ARCHITECTS AND MANUFACTURERS

1947 will see more construction and design activity than any previous year in the history of the United States. This isn't our guess; it is the sober conclusion of government and independent analysts, architects, builders, manufacturers, and clients. 1947 will also see a great deal of confusion in the field of building materials and equipment. Manufacturers have been beset by strikes, bewildered by rising costs, deviled by reconversion problems. The designers, in turn, have not known how to plan or how to advise their clients, when they could not tell what materials would be available.

In this Products Review issue, PROGRESSIVE ARCHITECTURE attempts to help. The manufacturers have been queried, and their available products are listed; in some cases they have even been willing to make predictions on when supply will meet demand. The analysis is divided into eleven sections, and an expert in each division has written a report of the replies within that field and an estimate of design possibilities in 1947, based on available products. In some instances the authors have gone further and pointed to future trends.

We have made an experiment in this issue, as an attempt to stimulate fully useful advertising. We urged the manufacturers and their agencies to follow the Selected Detail format (an illustration of finished architecture and details or specifications showing how it was accomplished) and we offered to place the advertising in the editorial body of the magazine when this was done. Not all of the attempts are successful, but we believe the move is useful in bringing factual information on the use of products to the designers of buildings.

Now is more than ever a time for architects to assert themselves as the factor that controls the use of materials. Materials must be selected and used with discriminating and intelligent care; the success of the finished architecture will depend on it. Improper substitutions made at builder's preference or client's whim can be fatal to progress in design. We applaud the manufacturers' recognition of this fact in their cooperation toward the objective analyses presented in this issue of PROGRESSIVE ARCHITECTURE.
THEIR COMBINATION of modern good looks and remarkable functional versatility has won for PC Glass Blocks the high regard of most architects. These blocks transmit daylight generously . . . yet they preserve privacy, shut off unwanted views. Their insulation value recommends them for many applications. And the variety of patterns and sizes available create a wide range of design possibilities. Architect: Stiles Clements.

FOUR TIMES AS STRONG as ordinary Plate Glass of the same thickness . . . that's Herculite Tempered Plate Glass. It has been accepted as the ideal material for store doors, entrance panels, partitions . . . wherever you desire the beauty and transparency of Plate Glass combined with the ruggedness to resist hard usage. Architects: McKim, Meade & White. Samuel G. Wiener, Associate.
in commercial buildings

TWINDOW, Pittsburgh’s new window with built-in insulation, is ideal for many applications such as hotel room windows, store windows, frozen food and refrigerated cases, office and factory windows, etc. Twindow made up of two panes of glass with an air space between them, cuts heat loss through windows nearly in half. When made with three or more panes of glass, Twindow’s insulating effectiveness is even greater. It minimizes downdrafts through windows. It adds to comfort all year ’round. And it virtually prevents steaming or frosting of windows.

THERE ARE 2 LINES of Pittco Metal for you to choose from in store front work. Pittco De Luxe, long a favorite with architects, is the aristocrat of store front metals. Pittco Premier, lighter in weight and more moderately priced, is noteworthy for its beauty, its modern styling, and its quick, easy installation.

STORE FRONTS today exhibit a growing trend toward the “open vision” type of design. These fronts make more exacting demands on store front materials than ever before—in quality, clarity, appearance, insulation effectiveness, etc. Pittsburgh Products such as Carrara Structural Glass, Polished Plate Glass, Pittsburgh Mirrors, Hercu-lite Tempered Plate Glass and Twindow, the new window with built-in insulation, will invariably meet these demands to your satisfaction... and your client’s. Architects: Thalheimer & Weitz.

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Pittsburgh Plate Glass Company
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Please send me, without obligation, your booklet entitled: "Ideas for the Use of Pittsburgh Glass in Building Design."

Name: ____________________________
Address: __________________________
City: __________________________ State: _________
AMERICA has the highest standard of living in the world... but something is happening to it. There is talk of a recession... even a depression. We at Ceco do not believe a depression has to come in the building industry.

We know nothing about nylons, breakfast foods, or radios. But thirty-five years in the construction industry have taught us something about building and its problems. We believe the construction industry can and should lead the way back to an even higher standard of living.

We admit the complexities of today's situation. But we feel that these complexities can be circumvented. So why think a depression? Why not do in peace as we did in war—expect prosperity—plan prosperity—work for prosperity?

Let's look at the facts a minute. Today our needs for everything are the greatest in our history. There is accumulated purchasing power to keep industry humming for years to satisfy those needs—particularly the building industry. Then what is the fly in the ointment—why the fear that we are headed for collapse?

We at Ceco believe it's something the economists haven't analysed. We believe that prosperity depends on a different kind of straight thinking—on whether we, as individual Americans, are willing to work to make prosperity work. It's as simple as that.

It won't be easy. We said "work!" and we mean "work!" We of management must really work at managing. We must junk the too-frequent "wait it out" idea.

And labor must work—produce more instead of less—reduce overall costs per unit—justify high wages. Wages must not spiral after prices and prices after wages. Labor and management both must have something left after they've made their investment of time and capital.

It can be done if we're intelligent enough, willing enough, fair and square enough.

Of course, we can't do it overnight. We can't provide a new home or plant for everyone who wants one next week, or next month, or even next year. But we can start—and keep on... and once the ball is rolling the results can astound even ourselves.

When Roosevelt announced our production goals for the first year of the war, the world laughed. It was a different story when we exceeded them. Then, we were unprepared. Today, we have everything to work with if we're permitted to use it—and will use it.

Sure, during the war, costs were a secondary consideration. But today, in a freer economy, the same will-to-work can drive down costs and prices, and drive up the production which labor needs to stay prosperous.

We eased up after the shooting stopped—all of us. That's understandable. We needed to. But we've had our breathing spell. Now let's face the fact that there is no magic road to prosperity—that we cannot get something for nothing indefinitely. Always, eternally and inevitably, we of management and labor are going to have to work for prosperity.

Here at Ceco we have faith—faith that horse sense is finally taking hold. The productivity of labor is increasing. Absenteeism and turnover are decreasing. Output per man hour is on the upgrade. Controls are no longer the bug-a-boo they were. Many critical material shortages are leveling off. Some cities have modernized their building codes, and a general revision is in progress.
Word FOR IT!

In the past year "unfavorable factors" plagued us and at times we were not pleased with the service we gave. Shortages of steel and manpower, coupled with many delays, held down our production levels. We are apologetic to all of our good customers, who for the most part have been understanding and tolerant.

Yet as we look back over 1946 we're really surprised to see how much we did accomplish. We performed the following things in preparation for greater prosperity:

1. We doubled manufacturing capacity in our Plant No. 1. Also, expansion plans went forward in our 14 other plants and warehouses coast to coast.
2. We facilitated management operations by centering our general offices at Plant No. 1.
3. Company-wide, we increased our plant and erection organization by 40 per cent, our office personnel by 30 per cent.
4. With additions to our research facilities and personnel, we developed 16 new major products. More than 100 others still are under study. War experience is reflected in expanded use of diversified metals.
5. We—management and labor—increased production. Shipments of several principal lines, including screens and windows, were and now are greater than ever before.

6. We—management and labor—reduced absenteeism in our plants by 50 per cent.
7. We consistently modernized our equipment and machinery for maximum production.
8. We improved our agent-dealer structure and our service to agents-dealers.

What we did, many others did. In the days ahead we all can do even better.

Just a few fundamental virtues are necessary. Hard work, intelligence, and sympathetic understanding of labor's problems upon the part of management. Hard work—ever-increasing production—understanding of management's problems upon the part of labor.

We can say that here at Ceco we have the finest working conditions, the finest safety record, and the greatest opportunity in the history of our company.

We believe that production will maintain these high standards and even better them. . . . production that justifies high wages. . . . production sufficiently great for the costs involved, to make the selling price within the reach of the widest possible markets.

America has never yet admitted defeat. Why start now? High living standards can be cushioned against depression. Let's all quit dooodling and get to doing. Yes, there's a four letter word for it—W-O-R-K.
THERE IS A DIFFERENCE
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This Quality Story tells you why you get Better Results with Gold Bond Plaster...

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3 CALCINERS. Next, the rock is pulverized and "cooked" in huge kettles which drives off the water of crystallization.

4 TUBE MILL. Thousands of tiny steel balls in this revolving cylinder grind the gypsum into minute particles.

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ACCURATE SCALE DRAWINGS and a minimum of text are used to explain the broad principles of modular coordination, their connection with the various stages of the architect's work, and their application to different classes of building products and types of construction. These drawings show not only modular details approved by Project committees, but also details which illustrate methods employed in meeting practical job conditions.

As a concrete example of the application of these principles and products, the final chapter contains photographs of some of the architect's drawings for a New York Health Center. Throughout the GUIDE, text and drawings are carefully arranged for easy reference.

290 pages, 314 illustrations, 9" x 12"  Price $10.00

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For the coordination of dimensions of building materials and equipment

Technical experts of the building industry cooperating in the committees of this project have developed modular coordination as a basis for correcting the confusion of dimensions. They have applied this basis to a wide variety of building products and to the details for their assembly.

Coordinated sizes have already been adopted for:

- Brick — Structural Clay Tile — Concrete Masonry
- Glass Block — Structural Facing Tile — Steel Windows
- Wood Double-Hung Windows

Many other products have long been made in sizes suitable for dimensional coordination.

The purpose of the A62 GUIDE is to assist architects in using modular products and designing buildings in accordance with the established principles, so as to gain the immediate advantages and economies of modular coordination.

CONTENTS


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JANUARY, 1947
THE ARCHITECTS REPLY TO THE CRITICS

GENERAL HOSPITAL, HAIFA
Dear Editor:
I welcome your experiment in introducing professional criticism in your November (Hospital) issue. In combining the critic's report and the architect's reply, you enable your readers properly to appraise the solution of the published building.

ERIC MENDELSON
San Francisco, Calif.

100-BED TUBERCULOSIS HOSPITAL
Dear Editor:
It is a beautiful job you did in the presentation of our 100-Bed T.B. Hospital. We are planning to order 10,000 copies of this reprinted.

MARSHALL SHAFFER
Division of Hospital Facilities
U. S. Public Health Service

NOXUBEE COUNTY HOSPITAL
Dear Editor:
Regarding the new approach in presentation—criticism by the professional press—my own belief is that the weakness in the profession is still a lack of appreciation for the "analytical trend" in contemporary architecture. In our part of the country there is much evidence of an attempt at "style" but little to show that the architects are thinking. Perhaps the strongest means of education is exhibiting the bad against the good—and telling why. Breines' book on phonies, the other day, but I don't remember telling you that I felt you and Mr. Rosenfield certainly deserve a great vote of thanks from the architectural profession and those others interested in hospital planning and management for the particularly detailed analysis and comparisons made throughout the issue.

While the presentation to the profession in your monthly publication of many interesting projects not related to each other is always an inspiration and assistance to the architects in solving their own problems, the comprehensive presentation in a single issue of many different parts and approaches to the same problem, with the additional value of a review by an outstanding authority on the subject, is, in my belief, a definite step forward for a professional magazine publication.

It is my hope that you will continue your research in this direction and that PROGRESSIVE ARCHITECTURE in the future can present to the architects more issues of this nature.

B. SUMNER GRUZEN
New York, N. Y.

VETERANS HOSPITAL, WILKES-BARRE
Dear Editor:
I thought that I had said all the swell things about the November '46 Hospital Critique Issue on the phone the other day, but I don't remember telling you that I felt you and Mr. Rosenfield certainly deserve a great vote of thanks from the architectural profession and those others interested in hospital planning and management for the particularly detailed analysis and comparisons made throughout the issue.

Anyway, congratulations on your new approach. I hope it can become more virile as time goes on.

A. L. AYDELOTT
Memphis, Tenn.

NONE PERFECT YET
Dear Editor:
The November issue of PROGRESSIVE ARCHITECTURE was one of the most interesting issues of an architectural magazine I have ever read. I heartily endorse your new experiment in architectural criticism. No architect has yet designed a perfect building, and your method of intimate criticism discussing the bad with the good, should do much to stimulate interest in the solutions presented, and invite deeper study of the problem.

If criticism of future building types is handled in as fine and as constructive a manner as your first one on hospitals, I shall look forward each month with pleasure to their reading and study.

HARRY J. HARLES
Rocky Mount, N. C.

STARTED MENTAL EXERCISE
Dear Editor:
Your discussion of architectural criticism in December "Observations" caused considerable comment pro and con among members of our organization.

