total responsibility for the quality and performance of all architectural fabrications leaving its plant. This policy has stood for ALBRO's 30-years-plus of metal engineering know-how.

SERIES 200 ... PROVIDING EFFECTIVE TREATMENTS FOR MULTI-STORY BUILDINGS. ALBRO's light commercial grid offers many curtain wall design combinations from an extensive range of mullions, panels and windows.





SERIES 300...FOR DESIGN VERSATILITY WITH LOW-RISE BUILDINGS. ALBRO'S structural aluminum grid system fits within the building framework and accepts all panel materials and window types.

SERIES 100...FOR SPEEDY ENCLOSURE OF MEDIUM AND HIGH-RISE STRUCTURES. Large flat panels, integrally stiffened by an exclusive process, have blemish-free surfaces of great dimension.



AP

ALBRO METAL PRODUCTS CORPORATION 944 Longfellow Avenue, New York 59, N.Y.

Write for our curtain wall, window, and architectural metalwork catalogs, or see them in Sweet's

new approaches to structural design with fir plywood



Prefabricated roof vaults are 11 feet wide at the chord, and 56 feet long (40 foot span plus 8 foot cantilever both ends). Key to system is the outstanding shear strength of the stressed fir plywood skins.

ARCHITECT: Theodore T. Boutmy, A. I. A. George Kosmak, Consultant John E. Brown, Structural Engineer

PLYWOOD VAULTS designed and engineered by Berkeley Plywood Co., Oakland

FIR PLY

THESE lightweight fir plywood stressed skin barrel vaults designed for a California yacht club provide large clear floor areas at low cost plus an attractive profile and interior.

Combining roof decking, insulation and ceiling, the prefabricated vaults span 40 feet from front to rear and 11 feet from valley to valley, without use of beams or trusses. Vaults are cantilevered 8 feet front and rear; spouts which join units at the spring lines extend an additional 10 feet to act as gargoyles in carrying off water.

The roof system provides complete freedom in interior arrangements. Additions can be made simply by adding new vaults or extending the existing ones.

Structurally, the entire roof acts as a rigid plywood diaphragm in transferring lateral loads to the plywood end and shear walls. Two test vaults were successfully used at the San Francisco Arts Festival. Berkeley Plywood is contemplating mass producing the vaults as a standard construction component.

SEND FOR YOUR COPY OF "SCHOOLS OF THE FUTURE"

... a portfolio collection of outstanding designs by six leading architectural firms. Includes 10-page booklet on fir plywood diaphragm construction. For your free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Washington.

Also write for information about DFPA design and engineering consultation services.







AVON PRODUCTS, INC., MORTON GROVE, ILLINOIS SKIDMORE, OWINGS & MERRILL, CHICAGO, ARCHITECT

Attractive Lowest Cost

CEMESTO® INSULATED PANEL CURTAIN WALLS

Job-proved for over 30 years, better-than-ever Cemesto Panels are today the choice of leading architects for major projects where requirements call for low cost attractive curtain walls that are insulated, weathertight and require no maintenance.

Cemesto Panels consist of a laminated insulating core of Celotex fiberboard, bonded to cement-asbestos facings by a special waterproof, bituminous adhesive. A breathing panel that dissipates water vapor at rate of 2.5 Perms.

Without cost or obligation and literature on Cemesto	n, please send name o Panels for	of nearest distributor
Curtain Walls 🗌	Roof Deck	Partitions
Name		
Company		
Address		
City	7.00	a Ctata



Cemesto is a registered Trade Mark of The Celotex Corporation, identifying structural insulation composed of insulating fiberboard with asbestos-cement surfaces

ST. JOHNS SHOPPING, ST. JOHNS, MISSOURI FISHER & FRICHTEL, INC., ST. LOUIS, ARCHITECT

In 11/8", 1%16", and 2" thicknesses. (Also 11/16" for standard frame walls and insulated window walls.)

Quickly, easily erected, with stock aluminum accessories having dovetailed neoprene weatherstripping. Exterior and interior non-combustible cement-asbestos surfaces are light gray in color, require no additional finish, but can be painted if desired.

Maximum versatility, protection, economy. Send coupon for details on Cemesto Panels as insulating curtain wall... structural roof deck... partitions.





you can both



M. Quay SEASONMAKERS

These extremely popular large capacity McQuay Seasonmakers enable you to provide year 'round comfort at any desired temperature level... heated, filtered air in cold months, and cooled, dehumidified, filtered air in warm months... when used with a hot or chilled central water supply.

They are particularly designed for commercial or residential applications where a direct air distribution system is necessary, or for use in medium to large areas requiring 2, 3 or 5 tons capacity. Units are also available for refrigerant operation.

You'll like the 3-speed, quiet operation and the double drain pan with $\frac{1}{2}''$ insulation for protection against sweating and the auxiliary drain pan to catch condensate from the control or shutoff valve. In fact, you'll like everything about these McQuay Seasonmakers. For complete information, see your McQuay representative, or write McQuay, Inc., 1638 Broadway Street N. E., Minneapolis 13, Minnesota.

> Write for catalog No. 721 for complete selection and capacity information.







AIR CONDITIONING . HEATING . REFRIGERATION









growing importance of the midinent as a center of manufacturing distribution has focused national ation on the need for integrated transation facilities for domestic and rnational commerce.

recognition of this expanding need ey commissioned the architectural firm mith & Entzeroth, St. Louis, Missouri, lesign a prototype installation comng air, rail, truck and waterway transation and including all transfer and age accommodations.

er considerable research Messrs. Smith ntzeroth selected a new industrial site he Mississippi River, north of the city st. Louis and adjacent to St. Louis County's new circumferential truck route. At this point barge lines, railroads and highway carriers could efficiently unload, load and transfer every type of cargo to or from any destination in the midcontinent. Via the inland waterway and the Port of New Orleans exporters and importers can reach markets all over the world quickly and conveniently.

To handle expanding air-freight traffic a cargo port is located nearby so that all shipping can be coordinated with surface carriers.

In the development of this project a number of Carey Building Products were used in ways that may be interesting to other architects and to engineers and contractors. Detail sheets and brief specifications on these uses have been prepared by the architects and are available from your Carey representative.

Or, you may prefer to write The Philip Carey Mfg. Company, Lockland, Cincinnati 15, Ohio. Dept. PA959.



BETTER PRODUCTS FOR BUILDING SINCE 1873



WAREHOUSE

TRUCK LOADING AND STAGING

SHEPARD ELEVATORS

have anti-friction bearings on EVERY rotating shaft

THE use of anti-friction bearings in elevator equipment was pioneered by Shepard Elevator Co. over 25 years ago. Now, the entire elevator manufacturing industry uses this feature to some degree. But Shepard has developed it to the ultimate, with anti-friction bearings on *every* rotating shaft in the complete elevating system.

Perfect alignment of all parts, minimum shaft wear, and smoother, more dependable operation are the benefits of anti-friction bearings. Through years of operation, they prevent gradual misalignment and failures caused by resulting metal fatigue.

In many other ways Shepard has paced the industry: variable voltage speed control, use of rectifier to actuate the brake and controller switches, improved safety devices, and similar features were originated or perfected by the Shepard Elevator Company.

This patient attention to detail, dating back to the company's founding in 1860, has given Shepard an unequaled quality reputation in a five-state area around Cincinnati. Now Shepard passenger and freight elevators are available throughout the nation in a broad range of speeds and capacities. Get a Shepard bid on your next hospital, apartment, commercial or industrial building. Prompt, expert elevator planning assistance is available to you on request, and without obligation, of course. See our catalog in Sweet's Architectural File.







SHEPARD ELEVATOR COMPANY Division of Dover Corporation 5051 Brotherton Rd., Cincinnati 9, Ohio

acoustical corrections

Dear Editor: We have just been going through the excellent special issue on "The Emerging Urban Pattern" and would like to congratulate P/A again for another outstanding presentation.

In the first part of the issue, however, we noticed something acoustical that did disturb us somewhat; and this is the treatise on soundproof doors by Harold J. Rosen. There are a few minor errors that are easily overlooked. But at least two points are downright incorrect and misleading. The first of these is in the paragraph beginning at the bottom of the middle column on page 9. If you read this over, I think you can see where he has completely missed the point as to the role of background noise in sound isolation, although I think that this is what he had in mind in this paragraph. The second thing is in the next paragraph where it is stated that doubling of weight adds nine decibels to the transmission loss. Six is the number, but perhaps this was just a typographical error.

We hate to be complainers, but we feel that any technically incorrect information that is published in the architectural press can do a great deal of harm, especially in a section such as the SPECIFI-CATIONS CLINIC which assumes a certain air of authority.

> WILLIAM J. CAVANAUGH Bolt, Beranck & Newman, Inc. Cambridge, Mass.

plan for automobile

Dear Editor: I have read with great interest the article in JULY 1959 P/A titled, "The Emerging Urban Pattern." I thank you for including my approach to the problem of urban renewal in your discussions and for including two of my favorite illustrations to best illustrate this approach.

Victor Gruen and I have one thing in common; each of us believes in a definite approach to the problem of urban renewal. He believes that the automobile should be ejected completely from all downtown areas. On the other hand, my approach is just the opposite; I believe the best way is to take the automobile into the downtown areas, utilizing every advantage in so doing as possible. I provide for the automobile as the primary means of transportation with all other forms of transportation as secondary. This is contrary to the belief of those who advocate rapid-transit facilities as the primary means of transportation. Of course there will always be both means of transportation. The question is how much of each should we have?

The answer to this question is relatively simple in that it depends upon what we can afford. The over-all picture must be studied to arrive at a proper and economical approach to the problem. Both Houses of Congress and the Administration today are wrestling with a very vital question pertaining to just who is going to rebuild our cities. Should Private Enterprise do it or should the Federal Government do it?

In my opinion, it is not possible for the Federal Government to effectively carry on a vital defense effort, along with a tremendous transportation effort, along with its other duties, and then add to these the burden of rebuilding our cities. It is not one or two cities we're talking about, but every city in the country is faced with the same problem. In the past, all of our great cities were built by private enterprise. Today, this is the only way to obtain an even greater prosperity than those that are now behind us. What is lacking is proper planning to accommodate the primary means of transportation, the Automobile. It happens to be the best and most efficient mass-transit vehicle that has ever been devised, so why not include it in our urban planning by providing for it properly.

In my opinion, the great cities of the future will be the ones that provide amply for the automobile with supplemental rapid-transit systems to accommo-(Continued on page 54)

published monthly by REINHOLD PUBLISHING CORPORATION, 430 22 Park Avenue, New York N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice-Presiand Secretary; Alfred E. dent Fountain, H. Burton Low, Merald F. Lue, D. Bradford Wilkin, William P. Winsor, Vice-Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 430 Park Avenue, New York 22, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are architects, engineers, specifications writers, designers or draftsmen or employees of architectural and engineering firms, and to government departments, trade associations, members of the armed forces, college libraries, college students, publishers, advertisers, prospective advertisers and their employees-\$5.00 for one year, \$8.00 for two years, \$10.00 for three years. Above prices are applicable in U. S., U. S. Possessions, and Canada All foreign subscriptions--\$10.00 for one year, \$16.00 for two years, \$20.00 for three years. Foreign rates apply to architects and engineers only. Single copy -\$1.00; special issues--\$2.00 per copy. Printed by Publishers Printing Co., New York, N. Y. Copyright 1959, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved. Indexed in Art Index, Architectural Index.

PROGRESSIVE ARCHITECTURE







(Continued from page 53)

date the out-and-out commuter, the oldsters, and others desiring to use them for some reason or another. Furthermore, in amply providing for the automobile, facilities must be designed to permit it to go anywhere with comfort, without traffic snarls, traffic signals, or anything else that may slow it down. Finally, once all of these conditions are met, then it can be really appreciated.

In view of the opinions expressed above, the plan which I have outlined is a typical example, as depicted in the illustrations published in your July issue. The plan clearly shows how the freeways can be integrated with downtown parking facilities, creating still another means of traffic flow over and above the one that exists in the streets today. This plan permits the individual parking



Sedqueick MACHINE WORKS

164 WEST 15TH ST., NEW YORK 11

You can protect

free consultation service based on your clients by speci- over 65 years of specialized exfications that will in- perience offered by Sedgwick.

access within a block of his or her destination anywhere in the downtown area, simply by locating the grid of developed block bands at four-block intervals.

The illustrated plan for Los Angeles, ultimately will have available 500,000 parking stalls. Each Band of blocks shown in the illustration can park 60,000 cars in any two-hour period. Based on four free-flowing freway lanes feeding each end of 12 blocks in a row, this type of planning can actually park the cars as fast as freeway traffic flows. This same plan in a 24-hour period can circulate better than 2,000,000 cars. Your downtown area becomes accessible to freeway traffic, without stop lights or anything else to slow it down.

In this plan you are feeding directly into parking areas from the free flowing freeways; this allows for a very important time-saving element, which must not be overlooked, because it means that anyone living 30 miles outside the downtown area could drive into the core area from any direction on well distributed freeways and arrive at his desk in the core area in 20 minutes. Those living 50 miles away could arrive at their desks in about 35 minutes.

Gruen, in his plan for Fort Worth, stops all cars around the periphery of Fort Worth then shuttles the people into the city center. Land has to be condemned for this purpose and marshalling vards have to be provided for both the autos and the shuttle systems on the outskirts of the city. Why substitute a shuttle system for what the automobile can do? You could still have your City Beautiful, with everything you desire to have in it, with parking and a foolproof transportation system beneath it, out of sight if need be.

Gruen also advocates preventing the urban sprawl that is going on throughout the country. This urban sprawl can never be contained. In my opinion, we have not yet begun to sprawl! This sprawl will continue into areas that are desert today and those living 30 miles out of cities today will have comparable people living 300 miles away from central areas tomorrow and still commuting to their daily tasks. Our calculated population increases can be easily absorbed with this kind of development materializing. The entire country then will become a

(Continued on page 62)

New booklet tells what every architect

should know about neoprene gaskets for curtain walls





Better Things for Better Living . . . through Chemistry



NEOPRENE HYPALON® VITON® ADIPRENE® The growing trend to curtain wall construction has created the need for more information about methods of sealing curtain wall panels. In this informative booklet, Du Pont presents data covering the use and performance of neoprene compression seals.

Here are some of the questions architects will find answered in the booklet: Is neoprene capable of withstanding exposure to sunlight and weather for 20 to 25 years? How do preformed neoprene seals effect economies in job-site labor? What are the compression recovery properties of neoprene gaskets? How successfully do neoprene seals cushion panels against high-velocity winds and gusts? Are neoprene seals capable of cushioning glass panels against breakage from earth tremors?

This Du Pont booklet, "Neoprene Gaskets for Curtain Walls," will be a worthwhile addition to your permanent file. Send the coupon, or write today, for your copy.

E I du Pont de l	Namours & Co	(Inc.)	
Wilmington 98	Delaware	. (
winningion 70, i	Delaware		
Please send a Gaskets for Cu	copy of your rtain Walls.''	booklet,	"Neoprene
- · · ·		and and	
Send a list of su	ppliers of preto	rmea neo	prene seals
Send a list of su	ippliers of preto	Title	prene seals
Send a list of su	oppliers of preto	Title_	prene seals
∟ Send a list of su Name Firm	ppliers of preto	Title_	prene seals
∟ Send a list of su Name Firm Address	ppliers of preto	Title_	prene seals



concealed door closer and Integralock

semi-concealed door closer and Magnalock

The newest fashion in a complete line of architectural hardware. Protect your clients specify high style locksets, exit devices rectangular door closers and miscellaneou hardware from one manufacturer–Sargenta single source of quality and responsibility for almost 100 years. An integrated line of



rface applied door closer ad Mortise Lock

surface applied parallel arm door closer and Rim Exit Device

natched designs and finishes. Advanced engineering and construction. Features most vanted by America's leading architects. Call our Sargent supplier now. Or write Sargent & Company, New Haven 9, Connecticut.





. . DESIGN COMPLEMENT FOR INSULATING CURTAIN WALL PANELS

The wide selection of fixed and ventilating PELLA WOOD MULTI-PURPOSE WINDOWS makes them a "natural" for combining with cost-saving insulating curtain walls. Used this way, the pleasing proportions of PELLA wood mullions provide a third dimension to glass and panel areas. When your plans for institutional or commercial buildings include insulating curtain wall construction, try working with PELLA MP WOOD WINDOWS. Full specifications in Sweet's, or write for copy. For the nearest U. S. or Canadian distributor, see the classified telephone directory. ROLSCREEN COMPANY, PELLA, IOWA





Emergency Room, Alameda County Highland Hospital, Oakland, California. Arthur W. Anderson, Architect.

YOU CAN SPECIFY VINA - Lux VINYL ASBESTOS TILE

WITH CONFIDENCE

because ...

- ▲ It's an honest product skillfully made by men dedicated to quality.
- It's a vinyl flooring reinforced with asbestos fiber stable, durable and attractive.
- It's available throughout the United States through responsible outlets.
- It's made by a company earnestly trying to serve the architect with constantly improved products that solve architectural floor problems.
- Finally, Vina-Lux performance is guaranteed by its maker.



MAKERS OF VINA-LUX



AZROCK FLOOR PRODUCTS DIVISION

AZROCK

AZPHLEX

(Continued from page 54)

playground for the masses and any point will be accessible to all in a matter of hours, instead of days as it is today. We have never had any major breakthroughs in transit on the ground that can compare with the progress that has developed in the air, but soon moving beltways may replace our present freeways. Should this materialize, it would then be possible for the masses to live many hundreds of miles from the source of their work and still be able to commute in no more time than is spent today. Now that nuclear energy is here and air-cushioned conveyances are being experimented with, anything is possible.

It is going to be difficult for anyone to turn his back on an urban masterplan that *does not require federal subsidies or bond issues* of any kind. All that is re-



quired, however, is a sound masterplan for the future growing out of what is the present; one that will supplement existing traffic systems with additional traffic systems. Such a plan is the one I am connected with and the one you should get very interested in.

Piecemeal planning is the root of all our troubles today. In the end it is the most costly and usually provides only temporary relief. Only a well planned Metropolis which includes planning for every phase of transportation co-ordinated with all other types and downtown facilities is going to be economically sound. It is no longer feasible for each to go his own way; because, the overlapping costs entailed in such procedures is rapidly becoming beyond our means.

This is a plan private enterprise can play an important role in, what's more it does not require group financing; once adopted individual investors become part of it in much the same manner a bank or an insurance company develops half a block or a whole block when they invest in a downtown area today. Thus this plan attempts to incorporate itself into the existing patterns of land use rather than start from scratch. You weigh these facts against any other plan put forward today.

I may not agree with Victor Gruen's approach to the problem of urban renewal, but I have great admiration for him and his efforts; for recognizing the re-shaping of our man-made environment is today's most urgent task.

> E. M. KHOURY Consulting Engineer Canoga Park, Calif.

thorough and absorbing

Dear Editor: Congratulations on your "Emerging Urban Pattern" in your July issue. A thorough and absorbing study, with every thing from the scholarly to the sensational, well illustrated, well documented.

> JOSEPH WATTERSON, Editor A.1.A.Journal

more than esthetics

Dear Editor: Just a note of appreciation for your "Seagram House Re-Reassessed" article in JUNE 1959 P/A, and its two-fold accomplishment of a capable consideration of an estimable building from a basic perspective, as well as a brave assault on the current quality of architectural criticism.

(Continued on page 66)



Like many architects, you probably prefer to work with time-tested brick. You appreciate its natural esthetic graciousness . . . rich textures and versatility.

So for your file on curtain walls —here is a handy summary of the 10 Indisputable Benefits of Brick.



SOUND INSULATION

Noise reduction is proportional to the logarithm of the unit weight of the wall.



INITIAL COST Average clay masonry \$2.30 psf. Metal skin \$6 psf.



COLOR AND TEXTURE Modern clay masonry is available in unlimited colors, textures, glazes and forms.



FLEXIBILITY

Flexible, adaptive structural clay units encourage individuality. Creativity finds expression in naturally colorful materials with unlimited textures or ceramic glazes.



MAINTENANCE

Brick stands up. "You don't have to hire maintenance crews the day you occupy."



WEATHER RESISTANCE

Properly built clay masonry offers a complete barrier to water, air, snow and dust penetration.



INSURANCE

In practically all areas brick masonry enjoys lower insurance rates, as well as building code advantages.



HEATING AND AIR CONDITIONING

The capacity insulation feature of clay masonry gives lower air conditioning costs than other walls having the same "U" value.



DIMENSIONAL STABILITY

Clay masonry is the most dimensionally stable exterior wall material. Won't warp, shrink or bend.



PREFABRICATION Clay masonry is available in prefabricated units. (Continued from page 62)

Certainly Seagram House is a visual delight, in a restrained sort of way, and particularly at night. But as for the other Vitruvius-Wotton conditions, commodity and firmness, or a fourth factor of landuse as proposed elsewhere in the same issue by Irving D. Shapiro, much should be said that cannot be disguised by esthetic rhetoric.

The complexity of a modern building

not only needs but demands an understanding on the part of both the architect and his critic, of the engineering backbone, the commercial investment, and the social function which all must necessarily be integrated to form successful modern architecture. Traditional standards are not enough for either man, for the world has never seen building like this. If architecture is to stay among



In fiberglass, in color...and a design as fresh as the latest architectural trends! HAWS Model 10Y brings welcome beauty and color appeal to school and institutional environments. It's vacuum molded in tough, lightweight, acid resisting fiberglass -with smooth lines and 100% concealed trim. HAWS vandal proof, shielded bubblers are anti-squirt, with HAWS Flow Controls. Choose from five decorator colors and white at no extra cost! Write for the complete specs on Model 10Y (and also Model 10X, the same fine design in enameled iron).

See HAWS Catalog in Sweets Architectural File for data on the entire Haws line.



the fine arts and not stray into the engineering and commercial jungle, both its practitioners and its judges must know more of their art than its esthetics.

> H. MATHER LIPPINCOTT, JR. Cope & Lippincott Philadelphia, Pa.

honor to greatness

Dear Editor: When I read Sibyl Moholy-Nagy's article on Frank Lloyd Wright (MAY 1959 P/A), I was so impressed that I wrote to her personally to thank her for owning that great gift for words by which she so beautifully "painted" the soul of a great man.

I did not thank her because she liked or disliked the work of Wright, nor because she agreed or disagreed with his philosophy, nor because *I* accepted or did not accept all or part of what she said. My appreciation went out in her regard simply because she "understood."

She cared enough to utilize to its fullest her own gift of genius in order to make the world recognize the greatness of another.

Please let her have the credit she deserves. Please let Mr. Wright rest in the glories he deserved, if only because he represented to the rest of mankind a human being who put forth a most noble effort. . . And *please*, fellowreaders, give honor to greatness, which is so recognizable, before you argue over taste, which is in the hands of no man to judge.

> JOAN STRAUSS Bridgeport, Conn.

data-not standards

Dear Editor: On page 15 in APRIL 1959 P/A, under the general heading, "Sources of Specifications Are Many," you state: "Other very pertinent sources of architectural information are the publications and standards promulgated by manufacturing, contractor, and technical associations as follows . . ." and then you list the National Paint, Varnish & Lacquer Association among several others.

We are most anxious to assist architects in every way possible and have prepared a number of booklets, scientific circulars, and brochures that are available to them without cost.

However, we do not promulgate standards and never have. I know you will

New Milcor EDW Wall Panels

... Bonderized, with Baked-Enamel Prime Coat, offer a versatile and economical approach to color

Your imagination sets the only limit to the colors you can use when you specify new Milcor EDW Insulated Wall Panels . . . and you can be assured of the best possible field painting results because Milcor's Bonderized, baked-enamel prime coat is the finest available anywhere.*

These panels are too new to be in Sweets, so write for catalog No. 243-A. * Also furnished in galvanized steel and embossed aluminum.

Deep shadow vertical flutes on 12" centers help you achieve an interesting design effect. (Note insulation and liner namet)



INLAND STEEL PRODUCTS COMPANY Member of the Steel Family DEPT. 1, 4069 WEST BURNHAM STREET, MILWAUKEE 1, WISCONSIN ATLANTA, BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DALLAS, DETROIT, HAYWARD, (CAL.), KANSAS CITY, LOS ANGELES, MILWAUKEE, NEW ORLEANS, NEW YORK, ST. LOUIS, ST. FAUL, SAN FRANCISCO.



"CERAMIC TILE ... A BEAUTIFUL EXTERIOR MATERIAL"

VICTOR GRUEN ASSOCIATES

lel (n

Victor Gruen's plan for the Westchester Terminal Plaza in New Rochelle, New York, is a milestone in the efficient planning of urban space. This project, which is estimated to cost \$41,000,000, combines a number of uses on a comparatively small site. It will contain a 750,000 sq. ft. regional shopping center, a railroad station, an office building, a hotel, a bowling alley and other related facilities.

Ceramic tile will cover much of the building's exterior. Serving as a functional and beautiful facade, tile will combine gracefully with the other modern building materials: the cylindrical glass-enclosed elevator shafts on the side of the tower and the gold anodized aluminum sun grille protecting the 24-story office tower. Any modern structure gains in appearance, prestige and decreased maintenance costs when ceramic tile surfaces are used . . . inside or out. Rugged, fireproof ceramic tile comes in over 200 different colors and a wide range of sizes—giving the architect the greatest design freedom possible.

The Modern Style

CERAMIC TILE



Design for Westchester Terminal Plaza by Victor Gruen Associates

The multiple benefits of ceramic tile will pay off handsomely for yourself and your client on any residential, institutional or commercial project you undertake. See your local tile contractor for up-to-date information—including all the details on the new lower-cost installation methods and the new dry-curing, thin-setting bed mortars.

PARTICIPATING COMPANIES

American Encaustic Tiling Co., Inc. Atlantic Tile Mfg. Co. Cambridge Tile Mfg. Co. Carlyle Tile Co. General Tile Co. Gladding, McBean & Co. Jackson Tile Mfg. Co. Jordan Tile Mfg. Co. Lone Star Ceramics Co. Monarch Tile Mfg. Inc. Mosaic Tile Co. Murray Tile Co., Inc. National Tile & Mfg. Co. Olean Tile Co. Oxford Tile Co. Pacific Tile and Porcelain Co. Pomona Tile Mfg. Co. Ridgeway Tile Co. Robertson Mfg. Co. Sparta Ceramic Co. Stylon Corp. Stylon Southern Corp. Summitville Tiles, Inc. Texeramics, Inc. United States Ceramic Tile Co. Wenczel Tile Co. Winburn Tile Mfg. Co.

TILE COUNCIL OF AMERICA, INC.

800 Second Avenue, New York 17, N. Y.; Room 933, 727 West Seventh St., Los Angeles 14, Calif.; Room 207, 5738 North Central Expressway, Dallas, Texas



p/a views

(Continued from page 66)

welcome this information because a number of your readers have been writing to us for such standards and we have been forced to notify them that they are not available.

RAY HILL National Paint, Varnish & Lacquer Association, Inc. Washington, D. C.

space to experience

Dear Editor: . . . a passing comment in defense of the human scale for your views section.

I have reserved comment on your APRIL 1959 p.s., "The Sawdust Trail" as it refers to the Fortune series, "The Exploding Metropolis." Anticipating positive action of one sort or another. I anxiously awaited your "Emerging Urban Pattern." Basically, JULY 1959 P/A is a sincere and positive stand for, not only the recognition of the biological health of the city but also the recognition of its emotional well-being as well. My quibble is a small one, pertaining to the April P.S. and the July issue, "The Emerging Urban Pattern." As the July feature article does not really challenge the publication in question, The Exploding Metropolis, I feel a certain responsibility for clarifying some misinterpretations fostered by the p.s.

As to the editorial:

I do not feel that The Exploding Metropolis is completely negative as your contextual criticism implies. Far from it, this has been the first major publication to show urbane assets, now unseen and undeveloped, and a positive way by which these assets may be defined to provide a beginning design structure, or a firm base, upon which future growth may be related-consequently, to start at the level of individual appreciation with funds available today with a spot redevelopment design plan, related to the two dimensional master plan. This is the level of action which Jane Jacobs calls "the human scale." This is the process of ordering or unifying the city into a whole by proper economic design, by proper political design, by proper social design and the organic physical expression of these popular characteristics. By organic physical expression it is meant (Con'inued on page 272)

PLANNING NEW SCHOOL SEATING?

Write Today for Full Color Catalog and Specifications on





Series 1300 Jr. Executive Desk with Series 800 Chair

THE LATEST AND FINEST THING OUT!



Series 700 Tablet Arm Chair



You are paying for Trade-Wind quality . . . why not get it!



THE BUDGET-PRICED

PATRICIAN for 1960

The low price tag on this new Patrician Ventilating Hood may surprise you. Yet in spite of its budget price this is a Trade-Wind quality-product.

STUDY THESE QUALITY FEATURES:

This is "Packaged" ventilation. Comes to you com-

plete with pre-wired hood, fan, lifetime lubricated motor, filter & grille for quick installation.



Quiet, high pressure Trade-Wind axial flow fan forces out the air against the toughest static resistance.

Push-button control - 2 ventilator speeds and on/off light switch.

Fully enclosed under-hood light with removable Alba-lite window.

Two lifetime finishes - beautiful coppertone or stunning satin chrome.

5 standard lengths - 30", 36", 39", 42" & 48".

The PATRICIAN

as surprising in price as it is in quality.

Trade Wind DIVISION OF ROBBINS & MYERS, INC. 7755 Paramount Place, Dept. PA. Pico Rivera, California



A NEW CONCEPT IN LOUVRED CEILINGS

Now available - Aluminum Louvres with 1/2" x 1/2" x 1/2" cells. Neo-Ray MINI-CELL louvres now make possible overall luminous ceilings in 2' x 4' or 3' x 3' modular grid systems (or to specification) with the following advantages.

• New CEL-LOK PROCESS for locking louvre blades at each intersection . . . guaranteed prefabri-cated alignment, dimensional stability.

Sample Kit

- Visual comfort...high efficiency with Neo-Ray MINI-CELL louvres in Baked White Enamel ... or Ripple-Tex for very low brightness.
- Easy-to-install inverted Tee-bar grid systems
 ...louvres simply lay into position.
- Ideal for ceilings, skylites, air diffusers ... many, many applications.
- . Special sizes to 48" x 48" and larger.
- · Available Neo-Matte Alumilite or other finishes on request

Send for following literature: ... New Product Bulletin N-58 (Mini-Cell)

... Sweet's Architectural File for 1959 ... Louvred Ceiling Catalog No. 544

PRODUCTS, INC. NEO-RAY 319 East 22nd St. . New York 10, N. Y.

THE ARCHITECTURAL BOOKS SOCIETY

A Book Club for Busy Architects Invites You to Become

A CHARTER MEMBER

EACH MONTH our members are offered important architectural books at special low membership prices. Their membership in THE ARCHITECTURAL BOOKS SOCIETY saves them time and money in building their valuable reference libraries. You can enjoy the same advantages and privileges of membership. Fill out the enrollment form below. We will send you immediately your free premium book THE ARCHITECT AT MID-CEN-TURY: EVOLUTION AND ACHIEVEMENT (\$8.75). We will also send you our illustrated monthly bulletin listing the many books available to you as a member. You can choose your initial selection from the bulletin. Start your Charter Membership immediately. Send us the enrollment form below.

THE ARCHITECTURAL BOOKS SOCIETY

1314 Northern Boulevard . Roslyn, L. I., N. Y.

Please enroll me as a Charter Member and send me my Free Book by return mail. Send me your illustrated monthly bulletin so that I may select my first selection(s). I agree to purchase only four books a year and I may resign anytime thereafter.

NAME	_
ADDRESS	

CITY

ZONE STATE



Fashion Institute of Technology, New York, N. Y. • Architects: DeYoung, Moskowitz & Rosenberg • Contractor: Depot Construction Co.

HIGH FASHION goes to school

New York's new Fashion Institute of Technology is a striking example of how an architect can create beautiful design with today's modern maintenance-saving materials. Setting gold framed, double-hung aluminum windows into a background of rich brown colored aluminum panels, the architects, DeYoung, Moskowitz & Rosenberg, have created a truly outstanding building. Curtain walls, windows and architectural metalwork were fabricated by General Bronze. See our catalogs in Sweet's.





SALES OFFICE: 100 PARK AVE., NEW YORK 17, N.Y.

PERMATITE DIVISION - Custom-built Windows, Curtain Walls, Architectural Metal Work and Revolving Doors. ALWINTITE DIVISION - Stock-size Aluminum Windows and Doors. BRACH MFG. CO. DIVISION-Radio, Television and Electronic Equipment. STEEL WELDMENTS, INC. DIVISION-Custom fabrication in Steel and Iron.





CONRAD HIGH SCHOOL West Hartford, Conn.

ARCHITECTS: Nichols and Butterfield West Hartford, Conn.

CONTRACTOR: Wadhams and May Company Hartford, Conn.



Pecora SYNTHACALK, synthetic polysulfide calking and glazing compound, was specified to provide a lasting seal for curtain wall components of the handsome new Conrad High School, West Hartford, Connecticut.

SYNTHACALK was chosen for its ability to create such a seal and retain it—in the face of greater stresses encountered in the larger glass lights and panels of curtain wall design.

Pecora SYNTHACALK has exceptional adhesion and elasticity plus a unique cold flow property which enables it to adjust to the greater stresses of curtain wall. SYNTHACALK retains its durable, lasting seal through temperatures from -65° to 225°F.-with excellent resistance to rain, wind and sun . . . also most solvents and oils.

Insist on Pecora SYNTHACALK for your curtain wall construction-for permanent sealing.



Quality Products Since 1862



300-400 W. SEDGLEY AVE., PHILA. 40, PA. OAKLAND AVENUE, GARLAND, TEXAS







Every phase of the roof deck construction is illustrated in this view: Joists, box section sub-purlins, 2" Tectum plank, built-up roof, gravel coating.



Workmen are shown carrying several 34' long lightweight box sections in the initial phase of the job. The sub-purlins are aligned in position with precision jigs and then fillet welded at each joist crossing.



Welding at each joist crossing provides lateral strength and continuous beam action. Note weld is hidden from view below, by joist.



High speed clips are driven over tongue of plank, Tectum planks span three sub-purlins giving added lateral strength. This operation is quickly accomplished; saves time.

Saved 50% on Sub-Purlins and Erection, 80% on Painting Costs with the

NEW TECTUM® BOX SECTION ROOF DECK ASSEMBLY

Combining pre-painted bar joists, Tectum galvanized box section subpurlins and factory-finished Tectum roof deck planks, eliminated 80% of normal painting costs for the interior of the new Scott Chemical Warehouse, Marysville, Ohio.

Other major savings were indicated by James Campbell, President, James Campbell Associates, Inc., Engineers and Builders. "We are extremely pleased with the speed with which the new Tectum roof deck assembly was completed. Tectum's new box section sub-purlins are light, easily handled and the space provided between joist and roof deck offers many economies in the hanging of pipe, conduit and other utilities. The new system is a time-saver from every standpoint and



The finished deck is clean, light reflective and maintenance free. Tectum insulates, absorbs sound, is structural and noncombustible in accordance with Federal Spec. SS-A-118b.

the appearance is excellent."

Tectum roof decks insulate, absorb sound, have good structural strength and are noncombustible. In combination with the new Tectum box section sub-purlins, Tectum roof deck assemblies offer many ways to cut costs.

Ask your Tectum representative for complete information. New Catalog now available. Tectum Corporation, Newark, O.





Building: Scott Chemical Company, Marysville, Ohio. Engineers & Builders: James Campbell Associates, Inc., Marysville, Ohio. Tectum Erector: Bard Roofing & Sheet Metal Co., Columbus, Ohio.



In this close-up, the facility with which the sprinkler system was erected indicates a typical time saving advantage of the new Tectum roof deck assembly. An estimated \$3000 was saved on the erection of the sprinkler system.

THIS TRADE-MARK



h.

a.

ASSURES YOU THE WIRING DEVICE IS **SPECIFICATION GRADE!** ...LOOK FOR IT!

Of equal importance to the selection of specification grade material is the follow-through that assures your client the quality you specified was installed. Arrow-Hart simplifies this problem by marking all wiring devices in its Specification Grade Line with the well-known H&H. Only Arrow-Hart's highest quality wiring devices carry this trade-mark-a trade-mark you can count on . . . a trade-mark you should look for.

c.

Write for the H&H Specification Index Chartdesigned to simplify your specification problems to: The Arrow-Hart & Hegeman Electric Company, Dept. PA, 103 Hawthorn St., Hartford 6, Connecticut.

ARROW-HART OF HARTFORD WIRING DEVICES . MOTOR CONTROLS . ENCLOSED SWITCHES APPLIANCE SWITCHES

- a. QUIETTE TAP ACTION SWITCH 2891-I
- 15 amp., 120-277 V. CORBIN ROTARY LOCK 1281 b. Flush Type with plate 10 amp., 125 V.; 5 amp., 250 V.
- DUPLEX WEATHERPROOF с. GROUNDING TYPE RECEPTACLE 5262-WP
- 15 amp., 125 V. GROUNDING TYPE RECEPTACLE 7621 20 amp., 277 V. d.

WHEN YOU THINK OF WIRING DEVICES, THINK OF ARROW-HART

d.

I glass is a chief visual element in your design, then the beauty of that glass should be a major concern in your specification.



Beauty of glass is largely a matter of the reflections seen in it. Wiggly reflections—which mar beauty—are minimized with *plate* glass. *Twin-ground* plate glass gives you the truest reflections. And you always get twin-ground plate glass when you specify $L \cdot O \cdot F \frac{1}{4}''$ Parallel-O-Plate[®] or Parallel-O-Grey[®].

The Chase Manhattan Bank head office building, New York. Windows: L·O·F Parallel-O-Plate Glass. Architects: Skidmore, Owings and Merrill, New York. General Contractor: Turner Construction Co., New York.



PARALLEL.O.PLATE GLASS

LIBBEY. OWENS. FORD GLASS CO. a Great Name in <u>Glass</u> TOLEDO 3, OHIO New TIME & LIFE BUILDING Accents Comfort and Economy with

JOHNSON PNEUMATIC Control



The new Time & Life Building in New York's Rockefeller Center will contain over 1½ million square feet of comfortably air-conditioned office space. To provide an ideal working climate throughout this 48-story structure, a specially planned Johnson Pneumatic Temperature Control System will direct the operation of the 60 central fan air conditioning and ventilating systems and the 16 secondary water systems serving the perimeter induction units.

On the 20 floors occupied by Time Inc., publishing deadlines require many departments to work at night and on weekends, while others will have a conventional workweek. To meet this unusual schedule with large savings in operating costs, special control provisions will allow air conditioning to be on or off at any time on a selective basis in each of four zones per floor. These floors, of course, also are equipped with a high degree of *individual room* control.

In planning and installing control systems for buildings such as this, the specialized Johnson organization offers experience that is unmatched in the industry. When you build or air condition, take advantage of the comfort, efficiency, and economy of a pneumatic control system by Johnson.

Johnson Service Company, Milwaukee 1, Wisconsin. Direct Branch Offices in Principal Cities.

JUHNSON CONTROL

DESIGN . MANUFACTURE . INSTALLATION . SINCE 1885

Time & Life Building, New York. Harrison & Abramovitz & Harris, architects; Syska & Hennessy, Inc., mechanical engineers; George A. Fuller Co. and John Lowry, Inc., general contractors; Almirall-Wolff & Munier, mechanical contractors; all of New York.

1013



Wayne Memorial high school auditorium, Wayne, Mich. Eberle M. Smith Associates, Inc., architects.



Safety first where safety counts

VERSATILE CONCRETE MASONRY FOR SCHOOLS provides the priceless protection of complete firesafety at the lowest in-the-wall cost in the building industry. To the peace of mind of protection is added the versatile beauty of block, the built-in acoustical and insulation properties. This handsome auditorium is crafted from a labyrinth of single core units forming an impressive lace-like backdrop to the massive concrete folded plate dome. See your nearest NCMA block producer. Let him show you how block delivers more school for your client's dollar.

NATIONAL CONCRETE MASONRY ASSOCIATION - 1015 WISCONSIN AVENUE, N. W. - WASHINGTON 7, D. C.



Architect: A. G. ODELL, JR., & ASSOCIATES, Charlotte, N. C. Sheet Metal Contractor: INGOLD COMPANY, INC.,

Hickory, N. C.

Revere Distributor: LYON-CONKLIN & CO., INC., Baltimore, Md.

General Contractor: HERMAN-SIPE & COMPANY., INC., Conover, N. C.



THE ROOF of the Concordia Lutheran Church takes the form of two hyperbolic paraboloids, with battens arranged to form the surface pattern.

- SHEETS IN 30" x 48" size were used as they were more readily adaptable to the roof contours.
- ROOF UNDER CONSTRUCTION showing how battens were designed and formed.
- 3 31,500 lbs. of Revere 16 and 20 oz. soft sheet copper were used for the roof.
- 4 SUCH A ROOF as this would have been economically impractical without the extreme design flexibility of copper.

A. G. ODELL, JR., dared to be different in designing the Concordia Lutheran Church, Conover, N. C., with astonishing results While the church you see pictured on these pages is the only one of its kind in the world, it is not a freak. The dominant architectural feature of the unique church is the sanctuary roof, of laminated wood beams and tongue and groove decking. Each pair of beams extends from the ground to an apex which forms the ridge line of the roof. The beams are the same length and at the ground level are further apart at the entrance to the church than at the altar, making the altar a focal point.

The roof cover could probably have been treated in any one of a dozen

offers the Architect unlimited design possibilities



ways, but the architect with his specific design in mind, chose to use copper because he knew copper would best express that design. In addition, he knew the physical characteristics would enable him to form it into any pattern of his choosing. As to the enduring qualities of copper . . . they have been proved for centuries.

During the development of the design the architect took advantage of the experience of Revere's Technical Advisory Service and Research Department and consulted with them frequently. During the installation, too, Mr. Odell, Jr. tells us that these Revere services were most helpful.

Although other metals and alloys have come to the fore during the past few years, the photos on these pages are still another example of what can be done with man's oldest metal . . . copper.

In the hands of imaginative architects, such as A. G. Odell, Jr., copper can be made to produce astounding results... practical results.

Why don't you dare to be different . . . imagine with copper? Revere's Technical Advisory Service with its vast, diversified experience, will be glad to help you with that imagining.



REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801 Executive Offices: 230 Park Avenue, New York 17, N. Y.

Mills: Rome, N.Y.; Baltimore, Md.; Chicago, Clinton and Joliet, Ill.; Detroit, Mich.; Los Angeles, Riverside and Santa Ana, Calif.; New Bedford, Mass.; Brooklyn, N.Y.; Newport, Ark.; Ft. Calboun, Neb. Sales Offices in Principal Cities, Distributors Everywhere.

ANOTHER PRESTRESSED CONCRETE STRUCTURE





Normandy Elementary School, Jacksonville, Florida. Architects: George Ryad Fisher, A.I.A. and Harry E. Burns, Jr., A.I.A. Contractors for 4 schools: 1) McMaines Construction Co., Jacksonville. 2) East Coast Construction Co., Jacksonville. 3) Bay Construction Co., Norfolk, Va. 4) Wm. S. Smith Construction Co., Jacksonville, Prestressed Concrete Fabricator: Capitol Concrete Co., Prestress Div., Jacksonville.

The greatest single requirement for the Duval County elementary school was economy of construction. In close order came fireproofness and ease and economy of maintenance.

The structure is approximately 35,360 sq ft in area and contains some 39,000 sq ft of prestressed Double T roof slabs. Over-all, the school represents about 300,000 cu ft at the contract price of \$297,000; the cost per sq ft being \$8.40. That's the cost benefit... there are others.

At the Sarasota regional conference of the American Institute of Architects in 1958, only one school was recognized for an award among various types of buildings from four states. This was the school.

Further, the \$8.40 cost per sq ft, together with the fireproof and maintenance-free character of the building, so pleased the School Board that it has seen fit to build it, with slight modifications, on three additional sites.

You see how the success of prestressed concrete repeats itself? This local acceptance of prestressed concrete is being

New Prestressed Concrete Florida Elementary School Wins Design Award

Low completed cost prompts School Board to build 3 additional schools of same design

duplicated throughout the nation. Not only in schools, but in office buildings, garages, warehouses, motels, bridges, piers, factories and transportation terminals.

Because Roebling pioneered in the development of prestressing elements and techniques in the United States, we have much to tell you and a wealth of information and data to share with you. Your inquiry can be as general as "... all about prestressed concrete," or as specific as "... tensioning elements and casting bed data." In any case, we will be glad to furnish you with whatever you wish. Just address *any* inquiry to Construction Materials Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

> Consult Roebling ... First in the U.S. with prestressing and tensioning elements




Meet fire regulations immediately with Aetnapak[®]



always-in-stock, custom-quality hollow metal

Take advantage of 48-hour stock shipments of Aetnapak* Underwriters Label and non-label steel doors and frames for both new construction and alterations. U-L labeled doors, including three-hour (A) label Fyr-Chek Doors with singlepoint locks, can be ordered directly from Aetnapak catalog. Write for your copy. AETNA STEEL PRODUCTS CORPORATION, 730 FIFTH AVENUE, NEW YORK 19, N. Y.

Other Aetna products: Aetnawall Metal Office Partitioning; Aetna Custom Hollow Metal Doors and Frames. "Order Aetnapak with or without hardware – doors and frames, doors separately, frames separately,



AETNA STEEL PRODUCTS CORPORATION 730 Fifth Avenue, New York 19, N.Y. Please send free catalog of AETNAPAK customquality, in-stock steel doors, frames and hardware.

Name and Title.

Company Name

Address...

C

Stat



Archibald Holmes & Son

In Vinyl Wall Coverings, Too ... ILUTION CUTS ALITY S WELL AS PRICE

107 LEMONADE 24

Abrasive Test Proves New Virgin Vinyl Medium-Gauge PERMON® for "Heavy Duty" Outperforms Thicker Diluted Vinyl Coverings!