Personally, I've been searching for some time for such "manners of criticism" as you describe, to help me evaluate questionable examples of architecture, art, and music. So we tried applying the four standards to a local skyscraper (designed in the classic style about 35 years ago).

This building met the mechanistic approach without adverse criticism; also the contextualistic and organicist approaches. However, when we analyzed it from the formistic angle, our camp divided. Some contended the design made use of outmoded forms, and was therefore poor. Others followed the strict interpretation of formistic and argued that, since the building did represent its culture and time (classic adaptations were then prevalent for all types of large buildings), the design was permissible and good.

The conclusion was that an esthetically good design must reflect more than the prevailing taste and custom—or architecture will stagnate. Designers, we felt, should be leaders and not merely interpreters of contemporary thought and culture.

In short, your "Observations" . . . resulted in some stimulating mental exercise.

FREDERIC H. KOCK
Cincinnati, Ohio

INTERESTING AND VALUABLE
Dear Editor:
I think that all the recent issues of PROGRESSIVE ARCHITECTURE have been excellent. The evaluation of the five hospitals as presented with Mr. Isadore Rosenfield is particularly interesting and valuable to all of us.

JOHN N. RICHARDS
Toledo, Ohio
PERMANENT SURFACING. Now Kimpreg gives plywood a face of plastic armor. A thermosetting phenolic resin laminate, Kimpreg provides a flintlike waterproof surface that defies parasites, decay and extremes of temperature. It is washable, insoluble, stainproof. Impervious to alcohol.

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SEVERAL ARCHITECTURAL DRAFTSMEN, thoroughly experienced, able to prepare preliminaries, working drawings, etc., familiar all phases architectural drafting. Must think, draw along modern trend. Work on postwar theaters and diversified projects. Excellent opportunity for permanent position. Write education, experience, salary, to M. J. DeAngelis, R.A., 1404-1405 Temple Bldg., Rochester, N. Y.

ARCHITECTURAL DRAFTSMEN, thoroughly experienced in preparing complete working drawings and details from sketch stage, on schools, hospitals, and other public works. Give details, education and experience; state salary. Jos. W. Radotinsky, Architect, 312 Commercial National Bank Bldg., Kansas City, Kans.

ARCHITECTURAL DRAFTSMAN with at least 15 to 20 years’ general experience in good design and construction, to locate in western Indiana city with a firm which has had 34 years of successful practice. Miller & Vrydagh, Architects, 200 Opera House Bldg., Terre Haute, Ind.

ADDITIONAL INSTRUCTORS in architectural design, structural design, building materials and building equipment are needed at the schools of architecture for the second semester. Those interested in a career in the teaching profession should apply to Professor Paul Weigel, Secretary of the Association of Collegiate Schools of Architecture, Kansas State College, Manhattan, Kans.

SEVERAL EXPERIENCED ARCHITECTURAL DESIGNERS, capable of making preliminary studies, analyzing design problems for hospitals, schools, housing and community developments. Opportunity in federal government “old-line” bureau in Chicago. Submit form 57, obtainable from any government agency, or write details of experience to Construction Division, Office of Indian Affairs, Merchandise Mart, Chicago 54, Ill.

EXPERIENCED ARCHITECTURAL DRAFTSMEN, and one structural engineer wanted immediately for our Butte, Montana, office and also for our Billings, Montana, office. Housing is adequate and rentals low. Position permanent for experienced men. Write stating experience record and salary expected. J. G. Link & Co., Billings, Mont.

ARCHITECTURAL DESIGNER. New York architect requires man of unusual ability and initiative, having broad, imaginative concept of contemporary planning and design; able to make outstanding sketches and renderings, and convert ideas to working drawings. Office offers excellent opportunity in designing a wide variety of projects. Reply fully. Box 334, PROGRESSIVE ARCHITECTURE.

PROJECT ENGINEER. Excellent opportunity for structural engineer. Require B. S. degree civil engineering, at least three years in construction business or consulting engineer’s office. Duties include preparing and designing plans and specifications for additions, alterations, major maintenance of all buildings, partitions, structures, installation of process equipment; supervising installation of structural steel, iron, timber; contacting suppliers; inspecting buildings. Philadelphia area. State age, education, work experience. Box 335, PROGRESSIVE ARCHITECTURE.

(Continued on page 12)
Every requirement of efficient underground pipe insulation and protection is fulfilled by Ric-wiL tile conduit systems. Strength, water-proofing, alignment, thermal efficiency, speed and economy of installation, are standard elements of Ric-wiL design, materials and engineering—provided by exclusive features which assure maximum protection to pipe distribution lines.

Write for descriptive Catalog No. 44.
JOBS AND MEN

(Continued from page 10)

Two TEACHERS, desired by Southern school of architecture, to teach architectural subjects, principally design. Can use one or both in February. Salaries to be based on training and experience of applicant. Summer school salary extra. Housing can be provided. Box 345, PROGRESSIVE ARCHITECTURE.

JOBS WANTED

VETERANS completing intensive training in old established school need work opportunities in mechanical, architectural, or electrical drafting. What can they do for you? Inquire Mondell Institute, 1425 Broadway, New York 18, N. Y., Wis. 7-2143; or 129 Montague St., Brooklyn 2, N. Y., Main 5-2741.

SALES REPRESENTATIVE, Architect moving to California desires to represent eastern manufacturer. Age 42; experienced technical and contact man. Box 336, PROGRESSIVE ARCHITECTURE.

STRUCTURAL ENGINEER, B.C.E., young, registered in New York and Ohio, with five years' experience in design, construction, and cost estimating; now employed; desires responsible connection with progressive architectural firm requiring efficient, modern solutions to its structural problems. Box 337, PROGRESSIVE ARCHITECTURE.


JUNIOR ARCHITECTURAL DESIGNER, age 25, wishes to move. Desires a permanent position on West Coast. One year mechanical drafting experience. Graduated from school of architecture; also studied engineering. Ambitious and ability to learn. Box 339, PROGRESSIVE ARCHITECTURE.

YOUNG REGISTERED ARCHITECT desires partnership or other business arrangement with architect in small office doing contemporary architecture. 10 years' experience in executing small and large jobs from design to completion. Prefer to locate in small city or town in growing section of the country. Box 340, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL PROJECT MANAGER, housing expert (public and private), planning, production and office administration. Will be available about January 15th. Box 341, PROGRESSIVE ARCHITECTURE.

DRAFTING WORK WANTED—structural plans for architects and engineers. Shop plans for steel fabricators; bending details and bar schedules for concrete work; mechanical designs, details, and developments. By competent, registered engineers. Georgia Detailers Association, P. O. Box 191, East Point, Ga.

ARCHITECT desires responsible position, association, or partnership with progressive organization. Age 34, registered architect in Michigan, A.I.A. member, architectural engineering graduate; 12 years' experience as architect, draftsman, designer, job captain on housing, industrial, commercial, institutional buildings. Prefer West Coast or Rocky Mountain location, but will consider other areas. Box 342, PROGRESSIVE ARCHITECTURE.

REGISTERED STRUCTURAL ENGINEER, with twenty years' experience in construction, desires connection with architect or engineer specializing in industrial work in western states. Am expert reinforced concrete designer. Age 46, veteran of World War II. Will consider connection on percentage basis with drawing account or limited partnership only. Box 343, PROGRESSIVE ARCHITECTURE.

CIVIL ENGINEER, DESIGNER, 32, registered New York State, recently discharged Army officer, excellent record of 11 years' experience as designer of structures and utilities, desires partnership in architectural or engineering firm. References exchanged. Will invest up to $10,000. Box 344, PROGRESSIVE ARCHITECTURE.
THE remarkable versatility of Cemesto has been firmly established in scores of projects. This amazing adaptability of Cemesto to sound, speedy construction has stirred the interest of architects everywhere. As a result, new uses are being found for Cemesto in almost every kind of present-day building job—large and small.

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Cemesto can be cut to required sizes in advance, resulting in speed and economy in building walls and roof decks. There is no sacrifice in construction quality. It is truly a multiple-function material of many uses.

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**IMPORTANT!** Without obligation, we will be glad to provide any technical assistance you may need regarding the use of Cemesto Wall Units. A complete set of architectural details is available on request.
One of the structural experts that Frank G. Lopez, technical editor, turned to first in assembling a panel to examine and analyze latest information from manufacturers about products available for construction in 1947 was Fred N. Severud, consulting engineer, of New York. Born in Bergen, Norway, he earned his C.E. degree at the National Institute of Technology in Trondheim and then came to the United States in 1923. He later established an office in New York, in partnership for a time with James Ruderman, and found that the development of large housing projects in the 1930's gave him the chance to introduce methods that won him wide recognition. Besides his general engineering practice, he has served as consultant to the Government of Puerto Rico, as consultant during the rebuilding of an oil city in Peru, and as technical advisor to the Norwegian Government. For Mr. Severud's discussion of The Load-Bearing Structure, see page 42 of this issue.

Hermann H. Field, author of the analyses of Non-Load-Bearing Structural Elements and of Thermal Insulation and Sound Control (pp. 50 and 59) is now director of postwar research with Antonin Raymond Associates, New York. A graduate of Harvard, he attended the Graduate School of Architecture there for two years and continued his training at the Swiss Federal Institute of Technology while in Europe as holder of a two-year fellowship to study housing and modern building techniques in various countries. The outbreak of the war found him working in Poland as a refugee administrator.

It was not until 1940 that he was able to return to New York. He is a member of the A.I.A., and last spring served as a consultant for ex-National Housing Expediter Wyatt, collaborating on a survey of new materials for the Veterans Emergency Housing Program. The discussion of Surfacing Materials (p. 65) was prepared by Walter Sanders and Arthur Malsin, whose firm is now a year old. Walter Sanders received his B.S. from University of Illinois in 1929 and his M. of Arch. degree from Uni-

(Continued on page 16)

NEXT MONTH

- A major part of our February issue will be devoted to shelter—private, multi-family, and the special provision required by the disabled veteran. The multi-family scheme is the subject of a student thesis executed by Ilse Meissner while at Pratt Institute. A careful restudy of the Jacob Riis and Lillian Wald Housing Projects on New York’s East Side, this shows what might have been done if the two adjoining projects, now scheduled for construction, had been schemed as a single unit rather than two unrelated design problems. The distinguished Washington architect and housing expert, Louis Justement, will be the guest critic analyzing Miss Meissner’s study. The private residence is a suburban house in Lawrence, Long Island, designed by the renowned architect, Marcel Breuer, now of New York. Tradition and stodgy convention are sharply challenged by this unique and news-worthy house, sure to be one of the most discussed and debated designs. Specially adapted units to make homes more comfortable for paraplegic war veterans, designed by a committee of the New York Chapter, A. I. A., also will be presented.

- Comments on the advance and present status of progressive architecture and urbanism will be made by Le Corbusier, along with critical notes on Paul Lester Wiener and Jose Luis Sert’s Cidade Dos Motores (September 1946 PROGRESSIVE ARCHITECTURE).
IT'S THE *Finish*

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Atlas White is a true portland cement and similarly meets standard specifications. Beautiful colors retain full value for years. Cleansing is simple...maintenance costs are low.

For further information, write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N.Y.

This Month

(Continued from page 14)

versity of Pennsylvania a year later. He was architectural director of the Rockefeller Home Center; held associate editorships on The American Architect and The Architectural Forum, and is at present an architectural design critic at Columbia University and Pratt Institute. His own office, opened in 1938, was closed in 1942 when he began two and a half years' service with the Army. Arthur Malbin is a graduate of Yale and received his B.Arch. degree at Harvard. During the war he spent two years in the Pacific theater, as photo intelligence and staff intelligence officer. He also is teaching architectural design at Columbia. Their firm is engaged in residential, commercial, and industrial work and recently received awards in Bloomingdale's 1946 Architectural Competition, "Suburban Houses for New Yorkers."

A. Gordon Lorimer, Chief of the Bureau of Architecture for the New York City Department of Public Works, is familiar to our readers (see January 1946 PROGRESSIVE ARCHITECTURE) as an architect and consultant. His analysis of the latest factory information about Doors and Windows is found on page 80. Ben John Small, author of the discussions on Materials of Installation and Finishers and Protectors (pp. 75 and 92) is likewise known to our readers (see August 1946 PROGRESSIVE ARCHITECTURE) for his work in specification writing and cavity wall design.

CLIFFORD STROCK

As editor of Heating and Ventilating, Clifford Strock is well equipped to write on the subject of Air and Temperature Control (p. 103). Receiving his B.S. and M.E. degrees from Purdue University, he has been connected with the Pennsylvania Railroad and the International Heater Company. He is co-author of the Degree-Day Handbook and the Air Conditioning Engineer's Atlas, and a member of the American Society of Heating and Ventilating Engineers, the American Society of Refrigeration Engineers, and the American Society of Mechanical Engineers.

"THE THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel
Sunday Evenings—ABC Network
"Here's the dope for that new boiler job"

When you need clear, concise, complete specifications and engineering data for that new boiler plant, turn to the H. B. Smith catalogue in Vol. 5 of your 1946 "Sweet's." There you'll find the information necessary to help you select the right boiler, whether your client is planning a factory, home, school or office building.

And if yours is a special problem, personal consultation with an H. B. Smith sales representative may be the solution. Just turn to the catalogue's back page and you'll find the address of the H. B. Smith branch office nearest you—a technical representative will be glad to call and talk things over.

Visit our Exhibit at the 7th International Heating and Ventilating Exposition, Lake-side Hall, Cleveland, Ohio, Jan. 27-31, 1947.

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NOTICES

LEE AND HENRY, designers, have announced the opening of their new office at 1829 M St., N.W., Washington 6, D. C.

CHESTER E. NAGEL, architect of Austin, Texas, has accepted the invitation of Harvard to teach design and has joined the faculty at Cambridge. He studied under Dr. Walter Gropius and received his master's degree at Harvard in 1940.

PERCY M. IVORY has announced his return to private practice after 10 years' service as Plan Examiner in the Building Department of Irvington, N. J. His offices are now located at 1073 Springfield Ave., Irvington, N. J.

DAVID MARNER has opened an office for the practice of architecture at 305 Bond St., Asbury Park, N. J.

THEODORE W. DOMINICK and WILLIAM H. VAN BENSCHOTEN have announced the formation of a partnership for the practice of architecture as DOMINICK AND VAN BENSCHOTEN, ARCHITECTS, 1122 19th St., N.W., Washington 6, D. C.

PHILIP F. HALLOCK, R.A., has been released from active duty in the U. S. Naval Reserve and has announced the opening of his office for the general practice of architecture at 212 South Allen St., State College, Pa.

ERNEST J. KUMP and MARK FALK announce the return of their former partner, LT. COL. CHARLES H. FRANKLIN, AUS, and the formation of the firm of FRANKLIN, KUMP & FALK, with offices for architecture located at 9 Main St., San Francisco, Calif.

The office of GERALD ANTHONY PAUL, R.A., has established quarters for the general practice of architecture, engineering, and industrial design at 333 Fourth Ave., New York 10, N. Y. Mr. Paul was formerly with Morris Lapidus.

DANIEL W. B. WARNER, architect, has announced the opening of an office at 660 Madison Ave., New York 21, N. Y.

GRIEN & KRAMER, Designer and Associates, have announced the moving of their Los Angeles office to larger quarters at 8460 Santa Monica Blvd., Hollywood, Calif., and the opening of their new offices for northern California at 967 Sutter St., San Francisco.

GEORGE W. WICKSTEAD, member of the American Society of Landscape Architects, has announced the establishment of an office for the general practice of public and private land planning and landscape architecture at 117 W. High St., Carlisle, Pa.

JOHN L. R. GRAND and ALFRED B. PARRISH, who have both returned from active duty with the armed forces, are now teaching architecture and landscape architecture at University of Florida, School of Architecture and Allied Arts, Gainesville, Fla.
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8 Pages Chock Full of data on the new Agitair FM Filter. Here's "proof-positive" of Agitair FM superiority.
concerning the **MERITS** of flat roofs...

...for industrial buildings
...for commercial buildings
...for residences

Years ago all roofs were pitched. But recently the flat roof has invaded, first, the industrial building field... then the commercial... and, now, the residence.

Here are some of the reasons why flat roofs are preferable:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td><strong>Economy</strong> A flat roof with four-ply built-up construction, is cheaper in first cost and maintenance than a pitched roof.</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Flexibility of interior design</strong> A flat roof lends itself to functional arrangement of interior spaces. Any hipped, gabled, mansard, gambrel or shed roof dictates the plan by means of the mass of the roof. This is not true with a flat roof.</td>
</tr>
<tr>
<td>3.</td>
<td><strong>Less waste space</strong> Wasted space in attics which involve heat losses or useless cubage, or both, is eliminated with a flat roof.</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Eliminates masonry for extra chimney</strong> Cost of chimneys which penetrate the roof at the ridge represents waste. A roof with a 30 foot span at 45 degrees means 15 vertical feet of masonry for chimneys.</td>
</tr>
<tr>
<td>5.</td>
<td><strong>Less guttering needed</strong> The guttering and downspouts for a flat roof usually take less material than for buildings with dormers, gables, or other roof breaks.</td>
</tr>
<tr>
<td>6.</td>
<td><strong>Recreational Utility</strong> The flat roof can be used for sun decks and terraces, for health and enjoyment.</td>
</tr>
<tr>
<td>7.</td>
<td><strong>Water-cooling possibilities</strong> The flat roof can be utilized for cooling the interior of the building, either by a spray of water played on it during the heat of the day, or by a thin film of water lying on it.</td>
</tr>
</tbody>
</table>

If you specify a flat roof for cooling purposes, you will want to make sure that materials you designate will withstand constant contact with water. Koppers coal tar pitch and felt roofing materials are impervious to immersion in water. In fact, water benefits Koppers roofs.

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LUXURIOUS bathrooms like this are easy to achieve when you specify American-Standard fixtures. The bath is the MASTER PEMBROKE—a beautiful creation in durable enameled cast iron. The shelf-back lavatory is the COMRADE, and the close-coupled closet is the COMPACT, both of genuine vitreous china. All three pieces come in white and a wide range of harmonizing colors.

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- The superb design and sound construction of American-Standard products assure many years of efficient, economical service. Their smart, trim lines and colorful finishes add beauty to any setting. And, being backed by more than half a century of manufacturing experience, they enjoy a public acceptance second to none. Yet, they cost no more than others ... and can be bought on a convenient Time Payment Plan for modernization. Ask your Heating and Plumbing Contractor for details. American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.

LOOK FOR THIS MARK OF MERIT—It identifies the world’s largest line of Heating and Plumbing Products for every use... including Boilers, Warm Air Furnaces, Winter Air Conditioners, Water Heaters, for all fuels—Radiators, Convector, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships, and Railroads.
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Lobby of The Albany Hotel, Denver, Colorado,
Showing railings fabricated from Anaconda Architectural Bronze.

Interiors, too, are enhanced by BRONZE...

In addition to its use on store fronts and entrances, Anaconda Architectural Bronze accents the modern interior treatment of The Albany Hotel at Denver, Colorado. The architect, Burnham Hoyt of Denver, also specified Anaconda Copper for flashings and other sheet metal work.

All bronze work, including the hand railing illustrated, was fabricated and installed by the Kawneer Company of Niles, Michigan. Anaconda Architectural Bronze, for many years, has been a leading choice of architects. Readily adaptable to design, this lustrous metal provides matchless color, beauty and warmth... thus enhancing both the exterior and interior appearance of any fine building.
satisfaction that "doubles in brass"

To an Architect, nothing is more indicative of good taste than the selection of a piece of fine hardware in cast brass or bronze. He likes the "heft" of it; the positive grip and turn of its knob—like the handshake of a warm friend. He appreciates the smooth, lustrous finish, and the depth and detail of design that make this combination of knob and escutcheon a thing of beauty.

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Complete with Specifications and Numerous Construction Details Covering both Roof and Sidewall Applications.
High in the Adirondacks, the Queensbury Hotel in historic Glens Falls, New York, cut fuel consumption $355 in one month, at the same time providing enhanced comfort for the hotel’s guests.

Glens Falls, selected as “Hometown U. S. A.” by Look Magazine in 1944, knows the Queensbury Hotel as a center of community life, where service clubs meet weekly and out-of-town celebrities frequently stay.

The Queensbury Hotel was built in 1925 and equipped with a Webster Vacuum System, including Webster Traps and Valves and a Nash Vacuum Pump, designed to provide all the heat necessary to meet severe Adirondack winters.

In 1944, the hotel owners decided upon a heating modernization program. This program included covering exposed risers to increase mild weather comfort and permit effective control; 2-zone Webster Moderator System with automatic "control-by-the-weather"; reduction in heating supply to unoccupied rooms; improvements to promote steam economy in hot water and kitchen services.

In less than six months, the demonstrated results in improved heating at lower cost were so outstanding that the hotel owners completed payment for the Moderator System for cash.

Earl S. Martin, Manager, Queensbury Hotel, Glens Falls, N. Y.

The heating results achieved in the Queensbury Hotel were not due alone to the changes and the Webster Moderator System equipment—a first class installation job by heating contractor Erwin C. Martin of Glens Falls, competent operation by S. R. Bradley, Building Engineer, and cooperation in assuring effective use of the equipment by hotel personnel under the direction of Manager Earl S. Martin, were all equally vital.

We will welcome the opportunity to work with you in solving your heating problems.

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Webster Metering Orifices, expertly sized, a vital feature of the Moderator System, balance distribution and make possible central control with continuous heating.

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1946 Webster System Radiation—concealed convectors made of copper tubing and aluminum fins, with integral Webster Traps and Valves.

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Phosphor Bronze and Brass in sheets, strips and rolls
E V E R Y T H I N G was lovely until "the boss" downstairs started scalding the dishes. That's when the hot water stopped.

Perhaps Father doesn't understand why his family can't have hot water upstairs and down at the same time. Maybe he doesn't know that the pipes were too small in the first place, and that the city water pressure cannot deliver a good healthy stream of water upstairs when somebody's using the water downstairs.

Don't blame Father for his ignorance of proper water pipe diameters. He has to be shown why he should pay a little more for adequate-size pipe when he builds that new house or modernizes the old one. He will see the advantage of providing for all those extra fixtures and extra outlets.

Always remember this: No more water can be delivered than pipes can carry under existing city pressures. To get more water, use larger diameter pipes and larger meters, too. The best protection to insure an adequate flow is to use adequate-size steel pipe.
KOHLER Enameled Iron Sinks to meet present urgent needs

THE KOHLER sinks illustrated have been selected to give you a practical answer to present urgent needs. Kohler has concentrated production on this group of sinks since the war, in order to help you solve your problems.

You'll find this a well balanced selection, especially suited to the requirements of small houses, but with enough variety in sizes and designs to meet a broad range of demand. Surfaces are easy to clean and acid-resisting clear through. Fittings are of durable brass, chromium plated.

Kohler is steadily increasing production—taking steps to overcome handicaps created by manpower and material shortages. All Kohler plumbing fixtures and fittings now being manufactured maintain the same high standards that have built the 73-year-old tradition of Kohler quality. Write for further information. Kohler Co., 140 High Street, Kohler, Wisconsin. Established 1873.

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1—Camberley K-5551-A. Ledge sink, single compartment, double drainboard. Size, 60x25".
2—Holiday K-6080-A. Sink with 6" back. Size, 42x20".
3—DelafIELD K-6491-A. Flat rim, double compartment ledge sink. Sizes, 32x21" and 42 x21".
4—Mayfield K-6511-A. Flat rim, ledge sink. Size, 30x21".
5—Addison K-6550-A. Flat rim sink. Sizes, 24x20", 30x20" and 30x18".
6—Alloway K-6635-A. Flat rim sink and laundry tray. Size, 42x20".
7—Sea Cliff K-6603-A. Ledge sink and laundry tray. Size, 42x25".

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Women everywhere approve the many features of the EUBANK swivel-type cabinet ironing board. It can be installed in new or old homes — before or after plastering. It's planned to make a woman's work easier, more pleasant... and that means satisfaction for your clients. The EUBANK ironing board is available for delivery NOW. If your regular lumber dealer does not have this improved cabinet ironing board, write the distributor nearest you.

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- Patented Cast Aluminum Swivel Support Holds Board Firm — Eliminates Sagging
- Swings Through Wide Arc for Flexibility in Use
- Can Be Installed Where Space is Limited -- Rough Opening Required 14" x 51/2" x 33/4".
- Right or Left Door Installation!
- Board Stays Put in Upright Position in Cabinet
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- No Projecting Parts to Tear Fabric

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14" x 51/2" x 33/4"

SET CABINET
23" FROM FLOOR

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In the tradition of Michelangelo and Bernini, architects long have contributed to the beauty and dignity of worship.