For wall protection, thickness alone is no criterion! Only pure virgin vinyl provides long-lasting damage resistance. Additives and extenders soften vinyl - cause it to succumb quickly to wear. New Medium-Gauge PERMON is made of virgin vinyl film plastifused to a closely woven cotton base. Specifically designed for floor-to-ceiling decoration, it provides heavy duty protection. Like FABRON® and PERMON® it provides maximum abrasion resistance* - unexcelled in the industry! At a price competitive or better! Decorator designed for the ultimate in beauty, new Medium-Gauge PERMON offers a wide selection of handsome colors, textures and prints. Its advantages are identical to those of FABRON and PERMON . . . maximum color fastness, dimensional stability, highest fire safety performance, non-toxicity, glass-like washability and ease of hanging. For long term beauty, there is no better buy!

A VINYL WALL COVERING FOR EVERY PURPOSE

Use new Medium-Gauge virgin vinyl PERMON for heavy duty floor-to-ceiling protection . . . 3-ply virgin vinyl FABRON (a Toscony process) for surfaces which are traditionally painted . . . Heavy-Gauge virgin vinyl PERMON for extra heavy duty protection as a wainscot. Calendered vinyl films guarantee maximum abrasion resistance.

*PROVEN BEST Taber Abrasion Test loss faber Abrasion lest loss for all 3 products does not exceed 14 mg per 1000 cycles (CS-17 wheels and 1000 gm weights on each wheel). Laboratory facts available

tests available.

FREDERIC BLANK & COMPANY, INC. • 295 Fifth Ave., New York 16, N.Y. • Established 1913



GLOBE SPRINKLER SYSTEMS

The Saveall Automatic Sprinkler, with a solid chemical fusible element, is available in upright or pendent types at various temperature ratings. Globe also makes chemical and standard metal fusible units, automatic sprinkler system maintenance devices, window and cornice sprinklers, spray nozzles, and dry pendent type sprinklers. Globe assumes full responsibility for proper design, materials, installation and performance of every system.



DRY CHEMICAL and CARBON DIOXIDE SYSTEMS

Stationary dry chemical hose line systems, featuring exclusive remote control, are offered in three models of 150, 300 or 500 lbs. capacity. C-O-TWO manual and automatic high and low pressure carbon dioxide systems range from 35 lbs. to 50 tons, either direct or total flooding applications. For portable use, hose reel and hose rack systems of both carbon dioxide and dry chemical types are available in a range of sizes.



LIQUID AGENT FIRE EXTINGUISHERS

Fyr-Fyter, Pyrene-C-O-Two and Buffalo liquid-agent extinguishers are designed primarily for buildings where ordinary combustibles constitute the chief hazard. Available are clear water, anti-freeze, soda acid, loaded stream, foam and vaporizing liquid models, in sizes from $2\frac{1}{2}$ to 40 gal. Fyr-Fyter brand is sold through fire equipment specialty firms; Pyrene-C-O-Two and Buffalo through leading industrial distributors.

DRY CHEMICAL and CARBON DIOXIDE EXTINGUISHERS

Where building hazards include flammable liquids and/or live electrical equipment, you can specify complete protection from this range of dry chemical extinguishers, $2\frac{1}{2}$ lb. to 150 lb., or carbon dioxide extinguishers, $2\frac{1}{2}$ lb. to 100 lb. Extinguishers of all three famous brands—Fyr-Fyter, Pyrene-C-O-Two and Buffalo—are approved by Underwriters' Laboratories and Factory Mutual and carry new, high U.L. ratings.







HOSE and EXTINGUISHER CABINETS

Designs include both two-piece cabinets and conventional one-piece welded units. Two-piece cabinets have box which can be quickly anchored, inside equipment fitted, and then separate door-and-trim assembly secured quickly without damage to glass or finish. This makes factory-applied color finishes practical, if desired. Angle valve, hose rack, fire hose and proper extinguisher can be completely specified from Fyr-Fyter!



FIRE HOSE

An extensive line of cotton jacket or all-Dacron, rubber-lined industrial hose is available in many different tested-and-approved quality brands. Light, flexible and easy to fold, these brands are especially adaptable where hose is stored in cabinets. Fyr-Fyter also offers nozzles, couplings, connections, etc., as well as hose racks and reels—complete equipment for the interior of every building requiring hose line protection.

The most complete line of fire protection products and services ever offered can now be specified from a single source — Fyr-Fyter. Trained and experienced representatives of any of Fyr-Fyter's famous brands will help you plan, specify and coordinate effective protection for all of these types of buildings: commercial, institutional, educational, religious, industrial, public or residential.

Underwriters' and Factory Mutual approved, this equipment enhances any structure with its modern, attractive, confidenceinspiring appearance. Mass production permits competitive pricing. Yet highest quality and dependability are assured by rigid inspection, reinforced by Fyr-Fyter's reputation as the industry's largest supplier. All sales are backed by a nationwide service organization to keep equipment in top condition.

For help that starts at your drawing board and continues through installation supervision and final approval, contact:

THE FYR-FYTER COMPANY

ATLANTIC COAST REGIONAL OFFICE P.O. Box 750, Newark 1, New Jersey

- CENTRAL STATES REGIONAL OFFICE
- 221 Crane St., Dayton 2, Ohio PACIFIC COAST REGIONAL OFFICE

132-140 Hawthorne St., San Francisco 7, California

REPRESENTATIVES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

BRANCHES: Atlanta, Baltimore, Boston, Chicago, Dallas, Dayton, Detroit, Los Angeles, New York, Newark, Philadelphia, Pittsburgh, Portland, Rochester, San Francisco, Seattle, Hamilton (Ontario)

SAFA ALARM SYSTEMS

SAFA Alarm Systems can either be directly connected to a central station control panel, or remotely operated by an independent supervisory power supply. SAFA allows industrial firms or institutions to tie into already established municipal fire alarm systems. A variety of control panels and other essential elements are available, including fire alarm boxes with simple one-hand, onemotion operation of box cover and lever.

famous brands of Fyr-Fyter... see 28 page insert in Sweet's Architectural File or write for free copy today!



Your goal and ours

Your goal as an architect is to design new and

exciting buildings... aesthetically pleasing, structurally sound.



Our goal is to pro-NEW YORK: Passenger Terminal for United Airlines. General Contractors: Humphreys & Harding, Inc. Architect: Skidmore, Owings & Merrill. Aluminum Materials: Kaiser Aluminum and Chemical Sales, Inc.

duce metal Curtain Walls that allow you this aesthetic freedom. North American Architectural Metals are custom-designed but economically produced ... equally adaptable to simple one-story structures and lofty skyscrapers.

The architects who are now using North



COLUMBUS, OHIO: Grant Hospital. General Contractors: Knowlton Construction Company, Bellefontaine, Ohio. Architect: Louis F. Karlsberger with McClellan and Gallogly, Associate Architects, Columbus. Aluminum Materials: Aluminum Company of America.

American Architectural Metals are creating modern structures of lasting beauty.

Architectural Metals

THE COLUMBUS DIVISION OF NORTH AMERICAN AVIATION, INC. Columbus, Ohio



The board room of the Philadelphia National Bank, paneled in Weldwood Algoma-made Architectural Grade Flitch Matched Teak. Architects: Harbeson, Hough, Livingston & Larson. Installed by A. Wilt and Sons Company. Furniture by Saybolt and Cleland, Inc.

are procured from all parts of the world.

They come to you in superbly cut and

matched panels, each guaranteed for the

life of the building in which it is installed.

Many are available with Weldwood's ex-

clusive factory-applied fine furniture finish.

paneling at any of 119 Weldwood branch showrooms in the United States and

Canada. There is one near you.

You and your client can see Weldwood

This board room, paneled in Weldwood teak, provides a dignified setting for business

Magnificently figured as only real wood can be, this flitch matched teak is but one of more than 70 types of Weldwood paneling you can select to add distinctive warmth and prestige to offices, large or small. Actually an economy for your clients, Weldwood paneling requires little maintenance and it eliminates the need for periodic redecorating.

Weldwood's rich and distinctive woods

WELDWOOD® WOOD PANELING

--FREE-NEW IDEA BOOKLET FOR BUSINESS INTERIORS--

United States Plywood Corporation Dept. PA9-59, 55 West 44th Street New York 36, N. Y.

Please send me, at no obligation, a free copy of "Functional Beauty for Business and Institutional Interiors," which has 28 pages of idea photographs showing Weldwood paneling in offices, stores, and institutions.

Name		••••••	•••••
Firm	•••••		
Address	• • • • • • • • •		
City		Zone	.State

Product of UNITED STATES PLYWOOD CORPORATION In Canada: Weldwood Plywood, Ltd.



VISION PANELS in Weldwood Fire Doors come in five sizes (up to 30" x 36") for Class "C" openings, and in two sizes (up to 100 sq. inches) for Class "B" openings. Wall is covered with Kalistron®; magnet-holding Weldwood Chalkboard and Weldwood Tackboard are installed with Weldwood Aluminum Chalkboard Trim.

The principle behind the Weldwood Fire Door – beautiful real wood faces over an incombustible mineral core

It need not be "either/or." You can provide both the beauty of wood *and* Underwriters' Laboratories rated fire protection when you specify Weldwood Fire Doors such as the handsome walnut-faced door shown here. Available with or without vision panels in a wide range of superbly beautiful wood faces, the Weldwood Fire Door cuts maintenance costs, eliminates periodic refinishing. Listed by Underwriters' Laboratories, Inc., for Class "C," Weldwood Fire Doors give full protection against flame. Weldwood Fire Doors with Class "B" ratings also protect against dangerous heat transmission—maximum 250°F at the end of 30 minutes by test. Reason: the incombustible all-mineral Weldrok[®] core. Guaranteed against warping or manufacturing defects for the life of the installation, any defective door will be replaced without charge, including all labor costs of hanging and refinishing.

Write for free new catalog, "Weldwood Architectural Doors—#1882."

ALGOMA-MADE WELDWOOD® DOORS UNITED STATES PLYWOOD CORPORATION Dept. PA9-59, 55 W. 44th St., New York 36, N.Y.

PROGRESSIVE ARCHITECTURE **news report**



- Powerful Construction Details Mark Milan Skyscraper (above)
- Baltimore Civic Center to Have Unique Roof System
- Curtain-Wall Spandrel Design Simplifies Construction

WASHINGTON

NEW PRODUCTS

MANUFACTURERS' DATA



for the new SARASOTA SHOWPIECE



With four brand new schools opened this term, Sarasota is sure it can top any community in the U.S. in school architecture, a national magazine said recently.

One of the finest of the four is Riverview Junior-Senior High School, a 24-classroom, \$1,204,945, twostory building by Yale's Architecture Department Chairman Paul Rudolph. The school is built around a central courtyard, has exposed steel and white brick, copious canopies for sunshade — and a gymnasium floor that pleases both players and coaches as well as the architect.

Its patented design features extra thick maple

flooring, Powernailed to Dri-Vac treated, short-length fir sleepers floating on resilient pads. The floor system is not attached to slab, walls or other structural members to permit expansion and contraction without buckling or cupping. Air-channeled pads cushion the entire floor, preventing shin splints and improving play — and Perma Cushion's selected strips of Northern rock maple assure beauty and smoothness that last for generations.

Get the facts on PermaCushion for your next gym job. For information and name of your nearest authorized installer, write Robbins Flooring Company, Reed City, Michigan, Attn Dept: PA-959.

*Patented and Registered US. and Canada.



p/a news report



POWERFUL CONSTRUCTION DETAILS MARK MILAN SKYSCRAPER But Final Effect Is Diluted

MILAN, ITALY—The latest large-scale commercial building in this city's postwar construction boom, the headquarters of Pirelli Company, has reached completion. A notable array of Italian architectural and engineering "names" designed the building: Architects Gio Ponti and Alberto Rosselli and Engineers Antonio Fornaroli, Guiseppe Valtolina, and Egidio Dell'Orto; with the structural-engineering collaboration of Pier Luigi Nervi and Prof. Arturo Danusso. The result of this combination of talents is a building of interesting structural innovations covered with a skin bringing it perilously close in appearance to the run-of-the-mine curtain-wall buildings of New York's Park Avenue. Structurally, the building comprises four giant, hollow supporting pillars—two at each end—which contain emergency stairs, elevators, and electrical and air-conditioning equipment. Between these are four intermediate bearing pillars. These piers, as can be seen in plan above, diminish in size as they reach the top of the building where there is less weight to bear. Central hall of each floor is widest at center of building, narrowing at ends where traffic is least.

The strong forms created by the use of prestressed concrete in the pillars and ceilings (*be*/ow) evoke a far greater response than the bland façade of the completed building. Here can be detected the "fine l'alian hand" of Nervi.



p/a news report



BALTIMORE CIVIC CENTER TO HAVE UNIQUE ROOF SYSTEM

Auditorium, Exhibit Hall Part of City's Redevelopment

BALTIMORE, MD.— The proposed Baltimore Civic Center, designed by Architect A. G. Odell, Jr. & Associates, Charlotte, N.C., and Engineers Severud, Elstad & Krueger Associates, New York, will stand across the way from the future Charles Center redevelopment in this city. A pedestrian walkway will later link the two centers. The civic center will have provision for a maximum 13,000-capacity auditorium under an inverted, folded-plate roof, and a 100,000-sq-ft exhibition area under a conventional flat roof. Parking space for more than 400 cars will occur below the two-level exhibition space.

According to the engineers, the auditorium roof is a suspended system completely closed in itself, with respect to the horizontal thrust of the cables. Compression beams hold end-points of load-carrying cables apart and rigidly in place, and maintain balance of horizontal cable forces. The beams which create the form of the roof by sloping from the center to the outer edges also transfer, by local bending, the roof-deck load and live load to vertical struts which transfer the entire vertical load to suspension cables. Cable and compression members fan out radially from a common center point to provide a clear span of 270 feet. The roof gains its inverted, folded-slab appearance by lowering of the steel decking between compression beams to valleys that increase in depth toward the outer edge. This suspension system, according to the designers, "offers equally unique and economic framing for extremely long, non-fluttering spans covering any shape area."





p/a news report: bulletins

ARCHITECTURAL BULLETINS



 Jan Rowan, Architect of Phoenix, Ariz., joins PROGRES-SIVE ARCHITECTURE this month as Feature Editor. He received his architectural education at Architectural Association School in London and at McGill University in Canada -where he won the Pilkington Prize in Architecture. Rowan has worked with Le Corbusier in France and with several offices, including that of I. M. Pei, in New York. He comes to P/A from his own successful private practice in Phoenix. He has taught at Pratt Institute, Cooper Union, Brooklyn College, and Rhode Island School of Design. Deeply concerned with developments in contemporary design techniques and structural advances, Jan Rowan is equally interested in office-practice problems, particularly those of smaller firms. His wide background of experience is expected to make him a valuable addition to the P/A staff in serving and informing the architectural profession.

• Pittsburgh's # 4 Gateway Center building (below) will be at apex of that city's Golden Triangle. Twenty-twostory stainless-steel-and-glass building will have exterior, stainless-steel-sheathed, service core containing bank of 12 elevators, air-conditioning equipment, and other heavy-service facilities. Owner-building is Equitable Life Assurance Society. Architects, Harrison & Abramovitz, New York; General Contractor, George A. Fuller Company; fabrication, erection of stainless-steel wall, Limbach Company.



• Twenty-story Hartford Fire Insurance Company Building in Chicago will sit four feet inside its reinforced-concrete structural frame. Exterior columns are to be granite covered. Glass curtain-walled building will have an esplanade overlooking Chicago River, and a wide public plaza to the south. Two lower levels under plaza will add to building's usable space. Architects Skidmore, Owings & Merrill have specified gray-glass walls permanently sealed against dust and dirt. George A. Fuller Company, General Contractor.





• Zenith Radio Corporation salon in Chicago, designed by Architects Shaw, Metz & Dolio, features large sculpture group by Harry Bertoia. Main element of wall sculptures is this great burst of brass, eight feet in diameter. Each unit of group is lighted "to convey an abstract concept of electronics communications." Shown examining sculpture are Architect Alfred Shaw and Sculptor Bertoia.

 Graduate School of Public and International Affairs at University of Pittsburgh has expanded its Municipal-Metropolitan curriculum to include program of study in Urban Renewal and Redevelopment, acccording to Dean Donald C. Stone. Courses start with Fall semester.

p/a news report: bulletins

 Producers' Council will hold its 38th annual meeting and chapter officers' conference in St. Louis, Sept. 30-Oct. 2; last year's topic, "Dynamics of Distribution," will be resumed in reference to sales and marketing programs. . . . New York State Association of Architects meets at Lake Placid, N.Y., Oct. 8-10; New York Regional Council of AIA meets there also on Oct. 7. . . . Following 5th annual convention of Prestressed Concrete Institute in Miami Beach, Nov. 1-7, many members will take a field trip to Havana, Cuba, to view outstanding examples of prestressed concrete construction there. . . . 38th annual Oil Heat Institute of America convention will take place in New York concurrently with 23rd National Oil Heat & Air Conditioning Exposition at New York Coliseum, April 4-7, 1960. . . . 12th Triennial in Milan, Italy, will emphasize home and school in their relationships with architecture, town planning, interior decoration, and industrial design. International exhibition will last from July 16 to Nov. 4, 1960.



• Now everyone can have "sensual" architecture with readymade, prestressed-concrete, hyperbolic paraboloids. These were used in Cortez Shopping Plaza, Bradenton, Fla., by Architects Edward Dean Wyke and Lathrop Douglass. "Hypo" is made by West Coast Shell Corporation of Sarasota in nine stock sizes, from 8'x10' up to 100' square.

 "Floating mall" will be unique feature of Mission Valley Shopping Center in San Diego, Calif., designed by Albert C. Martin & Associates, Los Angeles. Parking basin will be provided beneath specialty-shop mall; two major depart-



ment stores will sit on banks of basin at each end of mall. Customers will reach mall via moving sidewalks. Shops will open onto mall, with perimetrical service corridors screened by decorative grills. Service, sales, and storage areas will thereby be focused on one level, permitting flexibility of partitioning between these elements, and optimum use of floor space. Center "will reflect in contemporary terms the style of the mission from which the valley takes its name" through use of arcades, courtyards, etc. Associated Architects, Frank L. Hope & Associates, San Diego.



• Design for building hung from concrete arch won a Mars Outstanding Design Contest award for New York Architect Seymour Rutkin. Circularly wrapped high-tension steel cables unify structure and also hold circular, concrete, floor slabs in compression. Service cylinder pierces center of building. Contest is sponsored by J. S. Staedtler, Inc.

• New York has announced plans for 1964 World's Fair, to celebrate city's 300th anniversary (actually it is 300th anniversary of name of New York). Fair will be held at Flushing Meadow Park, site of 1939-40 New York World's Fair. Inquiry by P/A on August 14 revealed that no architect has been appointed yet. Los Angeles and Washington, D.C., have also announced world's fair intentions. Authorization for President to invite foreign exhibitors to such fairs would have to come from Congress, and fairs must be approved by International Bureau of Expositions, Paris.



• Octet truss of gold-anodized aluminum tubes measuring 100 feet long is part of exhibition of structures by R. Buckminster Fuller in garden of Museum of Modern Art, New York. Other structures are 55-foot-diameter plastic dome used by Air Force for DEW radar stations, and 45-foot-high discontinuous-compression, continuous-tension mast. Octet truss was cosponsored by museum and Aluminium Ltd. of Canada.

 John Knox Shear Memorial Fund, to award traveling scholarships, has been established by Carnegie Institute of Technology, where Shear formerly headed Department of Architecture.



Immense 402-unit high-rise apartment building in Capitol Park Apartments has been opened in Washington, D.C. Designed by Washington Architects Satterlee & Smith for Roger L. Stevens and James H. Scheuer, unit is first element in high-rise/low-rise redevelopment shown above. Model of entire, 550-acre redevelopment (Webb & Knapp is developing other sections) was shown at American National Exhibition in Moscow to rebut Soviet claims of "slums in shadow of U.S. Capitol."

• Greater accuracy in determining the results of seismic surveys is now possible through the use of powder-actuated fastening tools, according to producers of Ramset Fastening System. Old method of striking sledge hammer against steel plate is replaced by firing fastening tool, without fastener, against steel plate to produce even flow of shock waves. Refraction seismograph then picks up waves, enabling soils engineers to compute depth of different soils and rock formations.

• Park Avenue's latest Rothscraper is this 50-story building, which will be largest commercial structure on the onceresidential street. Announced for completion in 1962, building will have more than 11/2 million sq ft of space. Architects: Emery Roth & Sons; Builders: Cauldwell-Wingate Corp.

p/a news report: bulletins

• AIA and NAHB have announced first in series of annual Awards of Honor to architect-builder teams contributing most in one or more of following categories: Community Planning, Individual House Design, Improvement of Building Techniques, Public Service, Architect-Builder Relationships, and Service to AIA or NAHB. Entries must be submitted by AIA or NAHB chapters or by either national organization. Submissions must be received at AIA headquarters postmarked not later than Oct. 1, 1959. Awards will be made at 1960 conventions of AIA and NAHB. For details contact: American Institute of Architects, 1735 New York Ave., N.W., Washington 6, D.C.

 Hollis Unitarian Church, Hollis, N.Y., will contain Sunday school facilities, auditorium for religious services and other community activities, and administrative offices. Steel-



brick-glass structure was designed by New York Architects Peter Blake and Julian Neski; will go into construction this fall.

 Headquarters of Scott Paper Company, designed by Welton Becket & Associates, Los Angeles, will adjoin Phila-





delphia's International Airport on 41-acre site. Initial plan includes six-story office building and three-story chemical and mechanical research laboratory; future elements include recreation building, another laboratory, and more offices. Cafeteria in office structure will overlook airport.

p/a news report: bulletins



• Yamasaki's "vertical Gothic" will grace Michigan Consolidated Gas Company Building in Detroit. Exterior walls will be composed of marbie or quartz chips in white precast concrete. Windows will be in shape of elongated hexagons encased in stainless steel frames. Colored lights will illuminate crown of the building at night. Approach to building will be by bridge over reflecting pool. Associated with Minoru Yamasaki & Associates on the project are Smith, Hinchman & Grylls, Inc., Detroit.

 Manufacturing Chemists' Association, Inc., will undertake study at Southwest Research Inst., San Antonio, to establish basic fire-safety factors affecting use of plastics in buildings. One-year project will utilize actual plans for two proposed buildings—one for mutiple-occupancy building such as office building, the other for one-family house.

• University of Washington Nuclear Reactor Building will be used to train students in operation of nuclear power plants and as research facility for College of Engineering. Surrounding deck will be used for viewing reactor operations, plus outdoor exhibits. Reinforced-concrete structure will have reactor room spanned by four-foot wide precast concrete channel slabs resting on ten-inch thick poured beam walls which also support steel beam-rails of traveling fiveton crane. Architects: Wendell Lovett, Daniel Streissguth, and Gene Zema, Architect Artist Group, Seattle.



Personalities

 New Orleans Architect I. WILLIAM RICCIUTI has been made president of New Orleans Philharmonic Symphony Society. Ricciuti, describing his childhood struggles with another muse, said he became the "worst violin player in the world".... CARL KOCH & ASSOCIATES, Cambridge, Mass., has been retained by Ferro Corp. to design series of homes featuring porcelain enamel on steel. Designs will be part of program in which Ferro, together with U. S. Steel Corporation and Fenestra, Inc., plans to design and construct pilot models of "highest quality homes of porcelain enamel on steel which can be available at lowest possible cost". . . . CHARLES FRANCIS MURPHY (Naess & Murphy, Chicago) received Building Stone Institute's 1959 award for outstanding contributions in field of architecture. Murphy "by his creative designing, has developed a variety of architecturally distinguished buildings [capitalizing on] beauty and durability of natural stone," stated P. J. Valentine, BSI president. . . . KENNETH M. NISHIMOTO, Pasadena architect, will lead his 4th annual Architects' Tour of Japan, leaving San Francisco Oct. 13. Contact him at 263 So. Los Robles Ave., Pasadena, Calif. ... HAROLD A. HARTY, Wolverine Tube executive, was elected Chairman of Board of National Industrial Advertisers Assn., during group's recent San Francisco convention. . . . CLARENCE E. DAY (vice-president and director of Harley, Ellington & Day, Inc., Detroit architects-engineers) retired after 54 years of practice. He will continue to serve firm in consulting and advisory capacity. . . . ROBERT S. HUTCHINS and GILMORE D. CLARKE named Supervising Architect and Consulting Landscape Architect, respectively, for Vassar College. Hutchins will represent his firm, Moore & Hutchins, New York, in development of over-all plan for future development of school. Clarke will represent Clarke & Rapuano, New York, in advising on campus landscaping. . . . The other partner of Moore & Hutchins, JOHN C. B. MOORE, was elected president of Fine Arts Federation of New York. Architects elected directors of Federation were WALTER H. KILHAM (O'Connor & Kilham) and FRANCIS KEALLY. . . . HIDEO SASAKI became professor of landscape architecture at Harvard Graduate School of Design, in July. . . . PERRY E. BORCHERS, associate professor of architecture at Ohio State, has been awarded McKim Traveling Scholarship by his alma mater, Columbia University. He will study "three-dimensional recording of architecture in space" of Baroque and Byzantine churches in Europe. . . . HAROLD LEEDS, architect and interior designer, is new chairman of Interior Design Department, Pratt Institute, Brooklyn. . . . DR. WALTER GROPIUS reports that TAC will establish new office in Rome, to be called The Architects Collaborative International. Principle reason for branch is supervision of firm's Iraq project, Baghdad University. . . . NORMAN J. SCHLOSSMAN (of Loebl, Schlossman & Bennett, Chicago) is chairman of study committee on school fire safety for Building Research Advisory Board and Committee on Fire Research, two groups of National Academy of Sciences-National Research Council. Study is being made under grant from Educational Facilities Laboratories, Inc.

p/a news report



LAVISH NEW YORK RESTAURANT READY FOR GOURMET PALATES

NEW YORK, N. Y.—This city's most elaborate restaurant to date has opened in the Seagram Building on Park Avenue. It is "The Four Seasons" owned by Restaurant Associates. All design elements of the restaurant will be detailed in a RELATED DESIGN FIELDS article in DECEMBER 1959 P/A. Architect of "The Four Seasons" is Philip Johnson, assisted by William Pahlmann Associates, Interior Designers; Garth & Ada Louise Huxtable, Industrial Designers; Richard Kelly, Lighting Consultant; Karl Linn, Landscape Architect; Sculptor Richard Lippold; and Emil Antonucci, Graphic Artist.

p/a news report



COMPETITION WINNERS SUGGEST AVENUES FOR HOUSING IMPROVEMENT Planning and Economics Emphasized by Jury

VAILS GATE, N. Y .- Alarmed by the continued spread of monotonous, repetitive, soul-destroying housing developments across the American landscape, Mastic Tile Corporation ten months ago established a \$25,000 competition for design and planning of better community developments (DECEMBER 1958 P/A, page 34). The pressing nature of this problem and its interest to architects was made apparent by the receipt of hundreds of entries from architects and students throughout the country. From this group, a grand prize, second prize, third prize, and four merit awards, plus first, second and third student prizes and four student merit awards were selected recently by a Jury headed by Pietro Belluschi and including Edward H. Fickett, George Fred Keck, Reginald Roberts, and Joseph H. Orendorff (Special Assistant to Administrator, FHA). A. Gordon Lorimer was professional advisor. Certificates of Achievement were also given in professional and student groups.

According to Belluschi, "... this competition should be able to show that any good piece of building land need not be abused by the usual long and dismal row of salt boxes which in recent years has marred the semi-urban landscape of our nation; and it should give a demonstration of the fact that, with a little care and ingenuity, interesting relationships between houses [can] be achieved, producing amenities without added cost."

Entrants in the competition were given for "development" an undeveloped farm site "in the general industrial Great Lakes area on the periphery of a major city." Program stated that residents would be middle-income families with total capital investment per family of \$16,000-\$24,000.

Grand Prize Winner (above) was one of the few winners which did not include high-rise apartments. The Jury felt that this solution would be within the technical abilities of the average builder. It was also felt that this program solved internal traffic problems while maintaining peace within house groups. Architects: Howard R. Meyer, James Reece Pratt, John Harold Box, of Dallas, Texas.

Second Prize Winner, by Manuel Dumlao, Robert Burley, Edward Kovach, of the office of Eero Saarinen & Associates (*above*, *right*), drew from the Jury the comment that "the intermixing of individual houses, staggered rows of houses, and co-operative apartment groupings is particularly well handled."

A unique system of residential nuclei (center right) was the solution of another group from the Saarinen office: Paul A. Kennon, Chartier Newton, Henning Huth, Phil Kinsella, Jr. The Jury appreciated the "strong sculptured effect of the court clusters of residences." Cars for each "nucleus" are stored in areas beneath its court.

Pratt Institute Students George Ohanian and Fernando Gonzalo won First Prize in the student group for their orderly proposal (bottom, right). This entry was noted for "its realistic approach and fine solution."

Juror Keck said it was "interesting to find many site plans based upon (or justifying) Henry Wright's early 1920 Radburn plan. This plan recognizes again the forgotten pedestrian . . . [it] has been forgotten for a long time and few, if any, actual tract projects have adopted it."













IDEAS NEW AND NEWSWORTHY FROM

OWENS-CORNING FIBERGLAS:

HANDY WAY to estimate the cost of roof constructions

Now Fiberglas assists you in making helpful estimates. The new Roof Construction Evaluation Chart shown below quickly brings cost estimates together and provides an easy way to compare different roof constructions. The chart considers initial and operating estimated cost of the heating-cooling equipment in relation to roof-ceiling thermal performance, as well as similar costs of deck insulation and built-up roofing. Other factors included are joist weight and other variable and fixed cost items. Owens-Corning Fiberglas representatives will gladly show you how a Roof Construction Evaluation works for any roof construction you plan. For complete information, write: Owens-Corning Fiberglas Corporation, Department RCE, 717 Fifth Avenue, New York 22, New York.



HOW TO CHOOSE the right roof-ceiling combination for above and below the deck

The wide range of Fiberglas products fits most types of roof construction. Below are examples of how Fiberglas products "build-in" adequate thermal and/or acoustical performance. *Top:* combined thermal-acoustical treatment for steel decks using roof insulation above the deck and a suspended ceiling board for noise control. Low U value depends on thickness of insulation and a U of .04 is possible by adding Fiberglas Sonobatts on top of the ceiling board. *Middle:* low-cost Fiberglas Form Board and poured-in-place deck combination with a U value of .16. The Form Board serves as a permanent thermal-acoustical insulation and interior surface finish. *Bottom:* new Fiberglas Access Tile and new Fiberglas Polarizing Light Panel in a suspended ceiling under a 4" concrete deck. With 1" Fiberglas Roof Insulation, combination produces a U of .10.

WHY U = .15 for heating and .10 for cooling provides optimum thermal design

Designing for proper U value is important, since amount and kind of insulation affect both cost and comfort. Human comfort within a building can be expressed mathematically with surprising accuracy, even though the "comfort yardstick" has been established by empirical methods. Design criteria of U=.15 for heating and .10 for cooling represent a reasonable balance of initial and operating cost savings with desirable comfort levels. These recommendations were published in Construction Specifier Magazine, based on a study of constructions and analysis of heating-cooling equipment initial and operating costs. For assistance in determining thermal requirements, contact your Fiberglas representative or write: Owens-Corning Fiberglas Corporation, Department RCE, 717 Fifth Avenue, New York 22, N.Y.



FINANCING OF MUNICIPAL REDEVELOPMENT EXPLORED

by William Hurd Hillyer

Benjamin Franklin's observation that it is always profitable to pay court to older women, because they appreciate it so much, can be applied to the current enthusiasm for redevelopment of our older downtown districts. Approaches to this problem by architects and city fathers, which are at once sensitive and practical, will result in a gratifying revitalization of the in-town sections. In a recent statement, Oliver M. Walker, chairman of NAREB's Committee on Real Estate Economics, wrote, "The central zone continues to perform its function as the heart of the community, demonstrating its capacity to prosper and grow almost in direct ratio to the action of property owners and municipal authorities in providing the modern parking and traffic facilities that are prime attractions in outlying areas." We shall try to discover how these plans for downtown revitalization are financed. Baltimore has such a plan calling for \$470 millions during the next 20 years. Private investors will take up three-quarters of the cost, with the City of Baltimore and the Federal Government splitting the remainder. From New England comes word that commercial redevelopment is expensive; Federal, state, and local governments are spending over \$150 millions in about 50 downtown renewal projects in that region. Portsmouth, N.H., proposes converting the area into a historical center similar to Williamsburg, Va. Lowell, Mass., is gradually transforming its stagnant business area into a completely modern one. Louis C. Purdey, executive director, Peninsula Industrial Committee for Newport News, Hampton, York County, James City County, Virginia, claims industrial financing opportunities equaled in few southern sections; multimillion-dollar plant construction can be funded by issuance of low interest, tax-free revenue bonds. The Federal Reserve Bank of Richmond, Va., states that at end of 1958, 392 communities in 41 States, District of Columbia, Hawaii, and Puerto Rico had completed, were planning, or carrying out 685 urban renewal projects. It lists what is needed for Federal aid in urban renewal: (1) comprehensive community plan; (2) adoption and enforcement of adequate building, welfare codes, and ordinances; (3) detailed analysis of blighted neighborhoods to determine treatment; (4) establishment of administrative organization to carry out program; (5) statement of provisions made for meeting its share of costs; (6) plans for housing displaced families; (7) community-wide citizen participation and support. With this listing perhaps more architects will be inspired to start their communities on such a program.

• Mrs. Hoffman, Director of the Bank of America (founded by her father) upon her return from a ten-day meeting of NATO's Atlantic Congress in London, said: "I think we in America have to give first consideration to depreciation of our dollar. When one travels and talks with leaders abroad, one finds there is a declining confidence in the dollar. The fact is that we have not curbed our Government spending and Government deficits. The result is inflation and a declining confidence in the dollar's value. The evidence of declining confidence in the dollar is shown in the fact that foreign nations have been withdrawing their gold reserves." Federal Reserve Bank of New York gave the decline of our gold in 1959's first six-and-a-half months as \$853 millions, but this decline was exceeded by 1958's similar period.

The American Banker editorializes: "The relation of our gold stock to our banking and currency system affords endless opportunities for statistical exercises, alarming and otherwise. . . There is general agreement that the shrinkage in our bullion has reflected a redistribution of gold to central banks abroad, which in turn has reflected an economic recovery of overseas nations . . . the objective of U.S. foreign economic relations ever since the war."

An experienced observer is certainly the Berliner Handels-Gesellschaft of Frankfurt am Main, one of the leading banks of West Germany, with total assets equivalent to some \$145 millions. The bank's *Economic Review* states: "It follows there is no prospect of any dollar devaluation in the form of a rise in the price of gold. There is all the less chance of it because the countries which have the principal currencies would at once follow suit, so that devaluation could not be expected to produce any effect at all on the balance of payments."

• According to Government reports: Building activities rose to new highs in June and the first six months of this year. New construction in this year's June rose to \$5 billions; this was up \$400 millions from the previous month and up \$600 millions from the like month of 1958. Private construction spending in June rose about \$300 millions and totaled \$3.5 billions, about \$500 millions over June, 1958. Public construction outlays in June were \$100 millions over the previous month and the like year-ago period with a total of \$1.5 billions. Private housing starts in June rose to a seasonally adjusted annual rate of 1,370,000, up from a 1,340,000 pace in May. At June's end 709,500 private and public dwelling units were under construction—an increase of 32% over 1958's first six months and a record high for the period.

 Requests for VA appraisals of proposed homes in June totaled 27,164-the largest number since August 1958. Total was 31% above May's and actual starts in June came to 10,958-6.9% up from those of May. Actual applications for home loan guarantees advanced 1.1 % in June to 16,975. Mr. Harry Held, senior vice-president of Bowery Savings Bank, New York, and regional vice-president and chairman of the Research and Educational Trust Fund of Mortgage Bankers Association of America, recently said we have "minimized the possibility of a recurrence of conditions like those of the 1930s . . . measures [have been] taken to prevent future depressions and deflation, changes in mortgage loan contracts, particularly the universal shift to the amortized long-term loan in home financing." Illinois passed new amendments to its savings and loan law which permit State-chartered associations to make 80% straight mortgage loans for 18 months on individual tradein houses, and also on a builder's or realtor's revolving inventory placed in trust. It is felt that similar laws may find their way into other states.



Power to the sky with RISER DUCT BY BULLDOG

Now, there's a *sure* way to get ample power as many stories high as you like — BullDog's new combination of high-performance Lo-X[®] duct and integral-mounted power panels.

It's a system where a low, balanced voltage-drop can be predetermined . . . where power loss is minimized . . . and where each duct section has an extra reserved current capacity inherent in its construction.

Other advantages: Power may be tapped off through the compact panels at any joint on the duct. Panels bolt easily to the bus bars . . . are available with I-T-E Molded Case Circuit Breakers through 800 amperes or with BullDog's famous Vacu-Break® Switching Units through 600 amperes. Provisions for current-limiting Amptraps* are optional to protect against dangerous high short circuit currents. And most panels have space for adding future circuits when the need arises.

Choose wisely, choose the finest. Choose Integral Panel—Lo-X Riser Duct by BullDog.

* Chase-Shawmut registered trademark



BULLDOG ELECTRIC PRODUCTS DIVISION I-T-E CIRCUIT BREAKER COMPANY BOX 177 • DETROIT 32, MICHIGAN

In Canada: 80 Clayson Rd., Toronto 15, Ont. Export Division: 13 East 40th St., New York 16, N.Y.

STONE DISCUSSES NATIONAL CULTURAL CENTER

by Frederick Gutheim

In a distinguished career that has included extensive experience in public building, culminating in recent years in the American Embassy in New Delhi and the famous pavilion in the Brussels Fair, Edward Durell Stone reached an unmistakable climax here this summer when, within a few days, he was named architect for the large new National Presbyterian Cathedral Center, on Massachusetts Avenue, and also the National Cultural Center. A great deal has been written since about both the architect and these two projects, especially the latter. As the most informative to date, and my personal nomination for the AIA's journalism award for 1959, I am devoting this column to reprinting the fascinating question-and-answer session with Stone which appeared as Betty Beale's column, "Exclusively Yours," in the July 17 Washington Star.

I Will the cultural center be modern or will it conform to the classical architecture of Washington?

"This is a very important monument idealistically and it should be here for centuries. So it's important that it not be dated, that people two generations from now won't say 'that is the way architecture looked in 1960.'

"Idealistically, architecture is an ageless art, so the origin of a building like this should be lost in history, as it were. Just as it should not be what is currently the mode, neither should it be archeological. By that I mean it shouldn't be a copy of a building of a past culture. It really should represent 2500 years of Western culture rather than 25 years of modern architecture."

2 Artist Peter Hurd said here last week he doesn't believe Washington should be a proving ground for beauty. Do you agree?

"You don't want to make the rules so stringent that your imagination is restricted. However, this building is something to be taken very seriously indeed since it speaks for the cultural maturity of a country."

3 Will the center be all white or will color be used?

"I would say this, that Washington is primarily a city of white bulidings in a park-like setting. I would see no reason for departing from that.

"Paris is a city predominatly gray with accents of gold and iron work and the beauty of Paris is that it is all unified by the same materials as opposed to the crazy-quilt pattern of the average American city where everyone lets his ego be manifest.

"This building should follow the tradition of white buildings in a park."

4 Have you decided on what materials you will use?

"No, we have not, but I would assume that where masonry is used it would be stone.

"This obviously is a place for recreation. Although it is a very serious Government building, it should not have the character of a building for the Treasury, say. But it should have some of the things people associate with dignified places of recreation. I guess the traditional symbols of gaiety in a serious building would be white and gold and the traditional red velvet and brocade and crystal chandeliers."

5 Will the building be ornamented with sculpture?

"I would think since we have developed such talent in this country in painting and sculpture we would want to incorporate the work of our talented sculptors and painters and that is in the tradition of architecture since the time of the Greeks."

6 What is the maximum seating planned for the cultural center?

"No specific program has been formulated. It could have an auditorium which is devoted exclusively to opera, plus a symphony hall exclusively for concerts plus a theater, and that conceivably would be a flexible auditorium where you could have a seating a 1000 to 1200 for drama which might be expanded to 2000 for musical plays and operettas. It might be deemed advisable to have small rooms for conferences, etc., but it has not been decided.

"Expanding the seating audience from the sides has been done in one theater in Malmo, Sweden, and we are doing it in one theater in Akron."

7 Will the building include a room suitable for an inaugural ball or dressy state occasion?

"One suggestion made, and I think it's an interesting one, is that the concert hall be so decorated as to have a ballroom character rather than an austere charcter, and so designed that a floor could be placed over the seats, as is done in the Paris Opera House when great balls are given there.

"I felt apologetic about our country when New York gave a formal reception for the Queen in an armory. It seems that a country as great and wealthy as our should have rooms for state occasions. Smaller countries have them." 8 Will the stage be big enough for the largest Bolshoi Ballet?

"It would be important to have the stage of our opera specifically arranged so that it would be suitable for the Metropolitan Opera and visiting companies. We should take into account what all countries have for backstage facilities so if they visit here our facilities will not handicap them."

9 Will electronics be used, in controlling curtains, for instance?

"I do not know of any electronically controlled curtains but this is an area where we will make use of all the 20th Century technical advances.

"You see there have not been any legitimate theater or opera houses built in this country in the last 25 years, so that there are no real prototypes for this building. None of the great technical advances have been recorded. Lincoln Center is still in a preliminary stage of development."

10 What kind of parking facilities do you plan? When Mr. Wright spoke here he said the beauty of buildings is destroyed when surrounded by cars.

"What we would visualize and this depends a great deal on water tables—it's very critical here—are two or possibly three levels of parking beneath the building so that the cars would be under cover and people would have direct access to the building. The buildings of today are irreparably damaged by cars around their perimeter."

11 Will the landscaping include a vast sweep of green down to the Potomac?



FOR SAFETY'S SAKE, SPECIFY VACU-BREAK POWER PANELS

Here are some basic facts why BullDog Power Panels with Vacu-Break* units are tops in safety and performance. Vacu-Break design minimizes destructive arcs because contacts are housed in compact chambers that extinguish the arcs immediately. Result: maximum safety . . . virtually no pitting or burning of contacts . . . minimum maintenance. Vacu-Break switch units are "quick-make, quickbreak" with an interlocking safety mechanism. Contacts are directly attached to operating handle. No tricky toggles or springs. You get positive, safe switching always. And when the handle is in OFF position, you know the switch is off!

The Clampmatic* design provides clamped-pressure switching contacts to prevent overheating at these points. Needless heat-generating areas are eliminated because there are no hinged, current carrying parts . . . and all conductors are silvered. BullDog switches also withstand severe fault currents. In recent tests, standard BullDog switches with Amp-Traps** were subjected to a 100,000-amp short circuit current. They were undamaged!

For safety's sake—and superior performance—specify BullDog Vacu-Break Power Panels.





BullDog Vacu-Break chamber smothers arcs before they can cause damage. Both are 100-amp, 600-volt switches, operating under 90-ampere, 440-volt load with 40% to 50% power factor.



BULLDOG ELECTRIC PRODUCTS DIVISION I-T-E CIRCUIT BREAKER COMPANY BOX 177 • DETROIT 32, MICHIGAN

In Canada: 80 Clayson Rd., Toronto 15, Ont. Export Division: 13 East 40th St., New York 16, N.Y.

*Vacu-Break and Clampmatic are registered trademarks of the I-T-E Circuit Breaker Company. **Amp-Trap is a registered trademark of the Chase-Shawmut Company.

LITITZ, PA.: Voted one of America's top 10 plants of 1957, this new Lambert-Hudnut building makes interesting use of LUPTON aluminum curtain-walls and windows . . . featuring permanently clean and attractive light green porcelain-enamel spandrels. Architect and Engineers: A. M. Kinney, Inc., Cincinnati, Ohio.

KELLOGG, IDAHO: Extreme climatic conditions (wind and dust storms; smoke from a nearby smelter; a wide variance in atmospheric temperatures) made the selection of precisely-engineered weather-tight LUPTON metal windows unusually important at Kellogg High School. Ruggedness and simplicity characterize construction with these tight-fitting steel architectural projected windows. Architects: Culler, Gale, Martell & Norrie, Spokane, Wash.; Perkins & Will, Chicago, III. Photograph: Hendrick-Blessing.





BOULDER, COLORADO: 115 aluminum "Master" projected windows were installed on this handsome municipal building. These windows are attractive, yet functional, and require a minimum of maintenance. Architect. James M. Hunter, Boulder, Colorado.

Typical examples of modern buildings designed with LUPTON aluminum curtain-walls and windows



NEW YORK CITY: LUPTON supplied and installed Type "H" fabricated aluminum curtain-walls for this building at 300 Park Avenue, Mullions are aluminum tube with expansion joints at alternate floors. Non-insulated spandrels of opaque structural glass were used. Architect: Emery Roth & Sons. North. South. East. West. All over America, architects are designing modern buildings with LUPTON aluminum curtainwalls and windows. And no wonder! LUPTON has 75 years' manufacturing experience and a reputation for reliability... for delivering parts on-time and as specified. And, whether you're designing a school, hospital, municipal building, or other, LUPTON construction offers you significant advantages like these: design freedom, lasting modern beauty, low cost installation and maintenance, and single-source responsibility.

Investigate all the important advantages of LUPTON construction. See SWEET'S (Sections 3 and 17) for the Michael Flynn Aluminum Curtain-Wall and Window catalogs, and write for further specific information. Inquire about LUPTON Comfort-Conditioning*—the new curtain-wall system that cools, heats, and ventilates. Ask for the new LUPTON brochure showing its application in modern motels. A call to the nearest LUPTON representative (see the Yellow Pages under "Windows—Metal") will bring fast action without obligation.

*Trade Mark



METAL WINDOWS • CURTAIN WALLS MICHAEL FLYNN MANUFACTURING CO. Main Office and Plant: 700 E. Godfrey Ave., Philadelphia 24, Pa.