As you design today's houses of religious devotion, let architectural metals aid you in carrying on this noble work.

Modern applications of this traditional art are to be found in the fine architectural metal work of such outstanding items as the Baldòchin in St. Patrick's Cathedral, New York City, and the Bishop's Throne in the Cathedral of The Immaculate Conception, St. Cloud, Minn., pictured on this page.

With architectural metals, both ferrous and non-ferrous, you can achieve almost any desired result. You have a wide variety in color, strength, quality and design characteristics to choose from.

As you plan new buildings — whether churches, homes, banks or other commercial structures — or design ornamental details for them, consult the manufacturers and fabricators of architectural metals. They are ready and anxious to be of every possible assistance.

A new Handbook on Stairs and Railings is available to architects without charge through members of the Association. For a Directory of members write Dept. PA-1.
In Architectural Concrete, features such as the bladed pylons and crown moulding illustrated here by Hugh Ferriss, may be cast in one operation as integral parts of the whole structure. This is typical of the economies effected by using concrete for apartment houses, hotels, hospitals, schools or industrial buildings.
In all the world, only in America can be found so great and shining cities.

They are, in one, both the symbol and the accomplishment of our aspirations. They are, in a way, America. Ask a couple of million returned GIs!

If beyond our alabaster cities we sense the roar of mighty machinery, the belching stacks of industry, the skill and sweat of human beings... they obscure not at all the handiwork. For in America we know that not alone with ideals, but with the "sterner stuff" of toil and resources shall a nation be moulded at last.

So, some practical dreamer it was, who watched the first steel pipe clank from the grimy benches about sixty years ago. Who, in shaping the hot metal, gave form and substance to fair cities yet to arise... cities that became realities because these arteries of steel could convey water, oil and other essential fluids, gas, steam and even some forms of solids, over long distances and to great heights.

Actually, the achievement of the modern city directly parallels the development and plentiful production of reliable, economically adaptable steel pipe. Yes, steel pipe makes it possible!

The interesting story of "Pipe in American Life" will be sent upon request.

Committee on Steel Pipe Research
OF
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STEEL PIPE MAKES IT POSSIBLE!

... better living through pipes of steel for plumbing and heating purposes.
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'INCOR' CUTS WINTER COSTS IN HALF

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Production of building materials and equipment is reaching an all-time high, but this does not answer the designer’s question: Will the items specified now be available during the year?

Retiring calmly as CPA head, John Small issued a final statement which emphasized the astounding rates of production now being attained. On the other hand, Wilson Wyatt, retiring unhappily as NHA administrator, made a final report to the President (which was not generally released) pointing to the great backlog of needs that this production will have to try to meet. Thousands of manufacturers have been surveyed by Progressive Architecture in the last few months; some few of them are prepared at this very moment to fill all orders, a larger group see no chance of catching up with the market during 1947, but the majority of the producers hope to be able to balance demand with supply late in the year.

The manufacturers' own estimates are largely based on orders in hand, which are in many cases far above the prewar level. This factor may be unreliable for two reasons: no one knows how many orders have been placed with more than one producer to insure delivery, and no one knows accurately how many orders have not been placed at all because of restrictions (a million and a half applications were rejected by CPA last year). Through the replies to our questionnaire run several notes of despair which build into a minor refrain of pessimism. Some basic raw materials are short in supply; CPA recommends keeping controls on tin and rubber; and lead, copper, and linseed oil are sufficiently scarce to deter manufacture of many finished products. Labor disagreements will undoubtedly continue through the year to interrupt production. Finally, many manufacturers understandably shy at plant expansion sufficient to meet a short peak demand, when they know that the long pull will not require this same amount of their product.

However, in the manufacturers’ estimates of 1947 supply, the major theme is one of optimistic expectation that removal of price ceilings and the impending removal of other restrictive regulations will stimulate production, invite capital expansion, complete reconversion, and result in a flow of materials sufficient to meet all orders sometime during the year. In some traditional fields new producers are entering the picture to add to the number of items from which the designer can choose; there are several new window manufacturers, for instance. There appears a recognition of the fact that sharp price rises will meet consumer resistance; many manufacturers agree that “pricing oneself out of the market” is an unsatisfactory way to make supply meet demand.

New products have passed the stage of promise and are, in many cases, now on the market. There is more research than ever before on the part of the producers as well as by universities and foundations. The manufacturers generally appear to have a growing interest in finding ways to improve the elements from which architecture is built—and even a greater concern with their proper use. Indicative of this is the New Year’s resolution of the Producers’ Council to engage more in technical study and less in lobbying. Another indication is the rapid acceptance by producers of dimensional coordination—an acceptance that threatens to outstrip the architects’ understanding of its uses. It must be noted, however, that the presently constituted “construction industry” has apparently won the immediate battle against changes in basic construction methods. Wilson Wyatt’s political demise on the issue of stimulus to prefabricators is principally a victory for the conventional builders.

The certain conclusion can be drawn that a full balance of products and need for products will not exist during 1947. The designer must face the fact that a selection of specifications items must be made on the basis of availability as well as suitability. He must also consider that availability at the time of construction is the important matter; architects and manufacturers alike are prone to forget that many things now specified will not be required on the job until several years have passed. For example, the progress schedules for many Veterans Hospitals now being designed do not call for finishes, or equipment in some cases, until well into 1949 or 1950.

Wise designers will find imaginative uses for available materials, rather than engage in wishful thinking. In some cases they will design flexibly so that product substitutions can be made as availability fluctuates, without complete revision of design. In other instances they will so integrate materials and structure that one element can serve several purposes. The eleven articles in this issue point more specifically to these necessities and these possibilities in various parts of a structure.

Along with an expert analysis of design possibilities in the coming year each section of the discussion that follows includes a listing of available products. All information that the manufacturer is willing to release concerning production schedules, new products planned, standard products available, and research under way is listed. Here, then, is a guide to available products and suggestions for their use.
THE LOAD-BEARING STRUCTURE

By FRED N. SEVERUD,
Consulting Engineer

From experiments such as this application of a vacuum to concrete construction have been developed methods not only of producing stronger concrete, but also of lifting precast slabs while still green and setting them into place in the structure. The speed of construction possible with the vacuum-lift process, developed by the Vacuum Concrete Corp. of Philadelphia, was an asset during the war and will undoubtedly find peacetime application.

AVAILABILITY

Standard Products. As will be described later, efforts to improve on standard products and methods are furious but the tangible results have been few. There is plenty of fight left in ordinary, simple, unglamorous reinforced concrete and structural steel, and all the innumerable varieties of floor systems. There have, however, been very important developments in this field. Streamlining of materials has stepped up the efficiency of standard construction methods. Form costs have risen to such an extent that most vigorous attention is being paid to maximum efficiency in formwork. Metal forms are being used to a great extent, partly as a result of this search for efficiency and partly because lumber is short.

It is an established fact that there is a shortage of lumber, and it is aggravated by the Veterans Emergency Housing Program, which calls for 1,200,000 dwelling units to be started in 1946 (not likely to be achieved) and 1,500,000 units in 1947. According to a Department of Commerce report, the 1947 program of 1,500,000 units will require about 11 billion board feet of lumber*. Estimated total production for 1946 is 32 billion board feet, which may be increased in 1947 by 2 billion board feet when the program of building some 2,700 miles of timber access roads is completed. (Figures include millwork and hardwood flooring.) The same Department of Commerce report estimates total consumption of construction lumber at about 25.5 billion board feet in 1947. That figure is meant to represent materials in place and does not account for necessary inventory build-up, nor for waste, etc. Furthermore, no private residential construction outside the Veterans Housing Program has been considered. All this indicates considerable short supply of building lumber in 1947, which is no doubt likely to be aggravated periodically through dislocation of stocks, etc.

All other load-bearing construction materials appear to be at a stage of production where the shortages keenly felt during the earlier part of 1946 are by now overcome, except that several aspects of the steel picture remain clouded, including the effect of any soft coal shortages due to strikes. White ingot production of fabricated steel cannot be boosted to keep up with orders, so the backlog of orders has a tendency to increase. Pig iron production is quite unsatisfactory, shortages having closed some foundries (July 1946 foundry production was at 52 percent of capacity). Bookings for structural steel are kept at a restrained level due to government action curtailing private construction; for example, July 1946 bookings and shipments nearly balanced, with the backlog still totaling 675,000 tons, or more than five times July production. Increased construction activity in 1947 may, therefore, quickly develop extreme shortages in this field. Open-web steel joists are so far in a particularly bad situation, due to lack of production in small size angles.

* Editor's Note: The National Retail Lumber Dealers Association reports that, as of 30 Sept. 1946, there were in the nation's retail yards 2100 million board feet of lumber, which was 52.6 percent less than the comparable supply on 31 Dec. 1942—and it was in the winter of '42-'43 that wood became a wartime "critical" material. The September 1946 situation was an improvement over that in May, when we had 61.4 percent less than in December 1942, but there is still a long, long way to go.
Production of brick and hollow tile appears to be definitely in good shape, monthly output having risen above 1941 production by July 1946. It may be worth considering that transportation problems will make clay products more easily available within a given radius of production centers than at locations far removed from plants. Unfilled orders represented about three months' production in July 1946.

Production of concrete block units has steadily increased (10 percent increase in July 1946 over June 1946) and may be counted on to contribute heavily to construction requirements for 1947. Portland cement production had increased substantially by mid-1946, the total for the period from January to August 1946 (100 million barrels) being only 15 percent less than the all-time high during the same period of 1942.

Prefabricated housing units have not reached the stage where products of this type of construction can be included among standard materials available during 1947. It is difficult to determine which of these developments will have a permanent character. Many of those at present projected on a large scale may not prove to be competitive in a different market situation. At present almost anything that provides shelter will sell, with government incentives to production also active in clouding this whole situation. What price ranges will be at the time of capacity is anybody's guess. Also, public reaction to unconventional methods of providing shelter is a highly unknown factor. Anybody entering this field, therefore, must temper his enthusiasm with plenty of skepticism. Rough-and-tumble field construction is very often a far cry from the refined manufacturing and erection procedure worked out on paper.

The National Housing Agency's production estimate of 100,000 prefabricated units for 1946 may serve as an indication as to the possible influence of these products on the 1947 market.

New Products. There has been turbulent activity in this field; an almost desperate attempt to develop new materials and construction methods.
THE LOAD-BEARING STRUCTURE

Many new babies have arrived; the infant mortality has been terrific. This has been caused primarily by lack of experience in the rough knocks of manufacturing and production life. Schemes have been devised and are being devised for precasting large sections, to be used in both floors and walls. Time and again we have been asked to witness actual installations which, at the last minute, have been deferred because of some unforeseen shortcoming. The most prevalent pitfalls have been neglect to recognize fully the shrinkage and warping action of materials poured into a mold that does not deform. Also, very often schemes that look beautiful on paper have been found impractical because the necessary tolerances have not been provided. It is impossible under prevalent construction methods to work with machine perfection. Many planners have not had much field experience, and awake to this fact rather rudely when they try to put their sections together with a perfect fit.

Another element that has often been overlooked is that large sections require great study in handling. They are apt to crack, or sometimes the handling equipment selected proves to be inadequate. Often impact forces and the forces required to remove concrete sections from forms are not fully evaluated.

Many attempts have been made to develop an insulating wall panel with metal. Some have been tried out in actual construction but there has been quite a bit of trouble in getting costs within reason. Excessive condensation has also been very annoying. This is probably caused by the fact that the metal does not allow the wall to breathe and thereby builds up great vapor pressure in the rooms. I believe that this problem must be solved before any of these metal wall sections can succeed. Out of all this activity has come comparatively little, therefore, that will be available during 1947. I mention some that will:

Flexicore is a relatively new development, although it has been in small-scale use around Dayton, Ohio, for some years. The principal use of Flexicore will probably be for roof construction and for floors without too many openings. It does not lend itself too well to irregular framing. Speed of construction is a great advantage and also the fact that a finished ceiling is obtained without plaster. Approval has not yet been obtained for this material as a first-class fireproof construction. So, for the time being at least, it will be limited to buildings without such requirement.

Precast Building Sections, Inc., has a factory now under construction, to start production in the early part of 1947 of a precast wall and floor section. This section has been in use on a very limited scale for about 25 years. It has given remarkably good results both from the standpoint of water penetration and condensation. Originally developed by Grosvenor Atterbury, the methods have now been adapted to assembly line production and improvements have been made so that this material should be of excellent quality and probably also very economical. It furnishes both inside and outside finished surfaces of great areas and will, therefore, materially reduce field labor and formwork costs. The factory is located in North Hempstead, L. I., and has an annual production of about 1,000,000 square feet. It is the intention to cover the country with similar factories later on. Although this section has been designed principally for walls, it is also adaptable to an economical floor and roof system in connection with poured concrete ribs.

The Vacuum Process of curing concrete has taken great strides during the war. It consists of sucking surplus water out of concrete through vacuum pads. One rather curious development of this system has been the use of vacuum lifts for heavy precast concrete members. By such vacuum lifts, the precast member can be removed from the forms after a short period because the lifting stresses are greatly minimized as the vacuum contact can be spread over large areas. This development has been used in connection with concrete forms to produce precast concrete sections of great weight. Some large warehouses have been constructed for the Navy using this method and there are various developments in a stage between research and construction that will be noted under the heading of "Research." This vacuum process is controlled by Vacuum Concrete, Inc., of Philadelphia.
"PRODUCTION AND DEMAND" RELATIONSHIP

From the many comments and discussions I have heard concerning this relation, it seems that the main factor is whether or not people are willing to pay the price. Costs of construction have skyrocketed. So many obstacles are put in the contractors' way that many who are in desperate need of construction are thoroughly disgusted. It may well be that something like a consumers' strike will develop unless some of these factors are ironed out. In building a structure as little complicated as even a private house, innumerable items enter the process to make it dependent upon materials from many sources. So, although the larger part of construction materials obtained from the bigger manufacturers may be available, many minor shortages are still likely to exist. On the basis of those considerations, I believe that aside from the lumber shortage, the flow of major construction materials will be equal to the demand although minor shortages will be with us for some time to come. Yet, should a way be found to lower and stabilize the cost of construction, there is very little doubt that, with all restrictions in the process of being removed, we should have a great volume of construction during 1947.

RESEARCH

This question has been partly answered under "New Products." It is to be expected that very soon numerous lightweight concretes will be developed. It is also possible that concrete without appreciable volume shrinkage may become obtainable. However, there are so many pitfalls in this development that many high hopes have been turned into bitter disappointments. Another development that is being intensively studied is the question of prestressing concrete. In fact, some prestressing methods have already been put to practical use, as in the manufacture of Flexicore, previously mentioned. Some effort is being made to extend prestressing concrete into ordinary building construction, but so far these methods have proved to be too expensive in labor to outweigh savings in material. However, for bridge and tank construction, prestressing has proved its worth and it may well be that in the future we shall have to reckon with it also in buildings.

Vacuum Lift Concrete: Some methods of this kind have at the present writing almost reached the stage of construction. However, here again there have been certain disappointments. I believe that this has been caused principally by not taking fully into account the shrinkage at the top surface as related to the shrinkage of the forms. Great stresses are produced which theoretically should cause a certain amount of cracks and warping. However, these obstacles can surely be overcome and it may be that even during 1947 methods of this kind would be in actual specification stage.

Impregnation of wood to increase its strength and durability has been very successful from a structural standpoint, but at present it is still too expensive to be an economic possibility. With the shortage of lumber, at the present time it is hardly to be expected that this development can be of great use in the immediate future.

WHAT IS AVAILABLE?
WHERE? FOR WHAT KIND OF BUILDINGS?

Provided minor shortages can be overcome, it should be possible to construct buildings of all kinds, throughout the country, using standard construction methods.

Brick, hollow tile, and concrete block construction can be specified with confidence. Cement is readily available. Reinforcing steel and structural steel, with rather small stock piles, have of course been directly and quickly affected by the recent coal strike, but the flow can probably be reestablished in a short time. As mentioned before, lumber is still critical. Certain obvious conclusions can be drawn from these facts. For example, if one accepts painted but unplastered concrete ceilings, concrete floors become more economical than ordinary wood floors with plastered ceilings;
THE LOAD-BEARING STRUCTURE

Concrete Plank; Flexicore floor and roof slabs,…

PROGRESSIVE ARCHITECTURE

Concrete Plank; Cantilite, nailable, lightweight… The Hexadome structural system, much like Buckminster Fuller's lightweight circular house in conception, is in process of being patented by Alfred Easton Poor, Architect. His system is adaptable to many types of buildings, as may be seen in the top-most sketch. Basic unit is a 4 x 4 x 4 ft. triangular module. Roof and walls are supported by a single center column. Roof rests on light trusses. Exterior surfacing is aluminum in panels.

WHERE DO WE GO FROM HERE?

However, it is to be hoped that the conclusion that standard construction will be possible, within certain limitations, will not mark the end of experiment or free play of structural imagination. 1947 will again be a housing year. Although the larger housing projects seem to continue in conventional molds, the very great shortage and the slow production of certain basic items should lead to new developments in the small individual unit.

The extent to which structure can be rationalized in this field depends on the reaction—the "acceptance"—of the person seeking shelter. If it is only shelter he wants, he can get that most economically the way a soldier shelters his head, by a rounded affair of some kind. A conception of this sort—the Buckminster Fuller house—was much publicized during 1946. Illustrated is another, based on the hexagon. Developments in light canvas hangar roofs point to the possibility of extremely light structural roofings, such as canvas covered with paint, plastic, or plaster. During the war, equipment was "embalmed" by a spray of plastic around light webbing.

We must not let mere availability of familiar materials keep us tied to rigid forms. We have always had the three basic elements of air, water, and earth. Just to stimulate thinking and to explore what original use might be made of those elements, let us consider what use might be made of them to provide a shelter.

First, we could dig a circular or oval hole in the ground. The earth would become the form for a lining of Gunite, which is concrete mortar shot by a gun using air pressure. Here is where the air comes in. Then we...
would oil the surface with form oil to prevent sticking, and shoot an
"inner-lining." At the bottom we would build in a water line and leave
a little sump pit between the two lines for this water line to empty
into. When the "inner-lining" had set, we would let the water in. This
would make the "inner-lining" pull away from the outer shell and up
it would float like a boat. By loading this boat eccentrically it could be
tipped sufficiently to get it "beached" and then it could be easily handled
by putting a crane sling around it so that it could be hoisted and turned
at the same time.

On the side of the outer lining first built we would in the meantime
have prepared the first floor slab and set some pipe columns. The "inner-
lining" could then be set up on these stilts and we would be sheltered
with about the lightest and cheapest permanent weather protection
that can be built at the present time. And then, of course, we would have a
swimming pool; or if we didn't want to use the casting pit for a swimming
pool, we could use it for shooting more inner-linings or set the stilts on
it and get a house with a basement. To use it as a basement we would
have to build a supported floor, but that wouldn't be too difficult; we
could just fill the basement with water, wait for a cold snap or freeze it
in some other way, and then pour a concrete slab on the ice. To get
permanent insulation under the slab and also to prevent the ice from
melting due to the heat from the concrete as it sets, we could cover the
ice with Foamglas.

I wouldn't mind living in a house of this type; in fact, I would feel right
at home in it. When enough people see enough houses published, and some
of them built, without tedious right angles and straight lines, developments
of this kind will have a very important place in the age-old search
for shelter from rain and snow. Even the year 1947 will, I am sure, see
great strides in this direction. More materials will be available than we
have had for a long time; let's hope that that fact will lead to more,
rather than less, progressive design.

Koppers treated wood products: Koppers Asidbar Wood, Koppers Fire-Retardant Wood, Koppers Creosoted Foundation Piling. No data on de-

Wolmanized Lumber (deacy and termite protec-
tion). Minalith flameproofed lumber, creosoted
piling, and foundation timber. Research on
graded laminated members of treated woods
and plywood. High production; Wolman salts
and Minalith available; creosotes short. Ameri-
can Lumber and Treating Co., Chicago 4, Ill.

Unit Structures: glued laminated arches for
churches and auditoriums available. Glued
laminated utility rafters for storage and shed
construction available in limited quantities.
Continuing research on application of glued
laminated structures. Unit Structures, Inc.,
Peshtigo, Wis.

BRICK AND STONE

Limestone: Indiana Limestone of all types avail-
able; expect to handle commitments satisfac-
torily. Indiana Limestone Institute, Bedford,
Ind.

Brick: tan brick, glazed brick, floor brick, glazed
structural tile available. New plant and new
equipment will improve quality, increase out-
gut, lower costs. Should meet demand. Henley

PREFACTRICATION BUILDINGS

Quonset Buildings, 20, 24, 40 feet long, and mul-
tiples of 20 feet. Can be supplied in reasonable
time, with slower delivery on large buildings.
Great Lakes Corp., Strat Steel Division, De-
troit, Mich.

Timber Structures: Mobilcore, mechanical unit,
plus roof and shell becomes Truscore. Minihomes
and Timbevis are frame houses. Also avail-
able: four types of hangars and various sheds,
barns, warehouses, known as Timbevis struc-
tures. Hope to meet demand if materials flow.
Timber Structures, Inc., Portland, Ore.

Boulevard Home, steel prefabricated house. Also
available are prefab steel and aluminum in-
dustrial buildings, 100 feet long, variable by
20 feet, with 40-foot-wide rigid frame. Six
months' delivery. Butler Mfg. Co., Kansas
City, Mo.

Everwear, aluminum prefabricated dwelling, 20
x 24 feet; all aluminum framing, sidwall, roof;
interior partitions can be varied. Southern

General Panel wood prefabricated permanent
homes. Standard panels with special connector
can be assembled in many ways. Expect to
produce at rate of 10,000 yearly by spring.
General Panel Corp., New York, N. Y.

Visualization of the author's Gunite house.
Scheme 1: (a) Casting pit lined with Gunite,
with exposed surfaces oiled, and connection
for introducing water. (b) Another layer of
Gunite, cast inside the first, is floated as water
is introduced. (c) Second layer of Gunite, lifted
by power machinery, is inverted and
placed on stilts. Walls can be any material
desired. Casting pit becomes a swimming
pool. Below is a scheme using the original
evacuation as a cellar.
CORNISH UNIT HOUSE
Newquay, Cornwall, England

PRECAST CAVITY WALL SYSTEM
A. E. BERESFORD, F. R. I. B. A., Architect
**A GUIDE to FINER STUCCO**

The first requirement for a finer stucco is a cement that can be used white or tinted, can be given a wide variety of surface treatments to harmonize with other building materials or the natural surroundings, and meets all design problems. In addition, it must have all the strength and other qualities of ordinary gray cement.

The original white cement—Medusa White—fulfills all these requirements. Its pure, non-staining white color lends versatility to the architects' expression. Almost unlimited color and texture variations can be obtained with its use. Medusa White Portland Cement meets the A. S. T. M. requirements for a white cement.

Medusa Stucco, when made with Medusa Waterproofed White Portland Cement, offers high resistance to moisture penetration and has unusual non-staining properties. Water-borne dirt is washed off instead of being absorbed. This means stucco has longer lasting beauty—is free of stains and discolorations.

For specifications and information on Medusa White Stucco, write for "A Guide To Finer Stucco".

---

**SPECIFY MEDUSA WHITE FOR TERRAZZO**

The above picture illustrates another use for Medusa White—Terrazzo. By using marble chips in many color combinations and tinting the matrix with any shade, unlimited color effects may be obtained. Specify Medusa White, the original white portland cement, for all terrazzo.
Fig. 1: Fundamentals of General Panel Corp.'s thoroughly studied stressed-skin panel system for prefabricated houses, utilizing wedging action at joints and panels designed around a large cubical module (details have recently been modified). General Panel has secured a West Coast plant; Celotex is western distributor; effects of true mass production on house-building industry may become assessable this year for the first time.
NON-LOAD-BEARING STRUCTURAL ELEMENTS

By HERMANN H. FIELD, A.I.A.

While this section is concerned mainly with the lighter structural elements of the building shell, some overlapping into other aspects of the building operation is inevitable. Some structural systems separate skin and frame with specific materials for each; others combine these functions so that many products suitable for curtain walls and partitions also come into use in varying degrees as load-bearing elements. Insulation and even the surface finishes may be included within the scope of a structural material; in fact, there is a marked trend in this direction with the increasing industrialization of the building process.