Main Office and Plant: 700 E. Godfrey Ave., Philadelphia 24, Pa. West Coast Plant: City of Industry, Cal. (Los Angeles County)



DES MOINES, IOWA: The striking beauty of the Memorial Chapel and Charles Medbury Hall, College of the Bible, Drake University, exemplifies the variety of design easily achieved with LUPTON construction. LUPTON Master Casements alternate with fixed glass in LUPTON Type "H" curtain-wall units. Architects: Eero Saarinen & Associates, Bloomfield Hills, Michigan.







ready for your use **NOW!** ROCKER-GLO

SWITCH

the

Switch of the



Many of today's switches are specialties primarily for decoration; some others are sturdily constructed for heavy duty performance. Now in one switch these two features are combined – P&S Rocker-Glo. Rocker-Glo's design and action are such that it can be pressed, pushed, rocked or rolled. It has the basic rugged mechanism that insures long, trouble-free performance. Eventually all light switches may have a rocker action – like Rocker-Glo.

Rocker-Glo switches are AC switches designed to be used at full current rating on tungsten filament and fluorescent loads (one switch takes the place of two ordinary AC-DC switches on fluorescent loads). It can be used anywhere old style toggle switches are used.

Rocker-Glo's clean functional lines and soft beauty blend with any decor and add a touch of gracious charm to any type of building.

Available in Despard interchangeable type, Despard type mounted on a strap and narrow rocker for tumbler switch plates. A specification grade switch, 15 and 20 amps. 120/277 volts AC.

Write for free Rocker-Glo bulletin, Dept.PA-959



For more information, turn to Reader Service card, circle No. 305

p/a news report: Washington

(Continued from page 108)

"The building has a beautiful setting. It's a park already on the Potomac and obviously we would want to overlook that fine Potomac view. Already there is a wonderful landscaping tradition established in Washington with these great elms, and fine grass and shrubbery, and I think it should capitalize on nature's blessings here." 12 Will the building overhang the river?

"I think the possibilities are infinite and that will certainly be one thing we will explore. The possibility of a great terrace overlooking the Potomac—how adjacent would be conjectural—would be a thing to strive for."

13 What do you think of the architecture in Washington? "Naturally, I am living in the 20th Century and I would

like to see the advances of the art of architecture in our country—and I do believe we lead the world in architecture —recorded in one of our great buildings here. In other words, I think this should represent so far as it can the indigenous talent and culture of our country. We have always been too modest about our cultural attainments, and I think this symbolizes our coming of age culturally. The building should express it."

Dallas Gets Commercial Center

End walls and base of Dallas' Southland Center sparkle with quartz aggregate in precast, white concrete. Spandrels are glass mosaic. Architects: Welton Becket & Associates; Consulting Architect: Mark Lemmon; Structural Engineers: Murray Erick Associates; Consulting Structural Engineers: Edwards & Hjorth; Consulting Mechanical Engineers: Zumwalt & Vinther.



new luminous grillework

the true non-modular suspended ceiling of infinite dimension



 Single wall-to-wall luminous expanse without supporting grids

- Circular louvers with restful brightness control ring
- 80% light transmission value one of the highest known
- Snap-on panels for refreshingly simple installation

Lobby of The Texas Company building, Los Angeles, California Welton Becket & Associates, architects

INFINILITE

is the dramatic architectural lighting answer to the problem of irregularly-shaped ceiling areas. INFINILITE, created from a new, light-stabilized plastic is first to offer Drop Strip fixtures with V.TS. Diffusers to completely eliminate direct view of lamps through grillework. Where desired, a new Finish Edge Trim can be used to obtain a floating luminous ceiling, free of contact with walls. We invite your inquiry.





INTEGRATED CEILINGS, INC. PA 11766 W. Pico Blvd. Los Angeles 64, Calif. Please send me free Infinilite brochure

Name	
Firm	
Church	

City.

Zone

EXAMPLE VOLOY CONDUIT AND E.M.T. battle corrosion...last longer

Specify Yoloy (nickel-copper low alloy) steel conduit to handle applications where greater strength, corrosion-resistance, and weldability are required.

Yoloy Conduit should be specified for electrical installations where corrosion is expected to be more severe than normal. Research has proved Yoloy resists corrosion 4 times longer than carbon steel in marine and industrial atmospheres.

Yoloy steels have proved highly resistant to corrosion in oil fields, coal mines, railroad cars, motor trucks and highway construction equipment for over a quarter-century. Long-time tests and actual installations have proved that Yoloy pipe lowers costs when used for salt water lines, oil wells, industrial installations and corrosive soils.

Corrosion studies conducted for 14 years in 13 different soils show that Yoloy has 19%less pitting and 36% less weight loss than carbon steel—and 10% less pitting and 23%less weight loss than wrought iron. This proved corrosion resistance greatly lengthens the life of coatings—galvanized or enameled on Yoloy Conduit.

Check with your Youngstown Representative and get the complete story on how Yoloy Conduit and E.M.T. can easily meet your most exacting job specifications.

The Youngstown Sheet and Tube Company, Youngstown, O. Carbon, Alloy and Yoloy Steel.

> Send for free technical bulletin on Youngstown Yoloy Conduit and E.M.T.

> > YOLOY STEEL

YOUNGSTOWN SER VICE



Atmospheric corrosion tests held off the coast of New Jersey revealed Yoloy steel will last four times longer than openhearth iron.

Expected life increase of Yoloy steel over carbon and wrought iron incorrosive soils. Studies were conducted over a 14-year period in 13 different soils.

	CARBON STEEL PIPE
	WROUGHT IRON PIPE
	· · · · · · · · · · · · · · · · · · ·
	YOLOY PIPE

O. H. IRON

CURTAIN-WALL SPANDREL DESIGN SIMPLIFIES CONSTRUCTION

Proposal Eliminates Need for Structural Mullions

The vast majority of curtain-wall buildings erected today employ structural mullions to frame glass (window) and spandrel panels, and to transmit wind loads to the structure. A newly-designed spandrel by Walter Dorwin Teague for Sharon Steel Corporation eliminates need for mullions in window and spandrel areas, reducing costs and increasing flexibility in curtain-wall design.

...Teague's system consists of panels of folded steel formed to cantilever up and down to glazed areas from small concealed clips anchored to spandrel beams. Stressed steel skin can receive lateral wind loads, over its own *plus* glazed area, and transmit them to spandrel beam and floor slab. Use of panel-to-panel seal would cause system to become completely self-flashing—eliminating, according to Teague, at least two trades from curtain-wall installation. In design of panels, Teague used "Sharonart," textured surface steel, which can be plated, metalized, plasticized, and painted in a wide range of colors.

Advantages of system are: (1) elimination of structural mullions; (2) use of any spacing of glass division and any kind of sash—for instance, reversible sash where sash meet each other with own gaskets forming only member between them; and (3) design of skin may permit space-saving provisions (*right*) such as below-sill mechanical space, and window-head blind pockets, beyond column-beam line. Sharon Steel Corporation **100**









101







WALL ASSEMBLY PRODUCTS

Wall System Features Flexible Windows

"Fenwall" aluminum curtain wall system is designed on basic grid allowing highly adaptable ventilation arrangements. Numerous combinations of sash, including doublehung, casement, projected, top-hung inswinging, and hopper windows can be used without special extrusions, adapters, or exposed fittings. System also features negative pressure holding device. This holding mechanism keeps grid unit in place under unequal pressure conditions, yet allows for horizontal adjustment and expansion or contraction. Singlesource responsibility for system includes engineering, manufacturing, and assembly of all component parts at a factory. "Fenwall II" is custom wall without limitations on types, size, or arrangement of grid units. Fenestra, Inc. 101

Tile Faces Curtain-Wall Panels

Hermosa "Triangle Tile" (shown in Arcadia Metal Products' new window wall, see JULY 1959 P/A, p. 93), finds new use as spandrel panels for window wall construction. Many effects are possible with wide range of colors available in tile line. Permanence of colors, together with easy maintenance of Hermosa's "Dura-Glaze" finish, reportedly provides longrange economy.

Gladding, McBean & Company

102

System Designed for Low-Rise Buildings

All-aluminum "Ador-Wall" is designed for one, two, and three-story buildings of wood frame, steel, concrete, or masonry construction. Horizontal windows and vents are free of obstructions. Basic 2"x4" mullion system is used throughout. System is designed for custom fitting and sizing to individual building requirements; utilizes any type of panel ranging from 3/16" to 3" thickness, and single, dual, and triple glazing.

Ador Corporation

103

Wall Sections Allow Design Versatility

"HV Trimline" dry-glazed wall construction system features horizontal and vertical members which allow architect to place emphasis where he wants it: horizontally, vertically, on exterior, or on interior. Basic components are aluminum extrusions containing keyed-in vinyl glazing strips. When framework is installed and glazed, vinyl compresses against glass or panel for positive and permanent resilient seal. "Perimeter Weather Bar" anchors and weather proofs perimeter of installation with compression seals. Variety of face members and snap-in back members gives wide choice of glass line locations and design variations. American Art Metals Company **104**

Sealant Blends with Curtain Walls

Curtain-wall and building maintenance sealant is especially designed to blend with light-colored masonry materials such as marble, limestone, and concrete. "Weatherban" off-white sealer provides excellent adhesion to above materials plus metal, glass, porcelain, wood, and other standard building materials. When mixed with curing agent, sealant chemically cures in place to produce solid rubber seal with superior

flexibility, aging, non-flow, non-shrinking, and non-cracking qualities.

Adhesives and Coatings Division

Minnesota Mining & Manufacturing Company 105

Wall Blocks Are Three-Dimensional

Modular block of cast concrete designed by Austrian sculptor Erwin Hauer recently won a Design Award from Industrial Designers Institute. Blocks may be used to create exterior-interior walls, space dividers, and light-diffusing screens. Open, three-dimensional character provides constantly changing effect, depending on angle of vision and changes in direction and intensity of light. Shown is application of blocks at Vassar College Language Center, designed by Paul Schweikher and Winston Elting. Murals, Inc. **106**

Large Plastic Curtain Walls Developed

Wasco office building, Cambridge, Mass., by The Architects Collaborative, uses 144" GP Acrylite panels for both exterior skin and interior panels. Panels are said to be world's largest cast acrylic sheets, available in sizes up to 144"x100". Thicknesses range from 1/8" to 1/4". May be formed in diamond shape as illustrated, or framed in metal. Also available with decorative embedments in maximum sheet size 36"x72"x1/8" or in thicknesses up to 2" on custom basis.

Wasco Products, Inc.

107

Building Panels Have Clean-Lined Look

Design of Hillsdale High School, San Mateo, Calif., by John Lyon Reid & Partners of San Francisco, utilizes "Cemesto" building panels. Units consist of laminated sheets of Celotex insulating fiber board to which cement asbestos facings have been bonded with moisture-proof adhesive. Panels posses high insulation value and structural strength. Cementasbestos facings are wear, weather, and fire-resistant, and combine readily with other contemporary building materials. Metal battens with built-in neoprene gaskets aid in attachement of panels to modular-spaced steel framing. The Celotex Corporation **108**

Panel Wall Has Horizontal Sliding Sash

Window-wall unit known as "Sapphire Panel Wall" incorporates horizontal sliding sash. Individual sliding sash units containing panels are mullioned together to form walls for onestory buildings. Weight rests on sill, rather than being carried on mullions. Materials which may be used for infill panels include porcelainized steel, mosaic tile, and opaque glass. System can have "U" insulation factors exceeding those of 16" masonry wall. Company also produces "Sapphire Curtain Wall" for multi-story buildings. Peterson Window Corporation **109**

Limestone Available for Spandrel Panels

Insulated, thin, and comparatively lightweight limestone panel has been developed for use as spandrel panel in curtain walls. Panel is 4" thick, composed of 2" limestone backed with 2" insulation. Inner surface of insulation is protected with asbestos-cement board or metal pan, depending on type of insulation, code requirements, and appearance (if surface is left exposed). Limestone is cut







109



to size and insulation and backup applied in factory ready for installation on job site. Mortarless and waterproof installation is achieved through use of neoprene, thickol, and calking.

Indiana Limestone Company

110

Fountains Add Excitement to Open Areas

Water-display fountains can be used imaginatively to enliven landscaping and add interest to façades of buildings. "Symphony" (shown) consists of 71 spray jets, in four tiers, individually regulated to desired heights. Comes with brass



fitting valves and #4 pump. Price: \$332. Also available are "Rainbow" (21 spray jets, #2 pump; \$119); and "Plumes" (58 spray jets, four tiers, #3 pump; \$265.33). Custom designs also made. Canal Electric Motor, Inc. 111

Unique Styling Marks Juvenile Furniture

Lawrence Peabody has designed group of modular chests which may be stacked, or wall-hung by removing legs. Finished in walnut, cases have porcelainized ceramic pulls,



are 29" high, 34" wide, 171/2" deep. Sliding door storage chest has reversible doors, cane-paneled or enameled in bright color. Bench shown is storage box with seat supported by friction hinge to protect child from falling lid. Child Craft Division

Smith Cabinet Manufacturing Co., Inc.

112

Curtain Walls Have Black Matte Finish

Self-contained curtain walls using black matte stainless steel are complete with window frames, spandrel and column panes. Sandwich-built spandrel panels consist of textured stainless steel outer sheet, impregnated asbestos honeycomb core, and aluminum backup sheet. Panels are colored

by Permyron permanent metal surface-coloring process. Units are 13' high by 5' wide, weigh less than 150 lb exclusive of glass. Window glass installs separately. Current installation is New York's Union Carbide Building, by Skidmore, Owings & Merrill.

Union Carbide Corporation

113

Real Gold Added to Curtain Wall Product

"Goldtex" curtain-wall spandrel material has 22-karat gold applied to raised or bossed parts of textured metal base which has first been processed with colored porcelain enamel. Same fabrication principle applies to "Colortex," with exception that porcelain enamel provides secondary color in lieu of gold. 114

Wolverine Porcelain Enameling Company

Recent Designs Announced for Panels

Custom-order line of reinforced fiberglass "Designer Group" debuts with three designs. "Florentine Lace" (shown) is silk screen lace design on woven natural fibre. "Our Town" is reproduction of cityscape drawing by Edward Wormley



done for Stimulus collection of Schiffer Prints; and "Venetian" is stained-glass motif on silkscreen rice paper. All designs embedded between fiberglass surfaces, and available in lightweight and structural gages. Barclite Corporation of America

115

Danish-Designed Chairs Introduced

New additions to the Danish Craftsmen group are two new architect-designed armchairs of subtly-sculpted Oriental teak. Both the Kindt-Larsen chair and the one by Finn Juhl



(shown) are available in linen, leather, Danish wool fabrics; with hand-rubbed oil or lacquer finishes. Chair shown (311/2" wide, 30" deep, 30" high) retails in muslin for approximately \$117. 116

John Stuart, Inc.

NEW-TYPE NORTON DOOR CLOSERS AN ARCHITECTURAL ASSET IN THIS MODERN MICHIGAN SCHOOL!

A continuing series of outstanding schools, office buildings, hospitals, churches, and industrial structures using NORTON DOOR CLOSERS





NORTON 750: A powerful corner-type closer of unique design that blends inconspicuously with top rail of modern metal-framed doors. Full rack-and-pinion mechanism handles doors up to 42" x 84".



HIGH SCHOOL: MICHIGAN CENTER, MICH. WARREN HOLMES COMPANY ARCHITECTS HARDWARE DISTRIBUTOR: SCHABERG DIETRICH HARDWARE CO., LANSING, MICH.

Employs unique corner-type Norton Door Closers to complement clean-lined modern door design.

Thoroughly modern in appearance, this school is equally modern in every item of functional equipment, including Norton Door Closers. Of particular interest among the latter are the Model 750 cornertype Norton Door Closers used on principal entrance doors.

Model 750 was specifically designed to blend unobtrusively with the narrow rails and stiles so popular in present-day doors. The shell is extruded from a very strong, durable, 100%-seep-proof aluminum alloy. Arms are completely concealed when the door is closed. Full rack-and-pinion mechanism offers the ruggedness, dependability and precision workmanship common to all Norton Door Closers.

Other Norton models are available to satisfy every door-closer need. Write today for full information about all models, including the new Trimline series.



(Continued from page 120)

System Provides Perimeter Cooling

"Wall-Line" perimeter air conditioning provides continuous flow of cool air along outside wall where most summer heat enters. Unit is said to circulate air in room evenly to eliminate "dead spots." Air-flow pattern in cutaway shows: (A) fans push air through ducts providing conditioned air along perimeter wall; (B) UniTrane air conditioner circulates



chilled or hot water, cooling or heating as it passes over coils; (C) 1/2" insulation resists temperature loss and also acts as sound deadener; (D) after air has circulated, it returns to be cooled or heated through air intakes; and (E) if partition is placed over spacer between units during change of partition arrangement, air would recirculate to UniTrane air conditioner by intake under shelves. 117

The Trane Company

New Pattern Added To Budget Vinyl Line

Non-directional pattern called Harvest uses gold and white on a base color with tiny glitter highlights. Available in 9"x9" tiles, color range of 10 colors, the tile is germ-proofed with Amti-Septic to prevent and inhibit the growth of bacteria.

Amtico Vinyl & Rubber Flooring Division American Biltrite Rubber Company

118

Plastic Light Panels Are Non-Combustible

Non-combustible louver diffuser panels are completely nonelectrostatic, meaning they repel dust and dirt and require virtually no maintenance. Material reportedly will not sag,



buckle, warp, or bend, and is scratch resistant. "NC Gratelites" come in 24"-sq panels, have UL approval, with listed flame-spread rating of 25. Developed by Edwin F. Guth Company and Plastics and Coal Chemicals Division of Allied Chemical Corporation. Edwin F. Guth Company 119

Prefab Curtain Walls Are Ceramic Faced

Ceramic-faced prefab curtain wall and partition units, for installation in standard or specially-designed framing system, are available in varied types to suit any requirement. Tile facings are furnished as selected or to specification-come in 79 standard colors for maximum flexibility in wall treatment, are available in mosaic patterns of geometric and abstract design, and in nine scientifically developed colors for functional application in industrial, institutional, and commercial installation.

The Cambridge Tile Manufacturing Company 120

Home Furniture Has Special Feature

Designed by Danish-born and trained Jorgen Hansen and Jens Thuesen, Futura collection of dining room, bedroom, and living room furniture includes chairs; bed tables and vanity with special fittings. Architectural simplicity and handsome restraint of rosewood double dresser with minzu



wood drawer fronts and white plastic pulls, thoughtful detailing of edges and legs, characterize the line. Of interest too, are more decorative bar (built-in lighting, hinged panels enlivened by a raised trefoil motif repeated like a sculptural relief); cases and tables combining rosewood with minzu or walnut and carpathian burl. **Romweber** Industries

121

New Color Available In Glass Block

Color is now added to hollow glass block during forming process. New block has blue-green color chosen for its cool appearance and ability to reduce sun brightness and solar-heat transmission. Block is most effective when used on east and west exposures which receive strongest, most direct sunlight. Process enables blue-green glass and colorless glass to be drawn from melting furnace at the same time. Colored block available in 8" and 12" sizes. Kimble Glass Company, subsidiary of Owens-Illinois 122

Curtain Walls Have Asbestos-Honeycomb Core

Impregnated asbestos-honeycomb core for use in curtain wall panels has great compressive strength (125 psi) and rigidity. Material is reportedly resistant to temperature and fire, and is unaffected by humidity, water, and vermin. Available in two types: Type X for exterior curtain wall construction: Type I for interior partitions. Has wide range of uses in other applications. Can be tailored to exact requirements.

Nicolet Industries, Inc.

123
TOTALLY NEW!...Recessed 2-Foot Wide Luminaires...

Featuring HOLOPHANE PRISMALUME®

Holoflux

Series 6400

In Two Lens Designs ...

Nos. 6400-6410: with Prismatic Border for ceiling illumination (upper)

Nos. 6420-6430; with Flat CONTROLENS® for unbroken ceiling lines (lower)

porary interiors...stores, offices, terminals, showrooms, banks, dratting rooms. lamps per section) ... Distinctive design integrates with contem-Basic units are made in 4-foot lengths (2, 3 or 4 rapid start

The Only Luminaires Made with ALL these Advantages!

and produced by HOLOPHANE - with over six decades of experience devoted exclusively to lighting. (5): Great versatility; models for major, commercially available, ceiling types...(6): Completely designed recessed portion of luminaire...(4): Easy adjustment on irregular ceilings or in alteration work... (1): Highest utilization of light, minimum brightness and glare ... (2): PRISMALUME (crystal acrylic plastic) for extra-durable service; no discoloration ... (3): Supporting cross-members do not project above top of



HOLOPHANE COMPANY, INC. Lighting Authorities Since 1898

p/a news report: manufacturers' data



Booklet shows and discusses outstanding curtain-wall applications of Trinity White Portland Cement in recent buildings. Curtain Walls and Facings, liberally illustrated with four-color photographs, includes installation shots and technical information. Among buildings shown is Southland Center in Dallas (a complex including Southland Life Tower and Sheraton-Dallas Hotel). Base of tower and end walls of tower and hotel (left) are of Trinity White Cement combined with quartz aggregate in low watercement ratio (procedure developed by Mo-Sai Associates). Architects for Center were Welton Becket & Associates; Consulting Architect, Mark Lemmon; Murray Erick Associates, Structural Engineers. Other buildings shown in booklet use Trinity White panels totally white and in combination with gray and color. General Portland Cement Company (16-p.) 200

WALL ASSEMBLY PRODUCTS

Porcelain Enamel in Architecture

Booklet describes uses of porcelain enamel in curtain-wall construction, including its advantages: permanent colors, weather resistance, durability, ease of maintenance, possibility for varied textures and finishes. More than 20 installations are shown, some in full color, with curtain-wall details. Section on design factors deals with panel manufacture and erection. Partial listing of completed porcelain-enamel curtain-wall projects is given. Companion booklet is Porcelain Enamel in Architecture: Part I, Veneer-Type Construction.

Porcelain Enamel Institute, Inc. (AIA 17-A, 28-p.) 201

Neoprene Gaskets for Curtain Walls

Booklet presents case for a solution to problem of sealing glass and panels into curtain walls—compression seals of neoprene synthetic rubber. Results of hurricane tests and earthquake tests of product are given; and two notable installations—New York International Air Terminal and General Motors Technical Center—are shown in photographs and details.

Elastomer Chemicals Dept.

E. I. du Pont de Nemours & Company, Inc. (AIA 17-J, 12-p.) 202

Ceramic Veneer Color Guide

Four-color brochure provides color selection guide for architects specifying ceramic veneer for curtain wall and other uses. Colors were chosen by color consultant Faber Birren from products as manufactured by members of Architectural Terra Cotta Institute. Actual samples may be had on request from manufacturers listed in brochure.

Architectural Terra Cotta Institute (AIA 9, 4-p.) 203

Modular Panel Systems

"Panelfab" building panel is stressed-skin sandwich composed of phenolic impregnated Kraft honeycomb core with interior and exterior facings laminated with phenolic resins under heat and pressure to form one-piece construction with high strength-to-weight ratio, torsional rigidity, and dimensional stability. Booklet shows details of construction and use of Panelfab for interior wall and roof applications. Panelfab Products, Inc., (AIA 17-A, 8-p.) 204

Wall Systems for High- and Low-Rise Buildings

Window unit of standard design serves as basic window unit for "Bayley System" in either curtain-wall or windowwall construction. Three designs in either vertical or horizontal assembly systems are illustrated in booklet: series 450 and 250 for curtain-wall buildings, in which windows, glass areas, and panels are mounted in a sub-frame; series 150 for window walls, where windows themselves form interlocked wall assembly. Details of various applications given. The William Bayley Company (AIA 17-A C-59, 20-p.) **205**

Lightweight Insulating Cellular Concrete

"Cellcon" is lightweight insulating cellular concrete for core material in metal type sandwich panels and pre-cast concrete sandwich panels for curtain-wall construction. Currently being used in Executive House, downtown motel in Detroit, Cellcon is described in text and installation and detail photographs.

Cellular Concrete Corporation (AIA 37 B-1, 4-p.) 206

One-Piece Neoprene Gasketing

Entire perimeter of "Inlock" neoprene structural gasket is "fused into a continuous one-piece setting member." Booklet describes advantages of gasket, including ease of replacement of windows or panels. Installation and test data given, plus recent installations, numerous cross sections, method of glass or panel size determination, installation procedures, architectural details for various applications,

Editor's note: Items starred (\star) are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.

information on filler strips and installation tools, and order, warranty, and specification data. Also included is "doodle" page, given "to suggest a few other Inlock Gasket design ideas."

Inland Manufacturing Division General Motors Corporation

AIR AND TEMPERATURE

Convectors Gives Floor-to-Ceiling Comfort

Catalog describes Perma-Trim wall-to-wall continuous convector for large window area installation, combining high heat capacity of convector design with advantages of finned tube radiation. Unit may be installed directly beneath window sill. Incorporates I" O.D. tubes which eliminate stacking of heating elements within enclosure, resulting in lower installation costs. Features prevent wall streaking, take care of irregular wall surface problems. Available in sloping top outlet and face outlet types with full line of accessories such as end caps; extension sleeve corner pieces permit extension of total enclosure length to 12" at each end. Sizes: 4"x6" depths; 10", 14", 20", 26" heights; 3' through 8' lengths.

Modine Manufacturing Company (Bulletin 259-A, 12-p.) 208

Climate Control in One Compact Package

Folder shows components of air-conditioning package for use in buildings such as stores, restaurants, other types of service establishments-and for modernization of larger buildings where multiple units rather than central station installation, are preferred. Provides completely self-contained package, easy-to-install with or without ductwork. Available in water- or air-cooled models in sizes from 3 through 15 tons.

209 Acme Industries, Inc. (Catalog 571, 4-p.)

Packaged Heating Provides Zone Control

Brochure describes advantages of hot-water packaged baseboard heating system for homes, suited especially to splitlevel and ranch types, which provides independent thermostats to control individual living areas for the most efficient and comfortable heat distribution throughout home. Features include low installation cost, no wasted heat, simplified servicing. Drawings show inconspicuous appearance of baseboard system, how it operates, and method of installation.

Edwards Engineering Corporation (Brochure SLC-1, 8-p.) 210

Dry-Web Space Filter Offers Efficiency

Bulletin covers performance and construction details of Dustfoe space filter for air filtration in industrial and commercial fields including all types of processing and manufacturing plants. Certified to be at least 85% efficient on NBS Atmospheric Air Stain test, filter claims same efficiency as electrostatic precipitator without high cost and possibility of arcing "blow-off." Contains no moving parts, is not oiled; filter web in dry state effectively holds dirt. Unit has capacity of 1000 SCFM. Stocked in 231/2"x231/2"x57/8" size fitting into 24"x24"x8" frame-available in other face

sizes. The 57/8" depth remains constant. Installation details included.

Mine Safety Appliances Company (Brochure 1505-6, 8-p.) 211

Gas-Fired Intake Units

207

Bulletin describes series of gas-fired intake units for supplying outside air to replace air removed by industrial exhaust systems, which achieve nearly 100 percent combustion efficiency by burning natural or propane gas in line-of-flame burner directly on entering airstream. Can be mounted on roof or in wall opening and used with or without duct systems for air distribution. Units are made up to specifications from 2, 4 or 6 million BTU per hour, with air volumes of 25, 50 and 75 thousand CFM. Available with fan and accessories to meet requirements.

Hartzell Propeller Fan Company (Bulletin A-115, 2-p.) 212

Heater Solves High Ceiling Heating

Bulletin covers features of high-ceiling downflow gas heater designed for efficient heating from as high as 40' above floor level. Heater is direct-fired, consists of duct furnaces with automatic controls, propeller-type fan assembly, and screened, bell-mouthed intake boots, louvers that adjust to distribute heat to specific areas or for spot concentration. Standard specifications include aluminized steel heat exchangers and on-off gas valves with 115 or 230-v controls. Available in four basic sizes from 300,000 to 600,000 BTUH -may be installed in multiples for greater capacities. A 4-way diffuser for hemispherical distribution over a wide area is also available. 213

Reznor Manufacturing Company (4-p.)

CONSTRUCTION

Moistureproof Insulating Structural Panel

Folder describes construction of Transitop 4'x8' wall panel which consists of integrally impregnated insulating board core faced on both sides with special noncombustible asbestos-cement board, bonded with colorless waterproof adhesive. Combines unusual structural strength, high insulation, maintenance-free interior and exterior finish in a single fire-resistant panel that is easy to apply over wood or steel framing. For general building construction and general commercial and industrial applications. Comes in natural gray with high light reflection. Table of physical properties, detail drawings, photos included. Johns-Manville Corporation (8-p.) 214

Control of Industrial Vibration, Shock, Noise

Booklet gives engineering specifications and performance data for 27 types of products for control and measurement of machinery vibration, shock, and noise. Contains detailed discussion of relative merits of steel springs and organic materials as isolation media, selector chart covering wide range of equipment showing recommended and alternate methods of isolation; also indicating when concrete foundations are necessary. Actual installation photographs show



61 LAKE ST.

The Industry's Most Complete Line Of **DUSING** and **HUNT**, Inc. FLUSH DOORS STEEL • ALUMINUM • VINYL-ON-STEEL • WOOD

LE ROY, N. Y.

Over 50 yrs. Manufacturing Fireproof Doors & Metal Trim



Even severe underwater turbulence stretches, compresses with wall move- black, tan and off-white. For glass, can't blast through the seams of this ment. And during winds as high as 140 stone and metal installations. glass panel tank.

The test above proves the toughness of 3M's new WEATHERBAN® Sealer. Shows why curtain wall construction even winds of hurricane fury. can be lightweight, leakproof!

WEATHERBAN Sealer adheres strongly . . . cures without shrinkage to a durable, solid rubber seal that flexes, mph by actual test, it cushions glass to guard against breaks and cracks.

It seals for years, too, despite sun, ice, Consult 3M Research. Contact your

That's why WEATHERBAN Sealer is chosen to seal new buildings and to replace worn out conventional sealers. Now available in four colors: aluminum,

SEE WHAT 3M ADHESIVES CAN DO FOR YOU!

3M Field Engineer. Or for information and free literature, write on your com-



pany letterhead to 3M, A.C.&S.Division, Dept. YD-99, St. Paul 6, Minn.

ADHESIVES, COATINGS AND SEALERS DIVISION



A Few Lighting Fixtures from the **PRESCOLITE** NEW PRODUCT PARADE

477 . 577

477- 570

GROUP A

Group "A" "Satellite"- a new departure in beautiful, hand blown "Thermopal" glass used with pendant fixtures or on recessed housings.

Group "B" A new concept in recessed lighting for specific use in concrete construction.

GROUP B

101SFP

WB-28-2

Group "C" The original weather proof, "Dielux" diecast aluminum bracket and ceiling lights now in 150-200 watt sizes. Hand blown "Thermopal" glass. Available with diecast aluminum guard.

GROUP C

Group "D" Round and Square Drum fixtures with "Trigger-Lok" hinging on a "DieLux" diecast canopy. Hand blown "Thermopal" glass.

Write for more complete information.

AFG. CORP. 2229 Fourth St., Berkeley, Calif. FACTORIES: Berkeley, Calif. . Neshaminy, Pa. . El Dorado, Ark.

For more information, turn to Reader Service card, circle No. 312

p/a manufacturers' data

(Continued from page 125)

variety of equipment, how typical problems have been solved.

The Korfund Company, Inc. (Bulletin K4E, AIA 39D, 8-p.) 215

Building Products and Services

Technical manual is divided into six separate catalog sections detailing engineering data and specifications for each of the following commercial building elements: metal curtain walls, metalclad fire walls, rolling steel doors, electrified M-floors, long span M-decks, steel roof decks, acoustical and troffer forms, acoustical ceilings, structural steel, steel plate components. Diagrammatic drawings and photographs accompany text; section with construction details for drafting room use is included. 216

The R. C. Mahon Company (100-p.)

Suggested Ideas for Design with Redwood

Data sheets suggest ideas for uses of redwood. Redwood Ceilings contains material covering variety of ceiling designs, examples of redwood plank-and-beam construction. Redwood Grillework displays examples of redwood used for grills, screens, louvers, and dividers. Most recent revision of Garden Redwood-has as primary change the inclusion of new RIS grademarks.

California Redwood Association (8-p.) 217

Color in Movable Metal Partitions

Presentation contains comprehensive data on line of versatile Mobilwall movable metal partitions to suit every layout requirement including office, school, hospital, etc., now available in enduring Permacolor finish, in full range of colors. Company service includes free planning help and



follow-through with field installation by factory-trained crews. Also continued rearrangement service, and continuous "open-stock" supply of interchangeable units and accessories for additions or replacements. Photos of existing installations, detail drawings, index of partition types and accessories, included.

Virginia Metal Products, Inc. (AIA 35-H-6, 60-p.) 218

Craftsmanship in Concrete

Data sheets contain comprehensive information on mixing and application of concrete in cold and hot weather conditions. Sections deal with causes of cracking, dusting, and (Continued on page 130)

GROUP D

7009



America's Architects select VAMPCO ALUMINUM WINDOWS, Curtain Walls and Entrance Doors for Modern Homes, Schools, College and Commercial Buildings

The attractive new Kellogg Center at Michigan State University, Lansing, Michigan (pictured above) has Vampco 2000-series 2" Aluminum Curtain Wall fenestration and Vampco Aluminum Entrance Doors. It is a fine example of how architects and builders are using Vampco Aluminum Windows, Curtain Walls and Entrance Doors to provide modern, streamlined beauty . . . functional design . . . structural strength and durability. This is one of over 12,000 schools now using Vampco Aluminum Windows.

Vampco Aluminum Windows for every type of construction are available in casement, combination casement, awning, intermediate projected, curtain walls of varying sizes and thicknesses, heavy ribbon, window walls, glass block and custom designed types. Vampco also manufactures a complete line of Aluminum doors, frames, side lights and transoms. For complete illustrated literature, mail coupon below, *today*.





WE SOLVE ANY PROBLEM

We are generally recognized as the foremost manufacturers and designers of pumps and water display fountains for every conceivable purpose. We have had years of experience, working with engineers, decorators, architects, stage and TV prop men, estates, penthouses, home-owners and fountain lovers all over the world. Our organization is geared to accommodate you on short notice, if necessary, and no job is too large or too small to merit our individual attention.

If our stock units are not adaptable to your plans, we will custom build to your specifications in any form, shape, size or to scale. Please submit blueprint, sketch or simple drawing. We will make recommendations and estimates.

CANAL ELECTRIC MOTOR, INC. Water Display Fountains 310 CANAL STREET • NEW YORK 13, N.Y. • Telephone: WOrth 6-1377-8-9

For more information, turn to Reader Service card, circle No. 314



Every unit tested and inspected.

Write for color brochure and prices.

CISION parts corporation

400- PA North 1st. Street Nashville 7, Tennessee

No ducts! No noise! No chimney! No odors! No flame!

For more information, turn to Reader Service card, circle No. 315

p/a manufacturers' data

(Continued from page 128)

crazing, show how these failures can be avoided. Drawings illustrate step-by-step procedures to follow to obtain a weather- and use-resistant concrete surface.

Alpha Portland Cement Company (4 bulletins) 219

Factory-Assembled Window Wall

Brochure covers line of window wall systems for use in institutional, industrial and commercial buildings, claiming savings to 40% in erection costs where factory-assembled units are utilized. Constructed of heavy-duty aluminum engineered for strength, with integrated horizontal gliding aluminum windows. In addition to factual data and specifications, a cutaway isometric illustration of a typical window wall section, quarter size detail drawings, illustrations of typical arrangements showing design and construction flexibility, are included.

Whizzer Industries, Glidorama Division (AIA 17-A, 6-p.)

220

Steel Beams Speed Construction

Folder gives specifications, details and properties of lightweight Diamond Span-R beams, designed to support floors and roofs over long and short spans between beams, walls



and girders in all types of structures. Open-web structurals offer advantage of fast construction, are completely fabricated, ready for immediate placing; eliminate complicated bridging, readily accommodate ductwork and conduits, are fire-, vermin-, and sound-resistant. Esthetically pleasing when used as exposed members.

Elizabeth Iron Works, Inc. (AIA 13-G, 6-p.)

221

ELECTRICAL EQUIPMENT, LIGHTING

Geometric Shapes in Danish Fixtures

Catalog illustrates line of imported Danish lighting fixtures which form co-ordinated group of ceiling fixtures, wall



brackets, desk, table, and floor lamps. Ingenious designs derive from four elements of basic geometrical shape. (Continued on page 132) National first place award winning H. I. C. Home in Eugene, Oregon, is pictured below. Par-TILE was spebelow. cified.

Wall to Wall ..

C

. The most beautiful practical floor of all

Above: St. Paul school and church. Below: Typical Par-TILE office installation



Par-TILE now used in homes, schools, office and industrial buildings, hospitals, hotels, apartments, motels, restaurants, gymnasiums and dance floors.



Perfected through years of scientific research.

DENSIFIED



MAPLE OAK

NATURAL WOOD BLOCK FLOORING Architects, builders, engineers and designers

Architects, builders, engineers and designers are now specifying beautiful new Par-TILE natural wood block flooring in all type con-structions. Par-TILE's density of 55 lbs. makes it extremely durable and highly re-sistant to wear, yet is resilient and easy to walk on. Will not dent under heavy furni-tion. The the facet floor in the world ture . . . Truly the finest floor in the world.

square or eased edge

• easy to maintain

standard size $9'' \ge 9'' \ge \frac{1}{4}''$ (other sizes avail-able on special or-der for industrial uses.)

PA 0.0

standard size

mar and stain resistant

- easy to install lifetime wear
- economical
- pre-finished
- available in densified fir
- maple and oak · flexo-grid scored
- back

International Sales Representatives **Plywood Service, Inc.** P. O. Box 78, Dillard, Oregon Phone OSborne 9-8781, TWX RS 54 U

SEND TODAY FOR INFORMATION Plywood Service, Inc. P. O. Box 78, Dillard, Oregon

Please send free brochures. Free Samples. Please have your nearest representative contact us.

Firm	1.		10 10 10	-		
Address			City	,		State

For more information, turn to Reader Service card, circle No. 317



BETTER USE

DUSO COST CONTROL SURVEYS

RECOMMENDED FOR:

- · PERIODIC COST CHECKS
- · PRELIMINARY ESTIMATES
- . SETTING UP BUDGETS AND FINAL ESTIMATES

No standby payroll expense-Duso Cost Control Service is "hired" for each specific job.

WRITE FOR BROCHURE

GEORGE DUSO COMPANY 81 N. CHICAGO STREET JOLIET, ILLINOIS

For more information, turn to Reader Service card, circle No. 318

p/a manufacturers' data

(Continued from page 130)

Available in all plastic, or combination of white acrylic plastic and lacquered mat sprayed metal in the following colors: black, mustard, coral and sand-smooth surfaced plastic provides clear, soft light, does not discolor. Many fixtures can be made for pulley suspension, wall mounting, or special groupings, and custom-made chandeliers can be ordered to specification. 222

Architectural Lighting Corporation (44-p.)

SPECIALIZED EQUIPMENT

Master Television Antenna Systems

Manual, Recommended Practices For the Design and Installation of Master Television Antenna System, points out need for including plans for television systems in original designs-details criteria for antennaes, amplifiers, and distribution. Comprehensive diagrams are included, showing types of systems that may be encountered in design. Various examples of system design are illustrated, and appropriate and necessary tables are supplied. 223 Entron, Inc. (6-p.)

Solar Screens in Lasting Color

Bulletin illustrates ceramic veneer open grill solar screens in various designs and geometric patterns, available in



wide range of enduring colors. In addition to standard units illustrated, grills may be ordered custom-made, at slightly higher cost.

Federal Seaboard Terra Cotta Corporation (4-p.) 224

SURFACING MATERIALS

* Specifications for Ceramic Wall Tile

American Standard Specifications for Glazed Ceramic Wall Tile, Ceramic Mosaic Tile, Quarry Tile and Pavers, Installed in Portland Cement Mortars, including requirements for related divisions, approved by the American Standards Association, supersedes Tile Handbook originally issued in 1951. Participants in preparation were manufacturers of ceramic tile in U.S., working in co-operation with representatives of AIA, Bricklayers, Masons & Plasterers International Union, tile contractor associations, other related industries in this country. Approved by ASA. Specifications do not include installation of ceramic tile with adhesives or with new dry-curing mortars-latter are in process of revision for near future issue.

Tile Council of America, Inc. (28-p.)

Now...Choose from 3 basic <u>Wayne</u> gymnasium seating systems to meet your budget

Match your seating to your dollars and save. Choose from a complete line by the world's largest manufacturer of *spectator seating*.

With economy as the watchword in today's new school construction, it will pay you handsomely to look into the *only* line of gymnasium seating that offers a choice of three budget ranges . . . an outstanding, efficient seating system for each! Every Wayne model is engineered with the important attention to detail that assures longer life, smoother performance, lower maintenance costs . . . more seating efficiency for your money! Check these three Wayne values before you decide on *any* seating at *any* price! Write for catalog data today!





Dow CHEMICAL NEWS for designing people

Products of the chemical industry are becoming increasingly important to good design and construction in the building field. To architects, no less than to builders, these products are essentially tools of design whose use makes construction and

maintenance easier or more economical, or provides new benefits. This report is one of a series designed to give architects a quick look at some of the most modern of materials, and how they fit modern design needs.

SCORBORD[®]—PRESCORED TO SPEED UP BUILDING TIME

Here's how to cut up to 80% off fitting time when insulating foundations and slabs . . . and get permanent high insulating efficiency with unyielding resistance to water and moisture.

You do it with SCORBORD[†]-Dow's rigid foam insulation board that makes fitting quick and easy because the big 2 foot x 8 foot boards are prescored to commonly-used widths. Just snap off the width of board wanted. Sawing and cutting are reduced to a bare minimum and construction proceeds as fast as the pieces can be fitted into place.

Scorbord is especially designed for use along the edges of concrete slabs and foundations, as well as in cavity walls. It is a polystyrene foam containing millions of tiny non-interconnecting air cells. The cell walls provide permanent high resistance to the passage of water and moisture vapor, and have no food value to attract insects or vermin. This new construction material has unusually high compressive strength (over 2000 lbs. per sq. ft.), and weighs only 3¼ pounds per 8-foot board-less than any other commonly used rigid insulating material.

ARCHITECTS - For more information about Scorbord or for copies of a Sweet's catalog insert, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Department 1603EB9.

TPATENT APPLIED FOR



Insulated masonry . . . lower heating costs with Styrofoam[®]

Construction costs go down, insulating efficiency goes up, when you specify Styrofoam for insulation-plaster base construction for masonry structures. Lightweight, easily cut Styrofoam is simply bonded to the masonry wall with a layer of portland cement. Plaster is then applied directly over the Styrofoam. Result? . . . a sound, fully-insulated wall with permanent high insulating efficiency that reduces heating and air-conditioning costs.





Better for pipe covering, too!

Pipe covering made of Styrofoam reduces heat transfer and eliminates condensation and dripping because of high permanent insulating efficiency. It's easily installed, stays trim and attractive without maintenance, and resists rot and mildew. On low temperature piping, Styrofoam won't crack or split under extreme cold, or where temperatures change rapidly. There's a complete line of pipe and vessel covering available for every use, made from versatile, high efficiency Styrofoam.



ROOFMATE better built-up roofs—Specially designed for built-up roofs, this new roof insulation board has high compressive strength, permanent insulating efficiency, long life. It can be easily installed, easily mop-coated with asphalt or other standard coating materials.



SARALOY 400 flexible flashing— This new flexible flashing material is easy to cut and fit, easy to contour to any shape under low heat. It expands and contracts with the surface to which it's bonded, seals permanently and completely. It won't corrode, check, crack or peel. Can be painted with regular exterior paints.



LATEX PAINT ideal mate for plaster—Latex paint is used over even fresh plaster because it resists alkali, mildew and mold. Latex paint's first coat serves as both primer and sealer—no separate prime coat needed. Dow supplies latex to the nation's leading paint manufacturers.

WANT MORE

Dow Building Products can help to cut costs and do a better job in buildings you design. For more information, write to us today. Plastics Sales Department 1603EB9.

when you design SPECIFY DOW BUILDING PRODUCTS STYROFOAM* • SCORBORD*(PAT. APPLIED FOR) • POLYFILM*

ROOFMATE* • SARALOY* 400 • LATEX

THE DOW CHEMICAL COMPANY, Midland, Michigan



120 feet of rugged STRENGTH!

Macomber high-strength ALLSPANS framed this 30-lane Bowling Alley economically without excessive weight. For full details on how ALLSPANS can serve you on roof or floor spans out to 120 feet, check your local Macomber representative or send for the new ALLSPAN Design Manual.

NEW DESIGN Full details on ALL complete story of c and economical ad	SPANS the exclusive structural vantages	ALISPANS
NAME		
COMPANY	POSITION	
ADDRESS		
CITY	STATE	



MACOMBER

CANTON 1, OHIO

Looking Forward to October PROGRESSIVE ARCHITECTURE

TRENDS IN HOSPITAL PLANNING

OCTOBER P/A will examine—in presentations of two recent health structures and three outstanding student project theses (from Yale and Carnegie Tech)—the state of planning for health facilities in the U. S., and what trends are likely to become apparent in this field in the future. The completed buildings to be presented are: Rehabilitation Center, Stamford, Conn., by Sherwood, Mills & Smith; and Fisher-Titus Memorial Hospital, Norwalk, Ohio, by H. E. Beyster & Associates, Inc., Architects-Engineers.

THE ARCHITECT & HIS COMMUNITY: JYRING & WHITEMAN

The next in P/A's Architect & His Community series will be devoted to the practice of Jyring & Whiteman, Hibbing, Minn. Situated in the midst of the ore-rich Mesabi Iron Range, this firm has a continually-expanding practice currently doing projects worth approximately \$6 millions. Included in the 12-page article will be examples of the firm's designs for public buildings, schools, and religious buildings.

THE NEW SENSUALISM II

P/A's critique of the "sensualist" trend in American architecture—began in the current issue—will conclude in October. This examination of a subject of interest to most architects should stimulate a great deal of new thinking on this important topic.

Interior Design Data in October will document two clinics. One, by Robert Billsbrough Price, is in Puyallup, Wash., the other, by Thorshov & Cerny, in Watertown, S. D. Materials and Methods articles will be concerned with air heating and ventilating of classrooms, museum lighting, and more of the imaginative structural concepts of Paul Chelazzi (including proposals for a 300-story skyscraper).

















RILCO LAMINATED PRODUCTS, INC. W817 FIRST NATIONAL BANK BUILDING ST. PAUL 1, MINNESOTA

District offices: Tacoma, Wash. • Fort Wayne, Ind. • Newark, N. J.



Write for free school construction catalogue featuring wood laminated and fabricated structures.

only \$9.48 per square foot*

*Includes — general, mechanical and electrical construction, sewage disposal system, kitchen serving equipment, Terrazzo corridors and toilet floors and acoustical tile in classrooms.

To provide all the necessary facilities, and yet stay within the limited budget allowed for the Sentral Community High School, required the most economical construction methods and materials available. By using laminated wood beams the architects, Haarstick Lundgren and Associates, Inc., were able to do this without sacrificing warmth and utility. The beams arrived on schedule, were quickly erected by the regular job crew and, because of their inherent beauty, were left exposed. The result was a big savings of time, labor and material.

Rilco Laminated beams and arches resist warping, splitting, cracking — require no painting — actually improve in beauty with age, taking on a richer, warmer appearance.

Another important feature, especially for schools, is fire safety. Rilco beams are slow to burn, won't buckle or collapse, even with extreme heat, and they allow time to save the structure and its contents.

Rilco Laminated arches and beams can help you solve design and cost problems on your structures — whether they're schools, churches, residences, industrial or commercial buildings. For information on how to build better for less, contact your nearest Rilco office.



Travelers Insurance Building, Boston, Massachusetts • Architect: Kahn & Jacobs • General Contractor: George A. Fuller

New Design—Traditional Materials

A striking building using two old favorite—and proven building materials, brick and structural glazed facing tile. One more proof that in cost, beauty and durability, no building materials can compete with brick and tile even in the

HANLEY COMPANY

Administrative Office: One Gateway Center, Pittsburgh 22, Pa. Home Office: 28 Kennedy Street, Bradford, Pa.

District Sales Offices: New York : 101 Park Avenue • Buffalo : 625 Delaware Avenue Pittsburgh : 647 Washington Road, Mt. Lebanon

most modern curtain wall or reinforced concrete structures. The spandrels are Hanley Duramic[®] Structural Glazed Facing Tile No. 418, Medium Blue. The column, and tower, Hanley Duramic Brick No. 725, Medium White Speck.

White Medium Speck

Hanley Duramic Brick No. 725,

Hanley Duramic Structural Glazed Facing Tile No. 418, Medium Blue

A Work of Art for Works of Art...



Guggenheim Museum Reflects Superb Craftsmanship in Concrete

• To anyone who appreciates fine craftsmanship in concrete, one fact stands out about Frank Lloyd Wright's Guggenheim Museum in New York: it is a genuine work of structural art which demanded exceptional precision, patience, and perseverance by the contractor. Only great dedication could have solved the many problems that arose during construction, to bring the project to a successful conclusion.

By way of example, here are a few of the complex structural problems:

Item: 8,000 cu. yd. of 3500 psi reinforced lightweight concrete, placed without expansion joints in temperatures as high as 100°F.

Item: A ½-mile cantilevered concrete ramp that spirals on itself five times at about 3% grade, without columns and with constantly changing inside and outside radii.

Item: A turning, rising, sloping outer

wall, formed against plywood sheets angled and twisted into position.

Item: A precast concrete parapet with geometric figures, sprayed with lead, zinc and copper to obtain a bronze patina.

The list of structural innovations is almost endless, and extends to intricate concreting for planting areas and fountains, utility cores and pipe spaces, massive arches and cantilevered balconies. Utter precision in formwork and concreting resulted in smooth surfaces, true curves and sharp corners that are worthy of the greatness of the project, its contents, and its architect.

Lone Star is proud to have supplied all of the portland cement required for this significant structure—a dramatic example of the beauty and limitless versatility of modern concrete in the hands of imaginative designers and skilled, resourceful builders.



Curved roof beams for double glass dome were cast in place 90 feet above ground level.

THE SOLOMON R. GUGGENHEIM MUSEUM New York, N. Y.

> Architect: FRANK LLOYD WRIGHT

General Contractor: EUCLID CONTRACTING CORP. New York, N. Y.

Lone Star Ready Mix Concrete supplied by: TRANSIT-MIX CONCRETE CORPORATION New York, N. Y.







Offices: ABILENE, TEX. • ALBANY, N.Y. • BETHLEHEM, PA. • BIRMINGHAM BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • KANSAS CITY, MO. LAKE CHARLES, LA. • NEW ORLEANS • NEW YORK • NORFOLK • RICHMOND SEATTLE • WASHINGTON, D. C.

Lone Star Cement Corporation, with its subsidiaries, is one of the world's largest cement producers: 21 modern mills, 49,100,000 barrels annual capacity

The New Sensualism

by Thomas H. Creighton

Yesterday an architect came into our offices (he is a respected architect, but one whose work has not been published much in recent years; a follower, in some ways, of Frank Lloyd Wright; an originator in his time who has become, shall we say, discouraged) and he had some very harsh things to say about what he considered to be the present state of architectural design.

"No one is doing anything," he averred, "except watered-down versions of Miesian architecture. Curtain walls! Curtain walls and stripped-down architecture everywhere."

"Now look, Sylvester," we argued with him, "This just isn't so. There is a great deal of architecture being designed that isn't curtain-wall-strippeddown design.

"Nonsense," Sylvester disagreed. "Now that The Old Man is gone, there is nothing important to stand in the way of box architecture over-running the world. There was no other alternative but Organic Architecture. It's tragic."

"How about Yamasaki?" we asked ... "Oh, well-him." He shrugged. "Stone?"... "An opportunist."

"Rudolph?" . . . "Upstart. A very brittle young man."

"Saarinen?" ... "Of course; he'll try anything."

"Le Corbusier at Ronchamp? Sert? Niemeyer?" . . . "CIAM's last gasp."

"Utson? Victor Lundy? John Johansen?" . . . Never heard of them."

"Fuller? Chelazzi?" . . . "Theorists."

"Candela? Nervi? Salvadori?" ... "Engineers."

By this time we had mentally collected a sizeable number of illustrations to prove a point that began to assume important proportions—at least in volume, quantitively. We asked ourselves: why spend this intellectual effort only on Sylvester? Here, then, is a more complete reply to his plaint.

There are many important architectural works today which are not the rectilinear, modular, flat-surfaced expressions which have long been associated with contemporary design (associated first in the understanding of the sophisticated professionals as *International Style*; then in the perception of the public as *modern architecture*; and now in the production plans of the manufacturers as *curtain wall*). The more sensuous tendencies that we show here must be considered important: sometimes because of the accepted (or promoted) talent of the architect who demonstrates them; sometimes because of the acknowledged (or promoted) value of the building in which they are demonstrated. Although it is likely that neither the man in the street nor the business-client-oriented architect yet recognizes the trend, trend it seems to be.

Is this a *negative* manifestation (antiaridity, anti-sterility, ani-monotony, antitechnology, anti-modular, anti-post-and-lintel, anti-constructivist)? Or is it a strong *positive* "... the irregularity of the façade, broken with projections and recessions..." **1** Chapel, Ronchamp, France: Le Corbusier. **2** Secretariat, Chandigarh, India: Le Corbusier.



tendency—a pro-plasticiy or pro-sensualism urge? In at least a basic sense, this question should be answerable by now. Almost three years ago, in the introduction to P/A's Design Awards issue in January, 1957, we remarked that many of the projects submitted that year showed what we called "emotionalism or sensualism." Since then, of course, the move has become more obvious, and its adherents (originators and followers) more prolific.

There is a second question: can one fairly demonstrate that all of the current plastic tendencies (expressionism, formalism, sculpturalism, structuralism, the search for "beauty" and "delight") are part of a single movement with common aims and a mutual philosophy?

This commentary presupposes for the moment such a single definition. For the sake of beginning a formal recognition of the overall movement and a discussion of its architectural aspects and environmental importance, we call it by as inclusive term as possible: *The New Sensualism*. We realize that under this blanket will be huddled the extremes of lunacy and reaction, as well as much beautiful and imaginative architecture. First, then, let us attempt a sort of cataloging of some of the architectural design stirrings which might be considered to have sensualist



4



2



"... planar plasticity, whether vertical, as surface of a building, or horizontal, as city plan or landscape scheme ..." **3** Study for center of Brasilia, Brazil: Oscar Niemeyer. **4** Student project, Department of Architecture, Yale University; Hospital: Tom Holzbog.

roots. What we will be looking for—the purpose and the principles we will be seeking we should recognize by Webster's definition of *sensualism*: "a stress on the imagery addressing the senses as the chief element of beauty."

Sensuous plasticity. Perhaps the first group of buildings to look at should be those of the very classicists of the modern movementmembers of the recently powerful CIAM group. Le Corbusier's Ronchamp Chapel has, in fact, become the prototype of the sensualist approach. The "new Corbu" and sensualism within CIAM began further back, of course José Luis Sert's interest in the plastic façade, as in the Cidade dos Motores, and Oscar Niemeyer's sculptural imagery, as in the Pampulha Chapel, (both published in P/A in 1946) long antedated even Corbu's Unités and certainly his Chandegarh Justice Hall. CIAM's historian, Sigfried Giedion, showed brilliantly in 1941, in his book Space, Time and Architecture' the translation of Baroque façade plasticity into the plastic street, plaza, and city core which Sert and others have used so strikingly in their urban-design applications. Much of Ronchamp's significance, in fact, must be considered in a different (sculptural) context; the greater influence of CIAMcontributed sensualism seem to be the irregularity of the facade, broken with various functional, sun-catching or purely sensually-designed projections and recessions. The result is plasticity, but undeniably planar plasticity (whether vertical, as a surface of a building, or horizontal, as a city plan or a landscape scheme.) The façadism of the Unité at Marseilles is notorious (it is the one criticism of the building that CIAM apologists have allowed themselves); the lack of organic unity in others of Corbu's recent structures (Chandigarh, even Ronchamp) is not so obvious until one realizes the non-articulated corners -the four aspects presented to four orientations.

The influence of this façade plasticity is largely, so far, in the schools. Under Sert, at Harvard, the students in the Masters' class call it "in-and-out" architecture. Under Paul Rudolph, at Yale, the word *is* plasticity. Few completed works in the United States illustrate the tendency: Wiener's slight influence on the Washington Square Village apartments; a few houses of Sert's, and some lesser imitative works.



"... these buildings must produce in the viewer a tingle of pleasure; they must delight him ..." 1 US Embassy, New Delhi, India: Edward Durell Stone. 2 Memorial Conference Building, Wayne University, Detroit, Mich.: Yamasaki, Leinweber & Associates. 3 Arts Center, Wellesley College, Wellesley, Mass.: Paul Rudolph. 4 Banque Lambert, Brussels, Belgium: Skidmore, Owings & Merrill.





Sensual delight. Several of our most admired and most publicized designers have recently been strongly promoting an attitude toward architecture which says in effect, "These buildings must now produce in the viewer a tingle of sensual pleasure; they must delight him." Edward Durell Stone, when he was using the pierced screen with sensitivity and restraint and lovingly developing with it certain related structural elements (columns at New Delhi, roof members at Brussels, wall panels in the Graf house), felt this urge. His aim, then, was to prove that related decoration, made a sympathetic part of modern architecture, could lift the building to new heights of emotional and sensual pleasure seeing. This is what Edgar Kaufmann, in an article in Yale's Prospecta 5 calls more pedantically "ornament poetically express[ing] the characteristic symmetries or purposeful disbalance of the form pattern." Stone's later attempts to throw screen walls around everything, and then to approach neo-eclecticism, are not, of course, pertinent in this context. The pierced screen as trademark, specifiable now as a cliché-clincher by the square yard, in almost any material, has obscured the original important point.

Minoru Yamasaki is the most articulate in words and imaginative in use of the sensualdelight designers. After his firm's limited success with a bolder form in the St. Louis Air Terminal, and after some bitter artistic disappointments in multirepetitional housing and redevelopment projects he turned to an imaginative three-dimensional plasticity. In the McGregor Memorial Conference Center at Wayne University he carried folded roof plates and folded wall panels into the interior space, folding the enclosed space itself, so to speak, and thus attempting to defeat the façade. In his current work, there seems to be a tendency toward surface decoration (the fault of the office-type building program, he says) although it is of bold, story-height proportions. The aim is still the attainment of delight of the senses-even the tactile sense: "I have always had a strong desire to touch those buildings I liked best" he has said.

We have dwelt on two architects, although there are others working toward this same end. SOM's Gordon Bunshaft has made his statement that a commercial façade can please and be playful (albeit with stern structural justification) in the Banque Lambert in Brussels. Paul Rudolph, in the Fine Arts Building at Wellesley, and Eero Saarinen, in the Law Library at the University of Chicago, are others who have used surface decoration as a means of delighting the viewer, as a way to "confirm the old postulate that ornamentation is a normal human appetite," to quote Kaufmann again.

Sculptural concept. The influence on architecture of sculptural sensibility (even the consideration of architecture as large-scale sculpture) is not a new phenomenon, although it has been badly confused in current criticism by meaningless terms such as sculptural formalism (which seems, with too limited a referent, to include anything from hyperbolic paraboloids to nouveau art nouveau). The beginnings of architectural history, in such piles as Stonehenge, might be classified by our modern separatist terminology as either sculpture or architecture. The Parthenon was so much a huge work of sculpture-non-used as architectural space-that Bruno Zevi hesitates to admit it to the pages of history as architecture. Much of the later Renaissance work, certainly most of the Baroque, employed sculptural plasticity (interior as well as exterior) to such a degree that at least elements of many buildings are sculptural rather than architectural achievements.

2

These earlier sculpture-as-architecture manifestations had a measure of discipline imposed on them by reason of the materials employed (usually carved masonry). Today, as sculptors themselves have become more free and more abstract while using more plastically-sympathetic materials, so sculptural architecture is less restrained as it uses the plastic materials of reinforced concrete, or even plaster-concrete or plastics themselves sprayed on an armature that can be warped and twisted at will. This is surely not in any sense the application of sculpture to architecture (nor the "collaboration of the arts" that concerns some critics) but rather the handling of architecture qua sculpture-which implies a creative creature who is architect and sculptor. We will come back to the point that few architects are competent sculptors; the outstanding exceptions are therefore all the more noteworthy.





Thomas Creighton's analysis of the various recognizable trends within the over-all movement toward New Sensualism in architecture will be continued in our next issue.









"... not the application of sculpture ... but architecture qua sculpture ... " 1 Chapel, Ronchamp, France: Le Corbusier. 2 Taliesin West, Scottsdale, Arizona: Frank Lloyd Wright. 3 House, New Canaan, Conn.: John Johansen. 4 Fellowship Hall, Venice, Calif.: Victor Lundy. 5 El Eco Club, Mexico, D.F., Mexico: Mathias Goeritz. 6 Presidential Palace, Brasilia, Brazil: Oscar Niemeyer. 7 New Harmony Shrine, New Harmony, Ind.: Philip Johnson.

maximum efficiency/minimum cost



Ezre Stoller

by Ada Louise Huxtable

The accepted American adage of bigger and better receives a small, effective rebuttal from one of the smallest and most effective of the recent crop of New York office buildings—the new headquarters for the Girl Scouts of the U. S. A.

Efficiency, flexibility, standardization without impersonality, and an atmosphere of cheerful, modest elegance have been achieved within the restrictions of rigid economy (\$3,875,000 for land and building) by a closely co-operating team: Architect William T. Meyer; Consulting Architects Skidmore, Owings & Merrill (Partner-in-Charge Robert W. Cutler; Project Manager Harold J. Olson, Associate Partner; Project Designer Roy O. Allen, Jr., Associate Partner); and Consulting Mechanical and Structural Engineers Seelye, Stevenson, Value & Knecht. Moreover, maximum efficiency at minimum cost has produced handsome results inside and out; the building may be small, but the accomplishment is not.

Faced with an extraordinarily tight budget (Girl Scouts is a conscientiously economical operation and did not want an "expensive looking" job) the architects concentrated on the least costly, least complicated construction, with the least amount of show. Enforced simplicity -often a blessing in disguise-was an inevitable determinant of the design. At the same time, there were specific functional needs. Girl Scouts is a rapidly expanding organization requiring a workshop of the utmost flexibility, serving as a world-wide center for Scouting, with facilities for programing, administration and meetings. Above all, an appropriately cheerful, light building was desired.

Requirements were solved and costs cut by a tightly organized structural program, using unostentatious materials: a reinforced-concrete frame; a simple glass-and-metal skin; and an orderly, modular layout. The frame consists of 19'-6" bays in both directions. Concrete was used in a flat-slab design to achieve maximum floor space in the height available to the mandatory twelfth floor setback. The curtain wall—one of the least costly ever designed by the office—is of heat-absorbing glass set in black ano-







Interiors are notable for two reasons: the consistent use of pleasant, low-key color with occasional judicious sharp accents (grayed off-white for walls, partitions and ceilings, gray for floors, primary reds and blues for Eames and Bertoia furniture in special areas); and the effect of the building's sma'l scale (approximately 9000 sq ft of work space on each floor) which permits completely open general offices, without the claustrophobic, core areas common to most larger commercial structures.



Employes' lounge and lunchroom (above) an the sixth floor have cheerful colors red, yellow, orange, and bright blue. Because large, flexible meeting facilities are needed for the many volunteer programs, board room (right) and conference rooms take up most of the penthouse floor, designed for 40' clear spans.



dyzed-aluminum strips, with white structural-glass spandrels. The architects note that this was their first use of black framing; economy was no deterrent to design innovation. Clear glass and granitefaced columns mark the ground floor.

All structural, mechanical, and electrical services were co-ordinated with care. Air conditioning and lights are arranged to use a minimum of space between the finished ceiling and the floor above, saving height for an extra floor; under-floor ducts provide outlets and telephones in all areas. Adjustable metal partitions are standard throughout, as are acoustical, metal-pan ceilings and the high-level lighting system, consisting of 4' recessed fluorescent troffers, installed in an orderly northsouth direction, with the conscious intent of presenting a uniform pattern to those viewing the installation from the outside. Natural light is controlled by vertical blinds.

At street level, an unpretentious entrance and elevator hall has white marble walls, terrazzo floors, and luminous ceilings, their economical simplicity a refreshing contrast to today's growing taste for flamboyant lobby decor. Of the building's thirteen floors, two are rental (for future expansion); the major part of the ground floor is leased to a bank; eight floors are standard office layout, housing departmental activities; and the two smaller penthouse floors are devoted to offices, conference and board rooms.

From top brass to visiting Brownies, the organization is well-pleased with its new headquarters. Nor is it inappropriate considering the ethical ideals of Scouting practice, that the building itself should point a moral: more generous budgets do not necessarily produce more successful designs. Although the architects would deplore the limitations enforced by such stringent economies if all jobs had to be as closely figured, this neat solution makes it quite clear that close budgeting does not preclude good taste.

To the Girl Scouts-a Merit Badge for Architecture!



激烈





Each floor has its own reception area, with a departmental director's office and conference room just beyond (acrosspage top). The two may be united or separated by a folding corkboard wall. Standard for all floors, these rooms are personalized by each department's displays, and by brightly upholstered Eames chairs, providing accent and contrast for the muted uniformity of the general work space.









Stairs from the main floor hall lead to a Girl Scout shop on the mezzanine, set up as a prototype operation for other shops throughout the country.

High-intensity illumination provides striking enhancement of the building and surrounding area at night.



wall assemblies

After 75 years of evolution, what attainments can one observe in curtain-wall costruction today? And, if observed, to what degree are these attainments desirable and useful? Significantly, it is difficult to find general agreement on a precise definition of curtain walls. Building Research Institute has defined them according to visual characteristics, method of support, and method of attachment; Allied Masonry Council contends that a curtain wall is a nonbearing wall built between columns or piers for the enclosure of a building, but not supported at each floor: National Association of Architectural Metal Manufacturers concerns itself with a curtain wall consisting principally of metal, or a combination of metals and other materials, supported in a metal frame. Traditionally, these walls have been basically considered as nonload-bearing. Now, however, with improved technology in the use of lighter/stronger materials, there are even those who would assign load-bearing duties to such walls. For the following discussions, the terms curtain wall and wall assembly will be considered broadly as interchangeable.

Regardless of definition, the principal trend in construction (both low- and high-rise) is toward greater prefabrication of wall components—whether the integral materials be of natural or man-made origin. That more wall components are prefabricated and assembled away from the site, under more favorable working conditions, is undoubtedly a commendable trend and in keeping with the technological climate of the building industry. This does not imply, however, that one can condone the monotony resulting from the similarity and flatness of many factory-made walls at the expense of enclosures produced by the same production methods but offering greater esthetic appeal. Curbing this trend is directly the architect's responsibility. As shown on the following pages, a great variety of wall assemblies is being erected—both custom-designed and within the range of standard components.

Since many jobs—perhaps the majority—do not have budgets permitting the time and effort required to develop custom-designed wall assemblies, and since capable manufacturers have taken on the fabrication and erection of wall assemblies based on their engineering research aad development, Ross W. Pursifull offers in this issue, "Curtain-Wall Specifications," a performance-type specification based on one manufacturer's details and methods that the latter has developed and will guarantee. Pursifull's specification is for a large hospital which utilizes curtain-wall construction based on the principle of using a standard curtain wall selected by the architect to meet his design concept and project budget. Working drawings show only profiles of the wall and elevations—no details. He also assigns an over-all responsibility for the entire wall to the curtain-wall subcontractor.

Final judgment of any wall lies in its performance. Properly designed walls and joints also require appropriate sealants. Some of the most pertinent problems related to the specification and application of sealants are also discussed in this issue.

Electrical Workers Building

location | architect landscape architect | Douglas Baylis

San Francisco, California Francis Joseph McCarthy



Photos: Roger Sturtevant





"Although actual occupancy has only recently taken place," writes the architect, "some effect of the new building on the neighborhood can already be seen in the general cleaning-up and orderliness—previously lacking—in the surrounding structures. . . . It is hoped that (through this structure) the forces of decay will be replaced in time by the stronger and more compelling force of self-revitalization." Nearby to the central district, public transportation, and freeway ramps, the area selected for the new headquarters building of Local Union #6 of the International Brotherhood of Electrical Workers was convenient, however in need of rehabilitation. One of the clients' requirements was indeed "a building we can be proud of and whose beauty, distinction, and character will contribute to the development of the community." Other client specifications were that materials be selected for ease of maintenance, durability, and economy, and that provision be made for an auditorium for the union's meetings as well as for other organizations and general community use.

For ease of public access the auditorium has been placed near the intersection of the two streets bordering the site. A two-story wing, parallel to it provides office space for the union—a members' room and dispatcher's office on the ground floor, and private offices and a conference room upstairs. Some office space has been designed for rental purposes to help defray operating expenses. The auditorium wing and the office wing are linked by a glazed lobby and stair hall. With the H-shaped plan, two very pleasant garden courts have been created—one, an entry court, the other, an outdoor extension of the auditorium.

Inside the auditorium, a simple apron stage has been provided to serve as a







From the central lobby (above) access is afforded to the auditorium (acrosspage) or, via half-flight of stairs, to upper and lower level offices (left).
platform for meetings. For other uses of the hall, partially pulled curtains provide the effect of a regular stage with proscenium. Kitchen, bar, and coatroom are at the rear of the hall. Walls of the auditorium are paneled in birch and hardboard. Columns along the court side have been faced with narrow strips of wood alternately painted red or stained. The ceiling is surfaced with acoustic plaster; floors are of maplewood. In the office wing, downstairs walls are paneled in hardboard; upstairs walls in manager's office and board room in birch plywood. Stairway walls are surfaced with mosaic tile.

The building's structure is a light steel frame used in combination with reinforced grouted-brick masonry. Metal floor pans, concealing electrical conduits, were used for the second-floor framing; wood joists and sheathing for the roof. Structural-glass panels, steeltube mullions with aluminum covers and sheathing compose the office-wing curtain wall (*Detail on page 184*).

A. V. Saph, Jr., Structural Engineer; G. M. Simonson, Mechanical & Electrical Engineer; Martinelli Construction Company, Inc., General Contractor.





IBM Regional Headquarters

location architect landscape architect

Los Angeles, California Pereira & Luckman* Carl Romer



In this building are consolidated the regional management and sales offices for the company, a training center, data processing center, and display and demonstration areas for electronic computers. These facilities are housed in a 14-story office structure which occupies approximately one third of the 1½-acre site on Wilshire Boulevard. The remainder of the property is devoted to a promenade at ground level from which displays may be viewed, and a 400-car garage. To adjust to the sloping site the building has been placed on a pedestal above street level. A deck which projects over this base provides openair terraces and visually helps to tie the vertical office block to the horizontal garage structure.

*Former architectural firm now succeeded by Charles Luckman Associates and William L. Pereira & Associates. Governing factor in the design of the office wing was the requirement that interior partitions be completely flexible. Thus, throughout the design, a module of 4'-8" was adhered to, and a structural module of 28' bays adopted. Within this module are the exterior sun-control fins and louvers of black and gray anodizedaluminum, which surround the office building on all four sides. This sunscreening device consists of continuous





September 1959 161

IBM Regional Headquarters

vertical fins with horizontal shades at the window heads.

Also co-ordinated with the module is the strip-lighting which provides an even illumination level of 65 foot-candles and thus permits complete freedom in the placement of office partitions. Fixtures run on 4'-8" centers in transverse direction, on runners which also support the acoustical-ceiling tiles.

In the data-processing center a denountable floor system, consisting of pipe stanchions covered with steel plates and finished with vinyl tile, permits access to the intricate complex of power supply. The space between concrete slab and demountable floor also serves as a plenum to supply the machines with cool air from the high-velocity air duct system. Two double duct, high-velocity systems, each serving one half of each floor, heat and cool the office building. On the upper floors electrical and telephone outlets are available on 2-ft

centers through the under-floor duct system.

Two structural systems—perimetric steel frame and concrete shear walls forming a central core—have been combined in this building. To resist earthquake uplift and horizontal-shear forces between the concrete floor slabs and building beams, special connector studs were end-welded to the top flanges of all beams. This system, which is estimated to have saved 50 percent in labor costs





over similar methods of fastening, was also used to attach sunshade brackets to a channel which follows the perimeter of the building at each spandrel section. The garage structure is of reinforced concrete. Office windows are aluminum sliding sash type; sections can be lifted out if necessary. The exterior wall is surfaced with Italian glass mosaic tile (Detail on page 185).

McNeil Construction Company was General Contractor.



TYPICAL UPPER FLOOR



ANA STREET

IBM Regional Headquarters





Projecting canopy provides: a sheltered promenade at ground level (above) for the viewing of displays (below); open-air terraces at mezzanine level; visual tie of the office building with the garage structure (left). Focal point in the two-story-high reception lobby (acrosspage) is bronze sculpture by Bernard Rosenthal, based on oscilloscope and punched-paper-tape pattern of a digital computer.



Photos: Erven Jourdan







In addition to the employes' dining room (acrosspage bottom) and its adjoining terrace (above) the mezzanine level provides conference rooms for the planning, programing, and testing of machine applications. These rooms are equipped with chalkboards which also serve as screens for motion picture and slide projection.



On the interior, expensive materials have been kept to a minimum; interest depends heavily on the use of contrasting colors.



Photos: Marvin Rand



Sun-Times Building

location architect-engineer

Chicago, Illinois Naess & Murphy landscape architect | Atkinson & Fitzgerald



A most difficult planning problem-entailing a site with an adjoining river bed, railroad and truck approaches, and four streets on two different levels-has been ingeniously resolved toward providing facilities for the smooth operation of a complete newspaper plant. "Advantages of the site," write the architectengineers, "are that paper can be received at the plant by ship, railroad, and truck, and that supplies and newspaper supplements can reach the plant without traveling on the crowded loop streets, but on the lower level streets which circle the downtown area." Reel room and paper storage have been located at dock level; the mailroom above the pressroom; and, between these two levels, the newspaper-delivery dock and concourse. The third floor contains the composing room; the fourth floor, the

editorial department and executive offices. The fifth and sixth floors, which are presently rented, are intended for future expansion of the newspaper. Because of space limitations on the lower floors, two 500 HP combination gas and oil-fired boilers and two air-conditioning compressors with fan equipment have been placed at the top of the building. Air conditioning is achieved by means of a high-velocity induction system at the perimeter of the building. Ceiling diffusers in the interior spaces supplement the perimeter system (see MARCH 1958 P/A for complete air-conditioning discussion). The use of river water as condensing water eliminated the need for a cooling tower at the top of the building. River water is also used in the plant area, as a coolant for the plate casters and the plate shavers.

The structural frame of the building is fireproofed steel. Floor construction of the heavily-loaded lower stories is of reinforced concrete on structural steel. The upper floors are of metal decking with concrete fill, surfaced with sprayedon fireprooofing at the office floors. On the exterior, Indiana limestone was used to surface the building from the river dock to the first floor; black granite around the first floor; dark-gray extruded, anodized-aluminum skin wall with mullions of light-gray extruded, anodizedaluminum (covering the columns) for the office floors (Detail on page 186); face brick with painted-concrete canopy at the seventh floor; and dark-gray anodized-aluminum, fluted siding for the penthouse.

George A. Fuller Company was General Contractor.





A particularly pleasant aspect of the building is the plaza which adjoins it and which may also provide space for future expansion of the pressroom. A pedestrian bridge between Wrigley Plaza and Sun-Times Plaza provides a connection with Michigan Avenue.

and a share the second

一般的 建合物的



The pressroom (acrosspage top) is designed to accommodate three rows of presses with thirteen units and three folders in each row. Reel room and paper storage are at dock level, the composing room (acrosspage bottom) on the level above the presses.











Texas Instruments Laboratory and Plant

associated architects

location | Houston, Texas Ford, Colley and Tamminga landscape architect | Arthur & Marie Berger







This building was planned for a company which develops and manufactures many types of electronic equipment, transistors, geophysical exploration devices and optical equipment. Employes of the firm are for the most part highly trained men in the fields of research and management. Reflecting this factor, the president of the company specified that the architects provide "a building symbolic of what we want the organization to be — astute in the application of science in most exacting fields . . . a source of pride to the community." More specifically, he wished the building "to emphasize the technological nature of the business—even the romance of it." About three months were devoted to a study of all the processes and operations of the company and the development of the basic design. The site is a flat, level area; the vegetation near-tropical; and close-by buildings of high caliber through "busy." Visual monotony, due to the dead-level terrain, was avoided by excavating to a depth of 5 ft to provide parking under the entire building and by pushing the excavated earth around the

building to gain contour variety. A heavy layer of gravel and several sumps and pumps have kept the garage dry. "The roll of the earth" write the architects, "up to the open slit between manufacturing floor and basement has done much for the looks of the building; marble appears as a real unsupporting 'curtain'—not as ordinary veneer over masonry." Rough-sawn Georgia Marble slabs, cladding the rectangular, windowless plant, lend the building the desired cleanness, whiteness, and simplicity to contrast with neighboring buildings.



Aluminum buttons fasten the marble slabs to pre-cast, pre-stressed wall panels with projecting vertical ribs (*Detail on page 187*). The floor, designed for a live load of 200 psf, is a 10" concrete slab; column spacing at the basement level is 30' x 30'. Post-stressed roof pans, measuring 5' x 30', poured on glass fiber for additional insulation and sound absorption, were designed as thin as possible for easy cutting of roof vents, etc. Since it was expected that plant operations would be under constant revision it was important to design a building which could be adapted to such changes. To this end post-stressed concrete roof girders, spanning 60 ft, were specified; all partitions and walls designed to be easily relocated; and the numerous piped and wired services made accessible, yet placed out of sight, through a system of floor-sleeve inserts down to basement and parking.

The manufacturing area is air conditioned by centrifugal compressors using chilled and hot water to moveable fan and coil units; certain office sections have a permanent duct system.

Braselton Construction Company, General Contractor.





Steel sections frame the entrance lobby (below) and canopy (left). Focal point at entry is a mural of ceramic tile (acrosspage bottom), an abstraction of a geological section, designed by Cecil Casebier and executed by Sally and Jane Howard. On the interior of the lobby, edge-grained fir boards surface the ceiling and walls. The floor is of Mexican "Granito."



Texas Instruments Laboratory and Plant



Two skylighted interior gardens—one (below), visible from the manufacturing area (acrosspage top), coffee room, lobby and reception area (left); the other adjacent to conference room, sales department, and office (acrosspage bottom)—enliven the windowless interior.







Frederick U. Conard High School

location architect site planner Kaehrle & Molloy



Photo: Louis Reens

Site for this senior high school, with a working capacity of 1716 pupils, is a 42acre, low-lying area which required extensive drainage. An adjacent golf course to the north and important roads to the south determined the placement of the two building elements. One-a cruciform, three-story unit housing all classrooms, laboratories, library, and administrative offices-faces toward the golf course and away from traffic noises; the other unitcomposed of auditorium, cafeteria, and gymnasium-is also extensively used by the public and is therefore nearest the approach roads. Visually, the three-story unit lends interest to the flat site, and, at the same time, preserves valuable land for full athletic facilities, pleasant ter-

races, and landscaped courts. A common lobby services both the classroom unit and the auditorium/cafeteria complex. The isolated gymnasium entry will also provide access to a future swimming pool. Public traffic to the auditorium and gymnasium is separated by the projection of the industrial arts wing.

Two separate structural systems were employed: reinforced concrete for the multistory classroom building providing economical, fireproof construction; steel for the large-span units. Structural floors are pan-formed concrete slabs, exposed as finished ceiling in most rooms. Exterior walls of the classroom unit have glazedbrick spandrels (*Detail on page 183*). Fenestration is steel operating sash and sky domes. Since no windows were required in the auditorium and gymnasium, insulated metal panels sheath these exterior walls. Heating and ventilating are achieved by a double-duct warm-air system in the furred corridor ceiling. A second-floor space above the auditorium and gymnasium houses ventilating fans and heating elements for these areas. Lighting is fluorescent, in most cases integrated into the pan-type ceiling; indirect-fluorescent cove-lighting in the auditorium; and incandescent in other areas.

Marchant & Minges were Engineers; Bolt, Beranek & Newman, Inc., Acoustical Consultants; Wadhams & May, General Contractor.







To give maximum clear height, the gymnasium (above) was constructed of rigid steel frames; the auditorium (acrosspage bottom) of steel trusses. The interior of the gymnasium is neutral in color, except for bluegreen end walls; in the auditorium each arch section is painted a different color, ranging from blue to blue-green. Vertical metal panels on the exterior of these units are alternately painted dark blue and bluegreen to give lightness and variety, and to contrast with the classroom unit.

Main lobby (left) links classroom unit with student assembly areas.



Classroom partitions are of cinder block. Front and rear walls are painted in one of five basic colors, alternated for variety and individuality; side walls are gray. Exposed concrete-pan construction (right) incorporates lighting system.





Frederick U. Conard High School









Built-in cabinetwork such as lockers in music room (top), tables in laboratory (center), desk and shelves in library (bottom) were architect-designed.



eleven wall-assembly details

On the following pages, Details and brief descriptions of wall assemblies in the foregoing presentations are shown. In order to demonstrate the use of other generic, as well as proprietary, materials and systems in use today, six additional assemblies have been chosen. Although admittedly brief, this cross-section suggests the variety of "curtain wall" designs found in contemporary architecture.



brick masonry

As originally designed, the classroom unit of Frederick U. Conard High School anticipated a multistory, poured-concrete framing system with a steel-and-glass curtain-wall enclosure. This accounts for the horizontal spandrel beams and in-set wall columns. Long after the architectural contract was signed and at about time of completion of working drawings, a new school-building commission required the architects to take an alternate bid for brick spandrels. Although it meant interrupting a complete window-wall pattern and inserting a different material by a different trade, the contractor submitted a lower bid and a saving of \$7000 was effected.

Nichols & Butterfield, Architects; Marchant & Minges, Engineers; curtain wall designed in conjunction with Hope's Windows, Inc., which had over-all responsibility for proper functioning. wall-assembly details



Photo: Roger Sturdevant

aluminum sash/enameled glass

Custom-designed walls of two-story office wing for Electcrafts, Inc., San Francisco, are composed of aluminum sash, formedsteel-tube mullions with aluminum covers, plate glass, and heat-strengthened glass spandrels. Wood-framed spaces behind charcoal-colored and red panels contain hot-water convectors. Plaster ceiling returning to floor above provides two-hr fire rating. Four-inch steel-tube mullions are anchored to concrete floor on anglesupport ledge with slip joint at top. Aluminum sash, supported at sill, is held with clips at mullions to allow for expansion. Polyvinyl tapes separate mullions from aluminum. Due to special attention given to design of expansion joint, ventilating of vertical mullions, etc., only one leak developed during first year of occupancy. (Easily corrected leak was caused by mullion-column condensation at clogged weep hole.)

Francis Joseph McCarthy, Architect, assumed over-all responsibility for proper functioning of wall; A. V. Saph, Jr., Structural Engineer.

ceramic mosaic/cement-plaster grout

Walls for IBM Regional Headquarters, Los Angeles, were erected by conventional field methods. Three elements comprise the wall system: (1) Spandrel wall -6'-10" high-has a core composed of 16-gage, structural, channel studs welded at mid height to a perimeter channel anchored to the concrete floor slab (surfacing materials of spandrels are detailed below); (2) Windows are continuous, horizontal strips of aluminum sliding sash and mullions are not structural; (3) Sun screening consists of a 2'-8" deep grid of continuous, vertical fins with canted shades between at window heads; fins being set into an aluminum bracket bolted to steel, perimeter channel at floor slab.

Scaffolding was erected from mezzanine deck to top of building for use by all trades. Installers of fins removed the scaffold as they worked down the building.

Sash was glazed with vinyl beading. Joints at sides of frames were calked with light-gray, nonstaining compound. Pereira & Luckman, Architects-Engineers.





wall-assembly details





Photo: Hedrich-Blessing

aluminum/concrete-block

For office floors of Sun-Times Building, Chicago, the designers chose an aluminum curtain-wall with concrete-block masonry back-up. Exterior skins of panels as well as the intermediate mullions are a dark-gray, extruded, anodized aluminum while light-gray extruded aluminum covers the projected columns. The wall assembly-containing aluminum sash and double glazing-is attached to the structural frame by steel angles welded to the spandrel beams. The formed-aluminum panels, air space, concrete block, and insulation produce a U-factor of .2. Twopart, polysulfide, synthetic-rubber compound was used as the sealant.

Naess & Murphy, Architects-Engineers. The wall was built according to architectural specifications by Rippel Architectural Metals, Inc., which assumed responsibility for proper functioning of this building component.

marble-faced, precast-concrete

An unusual wall-assembly design was created for Texas Instruments Laboratory and Plant, Houston. Story-height, prestressed-concrete, ribbed panels spaced between concrete structural columns, 30 ft on centers—support marble facing panels 1¼" thick and measuring 3'x5'. The majority of the exterior bays of this custom-designed wall are windowless. Supporting, prestressed panels are attached to the structural frame by weld plates anchored in the concrete. Marble panels are fastened to the projecting vertical ribs by means of anchor bolts and small aluminum plates.

Ford, Colley, and Tamminga, Associated Architects.





wall-assembly details





Photos: Hedrich-Blessing

stainless-steel

To eliminate optical distortion in the stainless-steel curtain-wall panels of Morton Salt Building, Chicago, the architects chose a fluted-panel design. The typical sandwich panels are 8'-6" wide by 5'-9" high and are 2" thick. All sash, window mullions, and spandrels in the curtainwall areas are of stainless steel. Exterior stainless steel is Type 302, fabricated with 20-gage steel; installation of the windows, took place after the spandrel sections had been placed.

Graham, Anderson, Probst & White, Inc., Architects. Truscon Steel Division of Republic Steel Corporation fabricated the curtain wall. Sherman Olson, Inc., general contractor, had over-all responsibility for wall performance.



thin, glass-block



A panel curtain-wall construction of thin glass blocks encloses a new plant for Paper Products Division of Owens-Illinois, at Chicago. Basic aluminum framing of this wall system includes head, jamb, and sill members, struts for support, and batten strips with snap-on covers. Panels, which are 2' high, 5' long, and 2" thick, have extruded, interlocking, aluminum perimeters with neoprene gasketing. Prisms on interior faces control sunlight striking the blocks, resulting in low brightness and solar-heat transmission per unit of light transmitted. Calking was required only at wall-perimeter junction. Skidmore, Owings & Merrill, Architects.





wall-assembly details





Photos: Robert E. Dick Studio

glass-block masonry

The proprietary curtain-wall system was fabricated by Kimble Glass Company, which assumed full responsibility for proper performance of the wall assembly. Curtain walls combining glass blocks and plate glass, set in an aluminum frame, enclose the three-story connecting passageway at Kane Memorial Hospital, Pittsburgh. By alternating areas of glass blocks and plate glass, a changing play of light is provided in corridor areas. Thermal-insulating value of the blocks

helps to reduce heating and cooling costs and answers the problem of surface condensation. The aluminum grid, containing the glazing, passes in front of the building's structural columns.

Button & McLean and Mitchell & Ritchey, Architects. Glazing performed by Pittsburgh Corning Corporation; aluminum grid fabricated by subcontractors, Albro Metal Products Corporation, which assumed responsibility for proper functioning of the wall assembly.









plastic/aluminum

At President Motel, Atlantic City, 40 sq ft of curtain wall was erected at a time, since the standard, plastic, translucent panels installed measured 4'x10'. These units are rigid, sandwich structures consisting of glass-fiber-reinforced polyester faces with aluminum I-beam extrusions as the basic core. Since these units weigh approximately $1\frac{1}{2}$ psf, erection is rapid and simple. T-shape battens are used to join adjacent panels. Elastic sealing tape —a butyl compound with fabric core between batten and panel acts as sealant. The panels are held in place between levels of structural steel by extruded angles and covers. Minor errors of alignment are taken up behind the covers. Rodney C. Williams, Architect. Winner & Whelan erected the panels, fabricated by Kalwall Corporation.









Photos: Dearborn-Massar

plastic/paper-core

Another type of plastic sandwich panel was chosen for Physicians Bullding, Everett, Washington. Glass-fiber reinforcedpolyester sheets were laminated to kraftpaper, honeycomb cores. These panels are anchored to the structural frame by being stopped into T-section window enframement—as glass normally would be. The honeycomb panels were cut to sash dimensions and the edges closed with plastic tapes. After the panels were bedded into the wood enframement, putty and wood stops were applied. Selection of the honeycomb-type translucent-panel was on the theory that it would have a dustproof built-in sun louver.

Paul Hayden Kirk & Associates, Architects, and Odegard Construction Company, General Contractors, had over-all responsibility for the wall.







ceramic veneer/precast concrete

Administration Building for the Harbor Department of City of Long Beach, California, has a curtain-wall system containing prefab panels of adhesion-type ceramic veneer with lightweight-concrete backing. Standard panels—4'x7' and 3" thick—were installed. The ceramic-veneer facing unit—about 1" thick—is a deaired, extruded, precisely finished, clay body with an impervious, glazed finish. Expanded-shale aggregate was used in the backing; reinforcing steel is galvanized welded-steel mesh. In casting, $\frac{1}{4}''$ joints— $\frac{1}{2}''$ deep—were used so that the finished panel could be pointed with a pointing mortar in the color desired, and tooled to provide water-repellent qualities. Warren Dedrick and James R. Friend, Architects. Panels, prefabricated by Gladding, McBean & Company, were installed by A. H. Maxted, Masonry Contractor.





Since capable manufacturers have taken on the fabrication and erection of curtain walls-based on their engineering, research, and development, the average architect today may waste time—as well as put his client's money in jeopardy—by attempting to detail and specify a curtain wall of his own. (Custom-designed curtain walls are usually more applicable to large projects where proper technical help and funds are available.) The specification in this article is of the performancetype based on manufacturer's standard details and methods that he has developed and will guarantee. It was written for a hospital installation which utilizes curtain-wall construction based on the principle of using a standard curtain wall selected by the architect to meet his design concept and project budget.

Curtain-Wall Specification

by Ross V. Pursifull*

1. general:	(a) The General Conditions the General Requirements and all other parts of the Contract
al Benerali	Documents shall be binding upon this subcontractor. Note particularly any alternates
2. work included:	 (a) Furnish all labor, materials, and supervision required to provide all curtain-wall construction throughout the project, including: aluminum grid system; aluminum windows and screens, alminum entrances, doors, and thresholds, aluminum gravel stops and copings which occur in curtain walls; porcelain-enameled steel wall and soffit panels; standard curtain-wall flashings and special building expansion-joint flashings which occur in curtain walls; glass and glazing; calking; steel supports and anchor bolts; and all incidental items and work, as shown on the drawings and as specified, unless otherwise noted. Location and extent of work are shown on the drawings.
3. work not included:	(a) The following will be provided under other divisions:
	 Aluminum windows and doors which do not occur in curtain-wall areas, including aluminum sills, and thresholds, specified under "Aluminum Windows" and "Orna- mental Metal." Aluminum copings and gravel stops which do not occur in curtain-wall areas, specified under "Ornamental Metal."
	 Building into concrete the anchors or inserts required for the support of curtain-wall construction, furnished by this subcontractor and installed by concrete sub-contractor. Hardware for doors.
	5. Detention screens for Unit 1 (nsychiatric wing on 5th floor of Hospital)
	 6. Final painting of exposed inner skins of curtain-wall panels, except touch-up after erection.
	 Aluminum and hollow-metal stools for curtain-wall and other windows, specified under "Ornamental Metal" and "Movable Metal Partitions."
4. shop drawings:	(a) Submit completely detailed shop drawings, showing all items to be provided under this division, to the Architect for approval, in manner prescribed. Shop drawings shall show the construction of the various parts of the work; methods of joining; thicknesses of metal and glass; profiles of frames and moldings; alloys and finishes of metals; methods of anchoring, reinforcements; stiffeners, and structural supports and areas

- of application; and types of sealing compounds. Also submit full and complete instructions as to proposed method of erection, including fastening methods and clearances from face of building frame.
- (b) Furnish drawings to other contractors and subcontractors as required to co-ordinate the work of this division with the work performed by others.
- This subcontractor shall examine the work installed by other trades insofar as it applies (a) to his work; and shall report to the Architect, in writing, any work done or being done improperly to receive his work.
- (b) This subcontractor shall be held to have verified all dimensions of previously erected work by field measurements, and will be held responsible for the accuracy of his work.
- (a) This subcontractor shall do all cutting and fitting of his work, and drilling and tapping of his work or the work of others, as required to fit his work to existing work, and as required to receive succeeding work of trades.
- (b) This subcontractor shall furnish all anchors not specified to be provided by other trades, as required to secure his work together and to the work of others, and shall

* Associated with Eero Saarinen & Associates. At the time this specification was developed. Pursifull was Project Architect with Smith, Hinchman & Grylls Associates, Inc.