PRODUCTION FACTORS

Many good prewar materials will continue to be unavailable, or will be subject to varying delivery delays. At the same time many excellent new products which we might specify are not yet in commercial production, so that it is necessary to expand use of certain materials now in relatively ample supply to fill the gap. With the unprecedented demand for building products continuing, the first bottleneck is the shortage of a number of critical raw materials. A second has been inability to obtain new machinery to replace worn-out wartime equipment and for expanding present production. Shortages in wood and steel products especially have caused a run on other substitute materials which might otherwise be in good supply. Add to this price uncertainties during 1946, which have resulted in much argument as to the possibility of making a reasonable profit on production, and in some cases have limited production and distribution; and, finally, the inability to attract labor—which, with lack of an adequate training program, has seriously hampered some industries during 1946. While the labor situation is improving, production facilities may again expand faster than manpower supply.

So many factors in the production picture are at present in flux that the rate of adjustment will be hard to foresee. Various government measures during 1946 in connection with the Veterans’ Emergency Housing Program were intended to increase productivity in building, and to the extent that at least some of these survive, they should be a positive influence in the 1947 picture.

One governmental measure has been the system of premium payments for expanded production of certain raw materials such as plywood peeler logs; another has been financing of new plants through RFC loans; another, the effort to channel...
Fig. 4: New Thermo-Slab unit (Truscon Laboratories) consists of insulating Vermiculite concrete monolithically combined with structural, lightweight Haydite concrete; available in flat and channel tile shapes. Fig. 5: Excelite (Research for Industry, Cleveland) combines ligno-cellulose fiber with a thermo-setting soy-bean binder, can be manufactured in varying densities (5 to 50 lb per cu ft) or with dense faces, less dense interior; not yet in production. Fig. 6: Production of Arketex glazed structural tile. Fig. 7: Experiment demonstrating effectiveness of Owens-Illinois light-directional glass block.

short raw materials into building for emergency housing. As most of the materials in short supply are shared with other sectors of industry, the amount available for the building industry will, in the absence of such allocation, depend largely on its ability to outbid other customers. The case of lightweight sheet steel, which finds increasing demand for a wide variety of structural panels, decking, and partitions, is an example. It is the worst sector of the overall bad steel shortage, with no prospect of relief during 1947. Furthermore, for this short supply the building industry must compete with the much better organized auto industry and other producers of consumer durable goods and containers. Established industries rather than some of the newer materials manufacturers are likely to get the lion’s share. The recent struggle between an auto manufacturer and an enameled-steel house producer over possession of the huge Dodge Chicago plant is symbolic of the entrance of building products manufacturers into the industrialized mass production field, and in a way also an example of two industries after the same short supply of raw material.

In this fluid situation it is difficult for the individual manufacturer to give a reliable picture of the outlook for his particular type of product. Furthermore, some manufacturers may be more favorably situated than others producing similar products. The most telling guide is likely to be the overall supply and demand picture of the raw materials used, as it was in 1946 and as it is expected to shape up in 1947; as a whole this should constitute a guide to availability, especially if the factor of machinery shortage is also taken into consideration where it can be ascertained. The following table is a summary along these lines, and is an interpretation of Department of Commerce, CPA, and NHA data. It does not, of course, take into consideration dislocations in production schedules that may have resulted from the coal strike. In it, plywood quantities are on a %" basis. Aluminum, glass, and fibers are discussed separately later. In general, machinery shortages have little effect on the materials tabulated, except gypsum liner and structural clay tile.

<table>
<thead>
<tr>
<th>Raw Material</th>
<th>Year</th>
<th>Supply</th>
<th>Need</th>
<th>% Shortage or Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total steel (tons)</td>
<td>1947</td>
<td>60,900</td>
<td>65,942</td>
<td>- 7.5%</td>
</tr>
<tr>
<td>Hot &amp; cold steel</td>
<td>1947</td>
<td>16,760</td>
<td>22,872</td>
<td>- 26%</td>
</tr>
<tr>
<td>sheet &amp; strip</td>
<td></td>
<td>696</td>
<td>820</td>
<td>- 15%</td>
</tr>
<tr>
<td>Constr. plywood</td>
<td>1946</td>
<td>826</td>
<td>1,232</td>
<td>- 33%</td>
</tr>
<tr>
<td>Constr. lumber</td>
<td>1946</td>
<td>13,650</td>
<td>18,059</td>
<td>- 24%</td>
</tr>
<tr>
<td></td>
<td>1947</td>
<td>13,740</td>
<td>18,860</td>
<td>- 27%</td>
</tr>
<tr>
<td>Gypsum board</td>
<td>1946</td>
<td>3,165</td>
<td>3,470</td>
<td>- 9%</td>
</tr>
<tr>
<td></td>
<td>1947</td>
<td>4,255</td>
<td>3,795</td>
<td>+10%</td>
</tr>
<tr>
<td>Gypsum liner</td>
<td>1946</td>
<td>240</td>
<td>288</td>
<td>- 17%</td>
</tr>
<tr>
<td></td>
<td>1947</td>
<td>340</td>
<td>320</td>
<td>+ 6%</td>
</tr>
<tr>
<td>Str. clay tile</td>
<td>1946</td>
<td>1,260</td>
<td>1,526</td>
<td>- 18%</td>
</tr>
<tr>
<td></td>
<td>1947</td>
<td>1,550</td>
<td>1,191</td>
<td>+23%</td>
</tr>
<tr>
<td>Cement</td>
<td>1946</td>
<td>180</td>
<td>162</td>
<td>- 1%</td>
</tr>
<tr>
<td></td>
<td>1947</td>
<td>190</td>
<td>176</td>
<td>+ 7%</td>
</tr>
<tr>
<td>Concrete block</td>
<td>1946</td>
<td>887</td>
<td>786</td>
<td>+11%</td>
</tr>
<tr>
<td></td>
<td>1947</td>
<td>1,300</td>
<td>907</td>
<td>+30%</td>
</tr>
<tr>
<td>Asbestos-cement</td>
<td>1946</td>
<td>3,645</td>
<td>4,251</td>
<td>- 14%</td>
</tr>
<tr>
<td></td>
<td>1947</td>
<td>4,800</td>
<td>4,591</td>
<td>+ 4%</td>
</tr>
</tbody>
</table>

The figures demonstrate that, of the raw materials under consideration here, the greatest shortage during 1947 is likely to be in plywood, which will apparently be even less available than in 1946. Construction lumber will also remain in short supply as will light gage sheet steels. Gypsum board which due to its great demand as a substitute material was in somewhat short supply during 1946 should become generally available early in 1947, especially where no liner is required. The sharpest change for the better is in clay products, which, after almost disappearing from sight for the early part of 1946, have staged a big comeback, partly due to a sharp increase in production and partly to lower anticipated requirements as the backlog is overcome.
PRODUCT AVAILABILITY 1947

Cement & Concrete Products (blocks, planks, decking, panels): Of the more traditional and heavier concrete and cinder concrete blocks there is an overabundant supply of very mixed quality, the result of wartime overexpansion. The lightweight cement and concrete units reduce cubic foot weight all the way from 150 down to 15 lbs (for the lightest foamed aggregates) or even 6 lbs (for cement-bound fibers). The most widely used prewar aggregates in the 50-70 lbs per cu ft category are the cellular mixes and heat-expanded clays and shale, which are used by a growing number of manufacturers for planks, channels, decking, and wall panels, averaging 3/16" in size. They are variously reinforced with steel and have a number of types of interlocking edgings. This type of material is generally in good supply.

A still lighter aggregate with very good insulating value is represented by the heat-expanded micas, such as Vermiculite and Perlite, and various expanded tufas, pumices, and lavas. A number of precast units using this type of aggregate are on the market, but the supply is somewhat more spotty. The Truscon Thermo-Slab is a new and available product which combines a strong layer of Haydite concrete with an insulating layer of Vermiculite concrete, thus reducing weight and increasing thermal insulation without loss of strength.

A relatively new and expanding type of material is the cement-bound fiber mix. The type long used in Europe under the trade name Heraclite has for some years been manufactured here by Celotex under the name Cemex. A number of other slabs and panels of cement-bound wood shavings and excelsior are now also available. They are a rough, inexpensive, strong roof decking and wall material, usually to be finished or used as a core. Often, however, some of the finer fiber types are left exposed on ceilings of large spaces, affording good acoustical properties and a pleasant texture.

Asbestos-cement products such as corrugated or flat sheeting, used both by themselves as curtain materials or in combination with a core of less density, are generally somewhat behind in supply due to the run on them during the past year as substitutes for other products. Demand has outstripped capacity for the finished product so that there may be delivery delays of 3 to 5 months.

The newest group in the cement field is represented by the chemically foamed cement mixes, which are discussed later.

Clay Products: Hollow structural tile, glazed and unglazed, for partitions and curtain walls are, after a bad year in 1946, again available in most standard types. Manufacturers report better quality and greater variety in finishes. An increasing number of manufacturers are introducing modular dimensional standards.

Glass Products: Clear and patterned sheet glasses for partitions, corrugated and wired glasses for partitions and industrial buildings, structural facing glasses for store fronts and commercial interiors, and glass blocks for walls are all in fairly good supply again, though not all the prewar patterns are equally available. One bottleneck is likely to be metal fasteners and framing as required frequently for structural glass facings, for example. However, extruded aluminum shapes which are in good supply can well be used for some of this framing.

Gypsum Products have been widely resorted to during the materials shortage as substitutes for other sheathing and decking products. However, they are expected to be in good supply during 1947. Partly under the pressure of pinch-hitting for new uses, gypsum products have undergone various improvements, in the direction of creating a stronger product useable in longer spans and under heavier loads; of making gypsum more integrally weather-resistant; and of speeding up site handling.
Fiber Products: Wartime shortages have greatly increased the use of all types of fiberboards, panels, planks, and sandwich materials. While the potential supply of raw material is almost unlimited, especially in the form of industrial and agricultural waste, there are considerable shortages in some of these products due to lack of fabricating machinery. With sawdust, excelsior, waste cotton fiber, paper, scrap wood, and cane waste, and a hundred other raw materials ready at hand, there is a great deal of experimenting and development work going on, much of it of a marginal nature with products of dubious quality. However, some excellent new materials are likely to appear during the next few years. While shortages may cause delivery lags in insulating and compressed hardboards, this should not be the case with the cement-bound excelsior type. In any case, most fiberboards should be in sufficient supply by the third or fourth quarter of 1947.

Lumber, Plywood Products: As the table indicates, these will continue to be very critical throughout 1947. Some of the fiber, gypsum, and cement products can be substituted for lumber and plywood. Where plywood has been used as a skin in panels and sandwiches, hardboards, plastics, and aluminum sheeting may have to be used in its stead.

Plastics have two applications in this section: as a transparent sheet partition material (Plexiglas, Lucite), and as adhesives for such products as plywood, other laminated products, and any number of sandwich and panelized elements. Demands for plastics in American industry have grown far in excess of present production facilities. Materials like Plexiglas are likely to suffer considerable delivery delays. The worst bottleneck, however, is in an acute shortage in phenolic formaldehyde adhesives, and to a lesser extent in urea adhesives. While plywood manufacturers will probably have what they need, adhesives for other types of lamination promise to be more difficult to obtain.

Steel Sheet Products: The acute shortage here, which may last for several years, will probably limit the use of some of the excellent interior shell systems. It is also likely to affect availability of such war-tried exterior curtain wall systems as Robertson's ingenious insulated Q-Panels, Wheeling Ribbed Decking, Truscon's Ferroboard, Mahon decks, and other similar products. The worst shortage is in the 16- to 28-gage regular sheets, which will hamper such versatile products as Armorply and Plymetl, which consist of plywood with a stainless steel surfacing.

Aluminum Products: Aluminum sheeting can be expected to have increasing application in building products. Due to the big wartime expansion of aluminum production and with the sharp cutback since the war in aircraft frame construction, there is an adequate supply of both lightweight sheeting and extrusions. In addition wartime scrap is being reprocessed, thus further enhancing the supply. The building field in the past has not made extensive use of aluminum, and the first tendency is to use it inefficiently, merely as a substitute, such as siding, shingles, and roofing made to look like traditional materials. No products comparable in use and quality with those in sheet steel appear to be in sight for 1947.

At the same time there is a great deal of development going on, utilizing the engineering approach used in aircraft frame production. This may have a profound effect on building and design methods, changing structural concepts and increasing efficiency of every part of the building operation. If 1946 plans of the NHA are allowed to materialize, some 100,000 aluminum houses will be built under the Veterans Emergency Housing Program in 1947.