5. inspection and measurements:

6. cutting, fitting, and anchoring:
7. samples:

8. general description: (a)

install them except as previously noted where set in concrete.

(a) Submit samples of each of the following for approval:

- Sections of mullions, panels, windows, doors, and frames, showing finish in each case; also complete units if required.
- 2. Each type of glass and name of glass manufacturer.
- 3. Gaskets; glazing and calking compounds.
- 4. Hardware for windows.

All items under this division shall be the products of a manufacturer experienced in the type of work indicated and specified, and shall be assembled and erected by him. Approved manufacturers for this work are "X" Co., City and State; "Y" Co., City and State; and "Z" Co., City and State; and bids shall be based on one of the above-named manufacturers' products, modified to meet these specifications and the accompanying drawings. Aluminum

9. materials: (a)

 Aluminum alloys shall conform in each case to the current ASTM specification listed below, and shall be of the particular composition and temper selected by the manufacturer as best suited for the purpose:

Material	ASTM No.
Aluminum-alloy extruded tubes	B235
Aluminum-alloy extruded bars, rods, and shapes	B221
Aluminum-alloy sheet and plate	B209

 All extruded and sheet aluminum shall have a minimum thickness of I/8", unless otherwise shown, and of greater thickness where required for proper stiffness or rigidity.

(b) Aluminum Finishes

- All exposed surfaces of aluminum curtain-wall construction in Health Center, in Laundry Building, and down to bottom of overhang in second story of Hospital Building shall be given a satin and anodic finish similar and approved as equal to Alcoa Alumilite 204 C 1.
- All exposed surfaces of aluminum curtain-wall construction in ground and first stories of hospital Building shall be given a buffed and anodic finish similar and approved as equal to Alcoa Alumilite 204 A 1.
- All surfaces shall be uniform in color, and shall be free from scratches, streaks, discolorations, and other imperfections. Finishes shall be correlated by subcontractor prior to submittal to the architect for approval.
- (c) Sheet steel and porcelain enamel for panels are specified hereinafter under heading "Design and Construction," and sealing compounds under "Erection."
- (d) Steel shapes supporting curtain-wall construction shall be in accordance with division "Miscellaneous Metals," but special requirements appear hereinafter.
- (e) Glass requirements shall be in accordance with division "Glass and Glazing," except special requirements stated hereinafter.
- (f) Curtain-wall fastenings. All fasteners that will be exposed in the finished work shall be of high-strength aluminum alloy. All other fasteners, except as otherwise specified herein, shall be what the manufacturer deems necessary.
- (g) Flashings. Flashings for use in curtain walls shall be of the manufacturer's standard aluminum-alloy material, not less than .032" thick. Flashings for use where building expansion joints occur in curtain-wall construction shall be of Monel metal conforming to current ASTM Specification B 127, as manufactured by International Nickel Co., of temper best suited for the purpose, and not less than No. 26 gage.
- (a) All work shall be done by workman thoroughly experienced in this type of work, and shall be first-class in every respect, in accordance with the best modern practice.
- (b) All flat surfaces shall be true planes visually flat, without waves or buckles; corners and edges shall be slightly rounded; miters shall be accurately cut and fitted; surfaces of adjacent members shall be brought to true smooth even surfaces; and joints between same shall have hairline contact, without the use of paint or calking.
- (c) Insofar as possible, the work shall be assembled with concealed fastenings. Where exposed fastenings cannot be avoided, heads of screws, rivets, or bolts shall be counter-sunk flush and finished to match the color and texture of adjoining work.

(d) Welding shall be done in accordance with the recommendations of the American Welding Society. All welded joints shall be free from porosity, cracks, holes, or other imperfections, and where exposed shall be finished to match adjacent surfaces.
 (a) General

Curtain-wall units shall be fabricated and assmbled in the shop as far as possible. This subcontractor shall be responsible for a complete weathertight installation, including all integral sealing and all perimeter calking, at the same time providing for all necessary expansion and contraction and for weeping to exterior all condensation occuring inside units, while preventing passage of air to interior of buildings. Also provide for future upward extension of curtain-wall construction on Hospital Building without noticeable change in appearance where new materials will be joined to existing materials. Grid System

1. The grid system shall consist of extruded aluminum members forming the framework

10. workmanship: (

(b)

11. design and construction:

to receive the insulating panels, windows, and other parts which together make up the curtain wall.

- While the external appearance of the grid system must conform to the drawings, as hereinbefore specified, the internal arrangement of the members is at the option of the manufacturer, provided that the members conform to the requirements of the specifications.
- 3. All grid-system members, both vertical and horizontal, shall be of adequate strength to withstand a wind load of 30 lb per sq ft. Connections between members shall be of adequate strength to transfer the loadings to one another and thence to the supporting steel.
- 4. Provision shall be made in the grid system to permit expansion and contraction of the members both vertically and horizontally. Areas normally concealed, but exposed upon contraction of members, shall be finished to match normally exposed areas.
- 5. All joints shall be constructed to prevent the entry of water into the members. Insulated filler panels joining grids at corners, etc., shall be fabricated from aluminum and shall meet the same general requirements for insulation and flatness as specified for porcelain-enameled panels.

(c) Insulated Panels

- Insulated panels shall be of sizes and thickness indicated, and of strength required to meet the conditions. Metal for panels shall be either steel or aluminum, with outer and inner facings properly reinforced to prevent distortion. Outer facing shall be finished with an approved weather-resistant porcelain enamel of colors to be selected by the Architect.
 - a) Insulated steel panels shall have inside facings of galvanized, bonderized iron or steel; and outside facings of "Armco" or approved equal highly refined iron or steel specially processed for porcelain enameling. Back surfaces and clips on backs of panels shall have two coats of enamel, prepared for finish painting to be done by painting subcontractor.
 - b) Insulated aluminum panels shall have aluminum facings both sides, and shall be of approved design, properly constructed and reinforced for strength equivalent to that of the steel panels specified above. Aluminum and porcelain-enamel work shall meet the requirements of Military Specifications MIL-A-16994A, "Aluminum Alloy Sheet, Flat, Porcelain Enamel Coated." Back surfaces and clips on backs of panels shall be prepared for finish painting to be done by painting subcontractor.
- Panels shall be insulated with an approved insulation which will provide a "U" factor of not more than 0.25 for the panel assembly. "U" factors must be confirmed by an approved testing laboratory using the "guarded hot-box" method.
- Porcelain-enamel work shall be in accordance with the best practice of the Porcelain Enamel Institute for Class "A" or "AA" panels. Porcelain-enamel exteriors shall have an approved semi-mat finish.
- 4. All insulated panels shall be visually flat.

(d) Aluminum Windows and Screens

- Aluminum windows shall be of the vertically-pivoted type, vertically-pivoted combined with hopper (opening-in) type, and awning (opening-out) type, as shown on the drawings for each location, and shall be as manufactured by Kawneer (Sealair) or Reynolds, or approved equal.
- 2. Windows shall show air infiltration not greater than the following, in terms of cubic feet of air per minute per foot of crack length, when subjected to static air pressure equivalent to the pressure exerted by wind at a velocity of 25 miles per hour:
 - Pivoted-type sash 0.075 cu ft

Hopper-type sash — 0.100 cu ft

- Awning-type sash 1.000 cu ft
- 3. All sections shall be free from twists and bends, and all corners shall be clean and sharp. Weld corners of all movable vents, frames at jambs and sills, and all other points where necessary for a weathrtight job. Sash shall be equipped with metal glazing beads for inside glazing, with vinyl gaskets, and shall be weatherstripped with neoprene or polyvinyl plastic material providing a double contact continuous seal completely around the frame and capable of easy replacements. All hardware shall be of white bronze or chrome-plated nickel bronze to match aluminum, and all screws of stainless steel. All locks shall be completely concealed.
- 4. Pivoted sash shall be so designed that the sash will revolve counter-clockwise approximately 180 degrees, and will be securely locked in that position to permit washing of exterior surface from interior side. Design shall also permit easy removal and replacement of pivoted sash if desired without removing glass stops and glass. Each sash shall have two pivots with stainless-steel pivot pins and aluminum pivot

blocks. Locks shall be operated by key, removable only when in locked position. Furnish four pairs of keys for each floor where pivoted sash occur.

- 5. Hopper vents shall be provided with operating arms and fully enclosed adjustable friction shoes, backed with heavy springs, permitting easy operation of vent and holding vent in any open position up to a maximum of 45 degrees. Locks of hopper vents shall consist of cam-action handles and strikes. Provide key-operated locks on hopper vents on east and south elevations of Unit "J," fifth floor of Hospital.
- 6. Awning vents shall be of a type which will open approximately 70 degrees, swinging out at the bottom and moving down at the top so as to permit cleaning from the inside. Friction shoes shall be completely enclosed. High vents in north elevation of Laundry Building shall be equipped with steel worms and gears with runs of approximately 20 ft, operated by cranks. All other vents shall have standard locking handle for manual operation.
- Approved insect screens, with heavy frames designed to permit rewiring, shall be provided on the outside of all windows with hopper vents. Screens shall be of aluminum, with aluminum 18 by 14 woven-wire mesh.

(e) Aluminum Entrances and Partitions

- Provide all aluminum exterior entrances which occur in curtain-wall construction, also vestibule entrances and partitions called for in connection with above-mentioned entrances and of similar construction. Entrances shall be complete with aluminum mullions and frames; narrow-stile doors; porcelain-enameled steel transoms where shown; aluminum or steel reinforcing cores where required; anchors, and all other parts and connections as shown on the drawings, specified, or required. Manufacturer's standard design may be used for this work, if modified to meet the requirements of the drawings and these specifications and integrated with the design of the curtain-wall system.
- 2. Doors and frames shall be fabricated of heavy extruded aluminum sections not less than 0.125" thick. Door corners shall be tenoned and either welded or secured by screws, and shall be milled to produce flush hairline joints. If screws are used, they shall be of stainless steel, and shall be either concealed or shall have flush heads and be as inconspicuous as possible. Cutouts and recesses for hardware shall be properly reinforced. Doors and frames shall be prefitted at the shop, and shipped as complete units as far as practicable. Also furnish and install thresholds for all doors so shown or required.
- 3. Provide weatherstripping at meeting stiles and bottoms of all exterior doors, also at door stops, so as to present a continuous weatherseal to the elements. Glazing beads shall have tubular neoprene or plastic glazing strips, and shall be either of the snap-in type with no exposed fastenings, or secured with screws.
- 4. Hardware for doors will be furnished under "Finish Hardware" to the door manufacturer, who shall install it and shall arrange with hardware subcontractor for time and place of delivery. Hardware subcontractor will be required to furnish templates to door manufacturer to enable him to provide openings and reinforcement for hardware as required.

(f) Glass and Glazing

- All glass and glazing shall be provided as required for all windows, doors, and fixed lights throughout the areas of construction under this division. All glass shall be set in a manner which will provide an absolutely weathertight installation. Special requirements for glass and glazing under this subdivision of the work are as follows:
- 2. All windows marked "Curtain-Wall Construction" in Laundry, Health Center, and ground floor and first floor of Hospital Building, including all windows in Court No. 2, also Rooms 1205, 1350, and 1352 on first floor, shall be glazed with 1/4" thick Franklin Gray Plate Glass No. 5223. All other windows in this division of the work, unless otherwise noted, shall be glazed with approved 1/4" thick clear polished plate glass, except hopper and awning type vents, which shall have approved DSA flat-drawn clear sheet glass. Use approved 1/4" tempered plate glass for all windows, including vents, on east and south elevations of Unit "J," fifth floor of Hospital. All plate glass shall be twin-ground.
- Set all glass strictly in accordance with manufacturer's instructions. Exercise special care in setting large panes, using setting blocks and spacers where required, and make tight with compound as specified under Paragraph 12.
- 4. This scubcontractor shall replace all glass under this division which is broken or damaged from any cause whatever. If damage can be determined as having been caused by other subcontractors, the cost of replacement shall be charged to their account.

(g) Aluminum gravel stops shall be Alcoa Type E (No. 68755), or approved equal extruded

aluminum gravel stop, complete with gutter bars, joint covers, and special mitered and welded corner sections. Furnish gravel stops in lengths to provide expansion joints at same points as copings.

(h) Aluminum copings shall be of extruded stock 3/32" thick, unless otherwise indicated, of section shown, complete with joint covers and fastenings, for use in curtain-wall construction. Furnish necessary joints where required for expansion.

Steel Framing (i)

This subcontractor shall furnish and install all steel framing, supporting angles, reinforcing, clips, bolts, and connections required to support all curtain-wall construction in a rigid, plumb, and true position at all times, and to transmit to the building frame a wind load of 30 lb per sq ft on the face of the curtain wall. Inserts to be set in concrete for support of this framing or of curtain wall directly shall be furnished to the concrete subcontractor with necessary directions for setting, as previously noted. General

1. Erection shall be carried on in a first-class workmanlike manner in every particular.

12. erection: (a)

Curtain wall shall be erected with panels flush with the inside faces of the mullions, and the entire construction plumb and true to line, with sufficient clearance from the face of the building frame to overcome minor variations therein. Brackets and clips shall have slotted holes, and studs, bolts, and other anchoring devices shall be used in conjunction with shims and washers to provide for all necessary adjustments in line and grade. The general contractor will be required to furnish bench marks and lines on each floor, but this subcontractor will be held responsible for proper erection in accordance with the requirements of these specifications, working from these marks with maximum plumb and level tolerances of 1 in 1000.

curtain-wall construction in accordance with his standard practice.

(b) Sealing Joints 1. This subcontractor shall seal all joints within the body and around the perimeter of

13. protection and painting: (a)

Steel Work

therewith, if requested.

All surfaces of steel items shall be painted one shop coat of prime paint. All surfaces of steel not in contact, but inaccessible after assembly, shall be painted one shop coat before assembly. Surfaces in contact after assembly may be assembled unpainted. Refer to "Miscellaneous Metals" for paint and painting requirements. (b) Aluminum Work

2. If glazing compound is used instead of gaskets for setting glass, etc., use either "Tremtape" (Tremco Manufacturing Co.) or other approved compound conforming to the Performance Specification of the Aluminum Window Manufacturers' Association, revision of July 15, 1955, and submit evidence of product's compliance

- - 1. Wherever aluminum items are secured to steel supports or are placed in contact with steel or dissimilar metals or with masonry, the contact surfaces of the aluminum shall be painted with one heavy coat of an approved alkali-resistant bituminous paint, or one coat of zinc chromate primer having an alkyd resin vehicle. All paint coats shall be permitted to dry thoroughly prior to installation of aluminum.
 - 2. All exposed surfaces of aluminum shall be protected from discoloration and corrosion by coating with two coats of water-white methacrylate lacquer or an approved equal protection, applied at the factory.

The subcontractor shall remove all protective coatings except lacquer; repair or replace all damaged work; clean all porcelain enamel and aluminum work; and perform all other work which is necessary to maintain the entire installation in a first-class, approved condition, at such times as the Architect may direct, and immediately prior to acceptance of the building by the Owner. Approved soap powder and clean water shall be used for this cleaning work.

The subcontractor shall warrant and the Contractor shall guarantee all materials and workmanship specified herein against defects, all in accordance with the requirements of Paragraph 54 of the General Conditions. The subcontractor shall guarantee that the curtain-wall construction remains weathertight and watertight, all in accordance with the requirements of Paragraph 54 of the General Conditions, except that the guarantee period shall be five years instead of one year as provided therein.

(b) The subcontractor shall furnish a performance bond, a labor and material bond, and a maintenance bond, each in the full amount of his subcontract. These bonds shall be in a form acceptable to the Owner. The performance and the labor and material bonds shall be made payable to the Owner and the Contractor. The maintenance bond shall be made payable to the Owner, and shall cover the five-year maintenance period mentioned above. These bonds shall be filed with the Owner before the subcontractor is permitted to start work under his subcontract. The cost of these bonds shall be borne by the subcontractor.

14. cleaning: (a)

15. warranty, guarantee, performance bond: (a)

2.

That there is great interest in—as well as earnest desire for—technical information regarding proper performance of panel curtain walls, is attested to by the generally large audiences at numerous seminars held on this subject in recent months. As a result of conferences sponsored by Thiokol Chemical Corporation, on both coasts, Armen D. Yazujian and J. R. Panek have edited and present (below) answers to questions most frequently presented to their panel members regarding the proper use of polysulfide sealants. DuPont's Robert H. Barton offers (on the following page) a discussion of the need for a performance specification for neoprene preformed seals. Concluding this presentation, R. C. Jamison, of Presstite Division, American-Marietta Company, discusses the principal precautions that must be observed to insure proper sealing of contemporary structures.

Curtain-Wall Sealants

polysulfide sealants

QUESTION: To what surfaces will polysulfide sealants adhere? ANSWER: Correctly formulated polysulfide sealants will adhere to properly cleaned glass, aluminum, various steels and stainless steel, zinc, lead, bronze, copper, non-oily woods, stone, and masonry. However, some of these surfaces may require the use of a primer under specific conditions. QUESTION: What practices are recommended for stone and masonry? ANSWER: With respect to stone and masonry, use of a primer is recommended for several reasons: (1) Because of the porous nature of the stone and masonry, the use of a primer seals the surfaces and keeps water away from the interface. (2) It has been found that these otherwise wet areas may be acidic or alkaline which may contribute indirectly to adhesion failures in certain instances. (3) The use of a primer does reinforce the surface layer of the stone or masonry to a sufficient depth, thus definitely improving the adhesion characteristics of the sealant in a working joint.

OUESTION: Do surface treatments and protective films present any problems? ANSWER: The sealants are not recommended for use against a silicone-treated surface where adhesion is required. The sealants are not recommended for use against any film surfaces. In many cases, it has been shown that the polysulfide sealant has adhered to films, which stripped off very easily. Thus, the limiting factor becomes the surface with the lower adhesion value. In cases where the film does adhere, then the sealant should be tested against the film under a variety of test conditions such as water immersion, heat aging, temperature cycling, and tension adhesion. If the joint will

perform under these tests, then it is reasonable to presume that performance will be satisfactory. The sealants are not recommended for use against any film or surface known to contain an extractable oil, plasticizer, coal tar, asphalt, or solvent where adhesion is required. Removal of film surfaces from the base material by the use of an appropriate solvent should be in accordance with the manufacturer's recommendations.

QUESTION: What is the maximum percentage of elongation expected from a polysulfide sealant? ANSWER: Under specification test, it is required that the sealant have a minimum of 150 percent elongation in a simulated test assembly. The component should also be expected to maintain the same characteristics following weathering, accelerated aging, water immersion, and low temperature exposure.

QUESTION: What type of surface preparation is required to get best adhesion? ANSWER: All dust, dirt, oil, water, and loose material should be wiped clean from the surface to which polysulfide sealants are to be applied. This should be done using a clean rag wet with Xylene or other suitable solvents. The polysulfide sealant will adhere to cured polysulfide. The sealant is not recommended for use against hardened glazing compound or any other hardened mastic. Areas of questionable nature should first be trial tested.

QUESTION: What is the cost on a per foot basis for applying a polysulfide base sealant? ANSWER: Quotations vary from as low as \$.18 to as much as \$2.00 per lineal foot. The dimensional variations involved, the magnitude of the scaffolding, the concentration of points to be sealed, and other facts such as ambient temperature, height of the building, and weather conditions considerably affect the price. Joints as wide as 6" having a 1" depth have been sealed requiring approximately $\frac{1}{3}$ gallon of sealant per foot!

OUESTION: Are there any specifications available that will assist the architect who specifies polysulfide base sealants? ANSWER: There is no specification available at the present time for building use. Some architects are following the practice of using military specifications for qualifying the sealants. While these specifications are very satisfactory for their intended use, they are not sufficient to cover the broad scope of problems encountered in building applications. A committee has been formed of representatives from most polysulfide sealant suppliers who have drawn up a performance specification for polysulfide base sealants. This specification has been under development for 21/2 years, and was presented for adoption at a general conference meeting of the American Standards Association on April 9, 1959. It is expected that this specification will be adopted by American Standards Association in the near future.

QUESTION: What is the current practice of guaranteeing polysulfide sealants? ANSWER: Where the applicator may choose the sealant, guarantees have been given for two years and, in some cases, as many as five years. The best guarantee of a good sealing job consists of proper choice of an applicator, properly compounded material, and properly designed joints.

QUESTION: It has been stated that there are only four colors of polysulfide sealants currently available. It has also been stated that polysulfide sealants are obtainable in all colors. Which is the correct answer? ANSWER: Colors are being introduced in a broad color spectrum which include white, yellow, pink, blue, green, and others. Originally the colors were black, brown, and tan. It is recommended that the architect or specifier require the same physical performance in all sealants regardless of color.

QUESTION: Will polysulfide sealants stain white marble and stone? ANSWER: Staining may occur when certain adhesion additives are incorporated in the sealants in order to obtain adhesion. These sealants perform very satisfactorily on glass, aluminum, steel, and other surfaces, but may stain white stone. Sealants intended for use on light stone are formulated so that no staining will occur. It is essential that the supplier be informed of the intended use for the sealant. Indiscreet use of sealants has caused staining.

neoprene gaskets

Resilient gaskets, commonly called preformed seals, depend upon elastic properties under compression, rather than upon adhesion for their sealing action. This is a very important difference from calking materials and results in substantial savings in on-the-site labor. Their effectiveness as seals may be largely determined within prescribed limits. Proper function and long service life depend to a great extent upon design. Both the resilient gasket and the seating members must be designed to work as a unit. Therefore, the designer must have a good knowledge of the characteristics and physical properties of the materials with which he is working. While this means resilient gaskets are generally designed on a custom basis for a specific application, it does not mean that high costs are involved. The materials are not expensive and preformed seals can be produced readily by the rubber manufacturer, using existing equipment. However, the necessarily intimate relationship between the design of the gasket and of the frame, means it is advisable to bring the supplier of the gasket into the picture as early as possible, before restrictions of design are imposed which would limit his ability to furnish the most serviceable gasket at the most favorable price.

For more than 25 years, neoprene has compiled a record for resistance to weather, sunlight, and aging; flame, ozone, and corona; wide variations in temperature; oils and grease; most chemicals; and mechanical abuse. In that period, the relationship between quality and longevity has become well established. It is possible to prescribe with considerable precision the quality level necessary to give the type of service life demanded by the building industry. This quality can be readily described in terms of a combination of physical properties and retention of these properties under specific accelerated aging conditions. The American Society for Testing Materials provides industry accepted standards for such testing.

Traditionally, hardness (as determined by ASTM Test D676) and tensile strength (according to Test D412) have been the basic physical property measurements most frequently used by the rubber industry. Hardness is a measurement of resistance to penetration. In the case of gaskets, this gives a rough measure of the pressure required to form a seal. High hardness implies high pressure-low hardness, low pressure. Tensile strength, although it does not have a direct bearing on utility in compression applications, does indicate the general over-all quality level. In gasketing applications, a specification on tensile strength

limits the degree of extension of the neoprene, which is reflected in a limit on dilution of the weathering and resistance properties of the compound.

These two properties will be almost mandatory in any rubber specification, since these are basic in the formulation of a compound. Architects and builders, however, will be more directly concerned with the following two properties, weather resistance and resistance to compression set. Weather resistance is the ability of the gasket to resist oxidation and sunlight exposure (weather) and to remain flexible and free from deterioration for periods in excess of 20 years. Compression set measures ability to resist permanent deformation under load. In the case of gaskets, this means retention of sealing pressure. Weather resistance, at first thought, might appear to be a difficult property to measure on a laboratory basis. However, neoprene's history of weather resistance can be correlated to laboratory results. Weathering is closely tied to oxidation and ozone resistance. It is possible to predict weather resistance broadly by examination of the properties of a sample of a compound after exposure to a known concentration of ozone (in accordance

Outline of Suggested Specifications for Neoprene Preformed Gasket and Sealing Material*

	Compounds		
	A	В	с
Physical properties			
Hardness, durometer	40	50	70
Tensile strength, psi	1500	1500	1500
Elongation, per- cent	450	350	180
Heat aging, 70 hr at 212 F			
Hardness change (points)	0 to + 10	0 to + 10	0 to + 10
Tensile change (percent of orig- inal)	-15	-15	-15
Elongation (percent of orig- inal)	-40	-40	-40
Compression set, per- cent	30	30	25
Low temp. brittleness	Passes -40 F		
Weather resistance			
20 percent strain, I part per	No cracks		
million ozone after 500 hr			

* Shows only the basic properties discussed. In practice, more complete specifications are indicated which include such other items as color, staining, dimensional stability, etc. with ASTM Test D1149). Compression set is measured by exposure of a sample to high temperature while in a compressed state (Test D395-Method B). A measurement is then made of the permanently retained deformation. High deformation means poor set, low deformation means good set.

In addition to these basic properties, there are a number of others which might be specified, such as dimensional stability, staining, oil resistance, and low temperature flexibility- to name a few. A typical specification in skeleton form is shown (below). This follows closely a specification being set up by the Curtain-Wall Division of the National Association of Architectural Metal Manufacturers. It must be recognized that this provides for minimum performance adequate for architectural use. Rubber suppliers may well prefer to supply material with higher performance, to meet the requirements of a specific installation, or to provide service life or other performance in excess of the minimum.

sealing precautions

The myraid sealants available to architects, engineers, contractors, and fabricators present a formidable problem when the inevitable decision must be made as to which one or ones are to be used. Modern structures can and are being successfully sealed against the elements! However, the arduous task of traveling this long, winding road to Utopia can be made easier provided that information shown on caution signs, put up along the way by ethical sealant manufacturers, is considered. These signs may read: design, movement, surface preparation, materials, sealant compatibility, sealant research. There are others, but let us digest the meaning of each of the above as we progress along the road.

Freedom of design is being enjoyed by the architect to a degree unprecedented in history. A most important contributing factor in allowing this freedom has been the introduction and availability of many new types of building materials, including sealants. There was once a time when oil-type calking compounds, putties, and glazing compounds were all that was needed to seal a structure; however, the "sealing systems" offered today by some sealant manufacturers include these as well as up-graded materials formulated with new synthetics and designed to do a specific job of sealing under predetermined conditions. Closingin a building with these new concepts in sealing techniques is a joint venture by all in the building group, beginning with design on the drawing board. The capabilities and limitations of existing sealants must be considered at the time of design, for at this point the sealant manufacturer is best in position to assist the architect in the selection of a sealant, or series of sealants, engineered to function as a positive seal in a specific detail. The privilege of so working with the architect is being granted sealant manufacturers at an increasing rate resulting in fewer job failures. This closer working relationship between architect and manufacturer, and the subsequent discussions of design and sealant problems, will aid in overcoming a major cause of job failure; i.e., design detail which cannot possibly be sealed with known existing materials, and the offering by sealant manufacturers of one or two products perpetrated to weatherproof any and all seams, joints, or openings. The movement alone in a curtain wall of accepted good design subjects any sealant to severe stresses, and a product must be formulated with an adhesive and cohesive balance to resist these forces and remain intact.

Obviously, a joint that will move from $\frac{1}{4}$ " to $\frac{1}{2}$ " cannot be permanently sealed with a compound whose maximum elongation is 50 percent. Expansion and contraction of a joint in today's curtain-wall structures narrows down considerably the number of sealants that will perform successfully. Serious consideration of building and joint movement will reveal that most sealing tapes not reinforced with a core will migrate, exude, or squeeze out of an open joint. Cores of different types are available, from cloth to neoprene, and do provide-in varying degrees-the cushioning, resiliency, adhesive strength, and resistance against weathering required to provide a watertight seal when placed against a proper surface.

Preparation of the surface is always important when any sealant is used regardless of type—because the bond is as strong or weak as the surface to which the sealant is applied. The cleanliness of the surface in question is more critical with some products than others. The two component polysulfides require the most careful attention in this regard, and the sealant manufacturer's established instructions for application should be observed. Sealing tapes generally are less of a problem in this respect due to their ability to absorb into the compound small quantities of surface dust without substantially lessening adhesion or deteriorating the compound. In addition, tapes in most cases are applied and held under compression, thus mechanically aiding the seal at the bond line.

Bonding to a variety of materialssuch as aluminum, steel, porcelain enamel on metal, copper, wood, bronze, glass, concrete, stone, marble, and plastic-is required of today's sealants, and they are expected to function for many years as a weatherproof barrier. Use of several of these materials on a given project is common in today's architecture. Therefore, it is extremely important to the architect that he carefully examine the background of the sealant manufacturer. Research and development work which has provided successful sealants for other fields-such as aircraft (aluminum), refrigeration (porcelain enamel), highway construction (concrete) to name a few-will and does provide the manufacturer with a wealth of technical know-how adaptable in many instances to sealing problems of the building industry. The result of this diversified effort in many fields has, with some sealant manufacturers, allowed them to present a number of "sealant systems" to the architect. It is important to note that two sealants produced by different manufacturers are not necessarily compatible and one may attack the other chemically, resulting in product deterioration, loss of bond, or both. Most manufacturers will supply laboratory data and job histories where one or more sealants were used. When this is not possible, laboratory testing of the particular compounds considered can provide the answer.

Intensified research into the field of sealants for the building industry will introduce new concepts in sealing materials and techniques. Careful examination and evaluation of today's sealants by the building group in conjunction with the sealant manufacturer, is imperative to attain the desired degree of weathertightness.

You pay no more for unequalled SLOAN quality...



Sloan concealed flush valves can be installed <u>either</u> way!

• On the job, when a Flush Valve cannot be installed according to plan, the alternate handle opening is used to avoid the obstruction. Result: a saving of time and inconvenience.

• Yes, everybody benefits from Sloan's double handle opening . . . architects, engineers, wholesalers, plumbers, even owners! Furnished as standard equipment on all Concealed Flush Valves, it's another example of the bonus of quality you expect from Sloan at no extra cost.

• Today, as in the past, when it comes to finding new methods and materials for making Flush Valves better, you can depend on Sloan research. And since the Sloan quality resulting from this research costs you no more ... why not make sure you get it.



SLOAN VALVE COMPANY . 4300 WEST LAKE STREET . CHICAGO 24, ILLINOIS

Gothic

grandeur, unequaled artisanship ... by Overly

Location, Indianapolis, Indiana-not Europe! Spire: Third in a series of imposing Gothic spires by Overly in recent years. With each piece handcrafted and assembled into large, prefabricated panels for economical erection, Overly's spire building techniques produce the ultimate in grandeur. • Towering 170 ft. above grade, this 87-ft. lead-coated copper spire is of French Gothic design based on Sainte Chapelle in Paris. Prefabricated and erected by Overly. • We craft weather-resisting sheet metal spires of all types and sizes from the largest to the smallest—to meet any design and to suit any church's budget. Write us today for our 28-page brochure on spire history.

OVERLY MANUFACTURING COMPANY GREENSBURG, PENNSYLVANIA





Building: Second Presbyterian Church, Indianapolis, Indiana.

Architects: McGuire & Shook, Compton, Richey Associates, Indianapolis.

U.S.AIR FORCE ACADEMY concrete floors hardened with LAPIDOLITH (patented concrete hardener)

The tramp of thousands of feet a day will cause little wear on the floors of the 7 Air Force Academy Buildings at Colorado Springs. They have been treated with Sonneborn LAPIDOLITH, which makes concrete floor surfaces harder and denser prevents crumbling and dusting. This ruggedness is due to LAPIDOLITH not being a coating or film. No other hardener made reacts on concrete so that it becomes an integral part of the concrete to caseharden in depth.

When applied according to specifications LAPIDOLITH has a bonded guarantee. Its lasting hardness and heavy service reduces maintenance, protects against oil and chemicals, and it is easy to apply. Send today for LAPIDOLITH literature.



L. SONNEBORN SONS, INC. Building Products Division Dept. P-99 404 Park Avenue South New York 16, N. Y.

Architects-Engineers: SKIDMORE, OWINGS & MERRILL **MEMORIAL EVANGELICAL UNITED BRETHREN CHURCH** • Silver Spring, Maryland Duane & Lawrence – Architects • Martin Brothers – Builders Blue-green Ceramic Veneer in units 16" x 24" x 1 $\frac{1}{4}$ " was specified for the curved wall at chancel; buff-colored Ceramic Veneer for sill and mullions.



Ceramic Veneer never limits creative expression

FEDERAL SEABOARD TERRA COTTA CORPORATION



10 E. 40th St., New York 16, N.Y. Plant at Perth Amboy, N. J. The challenge of planning a house of worship, either contemporary in design or traditional, requires complete freedom of creative expression. Ceramic Veneer helps solve these challenging design problems by giving you an unrestricted choice of form, color and texture. Whether your plans call for plain surfaces, polychrome panels or decorative sculpture - for interiors or exteriors-they are executed to your precise specifications by Federal Seaboard craftsmen. Ceramic Veneer is moderate in price, easy to install. Because the original color and beauty of Ceramic Veneer can be retained indefinitely with simple soap-and-water washings, you are assured of long-range economy. Write us today. Without charge we will gladly furnish construction detail, data, color guide brochure, advice and estimates on preliminary sketches involving Ceramic Veneer.



Maximum flexibility in space utilization is achieved at Reynolds through partitions that easily can be moved to expand or decrease area sizes. This can be accomplished without making costly changes in the lighting system. The Curtis wall-to-wall ceiling of light provides 80 ft. candles of maintained illumination. Attractive Hexcel Honeylite aluminum diffusers complement the inviting decor.



How a special Curtis Lighting system saved Reynolds Metals \$50,000...



Unique all-aluminum folding grids in 100 sq. ft. units cut installation time 8,000 man hours . . . provided wall-to-wall illumination with low brightness quality

Installing a lighting system so flexible it can adapt to any internal building change without relocation is quite a feat. But when that is accomplished at important savings it calls for exceptional engineering ingenuity. That's what Curtis Visioneers achieved with a special custom-made aluminum folding grid system at Reynolds Metals Company, Richmond, Va. The unique folding "packages" made it possible to install 100 sq. ft. of lighting at one time. Result: a saving to Reynolds of an estimated 8,000 man hours, or approximately \$50,000. A wall-to-wall ceiling of light was created with a beautiful satiny aluminum lighting tone of low brightness quality. Over-all ceiling illumination solved the problem of how to obtain stationary lighting for a 100,000 sq. ft. area, even though wall partitions would be moved in the future. Write today for the name and address of the representative in the principal city nearest you. Curtis-AllBrite Lighting, Inc. Chicago, 6135 W. 65th St. South San Francisco, 352 Shaw Road.



Here is the new home of Reynolds Metals Company, Richmond, Va. It is dramatically placed at the end of a reflecting pool bordered by willow oaks. The classic beauty of the building is enhanced by this unusual setting. Architect: Skidmore, Owings & Merrill; Consulting Engineer: Ebasco Services, Inc.



Large office areas are as effectively illuminated as small areas with a high degree of visual comfort assured. In this special Curtis grid installation, aluminum materials were used throughout. Maintenance features of the system include ease of relamping, ready access to wiring, simple replacement of ballasts.



Hospital Casework by St. Charles Installed in Utah Valley Hospital, Provo, Utah







Chemistry Laboratory

JOHN H. ZENGER, Administrator WILLARD C. NELSON, Architect

Just as no two hospitals are alike, no two casework installations can be alike. Only the adaptability of custom casework can meet the more exacting requirements of today's hospitals.

Proven *complete flexibility*, plus functional beauty and rugged dependability, is making St. Charles Custom Casework the choice of more and more hospitals.

SEND FOR CATALOG. This complete catalog, "St. Charles Hospital Casework," is available at request on your letterhead.

CASEWORK . SINKS AND COUNTERS

St. Charles Manufacturing Co., Dept. PAH-9, St. Charles, Illinois

Barbara J. Melnick restaurant

A gracious reception—tasteful, simple, superbly elegant—is offered visitors arriving from overseas by The Golden Door Restaurant, designed by Knoll Planning Unit in co-operation with the Planning and Design Department of The Brass Rail, the restaurant's operators and managers. Creating an atmosphere of welcome and luxury on the roof level of International Arrival Building at Idlewild, a harmony of warm color (large central gold-leaf coffer; yellows in smaller coffers, drapery, and screen; gleaming brass of columns and screen panels; warm golden illumination) is woven through the design of The Golden Door.

Commanding a fine view of the airfield's runways and landing strips through window walls, the restaurant with bar and cocktail lounge occupies almost 20,000 sq ft and seats almost 400 persons. The spacious restaurant area is divided, to create more congenial settings, into eight dining sections for groups of approximately 40 persons. Though enjoying a sense of the open room, these individual dining sections are intimate and formed by subtle, adroit means—long sofas and planting divide areas and separate them from circulation lanes; cove-lighted ceiling coffers emphasize individual areas; each section centers around the service station at its core; identifying colors of red, blue, or beige on chairs and sofas distinguish one section from another.

Careful thought has made the restaurant's lighting a vital architectural element. Subdued, warm, general illumination from ceiling-recessed downlights provides the softly diffused light appropriate to a mood of relaxation and intimacy; the intensity of light in the cocktail bar and lounge or in the various dining spaces may be heightened or dimmed by separate dimmer controls. Glowing painted-plaster coffers are effective in defining individual dining spaces below; varied in size, shape, and color, they combine to form an interesting ceiling pattern; the coves are fluorescent-lighted on separate switches for further flexibility. Adjustable spotlights focus attention on planting and screens, handsome features used as space dividers, while lighting built into the bar and each dining area's service station concentrates accents there.

Calm surrounding of neutral tones (off-white ceiling, tweed carpet, beige upholstery) is sparked by red and blue in upholstery and ceiling coffers; by rich cherrywood walls and service stations; by white-plastic laminate wall; and especially by the golden screens.



p/a interior design data

restaurant

name client designer project director location architect The Golden Door Restaurant The Port of New York Authority Knoll Planning Unit, Florence S. Knoll, Director Heino Orro International Arrival Building, New York International Airport Skidmore, Owings & Merrill





Courtesy of Owens-Corning Fiberglas Corporation







Eight intimate dining sections for groups of approximately 40 persons are created by space-dividing sofas and plant boxes. Individual dining and lounge areas (*left*) are emphasized by colored cove-lighted ceiling coffers (*see furniture and lighting plan acrosspage*) which form a glowing pattern in the over-all soft illumination. Spotlights call attention to decorative screens at waiting area, at stairwell (*acrosspage bottom*), to planting back of bar and between bar and dining space (*below*); accent lights built into the back bar, and the waiters' service stations are bright focal points.

Robert Martin



restaurant

<image>

The restaurant's requirement for flexibility is achieved by sliding cherrywood walls which close off peripheral private dining rooms or open to expand the main dining area. Private dining space seen through opened walls (*below*) may be doubled by opening a second set of walls. Cherrywood is echoed in the specially-designed waiter's service station (*right*) —with storage space, burners to keep food hot, telephone connection to headwaiter—at the heart of each dining area; built-in accent lights make it a dramatic appetite-whetting attraction.







data

cabinetwork, screens

Bar: 40' long, 3/2' high/natural-finish solid-teak top, 2' wide/black Formica facing/white Formica back bar with built-in lighting/Formica Corp., Sub-sidiary of Cyanamid, 4630 Spring Grove Ave., Cincinnati 32, Ohio; architect-designed/custom-made. Servarchitect-designed/custom-made. Serv-ice Stations: natural-finish cherrywood/ white-plastic laminate top/built-in lighting/architect - designed/custom-made. Waiting Area Screen: wood panels, frame/white, yellow, lemon yellow, gold sprayed-lacquer finish/ architect-designed/custom-made. Stair-well Screen: motel accels finished is well Screen: metal panels finished in white baked enamel, dull black lacquer, brushed brass/steel supports, finished in white baked enamel, at-tached to ceiling structure, concrete floor slab/architect-designed/ custommade.

windows

All: 1/a"-thick panes separated by 3/16" air space/Twinter 3/16" air space/Twind'ow insulating glass/Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa. Case-ments: open weave Fiberglas Aerocor yarn/white, yellow alternating panels mark different dining areas/designed by Anni Albers/Knoll Associates, Inc., 575 Madison Ave., New York, N. Y.

furniture, fabrics

All Seating: each area has beige, red. ar blue wool upholstery/Rugby/Knoll Associates, Inc. Cocktail Lounge Tables: teak tops/converted varnish finish resists alcohol stains/Knoll Associates, Inc.

lighting

Recessed Ceiling Lights: over-all-low brightness Alzac golden reflector downlights on separate dimmers for various areas/stairwell-baffle down-lights/adjustable accent spots-on waiting area screen, stairwell screen, Maring area schen, slanweit schen, planting behind bar, planting between bar and restaurant areas/Litecraft Mfg. Corp., 100 Dayton Ave., Passaic. N. J. Cove Lighting in Ceiling Cof-fers: fluorescent/Gotham Lighting Corp., 37-01 31 St., Long Island City I, N. Y.

walls, ceiling, flooring

Walls: plaster painted blue, naturalcolor grasscloth, satin-finish white-plastic laminated panels. Sliding Walls: natural-finish cherrywood panels/architect - designed/custom-made. Column Cladding: brushed brass Ceiling: plaster coffers painted red vellow, blue, gold leaf; acoustical plaster painted white/Zonolite Co., 135 S. LaSalle St., Chicago 3, III.; air supply through perforated aluminum diffuser strips, white baked enamel finish/Simplex Ceiling Corp., 552 W. 52 St., New York, N. Y. Carpet: wool/ neutral tweed of beige, white, black/ architect - designed/custom - made/ Firth Carpet Co., 295 Fifth Ave., New York, N. Y.

accessories

Plant Boxes: all 2' high, lengths vary/ white-plastic laminate/brushed brass/ Knoll Associates, Inc.

HAVE AN OFFICE SCHOOL STORE OR INSTITUTION IN MIND ? CONSIDER

THE FAIRVIEW

Featuring the first full 8-foot, one-piece plastic enclosure.
Clean, crisp design compatible with any modern decor.
Shallow profile (4%") ideal for low-ceiling applications.
Competitively priced. More value for your clients' money.
Exclusive CLEARTEX® panel for controlled brightness.
Translucent sides eliminate harsh ceiling shadows.
Completely enclosed. No lamp image.
White lampholders. Luminous uniformity at fixture ends.
4- and 8-foot lengths. Surface or suspension mounting.
For both Rapid-Start and Slimline lamps.
Available now for immediate delivery.
all your Day-Brite representative listed in the Yellow Pages.
Or write Day-Brite in St. Louis.

Day-Brite Lighting, Inc. 6260 N. Broadway, St. Louis 15, Mo. 530 Martin Ave., Santa Clara, Calif.





U.S.A.F. Academy housing, Colorado Springs, Colorado. Architects: Skidmore, Owings & Merrill, Chicago.

18,700 new Andersen Strutwalls* specified for USAF Academy housing



Andersen Strutwalls afford tightest possible joining of windows and walls. Insure all-weather comfort. Cut installation time as much as $\frac{1}{2}$ over conventional windows.

Andersen's structural window and wall component brings plenty of light, cheer and ventilation into the first 1,200 housing units at the new United States Air Force Academy in Colorado Springs.

The Air Force acted as its own Construction agency in this Capehart project.

Choice of Andersen Strutwalls was a big factor in meeting the close and difficult building schedule. Says Mr. Harry Rubenstein of the Del E. Webb Construction Company and Rubenstein Construction Company, a joint venture: "We estimate that a crew of six men set 120—or more—Strutwalls a day.

This we estimate, would be about 50% more than the number of conventional win-

dows that the crew could install in a day."

The new Andersen Strutwall offers substantial savings in both time and costs in any kind of single story frame construction. This modular unit comes completely assembled with load-bearing side struts, nailers and lower jack studs. Simply cut the load-bearing struts to fit header construction. Nail to adjacent studs.

The result is the tightest possible joining of window and wall. And greatly reduced chances of error, as well.

Andersen Strutwalls are now available in 7 sizes, 2 styles, together with 2 sizes of Strutwall door frames. For more information, or specification data, write: Andersen Corporation, Bayport, Minn.



ANDERSEN CORPORATION . BAYPORT, MINNESOTA



BELOW—Two Andersen Strutwall units butted together result in this handsome picture window effect. Lower operating sash are awning type. Permit ventilation even during rain storms.



Curtain Walls Made with Trinity White . Southland Center, Dallas



Owners: Southland Life Insurance Co., Dallas Architects & Engineers: Welton Becket, FAIA, & Associates, Los Angeles and Dallas Curtain Walls: Manufactured by Wailes Precast Concrete Corp., Los Angeles and Dallas

A Product of GENERAL PORTLAND CEMENT CO.

Chicago - Chattanooga - Dallas - Fort Worth - Houston Fredonia (Kan.) - Jackson (Mich.) Tampa - Miami - Los Angeles The advantages of concrete curtain walls are well established. To these advantages Trinity White Portland Cement makes an added contribution—the beauty of purest white and truer colors.





Masonite Contemporary Studies ħ 1 To understand and use the full design possibilities of a component is a happy thing. Here the designer has beneficially exploited the qualities of Masonite® exterior panels. The result is a unified structure with variations between the living units. In the courtyard above, Panelgroove® sweeps to the full height of the building while Shadowvent® siding counters with its horizontal emphasis.

The entranceway below reveals in two planes the surface interest inherent in Panelgroove, as well as the ease with which battened Tempered Presdwood[®] moves unhesitatingly from exterior to interior.

Why not get acquainted with these and the other versatile panels by Masonite? Consult Sweet's Catalog or send us the coupon.

rom Design Series No. 101M-The Garden Apartment



Masonite Corporation-manufacturer of quality panel products.

Masonite Corporation Dept. PA-9, Box 777, Chicago 90, III. In Canada: Masonite Corporation, Gatineau, Quebec Please send me more information about Masonite panels.

Name	Sec.
Firm	
Address	
City	



Now we're cooling with **GAS**and saving too! Arkla-Servel Gas Air Conditioning keeps work efficiency high and operating costs down at First Federal Savings in Alhambra, California.

"When planning our new main office in Alhambra, we made a complete survey of all types of air conditioning equipment," states First Federal. "Our answer was Arkla-Servel gasoperated water chilling units, and we're completely satisfied with the results.

"With our Arkla-Servel units, we keep our staff cool in summer with the same compact system that keeps them warm in winter," adds Mr. D. A.



Thompson, Sr. V.P. "We get top working efficiency at the lowest possible operating costs. And we get further savings because our Arkla-Servel unit is installed on the roof – utilizing otherwise useless space – and requires practically no maintenance."

Check the facts and you too will see that modern Gas air conditioning out-performs all others. For specific details call your local Gas Company's air conditioning specialist, or write to the Arkla Air Conditioning Corporation, General Sales Office, 812 Main Street, Little Rock, Ark. *American Gas Association*.



Check these features of the 25-ton Arkla-Servel water chiller

- Quiet and vibrationless ... operates with no moving parts
- Low installation, operating and maintenance costs
- Can be installed singly or in banks to fit any need
- Compact and easy to install; light enough for rooftop installation





LACLEDE STEEL JOISTS speed construction time for a modern shopping center

Here's another example of fast, economical construction with Laclede Open Web Steel Joists. In the new Monticello Plaza Shopping Center, Godfrey, III., more than 60,000 square feet of roof area is spanned efficiently with 65 tons of Laclede joists.

These lightweight, high strength structural members are quickly and easily set in place...bolted...stabilized horizontally with continuous horizontal bridging...and covered with steel deck...a fast, simple form of modern construction.

Architects and engineers for the Monticello Plaza Shopping Center are S. T. Pabst and Associates. General contractor is Wolff Construction Co.

ACLEDE STEEL COMPANY

SAINT LOUIS, MISSOURI

Producers of Steel for Industry and Construction

simplicity — the key to positive light seal

mitheratt speedomatic troffers



new

New Smithcraft Speedomatic troffers utilize the principle of the interlocking grip, the full length of the door frame, assuring positive light seal. There are no visible bolts, catches or hinges to mar the architectural beauty of new Speedomatic troffers. Framed in the ceiling by a single width of metal, new Speedomatic troffers offer maximum illuminated areas and long, free-flowing precise lines.

Today's most versatile troffer, the new Smithcraft Speedomatic is available in one- and two-foot wide widths, in an abundance of sizes and shieldings that add up to 5366 individual choices in one complete troffer line. This unique versatility allows the architect complete freedom of expression in lighting arrangements.

Specifying and ordering of Speedomatic is extremely simple — four basic types fit over 100 ceiling systems (as listed in Smithcraft's complete Ceiling Index).





For complete information on versatile, trim Speedomatic troffers, and Smithcraft's Ceiling Index, write for complete 30-page catalog and price list.

Smitheraft

LIGHING Chelsea 50, Massachusetts

Light-conditioning by Smitherate - America's finest fluorescent lighting

WHETHER you're designing a Manhattan tower, a suburban school or a contemporary apartment house, Fenestra Curtainwall Systems offer you almost unlimited design freedom. Vertical and horizontal sections are engineered to meet your requirements for strength and wind loading . . . expansion and contraction . . . condensation control . . . weather tightness . . . and attachment to the structural system.

You can place fixed glass, ventilating sash or panels, wherever you desire—add the colorful sheen of porcelain enamel, steel or aluminum, flat or patterned; or the glitter of textured glass, the beauty of ceramic tile or masonry veneers.

Select from a wide range of aluminum and steel curtainwall systems, a design to meet your specific requirements. Proven Fenestra grid units offer economical fabrication and fast, systematic erection. Where construction for economy and early occupancy are basic requirements, Fenestraengineered "selective" grid units merit your further investigation.

FENWALL

ALUMINUM SYSTEM

Fenwall is an aluminum subframe system in standard and special sizes for fast and economical erection. Choice of 5 types of ventilation: top hung, project out, project in, casement, double hung (or combinations with fixed glass).

These complete curtainwall systems by



STEEL SYSTEM

A subframe system of cold-rolled profiles in galvanized material offers both selective and custom phases. Strength and economy are dominant features, with appearance having parallel importance.







STEEL SYSTEM

Fenestrawall combines customsize intermediate windows, porcelain infill panels and required structural grid members for design freedom.







This combination of Fenestra $1\frac{1}{2}''$ aluminum intermediate projected windows, for use with tubular mullions and insulated infill panels, meets the need for today's limited budget curtainwall jobs with complete design flexibility.





DOUBLE HUNG ALUMINUM SYSTEM

Combining the classic appearance and utility of double hung style windows with functionally modern insulated panels to form an integral curtainwall unit. Fenestra offers both an intermediate (DHA 2) and monumental (DHA 3) system to meet varying budget and design problems.

Fenestra offer new design freedom!

DOUBLE HUNG STEEL SYSTEM

This system is factory assembled from custom-size double hung windows (with or without hopper vent) and porcelain enameled, exterior-faced insulated infill panels.



All panels are factory installed and weather sealed to reduce costly field operations and assure maximum quality control.

Your design is factory assembled in large grid units to save time and money on the job and to reduce the number of joints to be sealed in the field.

The complete package is engineered, fabricated, delivered and erected by a single responsible source.

Write for complete details. Fenestra Incorporated, Dept. PA-9, 3409 Griffin Street, Detroit 11, Michigan; or consult the Yellow Pages.

Fenestra INCORPORATED

Your single source of supply for BUILDING PANELS • DOORS WINDOWS • CURTAINWALLS

M-DECK Provides Roof Structure

Entrance Foyer of Men's Intramural Building, Michigan State University, Lansing, Mich. The building houses Classrooms, Swimming Pool, and other Sports and Conditioning Facilities. 89,200 Sq. Ft. of Mahon Acoustical M-Deck was used in the construction of the Combined Roof-Ceiling. Mahon also Fabricated and Erected 830 Tons of Structural Steel for this project. Lewis J. Sarvis, Architect. Granger Brothers Inc., Gen. Contrs.

> Serving the Construction Industry Through Fabrication of Structure Steel, Steel Plate Components, and Building Product

NIN I

and Acoustical Ceiling Combined at Michigan State University!

Acoustically Treated Cellular Deck Sections Present an Attractive Ceiling with Recessed Lighting



☆ OTHER MAHON BUILDING PRODUCTS and SERVICES:

- M-Floors (Electrified Cellular Steel Sub-Floors)
- Insulated Metal Curtain Walls
- Underwriters' Rated Metalclad Fire Walls
- Rolling Steel Doors (Standard or Underwriters' Labeled)
- Steel Roof Deck
- Permanent Concrete Floor Forms
- Acoustical and Troffer Forms
- Acoustical Metal Walls and Partitions
- Acoustical Metal Ceilings
- Structural Steel—Fabrication and Erection
- Steel Plate Components—Riveted or Welded
 - ☆ For INFORMATION See SWEET'S FILES or Write for Catalogues

THE R. C. MAHON COMPANY • Detroit 34, Michigan Sales-Engineering Offices in Detroit, New York, Chicago and Los Angeles Representatives in all Principal Cities



Off comes the Georgia Marble, on go as many square feet of floor space as necessary for current expansion, back go the walls again. There will be no pandering to expediency here. Texas Instruments can spread out over their 300-acre tract without changing form or function. In fact, they've already started.

Such flexibility is important to Texas Instruments, a company with a plant area that is nine times larger than it was five years ago. So is the appearance of their operations, certainly a reflection of the character of the work within. In using Georgia Mezzotint Marble they found that the large panels (5'-3" x 3'-0" x 0'-1¼") made available to them were surprisingly inexpensive when it came down to the buttoned-in-the-wall costs. And they gained the matchless and enduring beauty that only marble can provide. Result: a happy marriage of practicability and the first material of architectural art.



Texas Instruments, Incorporated Architects: O'Neil Ford and Richard S. Colley Associates: S. B. Zisman and A. B. Swank General Contractor: Robert E. McKee Marble Contractor: Southern Marble & Tile Co. Material: Georgia Mezzotint Marble

> DIVISIONS: Structural Division, Nelson, Ga. • Calcium Products Division, Tate, Ga. • Alabama Limestone Co., Russellville, Ala. • Green Mountain Marble Co., West Rutland, Vt. • Tennessee Marble Co., Knoxville, Tenn. • Alberene Stone Corporation of Virginia, Schuyler, Va. • Willingham-Little Stone Co., Atlanta, Ga.
The Curtain Wall Demands New Reference Data

by Donald G. Radway*

The Contemporary Curtain Wall: Its Design, Fabrication and Erection. William Dudley Hunt, Jr. F. W. Dodge Corp., 119 W. 40 St., New York 18, N. Y., 1958. 462 pp., illus. \$12.75

With the construction of the first high steel-frame building in Chicago in 1891, was rung the knell of the solid-masonry bearing wall. For many years after the construction of that first skeleton-frame building, however, exterior walls of unit masonry or concrete continued to be employed; they differed from the old bearing walls only in the reduced thickness required. It was not until recent years that materials and techniques for erection of lightweight metal-and-glass walls were developed. The developments came slowly at first. Hesitant, halfapologetic, sometimes bold, the more adventuresome architects seized the little that was offered and made it work. Building on their early successes and failures, the remainder have demanded and utilized a rapidly growing group of materials and components.

The Contemporary Curtain Wall brings together in one volume a conprehensive and detailed review of all recent systems of curtain-wall construction.

The author points out that, except for the need of carrying weight, the modern wall must fulfill all the requirements of the old walls: it must protect from precipitation, wind, fire, heat, cold and noise; it must permit passage of people, light, view and (until air conditioning) fresh air. He also points out that the new systems have brought with them their own peculiar problems: infiltration through joints, condensation, thermal expansion, warping, and co-ordination of units. Other hurdles-high cost, high insurance rates, inflexible building codes, divided responsibility of contractorshave proved as troublesome as the technical problems, but are slowly being overcome.

 Project Engineer, Lockwood Greene Engineers, Inc., New York, N. Y.
 Architect, New York, N.Y. The book takes the contemporary curtain wall apart for all to see and analyze its elements: the frame, facing or in-filling, insulation, fenestration, solar controls, joints, sealers, fasteners, and back-up.

A large part of the book is devoted to a comprehensive analysis of all practical materials available today for use in curtain-wall construction. Chemical and physical properties, advantages, disadvantages, availability, methods of fabrication — all these are fully discussed. Charts, tables, and illustrations amplify the discussion. Metals, glass, porcelain enamel, plastics are naturally included. (Continued on page 236)

by John Hancock Callender**

Metal Curtain Wall Manual. National Association of Architectural Metal Manufacturers, 228 N. LaSalle St., Chicago, Ill., 1959. 86 pp.

Metal curtain walls arrived on the building scene in the early 1950's with all of the suddenness of a fad. Although serious students of building technology had long advocated this type of construction, the sudden and overwhelming demand caught the building industry completely unprepared. Everybody jumped in! Curtain walls were designed by architects, fabricated by manufacturers, and installed by contractors, all equally ignorant of the subject. It is (Continued on page 242)



For modern office buildings

Another **AMERICAN Lustragray** INSTALLATION... the glass that reduces glare and heat without sacrificing vision



You're seeing the distinctive "black mirror" look of American's Lustragray on more and more of the newest, finest office buildings in the country. And for good reason. This truly contemporary glass is the economical answer to modern sun control.

By eliminating harsh contrasts in brightness levels, Lustragray reduces eyestrain. By reducing solar heat, Lustragray minimizes fatigue; eases the load on air conditioning systems.

Lustragray's neutral gray shade and ultra high luster are uncommonly attractive from the exterior. It can be used without fear of color disharmony with other materials.

These advantages are yours for a price little higher than that of ordinary clear sheet glass. Get all the facts from your nearest American distributor. Check your phone directory for his name. Or write our architectural promotion department today.



Subject: 118 Royal Street Office Bldg., Mobile, Ala. Architect: William I. Rosamond, Columbus, Miss. Glazier: Prichard Glass Co., Mobile, Ala.



WSW-2941

AMERICAN-SAINT GOBAIN CORPORATION is a merger of the former American Window Glass Company, Pittsburgh, Pa., and the former Blue Ridge Glass Corporation, Kingsport, Tenn. (which was a wholly-owned subsidiary of Saint-Gobain of Paris, France). American Window Glass Division plants are located in Arnold, Jeannette, Ellwood City, Pa.; Okmulgee, Okla. Blue Ridge Glass Division plant is located in Kingsport, Tenn. Sharonart* Stainless Steel, according to Walter Dorwin Teague Associates, nationally known for their imaginative work in modern architecture, is the ideal material for gas station or roadside shop roofs.



Teague designs ultra-modern gas stations of SHARONART* stainless steel

The strength of stainless permits the forming of narrow arched sections capable of spanning long distances while resisting wind uplift loads. The corrosion resistance of stainless eliminates the need for any other roofing material, and its brightness reflects the hot sun rays.

The Sharonart^{*} pattern, rolled in the underside, presents an attractive ceiling that disguises normal wear spots and stains, eliminating maintenance.

Inexpensive, maintenance-free and highly attractive this Teague roof deck makes excellent use of the outstanding advantages of Sharonart* stainless. For complete information on this exciting new steel contact your Sharon representative or write direct to Sharon Steel Corporation, Sharon Pa.

HARONSTEE

Scoop shape inhibits rain spillage in customer area.

ARABIAN



reviews

(Continued from page 233)

but so also are the older materials stone, concrete, clay products. New methods of utilizing the latter are pointed up and well illustrated. Composite, or "sandwich" panels, their materials and fabrication, receive adequate, though not exhaustive, attention.

Methods of production, fabrication, assembly, and erection are described in considerable detail. The author refers to a number of well-known recent buildings and describes the features of their curtain walls. In a brief discussion of costs, the author makes a good case for reducing the amount of glass utilized in modern curtain walls, pointing out that the summer heat-gain and the winter heat-loss through the large areas of glass in modern buildings makes necessary much larger initial expenditures for air-conditioning machinery than otherwise would be required.

A 40-page appendix to the book includes a long list of buildings utilizing contemporary curtain walls, as well as numerous tables, standards, specifications, and a very complete bibliography.

As a reference book for the architect, project manager, and specifications writer, this volume is excellent.



5 GOOD REASONS TO SPECIFY dodge ork Tile FLOORS

1. LONG WEAR Dodge Vinyl-Cork tile and SG cork tile resist abrasion, hide scuffs and scratches, shrug off spots and stains.

2. COMFORT High-density Dodge Cork is warmer, softer, more quiet underfoot than any other type of smooth-surface floor covering; has 98% indentation recovery.

3. BEAUTY Genuine cork's 3-dimensional texture and natural random shades blend with any color scheme. Thirty-four patterns in three types.

4. SAFE UNDERFOOT Wet or dry, a high coefficient of friction makes Dodge

one of the safest, most non-slip floors you can specify.

5. EASY CARE Dodge Vinyl-Cork tile needs only occasional cleaning with a damp mop. Dodge SG cork tile requires only half the maintenance of regular cork; gleams with liquid wax.

See all Dodge Cork Tile patterns in full color. Send for Catalog No. 59, or refer to Sweet's Architectural File, 13i/Do.

DODGE CORK CO., INC. LANCASTER, PA.



THE PRODUCERS' COUNCIL, INC.

for the hand and the eye

Enamel Art on Metals. Edward Winter. Watson-Guptill Publications, 24 W. 40 St., New York, N. Y., 1958. 160 pp., illus. \$9.75.

The fascinating medium of enameling on a variety of metals is well presented in this fully-illustrated, concisely written "how to" craft book. Step-by-step instructions, from creating the object to be enameled to the final firing after applying the enamel, are described. However, the beginner must possess a certain amount of artistic background to produce a satisfying result, even though the author did attempt to achieve a suitable degree of simplicity in the proposed working methods.

The basic principles of working with raw materials, metallic oxides, and intense heats are given in detail, as well as the necessary steps for making molten glass enamel in huge crucible smelters. How to form and clean the metals is explained, followed by the preparation of the enamel and its application to copper, steel, cast iron, guilder's metal, silver, gold, platinum, and aluminum. A directory of the materials required plus the complete addresses of their manufacturers, a bibliography, and a glossary of terms used throughout the book are helpful assets.

The art and practice of enameling can be as simple or as complicated as the individual may desire. But whether his first achievement is an ashtray or a 10foot mural, he will discover the art of enameling to be a most interesting and diversified occupation.

> ELEANOR WOLFE New York, N. Y.







Architect Marcel Breuer, New York, alternated hollow-core units and standard 4" x 8" x 16" concrete blocks to create this striking masonry wall. PHOTO COURTESY NATIONAL CONCRETE MASONRY ASSOCIATION.

Atlas Masonry Cement provides the right mortar

Concrete blocks in a range of new designs ... colors ... and textures are being used to create unusual and distinctive effects in masonry construction. For structural or decorative use, indoors and out, the economical concrete block is now a major design element in today's building plans. And to lay up these new concrete masonry units, Atlas Masonry Cement continues to be the preferred basic material for mortar. It helps produce a smooth, workable mix

assures a stronger bond . . . gives weathertight joints that are uniform in color . . . complies, too, with ASTM and Federal Specifications. For information, write: Universal Atlas Cement, Dept. M, 100 Park Avenue, New York 17, N.Y. "USS" and "Atlas" are registered trademarks



Universal Atlas Cement Division of United States Steel

M-77

OFFICES: Albany · Birmingham · Boston · Chicago · Dayton · Kansas City · Milwaukee · Minneapolis · New York · Philadelphia · Pittsburgh · St. Louis · Waco



Four new Kawneer unit wall systems for every Remarkable design flexibility allows you to use In addition, they conquer one of curtain wall's they are watertight!

SERIES 1000 a grid and panel facing system for new and old buildings.

For use as a metal wall system for new construction with special adaptation for modernization of old buildings. Wide range of anchoring systems and mullion stiffeners make the Series 1000 adaptable to many types of buildings.



Design Character: equal thin-line faces on vertical and horizontal grid members. Flat appearance with minimum shadows.

Sash Types: sliding, casement, projected.

Sealing and Glazing: dry gaskets or mastic type.

SERIES 2000 a system for low rise buildings

Pre-assembled wall units designed for wall areas up to 4' x 13' without added anchorage. Light horizontals and three vertical mullion depths of 2%, 3%, and 4%. Flexible for wall units of low cost or small span per unit.



Design Character: dominant verticals of several op-tional depths. Wall units may be of either standard or optional designs.

Sash Types: casement, pro-jected-in, projected-out, top hinged.

Sealing and Glazing: dry gaskets or mastic type.

SERIES 3000 a system for low rise buildings.

Pre-assembled wall and door units designed for areas up to 4' x 16' without added anchorage.

Heavier horizontals and three vertical mullion depths of $3'_2$, $4'_2$, and 6" give design boldness and greater flexibility of vertical span than 2000 series



Design Character: dominant verticals in wide range of either standard or optional designs.

Sash Types: casement, projected-in, projected-out, top hinged, center pivoted.

Sealing and Glazing: dry gaskets or mastic type.

SERIES 4000 a system for high rise buildings

Pre-assembled wall units designed principally for multi-story use. Mullion profile and glass line is variable to conform to architectural design.



Design Character: dominant verticals or two-way grid as desired. Units assembled to order using standard details and basic shapes but with a choice of profiles.

Sash Types: center pivoted. top hinged, projected-in, projected-out, casement.

Panels: any type Glass: any type

Sealing and Glazing: dry gaskets or mastic type.

building, every budget. them imaginatively. major problems...

nen

Remove any doubts you may have about curtainwall's performance by getting the full story on the four new Kawneer Unit Wall Systems.



---since 1906

Mail coupon for complete information, representative details on the four new Kawneer Unit Wall Systems. Mail to: KAWNEER COMPANY, Dept. PA-99, Niles, Mich.

1-

Dear Sirs: Please send me free book containing complete information and representative details on the four new Kawneer Wall Systems immediately,

	Service of					•	
Title		in the second			12-51 M		
Firm Name				•			_
Address							
City			State				

THIS BLUM AND COMPANY, INC.

Pipe Railings

For Pipe Railings, Julius Blum & Co. has all the parts. Flush type fittings in Malleable Iron, black or galvanized, in Aluminum, Bronze, Steel and Stainless, are stocked for immediate shipment in all the forms and sizes used for railing work. Aluminum, Bronze and Stainless fittings are beautifully finished and all castings are clean and accurate.

If pipe joints are to be welded, Blum's Arc-Fit Pipe Notcher will prepare the joints for a perfect fit. Pipe bending machines are also in stock, and a complete line of Aluminum, Bronze and polished Stainless Steel pipe.

When planning a job for pipe railings, be sure to call Julius Blum.

JULIUS BLUM & COMPANY, INC., CARLSTADT, NEW JERSEY 8,000 items in stock – see Cat. No. 8 or Sweets Arch. File No. $\frac{6e}{BL}$ or Ind. File No. $\frac{5a}{BL}$ Phones: Carlstadt, N.J., Geneva 8-4600; Phila., Market 7-7596; N.Y. Oxford 5-2236



Architectural File

DONS

polo

vice

Architec

Sweet

Catalo

Servis

Architectural

CALIFORNIA REDWOOD has a distinctive natural beauty ... an almost infinite variety of interesting textures and patterns. It is only natural, therefore, that Certified Kiln Dried redwood is the material preferred by many architects and designers for siding, fine interior paneling and such imaginative design elements as this sliding grille.

CRA

hitects : Campbell & Wong

All the wonderful warmth of wood is best expressed in redwood.

reviews

(Continued from page 233)

small wonder that many of these early jobs were deficient in one way or another. The remarkable thing, under the circumstances, is that they were as good as they were. It soon became apparent that curtain walls were not just a substitute for limestone or brick, and they were not a fad, but represented an important new technology of construction. The industry began to take the

subject seriously. Now, with the publication of the *Metal Curtain Wall Manual*, it can be said that the building industry has the subject well in hand, if not mastered.

The Metal Curtain Wall Manual is the result of more than a year's intensive study by the newly established Metal Curtain Wall Division of the venerable National Association of Architectural



BALANCED DOOR

Metal Manufacturers. As published, the *Manual*, although it consists of 86 pages, is far from complete. The Association has issued it now in the belief that it will be useful even in its present form.

This decision appears to be justified. In the opinion of this reviewer, the present *Manual* is the most useful document that has yet appeared in this field, and it gives every promise of becoming more so in the future as its present gaps are filled. The *Manual* is published in looseleaf form so that additions and revisions can be easily inserted in their proper places.

The stated purpose of the Manual is "to provide the architect with a file of useful and reliable information on metal curtain-wall design and performance." In its present form it consists principally of a specification and related "reference standards." The specification runs to 22 pages and should be a useful guide through a hitherto confusing field. But the meat of the book and the longest portion of it (41 pages) is the section on standards. These include design criteria (such things as allowable stresses, wind loads, permissable air infiltration, required clearances); specifications for the static testing of curtain walls for strength, air infiltration, and water leakage; definitions of mechanical and chemical finishes for metals; performance standard for protection films; and specifications for two types of insulation and seven types of sealing materials. Promised for the near future are specifications for testing under cycled temperatures, and for dynamic testing; also a list of approved testing agencies.

The specifications include the following headings: General, Scope of the Work, Over-all Performance Standards, Materials, Workmanship, Fabrication, Erection. It is recommended that responsibility for the curtain wall not be divided, and that a single contractor be made responsible for fabrication, erection, glazing, and weatherproofing, and for mock-ups and tests if they are required. Attachments, anchors, and wallframing members should be included in this contract, but spandrel waterproofing, flashing reglets, drapery tracks, and store front work should not. There are only two missing items in the present edition of the specifications but they (Continued on page 250)

No.14 • Mars Outstanding Design Series



SQUARE WHEELS? Yes ... square wheels. Operating by means of a floating axle and cam gear, they take the bumps out of rough terrain and provide more traction. U.S. Patent No. 2786540 has been granted to designer Albert Sfredda of Bethlehem, Pa., for his invention.

The square shape gives superior traction in mud, sand, snow or uneven terrain. The flat surfaces of the wheels bridge the ruts instead of sinking into them as do round wheels. The wheels can be in any relative position, do not need to be synchronized-yet they run smoothly. Designed for use on heavy trucks, jeeps, farm or construction machinery, speeds up to 35 miles per hour can be attained.

This ingenious departure from age-old precedent is just one example of the contributions that today's designers are making. To help them translate their pace-setting ideas from concept to reality they require the best of drafting tools.

In pencils that means MARS, long the standard of professionals.



Among the famous imported Mars drafting products are: Left - 1001 Mars-Technico push-but-

ton lead holder. Above - 1904 Mars-Lumograph drawing leads, 18 degrees, EXB to 9H. Below -2886 Mars-Lumograph drawing pencils, 19 degrees,

EXEXB to 9H: 2830 Mars-Lumograph Duralar-for drafting on Mylar®-base tracing film - 5 special degrees, K1 to K5; Mars-Lumochrom colored

drawing pencils, 24

shades. Not shown -

Mars Pocket-Technico

for field use; Mars

J.S.STAEDTLER

MARS - LUMOGRAPH ATECHNICO

for the man



the pencil that's as good as it looks

Sold at all good engineering and drawing material suppliers . J. S. STAEDTLER, INC. . Hackensack, N. J.



Exclusive! This 2" gypsum wallboard partition has a 2-hour fire rating!



It's the patented interlocking edges that do it! They

give extra strength to the 1" Gold Bond® Laminated Core Board. This special core means added fire protection (2 hrs.), extra impact strength, and high resistance to sound transmission* for the finished 2" partition. Large panels of ½" gypsum wallboard are job-laminated to the 1" core to produce a smooth, seamless wall in minimum time. Write Dept. PA-99 for a free Gypsum Core Board sample and Technical Bulletin.

NATIONAL GYPSUM COMPANY BUFFALO 13, NEW YORK

*Independent testing laboratory reports 41.0 decibels.

a step ahead of tomorrow ... Ge





bathroom accessories in sparkling *Chrome*,

add the Touch that means so much!

These sparkling Hall-Mack accessories are styled for modern, convenient living. Original in idea, and crafted from quality materials, they provide a clean, uncluttered arrangement of space – add convenience, warmth and charm to any bathroom. Their functional good looks and simple styling have set the trend in bathroom utility. So beautifully practical, they truly provide *the touch that means so much*. Qualitywise, budgetwise – the choice is always HALL-MACK! Sold by leading plumbing, tile, and hardware dealers everywhere

HALL-MACK CON 1380 W. Washington Blv	IPANY Divi d., Los Angele	ision of TEXTRO s 7, California	DN INC. PA-99
Please send your FRE	E color bookle	t of new bathroo	m ideas
Name	5 19 E	1.1.1	
Address			

NEW ACCENT COLORS

Accent Light Blue

Accent Dark Blue

ark Blue

Accent Yellow

Accent Orange

Accent Black

Same I

Accent Dark Green

Accent Light Green

Accent Red

Accent Brown

FOR NEW MODERN DESIGN IN GENUINE STRUCTURAL CLAY FACING TILE

Now you can get *genuine* Structural Clay Facing Tile in 9 new accent colors — colors that will add new interest, new beauty to your wall designs. Color researched by Faber Birren, noted authority, these new colors provide interesting accents to other base colors, or they can be used alone.

Regardless of which colors you choose, remember, there is no substitute for *genuine* Structural Clay Facing Tile. It pays for itself over and over again. Even first cost is surprisingly low when you consider it's a wall-andfinish-in-one. Modular sizes lay up fast with a single trade. Colors are permanent. Durable, smooth surfaces clean sparkling new with just soap and water. Maintenance is an absolute minimum.

For clients who want the best. For clients who are economy-minded. You can satisfy both by specifying genuine Structural Clay Facing Tile for interiors and Ceramic Glazed Brick for exteriors.





FACING TILE INSTITUTE

2556 Clearview Avenue, N. W., Canton 8, Ohio GLendale 5-5329
1520 18th Street, N. W., Washington 6, D. C. HUdson 3-4200
1947 Grand Central Terminal, N. Y. 17, N. Y. MUrray Hill 9-0270
228 North LaSalle Street, Chicago 1, Illinois RAndolph 6-0578

In the interest of better Facing Tile construction these companies contributed to this advertisement.

ARKETEX CERAMIC CORPORATION, Brazil, Ind. CHARLESTON CLAY PRODUCTS CO., Charleston 22, W. Va. THE CLAYCRAFT CO., Columbus 16, Ohio HANLEY COMPANY, INC., Pittsburgh, Pa. METROPOLITAN BRICK, INC., Canton 2, Ohio MCNEES-KITTANNING CO., Kittanning, Pa. NATCO CORPORATION, Pittsburgh 22, Pa. STARK CERAMICS, INC., Canton 1, Ohio WEST VIRGINIA BRICK CO., Charleston 24, W. Va.

NODEL HT SMOKESTACK is the ONLY INDUSTRIAL STACK listed by UNDERWRITERS' LABORATORIES

When your projects call for a smokestack, you can specify a Van-Packer Model HT Prefabricated Refractory Smokestack knowing that it lives up to the high standards required to earn an Underwriters' Laboratories listing.

The Van-Packer Model HT Smokestack for boilers, furnaces, and incinerators is the *only* UL listed stack. It is the same stack for industrial applications that is already serving hundreds of users throughout the nation with these advantages: low cost, prefabricated refractory construction, maintenance-free, high draft, stocked in eight diameters nationally.

Write for new Bulletin IS-40 for complete mechanical specifications and details on Underwriters' Laboratories listing



Division of:

Manufacturers of Diversified Products for Home and Industry

 VAN-PACKER CO., 1232 McKinley Ave., Chicago Heights, III. • SKyline 4-4772
 In the West: Pioneer Division, The Flintkote Company P. O. Box 2218, Terminal Annex, Los Angeles, Calif.
 In Toronto, Ontario: The Flintkote Company of Canada, Ltd.





ARCHITECT: HARRISON & ABRAMOVITZ, CONTRACTOR: TURNER CONSTRUCTION COMPANY,

Businesslike look for IBM The trim, efficient, dignified appearance which characterizes the newly completed IBM Building in Boston, Massachusetts, stems from the attractive color of the SPANDRELITE® in the curtain wall.

SPANDRELITE—Pittsburgh's beautiful glass in color—is a heat-strengthened glass with ceramic color fused to the back, specifically designed for curtain wall spandrels. SPANDRELITE is available in 18 standard colors, and in a wide range of custom colors. It can be furnished in either polished or twill finishes. Colors retain their freshness, tone and impression of depth indefinitely, and can be matched exactly in buildings erected or modernized at a later date.

The PITTCO® 82-X Curtain-Wall System developed as a setting for SPANDRELITE has been thoroughly field-tested in all sections of the country. In aluminum, bronze and stainless steel, it adds a handsome appearance to its practical advantages for curtain-wall construction.

Our Architectural Representative near you will be glad to offer helpful information to aid in solving curtain wall problems. We will send you a free copy of our full-color booklet of curtain-wall construction if you will fill in and mail the coupon below.

Other Pittsburgh Glass Products used in this building: Pittsburgh Polished Plate Glass: HERCULITE® Tempered Plate Glass Doors: HERCULITE and TUBELITE® Door Frames,



Pittsburgh Plate Glass Company Room 9208, 632 Fort Duquesne Blvd. Pittsburgh 22, Pa.

Please send me your full-color booklet on Pittsburgh Glass-Clad Curtain-Wall Systems reprinted from Section 3E of the 1959 Sweet's Architectural File.

Name	•			•				*	*	*		+	*	×						•		•	•
Address		 *	1	t			•				•	10	•	÷		*	•	•	•				
City		•			*						•	 St	ta	it	e		•				•		

are important ones: Panels and Windows.

The specification sections on Performance Standards and Materials bristle with references to standards. In addition to 18 NAAMM standards, 13 of which are included in the *Manual*, reference is made to five Federal Specifications, four Military Specifications, six ASTM standards, and nine miscellaneous documents.

Only one serious omission was noted. Fire resistance, which has from the beginning been one of the major problems in curtain-wall construction, is not even mentioned in the Manual. Most manufacturers' catalogs at least carry a note reading, "Fireproofing, if required, by others." Even if it is assumed that the various degrees of fire resistance required by different codes will be met "by others," there remains the requirement of all codes that the curtain wall be incombustible. This is not mentioned in the Manual, nor is there any reference to a definition of or a test for incombustibility. It is true that metal and glass will not burn, but all sealing materials and adhesives will, and so will many insulating materials. Perhaps this subject will be dealt with in the forthcoming specification for panels.

Although erection tolerances are specified, no recommendation is made as to the minimum clearance between the curtain wall and the building frame. This omission is surprising because it has been the subject of much discussion in the industry.

In a specification otherwise based strictly on quantitative data, it is disconcerting to find one item written in qualitative terms: "... without causing harmful buckling, undue stress ... or other detrimental effects." This item will no doubt be revised into measurable terms in the near future.

The Manual also contains seven pages of bibliography and seven pages of definitions of technical terms. The latter should help to standardize some of the confusing terminology in this field. Its usefulness would be improved by including more of the terms used in the Manual itself, such as: gasket, resilient, adhesive, bond, skin, nobility (of metals).

The National Association of Architectural Metal Manufacturers deserves the thanks of the entire building industry for preparing and publishing this *Manual*. They should get a double vote of thanks from the architects, who by rights should have done this job themselves.

industry handbook

Aluminum Construction Manual. The Aluminum Association, 420 Lexington Ave., New York, N. Y., 1959. 389 pp. \$3.00

The publication of Aluminum Construction Manual marks a significant forward (Continued on page 256)



CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door Shown on Opposite Page

The LCN Series 302-303 Closer's Main Points:

- 1. An ideal closer for many interior doors
- 2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
- 3. Door is hung on regular butts
- 4. Closer is simple to install and to adjust
- 5. Hydraulic back-check protects walls, etc., on opening
- 6. Practically concealed control at little more than exposed closer cost

Complete Catalog on Request—No Obligation or See Sweet's 1959, Sec. 18e/La

LCN CLOSERS, INC., PRINCETON, ILLINOIS Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario

MODERN DOOR CONTROL BY LCN CLOSERS CONCEALED IN DOOR

HUDSON FALLS CENTRAL HIGH SCHOOL, HUDSON FALLS, NEW YORK LCN CLOSERS, INC., PRINCETON, ILLINOIS Construction Details on Opposite Page

Sargent-Webster-Crenshaw & Folley, Architects

Since HOPE'S 1818

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH



Nichols & Butterfield, Architects The Wadhams & May Co., Builders

FREDERICK U. CONARD HIGH SCHOOL

WEST HARTFORD, CONNECTICUT



This school presents a resourceful application of Hope's Pressed Steel Window Walls utilizing both single-story and multi-story systems. A special feature of the classroom building is the use of brick coursing rather than the usual metal panels beneath the lines of windows. Frames were designed to receive direct installation of the brick masonry.

Glazed areas consist of Hope's Heavy Intermediate Casements and Projected Sash with large fixed panes set directly in the framing. Openings for doors and ventilating louvers are arranged as needed to meet the requirements of the building.

This project, requiring much detailed layout and engineering experience and erection skill, is an excellent example of Hope's services. The adaptability of Hope's Window Walls affords the architect full freedom in design, yet facilitates rapid and economical installation.

Write for Catalog No. 152

HOPE'S WINDOWS, INC., Jamestown, N.Y. THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS



CURTAIN WALL PANELS OF CERAMIC TILE



Plate No. 1075

UTICA COMMUNITY HIGH SCHOOL, Utica, Mich. SMITH & SMITH/ARCHITECTS Royal Oak and Iron Mountain, Mich. Panel Installation: EMIL VAN SILE CO., Detroit, Mich.



enhance beauty of new Utica High School

Today's buildings are taking on a crisp, new look. Why? Because in tile-faced RS Panels, designers have discovered unlimited freedom in selection of color, texture and pattern which can be harmoniously combined with all conventional exterior finishes. Weatherproof RS Panels are available in thicknesses from 13%" to 4", with or without insulation, and in a complete range of sizes and edge conditions to meet your specific requirements. For complete information on RS Panels, including "U" values, weights and short form specifications, write for Bulletin RSP-201. Ceramic Tile Panels, Inc., Department P-34, Canton 2, Ohio.





CERAMIC TILE PANELS, INC. MEMBER: THE PRODUCERS' COUNCIL, INC.



Hattiesburg High School Gymnasium, Hattiesburg, Mississippi. Architect J. Warren McClesky used Aluminized Static Coating "in lieu of much higher priced aluminum metal roofing . . . and for reflective-insulation value we needed."

NO! That's not a metal roof!

It's Flintkote's new Aluminized Static* Coating that protects...decorates...reflects. No other known form of bituminous coating — when exposed to weather — will outlast it!

Aluminized Static is a versatile, protective coating that provides all the high reflective insulating qualities of aluminum PLUS . . . the waterproofing and durability of asphalt static.

Use it on metal, masonry, rock wool, glass, with these important advantages:

• No danger of fire—Aluminized Static has no flammable solvent. It cannot burn.

• No flow in hot weather—Aluminized Static remains stable even under direct flame.

• Doesn't stain or alligator-crack over any normal type of asphalt sub-surface.

• Extra long life-Aluminized Static is compounded on the same base as static roof coating.

• Good retention of brilliance and reflectance— For five years and longer.

For complete information on Flintkote's new Aluminized Static Coating write: The Flintkote Company, 30 Rockefeller Plaza, New York 20, New York.



America's Broadest Line of Building Products



JACKSONVILLE'S long-cherished dreams of major civic improvements are fast becoming reality. Conceived by a forward-looking City Commission, City Council and Area Chamber of Commerce, Jacksonville's latest step forward began with a successful \$30-million municipal bond issue in 1957. On its list of capital improvements are a \$5-million, 15-story City Hall; a \$3-million, 3,800 seat Civic Auditorium; a \$3-million, 13,000 seat Sports Coliseum; a \$15-million modern-treatment sewerage system and \$6-million street and drainage improvement. Jacksonville's ambitious plan encompasses the needs of an expanding industrial city, a major seaport, a great naval station, a growing insurance center, a famed tourist attraction and a growing area-population of 440,000. OTIS has a long-standing "planner's" interest in Jacksonville's growth. Over 63% of its elevators are the world's finest. They're by OTIS.



OTIS ELEVATOR COMPANY

260 11th Avenue, New York 1, N.Y. Offices in 501 cities around the world

Baker®

AUTOTRONIC[®] OR ATTENDANT-OPERATED PASSENGER ELEVATORS • ESCALATORS • TRAV-O-LATORS • FREIGHT ELEVATORS • DUMBWAITERS ELEVATOR MODERNIZATION & MAINTENANCE • MILITARY ELECTRONIC SYSTEMS • GAS & ELECTRIC TRUCKS BY BAKER INDUSTRIAL TRUCK DIVISION



Underwriters' Laboratories Class "A" (3-hour) Labels. A release mechanism, activated by fusible links, forces automatic closure and a governor assures a safe closing speed. After being opened for emergency exit they automatically close again.

save space and can be concealed

Rolling Fire Doors coil into compact, overhead units easily hidden above ceiling lines. The areas adjacent to door openings are completely usable.



exposed mounting)

concealed mounting) (cutaway view)

are so versatile

Without sacrificing automatic fire protection, Balfour Automatic Rolling Fire Doors can be used as service doors. Designed for firewall, vertical shaft and corridor openings up to 24' x 24', they are suitable for all types of buildings.

Take advantage of the unique features of automatic rolling fire doors and specify "Balfour" in your next building. For additional information see our catalog in Sweet's, contact your local Balfour representative, or write:

WALTER BALFOUR & CO. INC.,



steel service doors automatic fire doors pygmee counter doors steel grilles

BROOKLYN 22, N.Y.

reviews

(Continued from page 250)

step in the ever-widening use of aluminum as a building material. Although the *Manual* is directed primarily toward the needs of the structural designer, it contains much information of interest to the architect who wishes to develop a feeling for aluminum as a structural resource for design.

Under the heading, "Some Things the Designer Should Know," it is pointed out: "While the same basic procedures he has followed with structural steel apply also in designing with aluminum, he must take into full account all the differences between the two materials if he is to achieve best results with the lightweight metal and realize its full capabilities. Designs for steel that are merely adapted to aluminum will lead to unnecessary weight and cost. For maximum efficiency and economy in the use of this material, an aluminum structure must be treated as such from the beginning." A useful aid in this direction is provided by a discussion of the characteristics of aluminum structural allovs in relation to the characteristics of structural steel. Several important differences are pointed out such as the relative moduli of elasticity, with consequent influence on deflection (or depth of member), and the fact that the vield strength of structural aluminum alloys represents a larger fraction of the ultimate tensile strength than in the case of steel, thereby modifying procedures for establishing factors of safety.

One section of the *Manual* is devoted to the effects of elevated temperatures on aluminum and comparative coefficients of thermal expansion for common structural materials. Another section gives comparative physical and mechanical properties of several materials. Data such as these are exceedingly useful in establishing a background against which to view aluminum as a structural building material.

Although allowable load data are given only for alloy 6061-T6, complete specifications for 2014-TC, as well as for 6061-T6, are presented. These are the specifications developed by the Committee on Design in Lightweight Struc-(Continued on page 262) Rustic and rough with a handloomed look as authentic as its Scottish inspiration — COTTERS LOOM is another creation in VICRTEX V.E.F. VINYL WALLCOVERINGS. Rare and distinctive COTTERS LOOM lends itself to a multitude of decorating schemes. Many times tougher than its handloomed counterpart, like all VICRTEX V.E.F.* fabrics, it can't be snagged, chipped, peeled, cracked or scratched. Waterproof, weather, flame- and stain-resistant — wipes clean with a damp cloth.

Hatest VICRTEX V.E.F.*

loom.

CRIGINAL

VIGRTEX

DESIGN

28 exciting colors. Send for samples and prices now.



L. E. CARPENTER & COMPANY, INC

° Vinyl Electronically Fused. No lining needed however used.



St. Nicholas Hospital, Sheboygan, Wisconsin

KOHLER ELECTRIC PLANTS provide protection against power interruptions through 34 years' growth

In 1925, two 1500-watt Kohler Electric Plants were installed in St. Nicholas Hospital, Sheboygan, Wisconsin, as stand-by units to take over critical loads *automatically* when storms or other emergencies cut off regular electricity. Through the years the electric plant installation was expanded as new facilities were added by the hospital.

Today, in a building covering an entire city block, four 50 KW Kohler Electric Plants provide all the electricity needed for uninterrupted patients' care whenever normal power is cut off.

In hospitals everywhere, Kohler Electric Plants insure steady, reliable, unattended power for surgery and delivery rooms, and all other vital hospital facilities. Sizes to 100 KW, gasoline and diesel. Complete manual with suggested specifications sent on request. Write Dept. D-62.

 Kohler installation with two 50R58, 50 KW, 230 volt, 3 phase AC models; and two 50R68, 50 KW, 115/230 volt, single phase AC models.



KOHLER CO. Established 1873 KOHLER, WIS. **KOHLER OF KOHLER** Enameled Iron and Vitreous China Plumbing Fixtures • Brass Fittings Electric Plants • Air-cooled Engines • Precision Controls

reviews

(Continued from page 256)

tural Alloys, of the American Society of Civil Engineers. The need for allowable load data covering additional alloys is recognized by the Aluminum Association's Building Industry Committee but, as stated in the Foreword, it was decided to publish the first edition of the *Manual* as soon as the data on 6061-T6 was available. Presumably subsequent editions will present allowable load data covering a wider range of structural alloys.

It is evident from the arrangement of contents and the type of design, detailing and estimating information presented, that the *Manual* of the American Institute of Steel Construction served as a model for the development of this volume. Like the AISC publication, it may be expected to eventually supersede the catalogues of individual producing companies, at least insofar as conventional design and fabrication information is concerned.

> Dean HAROLD D. HAUF School of Architecture Rensselaer Polytechnic Institute Troy, N. Y.

a planner's observations

British Shopping Centers: New Trends in Layout and Distribution. Wilfred Burns. Leonard Hill Books, Ltd., Leonard Hill House, Eden St., London, N.W. 1, England, 1959. 130 pp, illus. \$6.35

This book offers a detailed review of figures, facts, and factors affecting British store development and layout of shopping centers. Its viewpoint is that of a town planner, not that of an architectural designer. The author has had considerable experience in town planning: he was for many years Principal Planning Officer of the city of Coventry and played a leading part in the development of its attractive shopping centers.

As a consequence of such experience, the bases of the author's assumptions, affirmations, and conclusions are British. Obviously many of them are inapplicable to, and would be invalid in, this country of ours. Our shopping problems, patterns, and practices are for many reasons notably different from theirs.

(Continued on page 266)



Architect: Voorhees, Walker, Smith, Smith & Haines Contractor: Frank Briscoe

ENJAY BUTYL solves weather problem and seals for sure!



Easily installed – Butyl preformed gaskets can be installed on-site or in the shop. They protect panel edges during handling.



Faster glazing - installation of lights is done quickly and more efficiently when edges are protected by Butyl preformed gaskets.



All-around weather protection – the superior resistance of Butyl to ozone, sunlight, heat and moisture provides a sure seal.

Modern mullion, sill and transom design requires highly efficient sections that insure a reliable sealing job. Low-cost Enjay Butyl rubber enables the design of trim, neat window details — provides a permanent weather-tight seal. In this application Butyl does a better job than conventional rubbers because Butyl gives superior resistance to ozone, sunlight, heat and moisture. This means Butyl resists cracking, crazing and loss of elastic properties.