RESEARCH TRENDS & FUTURE PRODUCTS

While relatively few new materials will be ready for 1947
production, research and development work promises many new products and advances in building technique during the coming years. In this, wartime experience in rationalizing large building operation is reflected, and especially the influence of aircraft frame production techniques, including the concepts of the fully engineered "envelope" and of minimum weight of structure with resultant economies in material, transportation, and handling. And, at a time of shortages, the aircraft frame industry has left us idle plants and materials, and skilled workers capable of high productivity.

We can expect an intensification of the trend toward the industrially produced structure with more and more of the building process based on plant assembly lines and a corresponding reduction of the relatively inefficient site construction. Especially house construction, in the past the least affected by an industrial approach, is likely to benefit. This has been hastened by the housing crisis.

Much development work is centered on the factory-produced building panel, insulated, weatherproofed, and finished, leaving assembly as the only site operation. Panels may be classified as: 1. hollow stressed skin; 2. solid-core sandwich; and 3. cellular-core sandwich. In addition to intensive research on effective ways of combining various insulating materials, shells, and finishes, and on making the panel applicable to the widest number of conditions, there is the major problem of the joint, which in many cases adversely affects the entire structure's weatherproofness, insulation, stability, or flexibility of use. The joint is also likely to be a source of heat transmission with resultant condensation difficulties, especially in metal-faced or metal-joined panels.

**Hollow Stressed Skin Panels:** The General Panel Corporation's unit is the most thoroughly studied of this kind. It was developed jointly by Konrad Wachsmann and Walter Gropius after years of intensive study, and is an example of thorough solution of the joint problem. (See Pencil Points, April 1943.)

Surfacing may be any dense material such as wood, plywood, plastic, steel, or aluminum; insulation is non-structural material to act in its specific role; at the same time, both of the component materials. The best known product on the market of this type is Cemesto board. The Philip Carey Company plans to go into production on a similar panel during 1947. Celotex is working on Celosteel, a sandwich panel with a Celotex core similar to Cemesto but using faces of steel-covered plywood. United Aircraft Corporation's Metalite, consisting of a core of end-grained balsa-wood to which aluminum sheet faces are laminated, is a wartime product that might well be adapted to building construction.

**Solid Core Sandwich:** Many companies are experimenting with or are studying sandwich-core materials for insulation. The most widely considered core materials are wood and agricultural waste fibers; they are in ample supply and can be combined in many ways. Plastic foams such as Styrofoam, CCA, and Textolite Foam (see also the section on Insulation) may eventually have a great future for this purpose. Lamination of high-density faces to low-density cores allows each material to act in its specific role; at the same time, both combine to create a rigid building panel with greater strength than either of the component materials. The best known product on the market of this type is Cemesto board. The Philip Carey Company plans to go into production on a similar panel during 1947. Celotex is working on Celosteel, a sandwich panel with a Celotex core similar to Cemesto but using faces of steel-covered plywood. United Aircraft Corporation's Metalite, consisting of a core of end-grained balsa-wood to which aluminum sheet faces are laminated, is a wartime product that might well be adapted to building construction.

**Honeycomb Core Sandwich:** No panel of this type has yet reached production as a building product. However, Consolidated Vultee Aircraft Corporation is reported to be ready to go into production shortly on a panel with sheet aluminum faces laminated to a honeycomb-like web of plastic-impregnated paper, intended for mass-produced prefabricated houses.
It is similar to a honeycomb panel developed by Lincoln Houses which was used in a test house erected by them. Martin Aircraft and U. S. Plywood are also developing a very lightweight, amazingly strong comb panel, whose cores can be of a number of corrugated materials—paper, cotton, Fiberglas, all plastic-impregnated.

Plastics are playing a tremendous role as adhesives for laminates, and are also receiving increasing attention as high-strength skins on less dense materials. On Kimpreg, for example, plastics are used as a plywood facing similar to the stainless steel skin on Armomry. Formica has a similar line. General Electric is also developing plastic-surfacing materials in sheet form.

Reduction of weight is one motive for research and development in the cement and concrete aggregates and mixes, previously discussed; another is the present shortage in other materials. Many of these new products will probably not survive when there is again a good all-round choice, unless they undergo a great deal of improvement. Of the fibrous types, the Goodall Electric Company is working on a promising product using agricultural waste fiber. American Type Founders have developed an ingenious 4x8x4" hollow light concrete panel with a metal frame and an ingenious system of jointing. There is also a cotton-plastic 2" hollow board in development, with 1/16" faces and a web between. Pony-board is another experimental fiberboard, which is adaptable to continuous sheet production. Creation of a variable density material in one process is another experimental item.

This review of developments indicates that, while for the time being traditional materials are likely to dominate, there are on the one hand many new products developed over the last few years but not generally in ample supply at present, and on the other a procession of newcomers that should enhance the materials picture in the next few years. The trend is toward dimensionally stable, factory-manufactured-and-assembled, larger, lightweight units, with standardized dimensions, dry construction, and increasing reduction of site work to simple assembly.
Q-Panel with insulation can be erected at the speed of 50 square feet every nine minutes in spite of labor shortage. Made by the H. H. Robertson Co. of Pittsburgh, Pa., Q-Panels are two feet wide, up to 25 feet long, and consist of a fluted section and a flat section separated by 1½ or more inches of insulation. Q-Panels are available in steel, Galbestos, stainless steel or aluminum.

Q-Panels weigh only seven pounds per square foot. They are delivered cut to fit and need only to be attached to the steel framework. Assembly crews can be small. Construction is so fast that wall areas equal to ½ acre have often been erected in one day.

Construction is dry, clean, noncombustible. The finished wall has a thermal insulating value equaling 12 inches of dry masonry.

Combinations of texture and color have been used by architects with striking success. Fluted and flat sections have been alternated in patterns of light and shade. Aside from the purely functional advantages, Q-Panels have proved a satisfying and stimulating medium for expression of both modern and classic lines.

For literature and details, please write:

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The raw materials picture for thermal insulation is not as serious as it is for structural materials. Some materials are less plentiful than could be desired, while on the other hand shortage of manufacturing facilities will probably continue to cause considerable delivery delays in various fiber insulating boards. This situation is not likely to improve much before the middle of the year, by which time shortages will in all probability have tapered off and facilities now in expansion will be in operation. Delivery of plant machinery is anywhere from 8 to 20 months behind schedule. A deepening of the steel crisis can thus indirectly retard the production of some insulating materials by further limiting production of essential machinery.

Cork: Supply is somewhat behind, especially on board, limiting available types and sizes. Supply should become adequate by the third quarter.

Cotton Fiber: While there appears to be no raw materials shortage except possibly as regards the wrapping, several manufacturers report being behind delivery schedules both in batts and blankets. Reported plant expansion should increase supply by the middle of the year. Improved fire resistance and moisture resistance are reported by some manufacturers. Typical cotton insulation blankets are manufactured by Reynolds Metals Co., also Lo-K, and Cellulite.

Vegetable Fibers: These come in loose form such as Insul-Wool, or in blankets as in Kimsul, or as insulating boards such as Celotex and Temlok, or as structural slabs with cement binders such as Porex. As mentioned above, fiber boards are in
short supply, as also the blanket type. The cement-bound slabs are available without undue delays but it should be remembered that their insulation value is lower. Some of the fiber blankets are very economical in shipping space as they can be compressed to occupy only \( \frac{1}{2} \) of their final installed space.

Mineral Wools (heat-expanded metallic oxides and silicas) and Foamglas: In loose, blanket, batt, and structural form, wools are made by a number of manufacturers and appear to be in generally adequate supply, though stocks are uneven. They represent an insulation group of generally high quality, and are suitable as fillers for factory-fabricated panels. There is a rapidly growing demand for Fiberglass. In a category by itself is Foamglas, a foamed rather than spun-fiber glass product of considerable structural strength if evenly loaded, completely moisture-impermeable, and with good insulating properties.

Cements, Concretes: Structural slabs and panels of increasing thermal insulation quality are available as discussed in the section on non-load-bearing structural elements. In general there is an adequate supply of these products. Most of them have a somewhat lower insulating value than the previous group, but unlike them can serve structural ends as well.

Reflective Insulation: The sheet aluminum type, as that of Reynolds, and the sheet steel type, Ferro-Therm, affording insulation alone, do not employ metal structurally. The Clemens panel, Armoply, and Plymetal achieve an equivalent reflective value while using the sheet metal for structural and surfacing purposes at the same time. More economical and somewhat less conductive are the aluminum foils on single or double building paper. The airspaces created in types like Infra-Insulation (accordion-pleated foil-surfaced paper) are an aid in cutting down conductivity. Sisalkraft impregnated and reinforced paper, with aluminum surfacing, is another economical type. This appears to be the most readily available type of insulation.

**RESEARCH TRENDS & FUTURE PRODUCTS**

The plastics field has developed some amazingly lightweight and exceptionally efficient insulators which were extensively used during the war and are in high demand for certain industrial insulations. To date they have not been used in the building field. The three best known are Dow’s Styrofoam, an expanded polystyrene, made in slabs; G-E’s Textolite Foam, a rigid phenolic plastic; and Du-Pont’s C.C.A., cellular cellulose acetate. It is probably only a matter of time until all these are adapted to building.

The most highly insulating plastic material is Santocel, produced as a fine powder by Dow Chemical Co. It has a k factor of .15, but no adaption suitable for building has been developed. The U. S. Rubber Company is working on an expanded rubber insulation, Flutofoam, which eventually might be used as a panel core. The Ruberoid Company has a calcium hydroxysilicate insulating board made from lime, sea sand, and asbestos fiber, Calsilite, which may be developed for building insulation. Kaylo, formerly called Microporite, is being manufactured on a small scale by Owens-Illinois Glass
Homasote, weatherproof structural insulating board, all usual forms. Flintkote Insulite boards: Bildrite sheathing, Graylite and Masonite insulation board, sheathing board, in Ruhatex, expanded synthetic rubber insulation.

Steel shortage is responsible, The same is true of the various or plywood is used with a mineral wool core, the steel or plywood having, when finished, a continuous surface; structure for effectiveness. The usual forms are acoustic materials. Many of the thermal insulating materials are Sound-absorptive materials depend principally on a cellular structure for effectiveness. The usual forms are acoustic plasters or other materials (such as Sprayoflake, designed to be sprayed on) having, when finished, a continuous surface; acoustic surfacings (tile, etc.) which may be cellular materials or more dense, but perforated, products; and combinations of materials. Many of the thermal insulating materials are suitable for sound insulation.

Fiber acoustic materials have the same supply difficulties as thermal ones. Where a dense surface material such as steel or plywood is used with a mineral wool core, the steel or plywood will create the bottleneck. Thus, Johns-Manville's excellent Sana-coustic, a mineral-wool-core tile with perforated sheet metal face, is almost unavailable due primarily to the steel sheet shortage. On the other hand, an aluminum facing should be more available. Another type is an expanded gypsum tile made by a number of manufacturers. This is in somewhat better supply.

Another difficulty is in the metal hanger systems. Here the steel shortage is responsible. The same is true of the various assembly devices (spring mountings, separators, etc.) used for sound-isolating construction. Less difficulty may be found with the diaphragm type of tile illustrated, although the high-grade parchment employed may become short in supply.

Company, who are planning a large plant for its production.

SOUND CONTROL

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LORENZO S. YOUNG, ARNOLD H. EHLERS, Architects

FRANKLIN Y. GATES, Acoustical Engineer

64 PROGRESSIVE ARCHITECTURE
SURFACING MATERIALS

By WALTER SANDERS and ARTHUR MALSIN, Architects

AVAILABILITY

Standard Products of most all surfacing material manufacturers will be available during 1947, but in limited quantities. To meet wartime production demands successfully, the industry aimed at few types of products, highly standardized. Peacetime requirements for broad ranges of diversified products made conversion a major, time consuming undertaking in many instances. Coupled with shortages of raw materials, distribution facilities, and labor, invaluable time was lost in meeting rising consumer demands. Withal, 1947 should see the return of practically all standard surfacing material products in quantities approaching demands with the exception of asbestos siding and roofing products, porcelain-enamelled steel, and some hardwood species of plywood panels. It is significant that each of these exceptions is attributed to a different reason, yet that each is an Achilles’ heel of production: raw material shortage, labor shortage, transportation shortage.