Butyl preformed gaskets and spacers installed in this large research center located at Florham Park, N. J. were manufactured by Pawling Rubber Corp., Pawling, N. Y. For more information how Butyl rubber can help solve your design problems, contact your nearest Enjay office.

EXCITING NEW PRODUCTS THROUGH PETRO - CHEMISTRY

ENJAY COMPANY, INC.

15 West 51st Street, New York 19, N.Y. Akron • Boston • Charlotte • Chicago • Detroit • Los Angeles • New Orleans • Tulsa Enjay's extensive laboratories and expert staff are always glad to provide technical assistance.





Almost 30 years of experience in the manufacture of asbestos-cement panels for building enclosures has proved the superiority of Carey curtain-wall materials.

Architects specify these products because Carey asbestos-cement curtain-walls are so economical, so easy to install, and they are virtually maintenance-free. Furthermore, they are indestructible, being resistant to fire, hail, water, rust and rot. There are three principal types of construction using Carey asbestos-cement curtain-wall products. Their advantages are illustrated in the detail sketches

shown below.

Write for architectural, engineering and data manuals.



The Philip Carey Mfg. Company . Lockland, Cincinnati 15, Ohio . Better Products For Building Since 1873



Guth lighting

TAKES THE "DAZE"* OUT OF SCHOOL DAYS!

.. AND KEEPS YOUR COST LOW

SCHOOL "DAZE"— General fatigue, eye-strain

and hazey feeling caused by improper lighting!

Guth School Lighting helps keep young eyes bright and school children alert from kindergarten through college:

FUTURLITER—The handsome, practical, economical, new school luminaire. Available in 12", 17" and 24" widths with solid steel sides or with plastic windows.

GUTHLITE—All-time school favorite. Brand new models in two and four lamp widths... all metal with light spill, or luminous plastic sides.

PRISMOID GRATELITE – Sparkling, crystal-clear prismatic louver-lens adds new beauty and efficiency to Guth School Fixtures.



FUTURLITER® with cross baffles

> GUTHLITE ® with GrateLite Louver Diffuser**

PRISMOID GRATELITE*



THE EDWIN F. GUTH CO. 2615 Washington Blvd. St. Louis 3, Mo.

[↑]T. M. Reg., U. S. & Can. Pats. Pend.
^{★★}®U. S. Pat. No. 2,745,001
Can. Pat. 1957, No. 538,245

Even in this ultra-modern geodesic dome-



Door efficiency calls for Kinnear Rolling Doors

With no internal supports of any kind, yet big enough to enclose a football field, this giant geodesic dome houses a railroad car repair shop of the Union Tank Car Co., in Baton Rouge, La.

And here, as in all types of buildings, Kinnear Rolling Doors provide up-to-the-minute door efficiency.

They open straight upward and clear the entire doorway, coiling compactly above the opening. Surrounding floor, wall and overhead space, *inside and outside the build*-



ing is always fully usable whether the doors are opened, closed, or in action. This promotes full use of hoist, crane, conveyor, and lifttruck equipment.

Their continuous all-metal curtain gives extra protection against intruders, vandals, troublemakers, wind, weather, and fire.

Every Kinnear Door is *Registered*. Full details of all parts are kept permanently in Kinnear's fireproof vaults. Parts are always replaceable. Your Kinnear doors will never be "orphans".

For maximum durability Kinnear's special hot-dip galvanizing coats the entire curtain with a full 1.25 oz. of pure zinc per square foot of metal (ASTM standards).

Kinnear Rolling Doors are built any size, for old or new buildings, with motor, manual or mechanical operation. Write for information.

The KINNEAR Mfg. Co.

FACTORIES: 1900-20 Fields Avenue, Columbus 16, Ohio 1742 Yosemite Ave., San Francisco 24, Calif. Offices and Agents in All Principal Cities



reviews

(Continued from page 262)

Despite all that, the book is not without value and interest for American readers. Among other features, especially worthy of careful attention are two points emphasized by the author: the humane necessity of a human scale in the design of the shopping facilities; and the need to provide complete and adequate pedestrian access and circulation in the shopping center.

The illustrations are many and varied. The pictures of the Coventry shopping centers are interesting. Also included are photographs of shopping centers in Holland, Sweden, South Africa, and in our own country.

> LAWRENCE E. MAWN Alhambra, Calif.

BOOKS RECEIVED

New Dimensions in Junior College Planning. Edited by R. Dudley Boyce, Simon Gonzalez, and William Harwood. The School Planning Laboratory, School of Education, Stanford University, Stanford, Calif., 1958. 112 pp., illus. \$4.50 (paperbound)

Simplified Problems in Strength of Materials and Structural Design. Ephraim Viertels. Arco Publishing Co., Inc., 480 Lexington Ave., New York, N. Y., 1959. 636 pp. \$5

Power Plant Theory and Design. Philip J. Potter. The Ronald Press Co., 15 E. 26 St., New York, N. Y., 1959. 710 pp., illus. \$10.50

Electrical Safety. H. W. Swann. Philosophical Library, 15 E. 40 St., New York, N. Y., 1959. 292 pp., illus. \$15

Linear Structural Analysis. P. B. Morice. The Ronald Press Co., 15 E. 26 St., New York, N. Y., 1959. 170 pp. \$6

Building Construction Estimating. Second Edition. George H. Cooper. McGraw-Hill Book Co., Inc., 330 W. 42 St., New York, N. Y., 1959. 412 pp., illus. \$7.50

An Encyclopedia of World Timbers. F. H. Titmuss. The Philosophical Library, Inc., 15 E. 40 St., New York, N. Y., 1959. 264 pp., illus. \$15

Building Trades Blueprint Reading. Part 2. Elmer W. Sundberg, Rex Battenberg, and W. Rahy Paul. American Technical Society, 848 E. 58 St., Chicago, Ill., 1959. 100 pp. \$2.95 (paperbound)

More Plywood Projects. Robert Scharff. McGraw-Hill Book Co., Inc., 330 W. 42 St., New York, N. Y., 1959. 184 pp., illus. \$5.50

The modular design of Herman Miller's Contract Bench System permits cushions, planters and table tops to be combined and rearranged on frames of steel in hundreds of variations. George Nelson designed this group to withstand heavy usage in transportation terminals and lobbies.

LIMESTONE

APPLICATIONS IN CONTEMPORARY ARCHITECTURE



ASK YOUR LOCAL STONE FABRICATOR OR ILCO REPRESENTATIVE FOR ESTIMATES

WATER HEATERS WITH ALCOA ALUMINUM MAINTAIN VITAL HOT WATER SUPPLY AT ONONDAGA GENERAL HOSPITAL





In hospitals, hot water saves lives. A constant supply must always be available for sterilization and cleaning. That's why Onondaga General Hospital in Syracuse, N.Y., installed four Alcoa alloy gas water heaters.

With the old system, the supply of hot water often ran out. Busy personnel had to wait for the temperature to rise. Now the four quick-recovery Ruud-Alcoa units afford two-temperature service— 180° for sterilization and 140° for general use—and there's always more than enough hot water for every need. All four units operate 24 hours a day, every day of the year. Yet they have required no maintenance since installation.

In applications where an adequate supply of hot water is vital, you can count on Alcoa alloy water heaters. The aluminum alloy tank is strong, solid and corrosion resistant for longer life and complete freedom from water discoloration. High thermal conductivity assures rapid recovery rate and economical operation. Specially designed units meet American Gas Association Laboratories' requirements. For more information on any application commercial, industrial or residential—send in the coupon, or write Aluminum Company of America, 1900-J Alcoa Building, Pittsburgh 19, Pa.

> Your Guide to the Best in Aluminum Value

For Exciting Drama Watch "Alcoa Theatre," Alternate Mondays, NBC-TV, and "Alcoa Presents," Every Tuesday, ABC-TV



Aluminum Company 1900-J Alcoa Buildin Pittsburgh 19, Pa.	of America. g
Please send me Wa 12-page FREE bookle perform other water requirements, lists c	ter Heater Applications of Alcoa Aluminum, the et that tells why Alcoa alloy water heaters out- heaters, gives the easy way to figure hot water ase histories.
Name	Title
Company	Street
City	Zone State

There is no substitute for safety, and Polished Misco (wired) affords proven protection for youngsters in the new Walt Disney Elementary School, at Tullytown, Pennsylvania.

Architect: John Carver, 2112 Spruce St., Philadelphia, Pennsylvania

> Heat absorption provided by 38,750 sq. of Mississippi Coolite glass make patients more comfortable in the John J. Kane, Allegheny County Institution District (Hospital for the Indigent Sick).



Associate Architects: Button & McLean—Mitchell & Ritchey, Pittsburgh, Pennsylvania General Contractor: Sherry Richards Company, Chicago, Illinois Glazing: United Plate Glass Company, Pittsburgh, Pennsylvania

At the Philadelphia International Airport, modern vistas are created by 10,000 sq. ft. of 60" wide lights of Polished Misco (wired glass).

Architect: Carrol, Grisdale and Van Allen, Philadelphia, Pennsylvania Glazing: Pittsburgh Plate Glass Company



8

ROLLED GLASS .



New factory of American Chicle Company, Rockford, III. where 14,000 sq. ft. of Coolite Wire glass, Glare Reduced, combines heat absorption with protection.

Architect: William Higginson & Sons, New York, N. Y. General Contractor: Sjostrom & Sons, Inc., Rockford, Illinois Glazing: National Mirror Works, Rockford, Illinois







The versatility of Rolled Glass provides architects with a practical solution to a variety of daylighting problems. Glass for daylight control, glass that absorbs heat, glass that decorates and glass that protects they're all available in translucent light diffusing patterns, plain or wired (the latter for obscurity or clear vision) to meet every requirement. For utility, beauty, and economy unmatched by any other glazing medium, specify Mississippi Glass. Write today for free catalog. Address Dept. 8.



G . NEW GO ORNIA E R 88 MANUF CTUR ROLLED. FIGURED WIRED GLASS OF AND



Curtain walls of precast concrete achieve dramatic interplay of light, color and texture

The unbroken whiteness of the end wall is in striking contrast to bright, blue-green spandrel panels of the sidewalls. And on the broad base wall below, light and shadow form bold patterns across the sculptured facing. 42 stories, and the tallest office building in the West, the Southland Life Tower is part of a \$35,000,000 project in downtown Dallas, Texas.

It's all done with concrete panels. For the end walls and base, exposed quartz aggregate and white portland cement give surface roughness and brilliance. The smooth-faced spandrels are ceramic tile cast in concrete. The total effect is one more example of the unlimited design possibilities in today's new forms of concrete.

Architects and Engineers: Welton Becket, FAIA, and Associates, Los Angeles and Dallas. Consulting Architect: Mark Lemmon, AIA, Dallas, Texas. Structural Engineers: Murray Erick Associates, Los Angeles.

FOR STRUCTURES... MODERN CONCRETE

PORTLAND CEMENT ASSOCIATION

A national organization to improve and extend the uses of concrete
a new dimension in

solar shading

C-S Airfoils offer a new modern extruded shape, with superior structural properties, that permits unprecedented design opportunities in solar shading.

C-S Airfoils are seamless extrusions, unmarred by exposed fastenings. They can be used vertically or horizontally with equal freedom, in either fixed or operating installations.

Their clean, interesting shape makes C-S Airfoils pleasing to the eye. Their surface may be plain or patterned, and you have a choice of many finishes, clear or color.

C-S Airfoils are functionally right, shade efficiently and are economical.

C-S Airfoil samples are available for inspection.

DNSTRUCTION SPECIALTIES, INC.

n controls • louvers • ventilating bricks and blocks

architectural products in aluminum

C-S Airfoils are available in blade widths from 4 to 48 inches.



VERTICAL AIRFOILS fixed or operating



CANTILEVER AIRFOILS spans to 20 feet



CONSTRUCTION SPECIALTIES, INC.

EAST COAST 55 Winans Ave., Cranford, New Jersey WEST COAST West Grant St., Escondido, Calif.

Please send C-S Airfoil 🗌 literature

price data the name of your local representative so that we may inspect product sample.

NAME

FIRM

ADDRESS

TITLE

PA-959

specifications



you haven't seen a Jennison-Wright gym floor "in action", you've got a real treat coming. They provide everything expected from an ordinary wood floor plus a lot of extras . . . extras derived <u>only</u> from END GRAIN construction.* They're SPLINTER PROOF and extremely DURABLE; thus <u>safer</u>, <u>easier to maintain</u> and more <u>economical</u> too.

When present floors need replacing or if new gyms or shops are anticipated, ask for a demonstration. Jennison-Wright representatives welcome the chance to show these unique and beautiful floors "in person" so you can "Run on it . . . and feel the cushioned flex of end grain floors.

THE JENNISON-WRIGHT CORPORATION, TOLEDO 9, OHIO



FLEXIBLE STRIP END GRAIN FLOORS

p/a views

(Continued from page 272)

design participation. Architecture which is very physical should recognize its design role. It struck me queerly that there was no mention of design, particularly as all the examples illustrated were clearly physical design plans, etc. With the exception of the article by Leonard Eaton, "A Historic Pattern," there is little mention as to the why of the examples-why they are used and enjoyed. For this reason I feel that there is an obvious ingredient leftout of the pudding-the importance of the spaces that sensorially link the individual with his city and his architecture. This space can be imagined as the corridors, vestibules, and rooms of an architectural structure-spaces defined by floors, walls and ceilings. The city space is defined by its architecture, vegetation, and topography.

I do believe that this urban-pattern series should be a continuing sequence. There is strong need today to tie the environment into a designed 'whole' of some sort. P/A cannot hope to do this in one installment. I heartily congratulate the magazine on its stand; next in order would be its commitment.

> JOHN B. FRAZIER, Assistant Professor Department of Urban Planning and Landscape Architecture Michigan State University East Lansing, Mich.

aluminum company created

Formation of DEK INDUSTRIES, INC., was announced by R. Carter Dye, President. A Major entry in the aluminum manufacturing home building products industries, DEK will have facilities in Los Angles, Calif., Downingtown, Pa., and Cleveland, Ohio. DYE, FRED H. EDGAR, Executive Vice-President, and WALTER E. KEMMERER, Vice-President of Sales, are also directors of the five member board.

new divisions

LEFEBURE CORP., Cedar Rapids, Iowa announces the formation of their new ARCHITECTS SERVICE DIVISION to be headed by DAVID H. CREW. The new service is basically involved in planning.

BONAFIDE MILLS, INC., New York, N.Y. announces the formation of its RENIOR PLASTICS DIVISION. Henceforth, all patterns of Bonafide Solid Vinyl Tile shall be known by the brand name "Renior."

Anodized Aluminum ANOTEC*

... the new dimension in freedom of design...



Anotec exterior installation Coral Ridge National Bank, Fort Lauderdale, Florida

Complete information and specifications available upon request.



1379 N. North Branch Street • Chicago 22, Illinois • MO-hawk 4-4530 *Trademark

Created in SPECTRA-COLORS and GEOMETRIC PATTERNS that add a new concept to interior and exterior applications

Specify ANOTEC* for new construction or modernization! Ideal for sun deflectors, decorative wall panels, spandrels, column facings, window guards, room-dividers, parapet and terrace railings, swimming pool enclosures, patio screens, grilles, louvers, gates, fences, etc.

KLEMP INTERNATIO 1379 N. North Branch St Chicago 22, Illinois	NAL reet	Dept. PA-
 Please send complet ANOTEC.^a Please have one of yo 	e information a	nd specifications of
N-	ur representatives	contact me.
Name	ar representatives	contact me.
Name Firm Address		contact me.



COMMUNICATION NEEDS DIFFER ...

That's why Webster Electric gives you a choice of *three* complete and different intercommunication systems... the most versatile and extensive line available today ! Now, you can specify a type and model to fit your client's needs *exactly*, without compromise.

Talk to your Webster Electric dealer* — he's a fully qualified sound engineer. You'll find his recommendations both helpful and realistic.

WEBSTER BUILDS

3 COMPLETE



ELECTRIC

ACINE.WIS



Telecom

Completely automatic private dial telephone system. Includes its own 48-volt power supply. Regulation dialing.

leletalk

Most advanced amplified voice intercom. Features newest electronic design, printed circuits. Smartly-styled cabinets of fine furniture woods.



A matched line of amplifiers, speakers and accessories for engineered paging, public address and music distribution systems.

* see yellow pages - under intercommunication systems

notices

new offices

C. MELVIN FRANK, CURTIS N. LINDBERG, and JACK M. MAKI, principals in the firm of C. MELVIN FRANK, LINDBERG & MAKI, Architects, 1650 W. Fifth Ave., Columbus, Ohio.

IAN GRAD ASSOCIATES, Consulting Engineers, 114 E. 32 St., New York, N.Y.

ALLEN W. HIXON, JR., Landscape Architect-Site Planner, 920 Hopmeadow St.; 1 Centerwood Rd., Simsbury, Conn.

JOSEPH W. PAHL, Architect, 1168 S. Sheridan Blvd., Denver, Colo.

FRIEDRICH H. SCHMITT, Architect, 1208 E. Morehead St., Charlotte, N.C.

IRVING D. SHAPIRO, Architect-Urban Land Economist, 447 S. Robertson Blvd., Beverly Hills, Calif.

EARL G. BOZEMAN, ROBERT E. MULLEN, and DONALD D. NYBERG, principals in firm of BOZEMAN, MULLEN & NYBERG, Architects, 14 W. First St., New York, N.Y.

DONALD C. CAMPBELL and DALE V. EVANS, principals in firm of CAMPBELL-EVANS, Consulting Engineers, 3381 Gorham Ave., Minneapolis 26, Minn.

ROBERT E. CHAMPLIN and MILTON COST-LOW, principals in firm of costLOW & CHAMPLIN, Architects-Engineers, 4441 Madison, Kansas City 11, Mo.

EDWARD W. KRESS and LEONARD W. WIN-STON, principals in firm of KRESS & WIN-STON, Architects-Civil Engineers, 363 Park Ave., San Jose, Calif.

ELMER J. MAGGI, Consulting Engineer, 5107 N. Seventh St., Phoenix, Ariz.

FRIEDRICH H. SCHMITT, Architect, 1208 E. Morehead St., Charlotte, N. C.

new branch office

KALLEN & LEMELSON, Mechanical-Electrical Engineers, 1860 Broadway, New York, N. Y.

NIELSON, REEVE & MAXWELL, INC., Consulting Civil Engineers, 429 W. Fifth South, Bountiful, Utah, open branch at 275 E. 4425 South, Washington Terrace, Utah.

office reopened

JOHN F. MULLINS, Architect, 1807 Silverside Rd., Wilmington, Delaware.

WEBSTER

Moynahan for excellence in architectural metals

THE UNUSUAL MANNER IN WHICH YAMASAKI EMPLOYED ALUMINUM THROUGHOUT THE REGIONAL OFFICE BUILDING OF REYNOLDS METALS CO. MAKES IT BEAUTIFULLY UNIQUE IN APPEARANCE. ALL ALUMINUM ARCHITECTURAL UNITS, WITH MINOR EXCEPTIONS. WERE ENGINEERED AND FABRICATED BY MOYNAHAN BRONZE CO. THE EXCELLENCE OF THESE UNITS ATTESTS TO MOYNAHAN'S TALENTS FOR FABRICATING FINE CUSTOM, ARCHITECTURAL METALS.



Regional Offices, Reynolds Metals Company Architects : Minoru Yamasaki & Associates



ALUMINUM – STAINLESS STEEL – BRONZE Flor Rock, Mich. CURTAIN WALLS

1



The eye appeal and versatility of Raynor Doors highlight the circular design of the American River Junior College Auto Shop shown above.

Carmichael, California

The perfection with which Raynor Doors so completely create the desired effect and meet the exacting specifications of outstanding architectural designs such as this, is accomplished through *Raynor Advanced Sectional Door Engineering Know-How*. Built complete under one roof, Raynor Doors embody only the finest materials available . . . employ construction features such as exclusive "Graduated Seal" . . . three-way stress construction . . . heavy-duty galvanized hardware and "Lifetime Guaranteed" Dorlux panels.

Whatever your specific design problem may be, the Raynor Engineering Department will provide the correct solution. Contact your nearest Raynor Distributor or write direct.



RAYNOR MFG. CO.

Hammonton, New Jersey

Dixon, Illinois



notices

new firms

PETER TARAPATA and CHARLES MACMAHON, principals in the firm of TARAPATA & MAC MAHON, Architects, Barbour Bldg., 1591 Woodward Ave., Bloomfield Hills, Mich.

F. GENE RALLS, DESMOND P. HAMILL, and ERNEST N. BECKER, principals in the firm of RALLS, HAMILL & BECKER, Architects, 15225 Farmington Rd., Livonia, Mich.

THOMPSON MCCLEARY and CALVIN MC-CORMICK, principals in the firm of MCCLEARY & MCCORMICK, Architects, 3270 Sul Ross, Houston, Tex.

C. WILLIAM PALMER and FRED J. SCHOETTLEY, join offices under the name of PALMER & SCHOETTLEY, Architects, 409 Griswold St., Detroit, Mich.

ROBERT P. GUARINO and LEON A. SCHUTE, principals in the firm of ROBERT P. GUARINO & LEON A. SCHUTE, Architects, Engineers, 332 S. Wrenn St., High Point, N. C., and State Commercial Bank Bldg., Office 305, Thomasville, N. C.

JAMES L. GAY and JAMES M. FISKE, principals in the firm of FISKE-GAY, ASSO-CIATES, INC., Consulting Engineers, 3228 Edgewater Dr., P. O. Box 7774, Orlando, Fla. The office of JAMES L. GAY has been closed.

GEORGE W. WICKSTEAD, Site Development Consultant, 200 S. Michigan Ave., Chicago, Ill.

OLOF DAHLSTRAND, Architect, P. O. Box 2703, Fifth and Junipero, Carmel, Calif. STEPHEN M. BEDNAR, Architect, McCarthy-Carlino Bldg., 103 N. Gilpin St., Punxsutawney, Pa.

SHAW METZ & ASSOCIATES, 208 S. La Salle St., Chicago, Ill., Architects-Engineers, will continue collaboration with JOHN DOLIO & ASSOCIATES, Professional Engineers of the same address. Formerly, SHAW METZ & POLIO.

new division

THE YALE & TOWNE MANUFACTURING COMPANY announces the establishment of the Towne Hardware Division to market ceramic and metal builders' hardware trim and accessories under the trademark "TOWNE." W. B. HOLTON, appointed Manager of the new division.

Personal Triumph

of an Architect - Client team

WHEN an architect and a client design and authorize a modern curtain wall, they think in values more significant than so many cubic feet of space at the lowest possible dollar . . .

Theirs is the limitless opportunity to create buildings that can do more for the people who see them and use them.

Each project is a challenge to new concepts . . . of beauty that can lift human spirits . . . of lightness and freedom in place of massive structures for which the need has passed. And more than ever before, the designer can achieve the cheerful stimulus of abundant sunshine, and the control and tempering of Nature's elements to provide a pervading sense of well-being.

Through more than 50 years Benson has built an effective combination of men, materials and manufacturing resources to help translate visions like these into realities.

Giving tangible and permanent expression to the ideals of the Old American Insurance Company, their new Home Office in Kansas City is also an outstanding example of originality and excellence in curtain wall design. Deeply finned split mullions combine narrow sight lines with the strength to support shop assembled wall units 6' 0" wide by 12' 0" high. Central panels of high insulating glass are 6' 0" by 6' 9".

Architects: VOSKAMP & SLEZAK

Contractor: PATTI CONSTRUCTION COMPANY

Curtain Walls: BENSON MANUFACTURING COMPANY

The Benson index in Sweet's chitectural Catalogue is <u>3a</u> Be Since 1907

Under One Qualified Responsibility: Aluminum and Stainless Steel Curtain Walls + Windows + Doors • Entrances • Solar Control Louvers



ARCHITECTURAL DIVISION - BENSON MANUFACTURING CO., 18TH AT AGNES - KANSAS CITY 27, MO.

ALBANY + ATLANTA + BOSTON + CHICAGO + CINCINNATI + CLEVELAND + DALLAS + DENVER + DES MOINES + HOUSTON + MILWAUKEE MINNEAPOLIS + NASHVILLE + NEW ORLEANS + NORFOLK + OMAHA + PHILADELPHIA + RAPID CITY + ST LOUIS + TOPEKA



Quiet, dependable year 'round comfort—winter heating, summer cooling—is assured with an American-Standard Remotaire system. This trim 9"-thin, fan-coil unit gives maximum usable floor space and attractive appearance in every installation. A compact, remote boiler-chiller team distributes hot water for heating and chilled water for cooling. Small-diameter, space-saving pipes carry water to fan-coil units in rooms around the perimeter of the building. The occupant of each room controls his own comfort every day in the year.



Wide shelf space and anti-splash rim make the New Lucerne lavatory perfect for washrooms. 20x18", 24x20". China in eight colors and white.



Off the floor for faster, easier cleaning, Afwall toilet is designed for quietaction flush valve. China in eight colors and white.



Easy-to-maintain Casal urinal, with built-in flush spreader, is made of wipe-clean vitreous china in eight colors and white.

OFFICES

and <u>all</u> commercial buildings stay up-to-date longer with American-Standard products

A lasting modern look is added to a building when plumbing and year 'round air conditioning equipment looks attractive, operates dependably year after year. Here are examples of just such equipment—American-Standard quality products, designed by specialists, solidly made of the finest materials, engineered and tested by skilled and experienced hands.

Top-quality plumbing fixtures from American-Standard are made of genuine vitreous china and acid-resisting enameled cast iron that will stay newlooking and modern for years to come.

Dependable year 'round air conditioning from American-Standard is thoroughly tested and proved under all conditions. These Remotaire air conditioning systems allow the occupant of each peripheral room to control his own comfort summer or winter.

To provide low maintenance . . . to keep your buildings up-to-date longer, specify American-Standard year 'round hydronic air conditioning and first-quality plumbing equipment.

Find out more about these attractive, dependable products from your American-Standard representative, or write AMERICAN-STANDARD, PLUMBING AND HEATING DIVISION, 40 West 40th Street, New York 18, New York.

AMERICAN-Standard and Standard® are trademarks of American Radiator & Standard Sanitary Corporation





SIENA HIGH SCHOOL, Chicago, Illinois BELLI & BELLI, architects, Chicago





are perfectly adapted to the school environment Entrance, vestibule, auditorium, office, library, classroom and toilet room doors—all reflect exemplary behavior under the consistently gentle —but firm—control of invisible RIXSON door closers.

The concealment of RIXSON floor type closers, specified throughout, leaves every door free and unencumbered to fulfill its individual design function. send for condensed catalog $\frac{18e}{Bi}$

THE OSCAR C. RIXSON COMPANY 9100 west belmont avenue • franklin park, illinois CANADIAN PLANT: 43 Racine Rd. (Rexdale P. O.), Toronto



notices

new addresses

HERBERT L. BERGER, Architect, 1414 Union National Building, Wichita 2, Kans.

CALIFORNIA COUNCIL, AIA, Room 302, 916 Kearny St., San Francisco 11, Calif. FRANK W. CHAPPELL & A. M. BRENNEKE, Consulting Engineers, 4427 Cole Ave., Dallas 5, Tex.

CRONHEIM & WEGER, Architects-Engineers, 220 S. 16 St., Philadelphia 2, Pa. FREEDMAN & PETROFF, Architects, 3130 Bathhurst St., Toronto 19, Canada.

NEUMANN & TAYLOR, Architects, 68 E. 56 St., New York 22, N. Y.

ARTHUR W. WHITE, Architect, 132 S. Court St., Orlando, Fla.

LAWRENCE H. SINGER, Interior Designer, 605 Fifth Ave., New York 17, N. Y.

SHURCLIFF & MERRILL, Landscape Architects, 45 Bromfield St., Boston 8, Mass.

JOSEPH W. MCCARTHY & ASSOCIATES, Architects-Engineers, 6936 W. Roosevelt Rd., Oak Park, Ill.

DEAN L. GUSTAVSON ASSOCIATES, Architects, Suite C, 15 N.W. Temple St., Salt Lake City, Utah.

BERNARD C. WANNER, Architect, Suite 205, Postal Savings Bldg., 108 W. Eighth Ave., Topeka, Kan.

J. L. WILLIAMS & ASSOCIATES, Architects-Engineers, P.O. Box 187, Matthews, N.C.

WILLIAM H. BYRNE; BYRNE ASSOCIATES, INC.; STEVENS & WOOD, INC.; Engineers, 50 Church St., New York, N. Y.

FREDERIC R. FRANKEL, Architect, 1227 Temple St., Los Angeles, Calif.

JOHNSON & PERKINS, Architects, 3541 Harding Ave., Honolulu, Hawaii.

WILLIAM PAHLMANN ASSOCIATES, INC., Interior Decorators, 136 E. 57 St., New York, N. Y.

WILLIAM BRUCE REINER, Architect, Civic Center Bldg., Suite 105, 225 W. Winston Ave., Hayward, Calif.

TIPPETS, ABBETT, MCCARTHY, STRATTON, Architects-Engineers, 375 Park Ave., New York, N. Y.



FOR CONTROL JOINTS

Blok-Joint is the cross shaped rubber extrusion used to make control joints in masonry walls. Used with ordinary metal sash blocks—no special blocks no cutting or sawing—no bond breaking paper and mortar fill required. Simply slip Blok-Joint into the sash groove and calk the joint when the wall is completed.

Blok-Joint forms a secure interlock that adds to the lateral stability of the wall and provides for *both* contraction and expansion.

Blok-Joint can be used in single block walls, with brick and block backup, at wall intersections and at columns and pilasters.

Additional strength and resistance to cracking is assured by using Blok-Mesh "deep swedged" masonry wall reinforcing. You can see the extra gripability of its large, squared deformations where the mortar seats for maximum bond.

Why not investigate both Blok-Joint and Blok-Mesh today!





And

*Deep Swedged" REINFORCING

Made of "100 year life" rubber to meet ASTM and FEDERAL specifications. Comes in four lengths—8", 24", 48" and 50 foot rolls.



"Deep Swedged" Reinforcing

Large, well defined, squared notches to give a deeper, stronger mortar grip than with conventional reinforcing with superficial nicks and burrs. No sharp edges to irritate hands. Butt welded to lay flat. Cuts and bends easily.

SEE OUR OR	Arch. File	Indus. File
CATALOG FOR L	4h	4c
O LOFT	Car	Car

Write for FREE Sample and Specifications

Blok-Joint and Blok-Mesh are products of the Carter-Waters Corp. 2440 Pennway, Kansas City 8, Missouri, Dept. $P\Lambda$

Available in the U.S. through Concrete Block Manufacturers and Building Materials Dealers. Distributed in Canada by Consolidated Concrete Industries, Ltd. 9th Ave. & 24th St. East Calgary, Alberta, Canada.



Exciting design ideas with POZZOLITH concrete...

Soaring Simplicity... a new shape for reverence

Grace Lutheran Church, Denver—Soaring traditional church style and modern simplicity of design are tastefully blended in this new "church for today"—creating an atmosphere of dignity and reverence. Concrete was chosen as the logical building material to express this concept.

The church's precast-concrete supporting bents and wall panels of lightweight precast-concrete were manufactured at the job site. Corrugated end walls, roof and floor were poured-in-place.

Smooth, clean surface-textures and good density with no cracks were readily obtained with PozzoLITH—as were the high early and flexural strengths needed for tilt-up construction. Construction costs of Grace Church (\$12 per square foot) demonstrated the economy of architectural concrete.

On your current and future projects call in the local Master Builders field man. He's at your service to demonstrate how concrete becomes a more versatile and more useful building material through the use of POZZOLITH.

The Master Builders Company, Cleveland 3, Ohio Division of American-Marietta Company The Master Builders Company, Ltd., Toronto 15, Ontario International Department, New York 17, N.Y. Branch Offices in all principal cities.

SPACE AND LIGHT... are subtly balanced to achieve a spiritual atmosphere in the church interior. The church seats 600.



*POZZOLITH is a registered trademark of The Master Builders Co. for its concrete admixture to reduce water and control entrainment of air and rate of hardening.





Architect: James, Meadows and Howard, Buffalo, N. Y.

Modern Fleetlite Sliding Windows Chosen for Tower Dormitory on the University of Buffalo Campus

Rising eleven floors above the University of Buffalo campus is the new Tower Dormitory...a masterpiece in concrete, brick and colorful terra cotta with row upon row of Fleetlite Aluminum Double Windows.

In planning this campus home for over 400 student residents, University authorities selected Fleetlite double windows for reasons of both comfort and economy. By a simple adjustment of the interior and exterior sliding sash, students may enjoy indirect ventilation regardless of the weather. No stuffy rooms, no drafts, no possibility that rain or snow will damage furnishings.

Fleetlite double windows also mean double economy. A "blanket of air" insulation between the sash

FLEET OF A Dept. PA-99 Buffalo 25,	AMERICA, INC. , 2015 Walden Avenue New York
Please ser	nd complete Fleetlite
winde	w mormation.
Name	w mormation.
Name Address	w mormation.

results in more efficient heating and subsequent fuel savings. At the same time, there is economy in maintenance. Durable aluminum requires no painting; vinyl plastic replaces putty; and, since all sash may be removed from the inside for cleaning, costly and dangerous outside window washing is eliminated.



notices

name changes

ARENDT, MOSHER, GRANT, Architects, 116 E. Sola St., Santa Barbara, Calif.: formerly, HOWELL, ARENDT, MOSHER & GRANT.

CAMBURAS, THEODORE & JAYE, Architects-Engineers, 105 W. Madison Ave., Chicago, Ill.: formerly, CAMBURAS & THEODORE.

GUY E. CRAMPTON & ASSOCIATES, Architects-Engineers, 115 W. Morgan St., Raleigh, N. C.: formerly, w. HENLEY DEIT-RICK & ASSOCIATES. Deitrick will continue with the firm as consultant.

MORRIS LAPIDUS, KORNBLATH, HARLE & LEIBMAN, Architects-Interior Designers, 256 E. 49 St., New York, N. Y., and 940 Lincoln Road, Miami Beach, Fla.: formerly, MORRIS LAPIDUS & ASSOCIATES.

ROBERT WM. FRITSCH, Architect, 2311 N.W. Irving St., Portland, Ore. Formerly, whittier & FRITSCH.

CALVIN W. GOSS, and ALLAN K. CHOY, principals in the firm of COSS & CHOY, Architects, 920 Chester Ave., Bakersfield, Calif. Formerly, CALVIN W. COSS.

JOHN LYON REID, BURTON L. ROCKWELL, JR., RICHARD S. BANWELL, and DR. ALEX-ANDER G. TARICS, continue their partnership under the new name of REID, ROCK-WELL, BANWELL & TARICS, Architects-Engineers, 1019 Market St., San Francisco, Calif. Formerly JOHN LYON REID & PARTNERS, there will be no change in personnel or organization.

LINN SMITH ASSOCIATES, INC., Architects-Engineers, 894 S. Adams St., Birmingham, Ala. Formerly, SMITH, TARAPATA, MACMAHON, INC.

MASTEN, HURD & GWATHMEY, Architects, 526 Powell St., San Francisco, Calif.: formerly, MASTEN & HURD.

FREDERICK A. MUHLENBERC & ASSOCI-ATES, Architects, Medical Arts Bldg., 230 N. Fifth St., Reading, Pa.: formerly, MUHLENBERG, YERKES & ASSOCIATES.

POOLE & POOLE, Engineers-Surveyors, 316 E. Call St., Tallahassee, Fla.: formerly, BOYLE & POOLE.

KENNEDY ENGINEERS, formerly, CLYDE C. KENNEDY, Engineers, with home office in Los Angeles, Calif., and Branch offices in Washington, Washington, D.C., and Utah.

a new self-sealing wall panel with no visible joints



Glance at the cross section sketches of new Monopanl.[®] Isn't this the intelligent way to join metal curtain wall panels? Tongue-and-groove joints are sealed with resilient vinyl gaskets. Installation is obviously simpler and more economical. Fasteners are inside. From outside there are no visible joints or fasteners. And – of course – no caulking.

Insulated Monopanl is designed on one-foot modules – accurately factory fabricated for precise installation. The configuration yields a remarkable spanning ability.

Beautiful Monopanl is furnished in a range of gauges and colors. Exterior and interior faces can be specified in aluminium or galvanized steel.

For complete technical details and actual samples of new Monopanl, contact your nearby Butler Builder. He's listed in the Yellow Pages under "Buildings" or "Steel Buildings." Or, write direct for descriptive brochure and data sheets. The nearest Butler sales office is listed below.



Method of joining vinyl gaskets.



BUTLER MANUFACTURING COMPANY 7510 East 13th Street, Kansas City 26, Missouri

Sales offices in Los Angeles and Richmond, Calif. Houston, Tex. • Birmingham, Ala. • Kansas City, Mo. Minneapolis, Minn. • Chicago, Ill. • Detroit, Mich. Cleveland, Ohio • Pittsburgh, Pa. • New York City and Syracuse, N.Y. • Boston, Mass. • Washington, D.C. Burlington, Ontario, Canada

You Can Have A Complete Radiant-Acoustical Ceiling For \$1.72 Per Square Foot



James A. Phillips Co., New York City, N. Y., won the contract for the above installation with a bid of \$1.72 per square foot. Illustrated is part of 10,000 square feet of SIMPLEX radiant-acoustical ceiling in the new engineering offices of the Long Island Rail Road, Jamaica, N. Y.

This ceiling provides radiant heating and cooling, ventilation, acoustical correction, support for recessed lights and a permanent, low maintenance surface finish (anodized aluminum).

Since the above, three other SIMPLEX radiantacoustical ceilings have been installed for the L.I.R.R. as part of its rehabilitation program. More are on the drawing boards.

To sum up, radiant-acoustical ceilings need not be costly if care is exercised in selection. The SIMPLEX radiant-acoustical ceiling is the only one so completely integrated. It does the entire job of comfort conditioning with one medium-air. Other systems use a combination of water and air.

Complete information is available in our folder #RA9. It contains complete design information, photographs of other installations, details and working specifications.

Simplex Ceiling corp. 552 West 52 Street, New York 19, N.Y.



ANEMOSTAT®

is a registered trademark for a wide range of air diffusion equipment Today Anemostat offers an impressive variety of air diffusion equipment to meet every architectural and engineering requirement. ANEMOSTAT® is a registered trademark. It is your guarantee that every unit bearing this name is of highest quality . . . backed by the most experienced engineering, research and testing laboratories in the industry.

When Anemostat Air Diffusers are in sight the system is right. This was true yesterday, is true today and will be true tomorrow.



Conventional Air Diffusers

All Air High Velocity Systems

100% Induction Air Diffusers

Constant Volume Turbulators



ANEMOSTAT CORPORATION OF AMERICA 10 EAST 39th STREET, NEW YORX 16, N. Y. Representatives in principal cities

"No Air Conditioning System Is Better Than Its Air Distribution"

High Velocity Systems for Schools

notices

new partners, associates

CARL ARRAS, ROBERT HART, NEILL SMITH, associates in the office of JOHN CARL WARNECKE & ASSOCIATES, Architects, San Francisco, Calif. Formerly, JOHN CARL WARNECKE.

JOHN DEFAUW, Chief Designer at THREE DIMENSIONS, Chicago, Ill.

WILLIAM S. VALUS, JR., associate in firm of RALPH T. ROWLAND, Architect, Hamden, Conn.

CHARLES D. KRATKA, Industrial-Interior Designer, in the firm of WILLIAM L. PEREIRA & ASSOCIATES, Architects-Planners, Los Angeles, Calif.

OSCAR NITZCHKE, Architect, as Director of Architectural Services in the firm of JIM NASH ASSOCIATES, INC., Industrial Designers, New York and Toronto.

GEORGE LEVINE, MARTIN F. GRIFFIN, and ERNEST DAESCHLER, three additions to the Executive Staff of BECKER & BECKER ASSO-CIATES, INC., Industrial Designers, New York, N. Y. WILLIAM T. HOFFMAN, JOSEPH JOHN DEVITO, JAMES WONC, and JOHN UMPLEBY were other additions to the firm.

THOMAS C. SHEDD, Professor of Structural Engineering, Emeritus, University of Illinois, is now an Associate in firm of CLARK, DAILY & DIETZ, Consulting Engineers; Carlyle, Urbana, Ill., and Memphis, Tenn.

JACK FREIDIN, Partner in charge of Design, and JULIEN STUDLEY, Partner in charge of Administration at FREIDIN-STUDLEY ASSOCIATES, Planners-Interior Design, New York, N.Y. JOSEPH SOLO-MON, Architect, was named Associate in charge of planning, and LILA KUNZE BURC, will head the decorating department.

MICHAEL L. MASCIA, Resident Engineer at New York office of A. M. KINNEY, INC., Consulting Engineers, New York and Cinncinnati, Ohio.

ROBERT H. MCKAY, made a Partner, and GEORGE E. MERKEL, an Associate in the office of ALFRED EASTON POOR, Architects, New York and Washington.

JACK RUSSELL RUMMELL and JAMES J. KESLER, made Associates in the firm of DANIEL, MANN, JOHNSON & MENDENHALL, Architects-Engineers, Los Angeles, Calif. EUGENE J. GUERRERO, made full Partner in the firm of TOOMES, AMISANO & WELLS, Architects-Engineers, Atlanta, Ga.

JAMES BLAIR, ROBERT W. MURPHY, and J. WILLIAM DIMMICH, made Associates in the firm of BASSETTI & MORSE, Architects, Seattle, Wash.

JAMES D. FESSENDEN, named as Partner in the firm of ERNEST J. KUMP, Architects, Palo Alto, Calif.

elections, appointments

M. H. CUTLER, named Engineering Manager of stone & webster encineering corporation, Boston and New York. Leland King, appointed Supervising Architect for AMPEX CORPORATION, Redwood City, Calif.

KENT ATTRIDCE, appointed as Director in charge of the newly expanded New York office of WELTON BECKET & ASSOCIATES, Architects.

AMADEO LEONE, elected President of SMITH, HINCHMAN & GRYLLS ASSOCIATES, INC., Architects-Engineers, Detroit, Mich., L. J. HOSMAN, chosen Vice-President and Secretary; R. F. HASTINGS, Executive Vice-President and Treasurer.

MEL R. BARUH, GEORGE W. BURCESS, and JACK H. GRADY, elected Vice-Presidents of FIREBOARD PAPER PRODUCTS COR-PORATION. Appointed to company's two newly created Personnel Manager posts were, KIRK FREDERICK for marketing and W. RAY NORMINGTON for manufacturing. E. W. CAREY, appointed Vice-President of marketing.

JAMES W. JACOBS, made Manager of Research and Future Products Engineering for FRIGIDAIRE DIVISION, GENERAL MOTORS.

JOHN C. WALLACE, appointed President, HAROLD BROWN, Vice-President, and General Sales Manager, JOHN ALICO, Manager of Manufacturing, and ROBERT L. WHITE, appointed Advertising Manager, WALWORTH COMPANY. MIDWEST PIPING COMPANY, INC., will manufacture Walworth welding fittings for the company.

JOHN WAMPLER, appointed Manager, and RALPH MARSH, Assistant Manager of Pricing Department, YOUNGSTOWN SHEET AND TUBE COMPANY.



Specify "Swing-Clear" hinges for hospitals

Beds and stretchers move through hospital doors without damaging door corners and faces, because Stanley swingclear hinges swing doors entirely clear of their openings, providing extra clearance and assuring unobstructed passage. Doors last longer. Use of ordinary hinges would require wider openings. Available in half-mortise or full-surface design, swing-clear hinges do not require special jam construction. For economy in building and during use after building, specify Stanley swing-clear hinges . .. the only hinges of their kind with Stanley's patented full-jeweled ball bearing feature. Will last the life of any building where they are used. For details write:

STANLEY HARDWARE Division of The Stanley Works Dept 1, 78 Lake Street New Britain, Conn.

He's your man...

for total service of your automatic door requirements

The "MAGIC-DOOR" distributor is a member of a national sales and service organization. This is your assurance of TOTAL SERVICE from a nearby source from the time you first consider "MAGIC-DOOR" automatic door equipment through the many years it will be in use. For further information, contact the distributor nearest you, or write to STANLEY HARDWARE, Division of The Stanley Works, "MAGIC-DOOR" Sales, Dept. I, 1078 Lake St., New Britain, Conn.

"MAGIC-DOOR" DISTRIBUTORS

OREGON - Portland

Bannon, Inc.

Gamble-Hawkins Company

PENNSYLVANIA — Philadelphia

ARIZONA - Phoenix Hay Agency ALABAMA - Birmingham Haralson Sales Company CALIFORNIA — Belmont The A. H. Heinzmann Agency **Beverly Hills** Hay Agency COLORADO — Denver Builders Service Bureau, Inc. CONNECTICUT - Hartford Stanley Sales Company ORIDA — Miami, Orlando William A. Slater GEORGIA — Atlanta Hatcher Sales Company, Inc. ILLINOIS - Chicago Jed Products Company INDIANA — Indianapolis Jed Products Company KENTUCKY - Louisville Jed Products Company LOUISIANA - New Orleans A. Wylie McDougall Co. Shreveport Engineered Controls & Mat'l Co. MARYLAND — Baltimore Thomas B. Garey Company MASSACHUSETTS — Newton Center Stanley Sales Company MICHIGAN — Grand Rapids Jed Products Company **Royal Oak** Jed Products Company Saginaw Jed Products Company MINNESOTA — Minneapolis Jed Products Company MISSOURI - Kansas City Edelman-Lyon Co. St. Louis Thomas J. Finan Co., Inc. NEBRASKA - Ralston The Roland Company NEW MEXICO — Albuquerque Engineered Controls & Mat'l Co. NEW YORK — Buffalo Robert M. Hershiser Long Island City Joseph Shaw NORTH CAROLINA - Greensboro T. L. Bobbitt Hatcher Sales Co., Inc. OHIO — Cincinnati Jed Products Company Cleveland Jed Products Company Columbus Jed Products Company OKLAHOMA — Oklahoma City Murray R. Womble Company

Tulsa Murray R. Womble Company

Pittsburgh Jed Products Company SOUTH CAROLINA — Greenville A. N. Stall Hatcher Sales Co., Inc. Spartanburg A. H. Hill Hatcher Sales Co., Inc. TENNESSEE — Knoxville C. A. Shelton Hatcher Sales Co., Inc. Memphis Acoustics and Specialties, Inc. Nashville John W. McDougall Company TEXAS - Dallas Engineered Controls & Mat'l Co. Houston Shelton W. Greer Lubbock Engineered Controls & Mat'l Co. San Antonio Samuels Glass Company UTAH — Salt Lake City T. C. Stayner & Company VIRGINIA - Richmond R. C. Tutwiler WASHINGTON - Seattle Consolidated Services, Inc. Spokane Monroe Food Machinery Co. WASHINGTON, D. C. G. W. Blanchard Co., Inc. WISCONSIN - Milwaukee Jed Products Company IN CANADA: ALBERTA — Calgary, Edmonton Pilkington Glass, Ltd. BRITISH COLUMBIA - Vancouver, Victoria Pilkington Glass, Ltd. MANITOBA — Winnipeg Pilkington Glass, Ltd. NEW BRUNSWICK — Lancaster Pilkington Glass, Ltd. NOVA SCOTIA — Halifax Pilkington Glass, Ltd. ONTARIO - Fort Williams, Hamilton, Kingston, Kitchener, London, Ottawa, St. Catherines, Scarborough, Toronto Pilkington Glass, Ltd. QUEBEC — Montreal Montreal Forged Prd. Ltd. SASKATCHEWAN - Regina,

Saskatoon Pilkington Glass, Ltd.

STANLEY

A MERICA BUILDS BETTER AND LIVES BETTER WITH STANLEY This famous trademark distinguishes over 20,000 quality products of The Stanley Works, New Britain, Conn.—hand tools • electric tools • builders hardware • industrial hardware • drapery hardware • automatic door controls • aluminum windows • stampings • springs • coatings • strip steel • steel strapping—made in 24 plants in the United States, Canada, England and Germany. CANADIAN OFFICES: MONTREAL, P. Q. AND HAMILTON, ONT.



An architect knows that every building problem creates the need for a specific building material.

Many architects have discovered that Alsynite makes a specific fiberglass panel to meet every building requirement.

Corrugated, steplap, decorative embedment, windowpane, flat sheet and many more that nest with special metal patterns-all are made by Alsynite, each created for the specific end use.

Alsynite also makes panels with various heat and light transmission characteristics, strength, surface and thickness-depending on the job they're meant to doand in a full range of colors.

For specifications on the right panel for every job, write for free folder AE-458. Or see Alsynite's listing in Sweet's Catalog.



ALSYNITE COMPANY OF AMERICA DEPT. PA-9, SAN DIEGO 9, CALIF.

notices

elections, appointments

HAROLD F. CLEARY, DONALD N. MCCORD, M. H. CUTLER, and WILLIAM R. PRANG, elected Vice-Presidents at STONE & WEB-STER ENGINEERING CORPORATION, Boston and New York.

JOHN C. NARBER, appointed Director of Planning at CHARLES LUCKMAN ASSO-CIATES, Architects, Los Angeles and New York.

PAUL B. OSTERGAARD, appointed Senior Engineer at LEWIS S. GOODFRIEND & AS-SOCIATES, Consulting Architectural Acoustics Engineers of Montclair, N.J.

FREDERICK D. REGETZ, appointed Senior City Planner, Division of City and Regional Planning at SARGENT, WEBSTER, CRENSHAW & FOLLEY, Architects-Engineers, New York.

J. R. NICHOLSON, appointed Commercial and Residential Sales Manager of H-P PRODUCTS, INC.

R. D. LOEFFLER, appointed Manager of Dome Sales for KAISER ALUMINUM & CHEMICAL SALES, INC.

JOHN R. PURTELL, named Sales Service Supervisor of the Asphalt Products Division of KEASBEY & MATTISON COMPANY.

FRANK R. HINDS, elected Vice-President of Marketing for the master builders company, division of American-Marietta company.

RAYMOND J. VONESH, appointed Executive Secretary of RUBBER & PLASTIC AD-HESIVE & SEALANT MANUFACTURERS COUN-CIL.

WILLIAM A. LALLY, appointed Manager of Plumbing Specifications for the Plumbing Products Division of ZURN INDUSTRIES, INC.

CHARLES E. PATTERSON, JR., as President of CHAMBERS PORCELAIN BUILDINGS, INC., a new subsidiary of CHAMBERS MANUFAC-TURING CORPORATION. BEN F. BIRDWELL, named to head new Architectural Products Division.

HOWARD E. BAHR, appointed Assistant Director of Design for CORNING GLASS WORKS.

SAMUEL S. CHILDS, elected Chairman of the Board, JOHN E. SJOSTROM COMPANY, INC.



KOH-I-NOOR



FREE...a detailed color program to help you sell your plans!



You can give designs and plans you create greater sales appeal by supplementing them with a detailed color program.

• In practically every level of industrial and commercial life there is an increasing understanding of the fact that there is more to color than meets the eye. As a result, the drab, bleak and inharmonious color schemes of yesterday are being replaced by functional and attractive color patterns in keeping with modern advancements in equipment and methods.

• Much of this transformation of work areas derives from the development and perfection of Pittsburgh COLOR DYNAMICS.[®] This modern painting system harnesses, in a practical way, the influence of the energy of color upon people. • With COLOR DYNAMICS, it is possible to specify colors in work areas that relieve eye strain, reduce nervous tension and physical fatigue, minimize timeloss hazards, and otherwise improve the efficiency and safeguard the well-being of workers.

• We'll tailor a COLOR DYNAMICS program to go with your plans without cost or obligation. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have one of our color consultants see you at your convenience. Or send the coupon below.

and perfection of Pittsburgh modern painting system har- ay, the influence of the energy coupon to	this Pittsburgh Plate Glass Company Paint Division, Dept. PA-99 Pittsburgh 22, Pa. Gentlemen:
emial	Please have your representative provide us with further information about Pittsburgh's Free COLOR DYNAMICS engineering service for architects.
	Please send free copy of your booklet on COLOR DYNAMICS forindustry;hospitals; schools;commercial buildings.
URGH®PAINTS	ADDRESS
EMICALS • BRUSHES • PLASTICS • FIBER GLASS PLATE GLASS COMPANY	CITYCOUNTYSTATE

DAMAGING EVIDENCE

in the case of Wall vs. Water

In this case, the wall lost. If Wasco flashing had been specified, the damage would never have happened.

Don't gamble with your walls. For the best in thru-wall flashing — specify versatile WASCO COPPER-FABRIC FLASHING. Exclusive 5-layer construction, with a full 3-ounce copper core, assures you of the finest waterproofing possible.

Wasco also offers 13 other types of quality flashings for every thru-wall and spandrel need. See Sweet's File 8g/Wa, or call your Wasco Representative.



WASCO PRODUCTS, INC., 5 BAY STATE ROAD, CAMBRIDGE 38, MASS. IN CANADA: WASCO PRODUCTS (CANADA) LTD., TORONTO 15, ONT.

notices

p/a congratulates

GEORGE J. GREEN, appointed Assistant Manager, Architect Service at UNITED STATES GYPSUM COMPANY.

HARRY H. WHITTINCHAM, appointed President and General Manager of the Long Manufacturing Division of BORC-WARNER CORPORATION.

HERBERT K. HENRY, appointed Manager of Marketing Services for Airtemp Division of CHRYSLER CORPORATION.

THOMAS EVANS, elected Chairman and Chief Executive Officer of the Board at CRANE COMPANY. GEORGE F. BURLEY, reappointed Vice-President of Sales, and CHARLES H. LOVELACE, made General Manager of Engineering Sales.

JAMES A. MAIN, made Manager of the Industrial Division of THE FLINTKOTE COMPANY.

CHARLES L. BECKER, appointed Director of Centralized Sales of vinyl upholstry fabrics, and TREVOR MICHIELSON, appointed Philadelphia Division Manager of THE CENERAL TIRE & RUBBER COMPANY.

WILLIAM F. DREES, named Vice-President of Research and Planning for the intensified product research and development program at FORMICA CORPORATION, subsidiary of AMERICAN CYANAMID COMPANY.

E. G. GEBHARDT, appointed to succeed C. H. THOMPSON, who has retired, as Sales Manager of WILLIAM BAYLEY COMPANY.

WESLEY A. SONGER, elected Executive Vice-President, and JOSEPH A. DONAHUE, Manager of Sales Promotion at CRANE COMPANY.

WILLIAM FEICK, JR., elected Vice-President of Sales, GENE G. CURRY, Secretary, and JAMES E. MCCAULEY, named to succeed FEICK as Treasurer of Flintkote Division of FLINTKOTE COMPANY.

ROBERT E. LAMMENS, appointed National Sales Manager of Textolite decorative laminates for CENERAL ELECTRIC COMPANY.

JAMES G. WALKER, named Staff Manager for Architects, Engineers, and Contractors at JOHNS-MANVILLE CORPORATION.

ANSLEY W. SAWYER, JR., appointed Director of Advertising and Sales Promotion, and CHARLES G. HERBRUCK, as Assistant Secretary of Public Relations and Publicity for LINCOLN ELEC-TRIC COMPANY.

JOHN D. KIRKWOOD, named General Manager of Sales for REPUBLIC STEEL CORPORATION.

WILLIAM C. DACKIS and WILLIAM D. GRAHAM, JR., made Vice-Presidents in the Sales Division, JOHN D. CANTWELL, JR., elected Vice-President of LA CROSSE MANUFACTURING, THE TRANE COMPANY.

GEORGE F. HABACH, fills the newly-created post of Vice-President of Administration, and Rear Admiral (Ret.) ALBERT G. MUMMA succeeds him as Vice-President of Engineering at WORTHINGTON CORPORATION.

BENJAMIN B. LORING, new President, and STUART B. GREEN-FIELD, new General Sales Manager at SEAPORCEL METALS, INC.

JOHN J. FEDICK, made Sales Manager of CALDWELL MANUFAC-TURING COMPANY.



New, WASCO ALL-ACRYLIC SEALED DOUBLE DOME provides an insulating barrier to stop inside condensation and reduce heat losses. Other improvements are: (1) the elimination of metal surfaces inside the light well... to prevent sweating; (2) lower-cost, weather-tight installations . . . Wasco Sealed Double Domes can be caulked to the curb and clamped tight with a simple aluminum frame; (3) improved diffusion of daylighting . . . by adding a fiber-glass reinforced base sheet, chemically fused to the dome. Wasco Sealed Double Domes fit either 1%" or 4" curbs, come in eighteen square and rectangular sizes . . . 20" x 20" to 64" x 96". See Sweet's Architectural File 20a/Wa for full details, or call your Wasco Representative.



WASCO PRODUCTS, INC., 5 BAY STATE ROAD, CAMBRIDGE 38, MASS. IN CANADA: WASCO PRODUCTS (CANADA) LTD., TORONTO 15

p/a jobs and men

situations open

ARCHITECTS WANTED—The TVA Division of Design, Knoxville, Tennessee, has several openings for experienced architects for specification and design work on a broad program of hydro and steam power plants and office and service buildings. Good opportunities for those desiring to participate in the architectural work of TVA. Entrance salaries for 40-hour workweek are \$6,200 and \$7,150 per annum, depending on qualifications. All jobs carry automatic within-grade increases for satisfactory service, liberal vacation leave, sick leave, and retirement benefits. Write to Tennessee Valley Authority, Division of Personnel, Knoxville, Tennessee.

ARCHITECTS AND ARCHITECTURAL DRAFTS-MEN-Openings in consulting firm for men experienced in building design. Send personal information, experience record and salary requirements. Stanley Engineering Company, Hershey Building, Muscatine, Iowa.

ARCHITECTURAL DESIGNER—Talented and experienced Architectural Designer or Architect capable of developing projects in close association with other principals in a small office. This opportunity would also offer possibilities for permanent associateship in the firm. Candidate must have distinguished himself with high scholastic record as well as achievements in the field of architecture Salary or terms commensurate with capa-

Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 430 Park Avenue, New York 22, N. Y. Insertions will be accepted not later than the 1st of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

bilities. Please give complete and detailed explanation of background and experience. Write Mario J. Ciampi, Architect, 425 Bush Street, San Francisco, California.

ARCHITECTS AND ARCHITECTURAL DRAFTS-MEN—Experience in design, drafting and specification writing with growing, well established, progressive firm. Remuneration commensurate with ability and experience. Paid vacation, sick leave and hospitalization. Reply Buchart Associates, 920 Columbia Ave., Lancaster, Penna. stating age, experience, etc. All replies will be answered.

ARCHITECTS—Architectural office in Kansas City area needs young Architects in Satellite office in neighboring state. Must be capable of developing designs into working drawings. Give age, training, experience, references, availability and expected salary. Box 811 PROGRESSIVE ARCHITECTURE. DRAFTSMAN AND/OR ARCHITECTURAL EN-GINEER—Immediate opening for experienced Architectural Draftsman and/or Architectural Engineer. Pleasant working conditions in new, air-conditioned suburban office. Brown and Healey, Architects, Town and Country Building, Cedar Rapids, Iowa.

MANUFACTURER'S REPRESENTATIVES — Various territories open. Presently calling on Archtiects, Designers and Dealers. Apply Lehigh Furniture Corporation, 16 East 53rd Street, New York, N Y. State lines sold, territory covered, full experience and personal data in your reply, which will have condential treatment.

SENIOR DRAFTSMAN—Full or part time, desiring pleasant living and working conditions on semi-tropical U. S. island. Moderate salary commensurate with ability. Small office doing residences, clubs, etc. State salary. Send resume, samples. Mature person preferred. P. O. Box 811, Christiansted, St. Croix, V. I.

STRUCTURAL/ARCHITECTURAL STAFF ENGI-NEER, P. E.—Thorough experienced, structural/architectural design, planning, working drawings, specifications; concrete, steel. Supervisory and Scheduling abilities for ten men Consulting Engineering Office serving architects and industry. Compatible personality, professional philosophy, agressive, energetic. Excellent opportunities with youngaggressive Consulting Engineering firm; Wisconsin. Salary open. Write to Box 813 PROGRESSIVE ARCHITECTURE.

(Continued on page 306)



Do your Curtain-Wall Specifications and Details provide for ...



Write Today or See Bayley in Sweet's



MASONRY and STRUCTURAL VARIATIONS

CONTRACTION and EXPANSION OF BUILDING COMPONENTS

WIND LOAD FACTORS

WEEPAGE OF CONDENSATION TO THE OUTSIDE

These critical design provisions are essential to a satisfactory curtain-wall installation. And yet, it is only through long and varied experience in curtain-wall construction that the full significance of the absence of any one of them is realized.

Bayley Engineers have encountered all the on-the-job problems and have designed to cope with these problems. That is why their thirty odd years of experience and engineering in fabricating and installing curtain-walls and window-walls can mean so much to you.

In addition to their proven background and leadership in development — in both aluminum and steel curtain-wall systems — they offer close cooperation and applicable specifications . . . and curtain-wall systems that permit broad originality in wall treatment — that avoid the cost and delays of fully customized components — and that assure centralized responsibility to the final installation and client approval. And, these services available to you by a financially sound organization!

Where the *other* services also count, you can depend on Bayley. A call from you will be welcomed . . . the earlier in the planning stage of your project, the better!

Establish the basis of design and quality with these provisions, with specifications and details on —



The WILLIAM BAYLEY Co. Springfield, Ohio Agents in All Principal Cities

SPRINGFIELD, OHIO 1200 WARDER ST. FAirfax 5-7301 District Sales Offices: NEW YORK 17, N. Y. CHI GRAND CENTRAL TERMINAL 105 W MUrray Hill 5-6180 RAm

ices: CHICAGO 2, ILL. WASHINGTON 5, D. C. 105 W. MADISON ST. 1426 "G" ST., N.W. RAndolph 6-5997 STerling 3-3175

ORIGINATORS . DESIGNERS . MANUFACTURERS . INSTALLERS



BLUE RIDGE SHOPPING CENTER, Kansas City. 3/4" Zonolite plaster on suspended lath for 2-hour fire rating. ARCHITECT: J. F. Lauck & Assoc. GENERAL CONTRACTOR: Fox-Swenson Constr. Co. PLASTERING CON-TRACTOR: Schowengerdt Plastering Co.



AIR TERMINAL BUILDING, Kansas City. Office and ticket area, 5/2" Zonolite plaster and 1/2" Zonolite Acoustical Plastic on metal lath. Terminal Area, Zonolite Acoustical Plastic applied direct to thin shell concrete. ARCHITECT: Cooper, Robinson, Carlson, O'Brien. GENERAL CONTRACTOR: Interstate Constr. Co. PLASTERING CONTRACTOR: Schowengerdt Plastering Co.



FIREPROOFING rates high in newest buildings

3- and 4-hour fire ratings...cuts days off building time...saves 7" of height per story... adds built-in acoustical benefits.

Yes, in Kansas City and the nation over, these special benefits are winning new friends for Zonolite Fireproofing at an unprecedented rate. And for good reasons, too.

Machine-applied direct to steel, it achieves all these "extras" plus a substantial reduction in dead weight and in construction costs.

As a back-up for "curtain" walls, Zonolite portlandcement plaster provides insulation, fire protection, light weight, wind resistance.

As a plaster fireproofing, it provides incombustibility plus speedy application with modern plaster machines.

It's the answer to any problem where construction demands light weight and maximum fire safety at lowest cost. Get the facts now.

> Mail Coupon for Information Today ZONOLITE COMPANY

135 S. La Salle St., Chicago 3, Ill.

ZONOLITE COMPANY, I Send me booklet PA- and Data Sheet; PA-	Dept. PA-99, , 135 5. La Salle St. Chicage 3, Ill. -41, "Plaster and Acoustical Systems," -35, "Direct-to-Steel Fireproofing."
Name	
Firm	
Address	
City & Zone	State



PERFORATED AIR OUTLETS

ADJUSTABLE - NON-ADJUSTABLE SQUARE AND RECTANGULAR

the Ultimate in Application Versatility



AGITAIR PERFAIR diffusers provide the architect with a concealed air outlet that blends in perfectly with acoustical ceilings rather than calling attention to the mechanical installation. To complete the cycle of air distribution and conform with the architectural design, PERFAIR diffusers are also available as return or exhaust units in matching designs.



PERFAIR diffusers incorporate smartly designed mounting frames and exclusive AGITAIR removable diffuser cores which provide unmatched blow patterns in 1-2-3-4 way blows. The inner cores have an added feature...built-in direction controllers that provide deflection of the air stream from one or more sides individually in varying degrees from horizontal to downward delivery of air.

AGITAIR PERFAIR air diffusers are available for surface or tile mounting that will not only blend in with the ceiling design but will distribute the air noiselessly and draftlessly. AGITAIR PERFAIR is another genuine product designed for Better Air.



Haughton

wellspring of progress in vertical transportation for multi-floor buildings

Elevonics... the application of electronic devices for the betterment of elevator design and performance.

It is in this special field of science that Haughton Engineers are opening new doors to progress in elevator technology. For example: Haughton Elevators that *think for themselves* are now operational in buildings coast-tocoast. They combine the economy and efficiency of true automated (operatorless) control with new swiftness, comfort and safety.

Motivated by an amazing electronic brain that anticipates elevator service needs at every moment in a busy building's life, these elevators are dispatched at proper time and in proper sequence to meet traffic needs exactly.

And, though complex is the job they do, Haughton operatorless elevators that *think for themselves* feature simplified design to assure complete reliability and substantial savings in operation.

If you want to upgrade elevator service and cut costs, call on us. A background rich in experience, and a future dedicated to the quest for new advancements in elevator technology, are your assurance we can best meet your elevator design, modernization or maintenance needs.

throughout America ... Haughton Operatorless Elevators



Stephens T. Mason Building, Lansing, Michigan; Smith, Hinchman & Grylls, Architects and Engineers



National Bank of Detroit, Detroit, Michigan; Albert Kahn & Associates, Architects



Libbey-Owens-Ford Building, Toledo, Ohio; Skidmore, Owings and Merrill, Architects



Universal Building, Washington, D. C.; LeRoy Werner, Architect



haughton elevator company

DIVISION OF TOLEDO SCALE CORPORATION Executive Offices and Plant, TOLEDO 9, OHIO FACTORY BRANCHES TO SERVE YOU COAST-TO-COAST

p/a jobs and men

(Continued from page 302)

SENIOR STRUCTURAL ENGINEER—To design and prepare plans of foundations and framing for all types of buildings. Must have a minimum of 8 years' structural design experience directly related to various types of buildings. Duties will include supervision of other engineers with the responsibility for the structural design and completion of structural plans for building projects. Applicant should possess or be eligible for New York P. E. License and should be interested in becoming an associate or future partner of a growing consulting firm. Moderate starting salary offered for right man. Kindly submit resume of experience, education and background to STUART H. SNYDER, CONSULTING ENGINEER, 321 DENISON BUILDING, SYRACUSE 2, NEW YORK.

situations wanted

ARCHITECT—As partner or associate. Thoroughly experienced in wide field, conscientious worker as well as top level executive and, with established reputation as architect and engineer in lone practice. Will back-up, to the hilt, an honest and agressive "better getter" in an established practice. Box 814 PROGRESSIVE ARCHITECTURE.

ARCHITECT-New York registration. Presently employed as project architect with medium size office. Have excellent job but desirous of relocating coastal area of Mass. or Conn. Seek position with busy progressive firm with possibility of associateship or future partnership. Age 34, family, 6 years varied experience. Box 815 PROGRESSIVE ARCHITEC-TURE.

ARCHITECT—Ten years own office varied practice residential to million-plus dollar school and institutional. Traveling Fellowship Award winner, work published, listed in Who's Who In East. Mid-West background. NCARB. Married, children. Desire Associateship leading to permanent situation in right set-up. Resume available. Box 816 PROGRESSIVE ARCHITECTURE.

ARGENTINE ARCHITECT—University Buenos Aires graduate. 38, married with family. 15 years experience in designing and building. Speaks English, German, Spanish. Desires position with American firm in the States, Germany or Latin America. Finest references. Write to: L. E. 3233898, Poste Restante, Correo Central, Buenos Aires, Argentina.

ARCHITECT-DESIGNER—Age 36, registered by examination. B. Arch. Georgia Tech. Ten years' experience commercial, industrial, residential and public work. Positions held as draftsman, job captain, designer and delineator; also some field supervision and client relations. Desire permanent position with good prospects in progressive office. Box 817 PROGRESSIVE ARCHITECTURE. ARCHITECT-ENGINEER—Age forty. Excellent client contact and relations. Top production man, designer, detailer and specification writer. Wishes to associate with progressive office. Western area preferred. Brochure available. Box 818 PROGRESSIVE ARCHITEC-TURE.

ARCHITECT-ENGINEER — Dutch-Canadian Architect and Professional Engineer. 40, married, one son. Ten years European experience in own office. Present position assistant Provincial Architect in Canada. Considerable institutional and urban design experience, wishes to relocate in the U.S.A. preferably East Coast. Box 819 PROGRESSIVE ARCHI-TECTURE.

REGISTERED ARCHITECT—31, married, M. S. Degree. Six years varied experience. Desires stimulating, responsible position with a wellestablished architectural firm practicing contemporary design. Will relocate in Eastern half of U. S. Presently employed. Detailed resume of education, experience and references available. Box 820 PROGRESSIVE ARCH-ITECTURE.

REGISTERED ARCHITECT—University graduate B. S. Arch. Engr. Licensed by examination. Age 33. Presently employed by small archi-

(Continued on page 308)



ARCHITECTURAL ENGINEERING A Practical Course (HOME STUDY) by Mail Only

Prepares Architects and Draftsmen

for structural portion of

STATE BOARD EXAMINATIONS

For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past twenty-two years. Our complete Structural Engineering course well known for fortysix years.

Literature without obligation—write TODAY WILSON ENGINEERING CORPORATION

College House Offices Harvard Square CAMBRIDGE, MASSACHUSETTS, U. S. A.



BUILDING CHECK LIST

by Ben John Small

The first complete check list of building procedure ever available. Boils down the entire checking process into 74 categories —ready to use as the basis of both preliminary and final specifications. Also includes a resume of the A.I.A. general conditions and pitfalls to avoid in writing specifications. 158 pages, $6\frac{1}{2} \times 8\frac{1}{2}$. \$3.50

Send for a copy on approval

REINHOLD PUBLISHING CORPORATION

Dept. 5287, 430 Park Ave.

New York 22, N.Y.

YOU GET BUILT-IN PERMANENCE

by specifying

Nicolet Asbestos Honeycomb

All the advantages of honeycomb structure are present in Nicolet Asbestos Honeycomb . . . plus unmatched durability!

The use of honeycomb structures in curtain wall and panel construction has been widely approved and accepted. But only an Asbestos honeycomb can be relied upon to provide the full protection of permanence.

Nicolet Asbestos Honeycomb gives you, in the fullest measure, the durability in a core that merits your consideration and recommendation. For Nicolet Asbestos Honeycomb is fireproof—it will retain its structural integrity after two hours at 1700°F.

Not even complete immersion can do any permanent damage to Nicolet Asbestos Honeycomb—it will retain its honeycomb form and regain full strength after drying.

Nicolet Asbestos Honeycomb will not decay—it is immune to attack by the bacteria growth which might generally be found in buildings.

There are two types of Nicolet Asbestos Honeycomb—Type X for exterior applications and Type I for interior uses.

These are some of the advantages of Nicolet Asbestos Honeycomb—and only Nicolet brings them to you.

Progressive Engineers and Architects should investigate, for themselves, the benefits which the built-in permanence of Nicolet Asbestos Honeycomb offers. Write today for information.

ICOLET INDUSTRIES, Inc. FLORHAM PARK, NEW JERSEY Norristown, Pa. Hamilton, Ohio



p/a jobs and men

(Continued from page 306)

tectural firm. Desires position leading to future partnership. Capital available. Experienced in handling all phases of work. Competent renderer. Prefer California or western states. Resume on request. Box 821 PROGRESSIVE ARCHITECTURE.

Young ARCHITECT—Returning mid-November from European travel and study. Upon return sincerely wish to find challenging position as Architect/Designer with firm of any size. Would be interested in eventual association or partnership. Sincere and congenial person. Graduate of University of Cincinnati, B.S. Degree. Registered by examination 2 states. Presently securing N.C.A.R.B. Former position as head Designer for small firm. In past year designed and in responsible charge of 2 million dollars worth of varied Architectural work. Experienced in all phases. Matried, have one child. Box 822 PROGRES-SIVE ARCHITECTURE.

DESIGNER-DRAFTSMAN-DELINEATOR — College graduate, age 40, twenty years experience all phases of Architecture. Particularly adept in delineation, models, presentations. Sharp draftsman and worked as Chief Draftsman. Years of design experience including services as Design Consultant. Desire position with progressive Western office offering opportunity for interesting future. Box 823 PROGRESSIVE ARCHITECTURE. SPECIFICATION WRITER—Extensive experience: hospitals, schools, industrial, high rise etc. Registered Architect. Furnishes complete services ready for bidding. Box 824 PROGRES-SIVE ARCHITECTURE.

WANTED—Principal capable of supporting \$50,000 annual payroll in southern New England. Completely staffed and equipped architectural office headed by two registered architects, young, versatile, imaginative and highly competent. Experienced in all phases from client to field supervision—schools, churches, residential, commercial, industrial and military. Box 826, PROGRESSIVE ARCHI-TECTURE.

OPPORTUNITY — Partnership available for person with initiative in client contact, under 50, in established architect's office of many years in N. Y. C. Expanding small office executing all types of projects. Must have capital available to equal like amount by senior partner. Other desired qualifications, college graduate with potential connections and also design qualifications in contemporary architecture. Box 825, PROGRESSIVE ARCHITECTURE.

miscellaneous

ARCHITECTS REPRESENTATIVE — With Mechanical-Electrical background to make field inspections, check plans and specifications. Frank L. Hope & Assoc., Architects, 1447 Sixth Ave., San Diego, California.

ARCHITECTURAL & DESIGN PERSONNEL AGENCY—A personalized placement service for top-level architects, designers, engineers, draftsmen, estimators and interior designers; selective contacts arranged in a confidential and professional manner. Interviews by appointment. 58 Park Avenue, New York. MUrray Hill 3-2523.

BUY TOLO—precision metal castings for your scale models—many items in stock—any component can be made—any scale—any color any quantity. Write to: TOLO INDUS-TRIES, 30 E. 21st St., New York 10, N. Y. Tel.: GR 5-0194:

CAREER BUILDERS PLACEMENT SERVICE—for Architects, Architectural Designers, Interior Designers, Industrial Designers, Draftsmen and Office Personnel. Interviews by appointment. PLaza 7-6385, 35 West 53rd Street, New York 19, N. Y.

HELEN HUTCHINS PERSONNEL AGENCY-Specialist Architectural, Industrial, Interior, Design; Decorative Arts and Trades; Home Furnishing Field, Architects, Designers, Draftsmen, Administrative Personnel. Interviews by appointment. 767 Lexington Ave., New York 21, N. Y. TE 8-3070.



NEW, NON-FADING BEAUTY

Sig JUIX

Premium quality plastic building panels in 4-ft. widths to save installation cost!

Modernize homes, brighten and divide offices with Stylux – new panel with improved resin that defies weather erosion. Costs no more, yet costs less to use on big jobs with wider panel width. Decorator colors. Shatterproof. Easily workable. Highest light transmission. Get the whole story, including specifications. Write:

Stylux—Plastics Department, Buildings Division BUTLER MANUFACTURING COMPANY Dept. 107, 7400 East 13th Street, Kansas City 26, Missouri

A Modern Approach

How to Use Creative Perspective By ERNEST W. WATSON

Here, at last, is the ideal modern approach to the allimportant perspective know-how! This valuable book teaches, by actual examples of the work of many famous contemporary artists and illustrators, two major concepts of an entirely new, easy way to learn perspective.

1. You learn the fundamentals of perspective — an important starting point for all art forms. The structural approach, the square as a unit of measure, vanishing points, universal perspective, foreshortening and convergence, uphill and down, three-point perspective, reflections, shadows and figures in perspective and dozens of other basic problems will guide you in great detail in your own work as you tackle the step-by-step solutions.

2. In CREATIVE PERSPECTIVE, you go on to learn the original ways our best illustrators and renderers deliberately violate conventional perspective methods to achieve originality, clarity or better design. It will amaze and enlighten you to see just how the art experts shun text book "rules" in their drawing; how they solve problems that call for imaginative "bending" of the rules; how these distortions of conventional perspective will serve as a point of departure to help you create better art through a clear understanding of modern perspective techniques.

HOW TO USE CREATIVE PERSPECTIVE is the culmination of Ernest Watson's long-time dream to fill the need for a modern approach to the subject. He painstakingly gathered the work of top artists and skillfully organized the text to create a "must" book for students and practising architects.

> 160 inspiring pages, lavishly illustrated 75%" by 101/2". \$7.95



A fresh approach to architectural rendering! See the resourceful ways many famous contemporary artists use and violate perspective. You'll learn to apply the techniques to your own work.

SEND IN THIS COUPON NOW for your on-approval copy.

Please send me HOW TO USE CREATIVE PERSPECT to read and examine. In 10 days I will return the book and you nothing, or will remit 57.55, plus postage.	OWe
Name	
Address	
City	
SAVE MONEY! Check here if you enclose paymen which case Reinhold pays all shipping charges. Same re privilege. Refund guaranteed. Printed in U	t, in sturn .S.A.



that pays off!

FOR THE ARCHITECT. .

light weight, direct application, space saving, good acoustical absorption, complete ceiling design freedom.

THE GENERAL CONTRACTOR . . .

one application by one trade in one coat completes job fast; clean application; all weather application.

THE OWNER ...

early occupancy, permanent, high acoustical absorption, high thermal insulation, proved efficiency.

This is an economical, machine-applied, Underwriters' Laboratories tested fireproofing system for cellular steel floors and structural steel beams, girders and columns. CAFCO BLAZE-SHIELD fireproofed buildings include: Union Carbide Building, New York; H. K. Porter Building, Pittsburgh; National Cash Register Building, Chicago; Metropolitan Life Insurance Building, Ottawa.

For further information send for Bulletin F-10.

Cafeo BLAZE-SHIELD COLUMBIA ACOUSTICS and FIREPROOFING Company Subsidiary of United States Mineral Wool Company Stanhope, New JERSEY

STANHOPE, NEW JERSEY Other CAFCO products: SOUND-SHIELD—For Acoustical Treatment HEAT-SHIELD—For Thermal Insulation

Directory of product advertisers

Aetna Steel Products Corp	85
Air Devices, Inc	304
Albro Metal Products Corp	45
Allegheny Ludlum Steel Corp	36
Alsynite Co. of America	298
Aluminum Co. of America	273
American Brass Co Back Co	over
American Desk Mfg. Co	69
American Gas Assn	225
American Olean Tile Co	209
American Radiator & Standard Sanitary	007
Corp	28/
American Window Glass Div. American-	124
Saint Gobain Corp.	234
Amtico Flooring Div., American biltkite	74
Kubber Company	221
Andersen Corp	205
Architectural Book Society	70
Armes Steel Corp 2nd C	over
Armstrong Cork Co Bidg Products	
Div 42	. 43
Arrow-Hart & Hegeman Electric Co	77
Azrock Products Div.	61
Baldwin-Ehret-Hill Co	29
Baltour, Walter & Co	200
Bayley, Wm., Co	303
Benson Mrg. Co	205
Blum Julius & Co. Joc	240
Bruce F I Co	302
Bulldog Electric Products Div., I-T-E	
Circuit Breaker Co	109
Butler Mfg. Co	308
California Redwood Assn.	241
Canal Electric Motor, Inc.	130
Carey, Phillip, Mfg. Co 50, 51,	204
Carpenter, L. E. & Co., Inc	201
Carrer-Waters Corp	30
Celeter Corp.	48
Columbia Acoustics & Fireproofing Co.	309
Construction Specialties Inc.	277
Contrex Company	272
Cookson Company	32
Curtis-Allbrite Lighting, Inc	207
Day-Brite Lighting, Inc	219
Dodge Cork Co	236
Douglas Fir Plywood Assn	125
Dow Chemical Co134,	135
du Pont de Nemours, E. I., & Co., Inc.,	57
Eldstomers Division	4
During & Hunt Inc	126
Dusing & Hom, Inc	132
boso, beorge, co	
Ellison Bronze Co	242
Enjay Company, Inc	263
Forders Tills Institute	247
Fadaral Sacharad Tarra Catta Cara	24/
Feneral Seaboard Terra Cona Corp	200
Float of Amorica Inc.	202
Elisticato Building Metosiale A Division	171
of the Flintkote Company	254
Flintkote Company, The	
Building Materials Div	a Willow M
building Materials Div.	254
Van Packer Chimneys Div.	254 248

Flynn, Michael, Mfg. Co110,	111
Follansbee Steel Corp	10
Fyr-Fyter Co	. 89
	71
General Bronze Corp.	/1
Georgia Marble Company	232
Glidorama Div. of Whizzer Industries	306
Glynn-Johnson Corp	37
Goodrich B E Co	1
Conner Steel Bredwete Co	2 2
Granco Steel Products Co	2,3
Grant Pulley & Mardware Co	10
Guth, Edwin F. Co	265
Hall-Mack Co.	245
Hankins & Johann Inc	62
Healow Company	130
Humey company	200
Harmon Mrg. Co.	300
Harrington & King Perforating Co., Inc.	132
Haughton Elevator Co	305
Hauserman, E. F., Co	63
Haws Drinking Faucet Co.	66
Hillyard Chemical Co.	8
Helmer Archibeld & Sen	86
Heleskans Ca. Jac	122
	120
Hope's Windows, Inc	232
Indiana Limestone Co., Inc.	268
Inland Steel Products Co	67
Integrated Callings Corp	113
Integrated centifys corp	
Jennison-Wright Corp	278
Johns-Manville Corp	, 27
Johnson Service Corp.	80
Kalwall Corp	271
Karagheusian, A. & M., Inc	28
Kawneer Co	239
Kinnear Mfg. Co.	266
Klemp Metal Grating	281
Keb-L-Neer Pencil Co. Inc.	208
Kehler Ce	262
Konner Co. Inc. Wood Preserving Div	269
Roppers co., me. wood mesering on	
Laclede Steel Co	226
LCN Closers, Inc	251
Libbey-Owens-Ford	
Glass Co	260
Lone Star Cement Corp	140
	100
Macomber, Inc.	130
Mahon, R. C., Co	231
Manning & Lewis Engineering Co	23
Marble Institute of America	, 56
Marmet Corp	41
Masonite Corp	223
Master Builders Co	291
Mclouth Steel Corn	280
McCount Inc	40
mcQuay, Inc.	-77
Michaels Arf Bronze Co	0
Miller, Herman, Furniture Co	267
Miller, Howard, Clock Co	294
Minnesota Mining & Mfg. Co	127
Mississippi Glass Co	275
Moynahan Bronze Co	283
National Concrete Masonry Assn	81
National Gypsum Co 17 thru 22,	244
National Steel Partition Co., Inc.	75
Neo-Ray Products, Inc	302
Nicolat Industries Inc.	307
INICITE INICATION AND AND AND AND AND AND AND AND AND AN	and the second se
North American Aviation. Inc.	90

Norton Door Closer Co., Div. of Yale & 121 Towne Mfg. Co. Otis Elevator Co. 255 Overly Mfg. Co. 203 Owens-Corning Fiberglas Corp. 104, 105 131 Pacqua, Inc. 112 Pass & Seymour 72 Pecora, Inc. 40 Pittsburgh Corning Corp.-Foamglas Pittsburgh Plate Glass Co., Paints 299 Pittsburgh Plate Glass Co., Spandrelite. . 249 Portland Cement Association 276 Precision Parts Corp. 130 Prescolite Mfg. Co. 128 Presstite-Keystone Engineering Products 14 Products Research Co. 44 Raynor Mfg. Co. 284 309.311 94 Robbins Flooring Co.

 Robertson, H. H., Co.
 24, 25

 Roddis Plywood Corp.
 34, 35

 Roebling's John A., & Sons, Corp.
 84

 Rolscreen Company, The
 60

 208 St. Charles Mfg. Co. Schundler, F. E. Co., Inc. 3rd Cover Sedgwick Machine Works 54 Sharon Steel Corp. 235 Shepard Elevator Co. 52 Simplex Ceiling Corp. 294 Sloan Valve Co. 202 Smithcraft Lighting Div. 227 Sonneborn, L. & Son, Inc. 204 Staedtler, J. S., Inc. 243 Standard Pressed Steel Co. 210 Structural Clay Products Institute 64, 65 Tectum Corp. 76 Thiokol Chemical Corp. 33 Trade Wind Motorfans, Inc. 70 Trinity Div., General Portland Cement Co. 222 United States Ceramic Tile Co. 253 Universal Atlas Cement Co., Div. of U. S. Steel Corp. 237 Uvalde Rock Asphalt Co. 61 Valley Metal Products Co. 129 Van Packer Co., A Division of The Flintkote Co. 248 Wayne Iron Works 133 Webster Electric Co. 282 Wilson Engineering Corp. 306 114 Youngstown Sheet & Tube Co.

430 Park Avenue, New York 22, N. Y. MUrray Hill 8-8600

BRAD WILKIN, Fice-President & Publisher NEW YORK OFFICE:

WILLIAM R. EVANS, New York State District Mgr. ROBERT L. BASSINETTE, New England District Mgr. DONALD W. THOMPSON, District Mgr. KEITH ALDRICH, Research & Promotion Mgr.

SOUTHERN ADVERTISING REPRESENTATIVES Atlanta, Georgia-Robert L. Watkins Associates 583-805 Peachtree Building, Atlanta 8, Georgia

TRinity 4-6427

H. VICTOR DRUMM, Advertising Sales Manager

CLEVELAND OFFICE:

 815 Superior Ave., N.E., Cleveland 14, PRospect 1-5583
 ARTHUR W. GORMAM, District Mgr.

 JOHN F. KELLY, District Manager
 CHARLES A. ULLRICH, District Mgr.

 ALBERT E. MCCLIMANS, District Manager
 RALPH E. PETERSEN, JR., District J

JOSEPH M. SCANLON, Production Manager CHICAGO OFFICE:

111 W. Washington St., Chicago 2, RAndolph 6-8497 ARTHUR W. GORMAM, District Mgr. CHARLES A. ULLRICH, District Mgr. RALPH E. PETERSEN, JR., District Mgr. AST ADVENTISING DEPEREMENTATIVES

WEST COAST ADVERTISING REPRESENTATIVES

San Francisco. Calif.-Duncan Scott & Co., 85 Post St., CArfield 1-7950 Los Angeles, Calif.-Duncan Scott & Co., 1901 West 8th Street, DUnkirk 8-4151

LONDON ADVERTISING REPRESENTATIVE: R. A. Butler's Advertising Service, 22 Ciles High St.

London W. C. 2. England, TEMple Bar 5905



THE HOUSE and the Art of Its Design

by Robert Woods Kennedy

DON'T BUILD ANOTHER HOUSE until you've read this book!

Not merely a comprehensive source book on the art and process of designing houses but also a fascinating study of home-buyers; building styles, sites and structure; architect-client problems; planning homes as centers of family life, personal activity and practical livability. **550 pages, over 175 illustrations, \$6.95**



BETTY PEPIS' GUIDE TO INTERIOR DECORATION

Solid information for architects on the relationship of today's living to today's decorating. Includes vital details on multi-purpose rooms, built-in furniture, etc., plus major influences and design trends. 224 pages, over 350 illus. \$6.95

POPULAR EDITION AT A POPULAR PRICE! Was: \$15.00 NOW: **\$7.95**



ART IN EUROPEAN ARCHITECTURE

by PAUL DAMAZ Preface by LE CORBUSIER

A literate French architect traces a modern trend: the integration of art in architecture! 130 architects, 150 artists, 264 pages and 450 illustrations (many in full color) show how this revolutionary concept actually increases the value of of homes, office buildings, schools, institutions, churches, and factories while better serving human needs.

Be sure to order your copy today! REINHOLD PUBLISHING CORP. 430 Park Ave., N. Y. 22, N. Y.

REINHOLD PUBLISHING CORP., Dept. 5359 430 Park Avenue, New York 22, N.Y.
□ THE HOUSE AND THE ART OF ITS DESIGN — \$6.95 □ ART IN EUROPEAN ARCHITECTURE — \$7.95 □ BETTY PEPIS' GUIDE TO INTERIOR DECORATION — \$6.95
I will remit the amount checked plus a few cents for shipping and postage within 10 days, or I will return the book(s) and owe nothing.
Name
Address
City

P.S.

are we going to be sorry later on?

I am very gladly turning over the P.S. page this month to Ilse Reese, who has just returned from Los Angeles filled with just indignation at the threatened loss of two unusual architectural achievements in that city. T.H.C.

Los Angeles, August 15—Work done —saw Wilshire Boulevard with its promise of a new civic nucleus in the form of four well-related aluminum skyscrapers; the less promising and not-so-well related business establishments of recent vintage lining the remainder of this prominent artery; the square miles of lush residences and swimming pools; the square miles of nondescript, modest, little houses without swimming pools.

Met Bill Cartwright, not an architect but an unusually well-informed layman perceptive in the field of architecture, who had two entirely unexpected delights in store—the Bradbury Building, designed by George Wyman in 1893, in downtown Los Angeles, and Simon Rodia's Towers, at Watts. Both of them unique works of genius: both of them under threat of demolition.

In the name of "progress," Simon Rodia's Towers are to be leveled to provide an empty lot for potential industrial development, for which the area has been rezoned since construction of the towers. The narrow, triangular plot was acquired about 1920 by Rodia, an Italian-born mason. On the widest portion of the lot he built himself a modest home and then decided to embellish the rest of the site. "I had it in mind to do something big," said Rodia, "and I did." His media were concrete, iron reinforcing bars, rods, and wire mesh, pieces of colorful ceramics, bits of glass, and seashells. Of these he shaped for himself a pleasure garden of



towers, fountain, fishpond, pagoda—all sorts of marvellous constructions. Vigorous, original, and of impressive artistic



stature, it is a genuine work of art in detail and in total. Intuitively, Simon Rodia was both a structural inventor, and an artistic genius. How often in the course of a century does such a rare combination come to fruition? Too seldom to be ignored. Having declared the towers unsafe, the City of Los Angeles has now ordered that the tallest of the three towers, 100 ft high, be subjected to a horizontal pull of 10.000 lb at the 33-ft level for five minutes, a stress theoretically equal to maximum probable wind pressure. Many prominent engineers believe that the towers will endure the test. However, why must this unique masterpiece be subjected to such a test, as though it were a building in use? We are grateful to William Cartwright and Nicholas King for having acquired the property to protect this work of native genius from unthinking vandalism. May architects throughout the world assist them in warding off "city-planned" vandalism.*

In the name of "progress," the Bradbury Building is to be razed presumably to make room for a new office building which will make full use of the available space. As it is, the Bradbury Building is indeed "wasteful" of space. The central court, if floored at each level, would provide another x-number of sq ft of rentable space; corridors could easily be narrowed; stairs could very well be arranged more compactly; the slow-moving elevator replaced by a high-speed selfservice elevator. One would then have an efficient, economically sound buildingbut not the memorable architecture it is now. The heart of any architect worthy

* Write to: Mayor Norris Poulson City Hall, Los Angeles Copies and, if you wish, contributions to: Committee for Simon Rodia's Towers 870 Larrabee, Apt 34 Los Angeles, California of his name will beat faster as he enters the great skylighted space, sees the drama of the stairs and elevator cabs, the superb craftsmanship of the wroughtiron rails, wood beading, and terra-cotta tile. Are there not enough architects in town to save this building by leasing its office space—to be rewarded a thousand times by its lesson in architecture? The architects of Los Angeles must act fast (and if *they* do not recognize this danger, who will?) before another irreplaceable work of art has been destroyed in the name of progress.

Ilse M. Reese