New Products. Concentration of manufacture of standard, prewar items has necessarily limited efforts to introduce new surfacing material products. Some now available are primarily products developed for wartime use which have peacetime application as well. Plastics and plastic-coated materials are the leaders in this field, together with products based primarily upon new design efforts rather than upon research and new fabrication techniques. Specific new types of surfacing materials which are available now or are planned for 1947 are:

- formed metal siding and roofing;
- plastic-faced plywood panels;
- plastic floor tiles;
- fabric-backed plastic wall coverings;
- fabric-backed decorative and novelty wood wall coverings;
- leather wall and floor sections;
- prefinished plywood panels;
- plywood planks or boards;
- sheathing with an asphalted-gypsum weatherproof core.

"PRODUCTION AND DEMAND" RELATIONSHIP

Based upon available information, with small exception production will not meet demand during 1947. Still listed as critically short by CPA are the following surfacing materials:

- asbestos-cement roofing, siding and flat sheets;
- asphalt and tarred roofing and siding products;
- brick and tile;
- building board;
- gypsum board and lath;
- hardwood flooring;
- Portland cement;
- natural and synthetic rubber products;
- sheet and strip steel;

Under consideration but not yet listed as critically short are:

- linoleum floor covering;
- paint (exterior);
- plaster.

Little doubt remains that increased production and consequent lessening of "protection" or duplicate orders will reduce the gap between production and demand. Considerable doubt remains that new sources of worldwide scarce basic materials may be found, or that acceptable substitutes may be developed, in time to maintain peak production. An authoritative survey
SURFACING MATERIALS

of the world market to determine the amounts of asbestos fibre available disclosed an alarming shortage (Asbestos Magazine, November 1946).

With few exceptions, replies from producers of surfacing materials queried as to estimated production-demand relationships during 1947 revealed that production would meet only 75%-80% of demands. Exceptions, as was to be expected, were confined to those materials requiring little or no processing and independent of other materials in their production, such as marble, granite, and stone. Products involving the use of even one critically short material represented the average relationship of production to demand. Those products involving two or more critically short materials, such as porcelain-enamed sheet steel, were consistently in the lower percentage relationship bracket.

PRODUCTS AVAILABLE FOR SPECIFICATION NOW

In view of the current lag between production and demand, and indications that increased production during 1947 will not close the gap entirely, materials specifiers will have to consult their crystal balls or plumb the depths of design ingenuity and resourcefulness if they dare to specify with any assurance of delivery. Predictions of what types of structures, in what regions, and in what quantities surfacing material products will be available for specification now, must be confined to generalities. Regional building practices, such as the extensive use of cement as a surfacing material in the south and southwestern areas of the United States, often accelerate an already deteriorating situation and may even be the prime cause of a complete construction stoppage in the area.

By way of contrast, some localities have an abundance of certain architectural surfacing materials in the form of surplus war production items. Some aircraft parts manufacturers, and speculators in other war produced materials, are soliciting building contractors and architects direct. From these sources, plywood and lightweight sheet metals and formed sections are available in quantity for immediate delivery.

RESEARCH

A manufacturers' survey indicates that research during 1947 will be aimed primarily at improvement of standard products rather than toward development of new products. A few manufacturers have comprehensive research programs already established and construction of large new research facilities well advanced. Results of these attempts, however, will probably not be felt during 1947. Significant research now under way points to improvements of basic materials and speed-up of production processes.

DESIGN POSSIBILITIES

To plan intelligently in the face of shortages in almost every surfacing material, the designer must keep abreast of which materials are most readily available. Among the many products listed in this section a selection for almost any purpose can certainly be made, and that selection can be on a more intelligent basis if the facts regarding shortages are kept in mind.

If the designer must seek an emergency avenue of escape—if no satisfactory standard material is available for immediate delivery—he has several choices. First, he can use other available products in new ways: for instance, common signs, or their equivalent, have been employed on commercial
structures to cover complete facades as well as just spandrel areas. This same sort of ingenuity has been employed in a number of instances on the interior, as in the use of "egg-crate" louvers to form an entire ceiling surface. A highly efficient distribution of light is provided, overhead utilities are concealed, and a pleasing finished surface is obtained.

Several extreme solutions present themselves to the designer who finds it difficult to obtain surfacing materials. He may explore sources outside the building field: aircraft parts manufacturers still have for public sale formed metal sections, flat sheets, etc. Or he may eliminate the need for surfacing materials. On the exterior this can be done, for instance, by merely protecting the structural members and filling the spaces between with glass held in simple frames. Self-finishing materials, or materials that do not absolutely require additional finish, can be left unsurfaced, provided the design limitations which this method involves are fully understood and properly expressed.

Perhaps the most important conclusion to be drawn from the survey of availability of materials is that design in 1947 should be sufficiently flexible so that a wide range of alternating surfacings might be used when construction goes ahead. As an example, in the proposed alteration of a block of store fronts, Sanders and Malsin have established a modular grid, using a light structural-angle network into which can be fitted a variety of materials selected on the basis of cost, appearance, and function, as well as availability. We are accustomed to designing with the materials that are available; perhaps in 1947 the correct approach would be to design flexibly, so that materials can be utilized as they become available.

WALLS AND CEILINGS
Asbestos-Cement Products
Asbestos-Cement products: Century long structural sheets, Linbestos and Sheetroflexos wallboards; difficult to make a statement but siding, shingles, etc., should become more available. Keasbey & Mattison Co., Ambler, Pa.
Trusite, corrugated and flat, and Asbestos Flexboard. Huge expansion program, including largest building material research laboratory. Johns-Manville Corp., New York 16, N. Y.
Composition Boards
Insulite, wood fiber products: Lok-Joint Graylite wallboard, Smoothcrete wallboard, Ins-Lite and Graylite building boards; Smoothcrete, Satin-cote, and Graylite interior boards; demand exceeds supply. Insulite, Minneapolis 2, Minn.
Homasote, weatherproof structural insulating board in sizes up to 8 by 14 feet. New machinery will decrease costs and increase production. Will supply all demands second half of year. The Homasote Co., Trenton, N. J.
Masonite, "presswood" materials. Masonite Corp., Chicago 2, Ill.
Nu-Wood interior finish boards; also plaster bases, sheathing, etc. Wood Conversion Co., St. Paul 1, Minn.
Upson Strong-Bilt Panels; Dubl-Thik Fibre-Tile; Kuver-Krack Panels (for resurfacing); Upson Co., Lockport, N. Y.
Glass, Glazing
Glass products also from: American Window

Fig. 2: Scheme for store modernization, showing existing condition and proposed change, using signs to cover the entire facade. Fig. 3: Surfacing materials virtually eliminated by simply fireproofing the framing members and filling the spaces between with glass.

Pittsburgh Plate Glass, Structural Mirrors; Pittsburgh-Corning Glass Block, Foamglas Insulation; Pennvernion Window Glass; Courana Structural Glass; Hercutile Tempered Glass; Solex Heat-Absorbing Glass; also Twindow (prefab multi-layer insulating glazing), all available January 1947. Prefab Carrara glass bath unit and prefab shower stalls will be available later during year. Cannot meet all demands fully due to raw materials' shortages. Pittsburgh Plate Glass Co., Pittsburgh 22, Pa.

Linoleum, Leather, Felt Base

Congowall, enamel-surfaced, felt-backed wall covering. Tile-like surface, perfect adhesion. 54" wide. Congoleum-Nairn, Inc., Kearny, N. J.

Leatherwall (continuous rolls for walls) and Leatherfloor (squares or triangles for floors) are new products that are available. U. S. Plywood Corp., New York 19, N. Y.


Linoleum-Blahon, linoleum wall covering. Slone-Blahon Corp., New York 16, N. Y.


Masonry Surfacing

American terra cotta. For decorative and plain wall surfaces; made to order. Raw materials in good supply; skilled labor scarce. Will be "in favorable position" to supply demand early in 1947. American Terra Cotta Corp., Chicago, Ill.

Arksetex Ceramic Glazed Structural Tile, for exterior and interior use. Horizontal core, buff color standard; special sizes, shapes, coring, and colors available on order. Arksetex Ceramic Corp., Brazil, Ind.

Dextolite, polished granite, June delivery. Mo-Sai architectural concrete slabs, February delivery. Believe will meet 85% of demands. The Dextone Co., New Haven, Conn.


Granux, manufactured, highly polished granite facing; three standard size units and specials. Able to meet "reasonable" delivery requirements. Granux Corp., Chicago 19, Ill.

Alberene: supplies limited. Alberene Stone Corp., Virginia, New York 16, N. Y.

Metal Surfacing


Glasiron Fronts, architectural porcelain enamel for building facings. Custom built; large units discouraged. Any color; fastproof. Can be insulation-backed. Demand may be met by mid-1947; have increased facilities. Wolverine Porcelain Enameling Co., Detroit, Mich.

Lifetime (aluminum) Cladboard and Shingles, expected to be available in quantity; total production this year. Aluminum-clad material by this manufacturer expected to be at rate of 10 billion sq ft per year by mid-1947. This includes roofing and other surfacings. Reynolds Metal Co., Louisville 1, Ky.


Mobilwall, steel partitions, also new Mobilwall wall unit and lining, special hospital finishes; supply depends on availability of steel. Sneed & Co., Orange, Va.

Porceliron porcelain enamel products have been too busy manufacturing cabinets, furniture, etc. to return to architectural products. Ingram-Richardson Mfg. Co., Beaver Falls, Pa.

Seaparcel, porcelain enameled iron architectural parts. Shortage of steel sheets may limit production; if this situation improves shipments will increase greatly. Seaparcel Porcelain Metal, Inc., Long Island City, N. Y.

Vikon Tile, enameled steel tiles, 41/4" available. Bufed stainless steel tiles may be available. Steel and paint supplies may retard production for 6 to 8 months. Vikon Tile Corp., Washington, N. J.


Photomurals

Photomurals, applied like wallpaper or mounted on Masonite or Homasote. Will use original photos or furnish from stock. Immediately available. Kraftman and Fabry Co., Chicago 3, Ill.

Plaster

Gold Bond: gypsum plaster and plaster products, various trade names; shortage of gypsum rock alleviated; supplies should be much more adequate in 1947. The Gold Bond Co., Louisville 1, Ky.

Klines, architectural plaster. Tiger Miracle and Tiger Hydrated line. The Kelley Island Lime and Transport Co., Cleveland 14, Ohio.

U.S.G. gypsum plasters; Keene's cement; gypsum-board and fiber-board lathes; finishes; bases; partitions; metal lath and accessories; asphalt shingles; wallboards. U.S.G. Sheathing, new board with asphalted gypsum core, moisture-resistant. All available January 1947 although probably not in sufficient quantities; supply should approximate demand by mid-year. United States Gypsum Co., Chicago 6, Ill.

SURFACING MATERIALS

3. How to form reentrant angles, intersections at varying slopes.
Plastic and Plastic-Finish Panels


Fleexyde, vinyl sheeting in continuous rolls for walls; surface cannot be scratched, marred, or stained. U. S. Plywood Corp., New York 19, N. Y.


Marlite, plastic finished wall panels; new products soon. Chas. H. Dodge Co., Inc., New York 20, N. Y.

Flexhyde, vinyl sheeting in continuous rolls for walls; surface cannot be scratched, marred, or stained. U. S. Plywood Corp., New York 19, N. Y.

Wallpaper


Wood Products

Arkansas Soft Pine (shortleaf pine, Pinus echinata) for siding, sheathing, trim, etc. Same difficulties as other wood products. Arkansas Soft Pine Bureau, Little Rock, Ark.

Weldwood, Weldtex, Flexwood, and Flexglass, standard panels available. New products: Checkwood (1" plywood squares on cloth backing); Flexwood (steel or aluminum faced with veneer, can be post-formed). Research in products and adhesives. Shortages in cloth, steel, veneer, chemicals, will make it unlikely to meet demand before second half of year. U. S. Plywood Corp., New York 19, N. Y.

Western Pine paneling. See under "Trim." Western Pine Assoc., Portland, Ore.

FLOORING

Resilient Flooring

Armstrong, linoleum (five varieties, three gauges), asphalt tile (three grades, plus static-conductive), rubber tile, and cork tile. New product: Corlon plastic flooring. Linoleum output will depend on supply of linseed oil and drying oils. Asphalt tile production will increase in 1947 and "should be in good supply." Armstrong Cork Co., Lancaster, Pa.


Grip tread, rubber flooring. Demand will probably exceed supply through 1947. The Goodyear Tire and Rubber Co., Akron, Ohio.

Kemlite, asphalt tile, now grease resistant in all colors (special tile for commercial kitchens) and available in 1/16" thickness for installation on all structurally strong floors. Xencork cork tile flooring, new item; packed in small quantities for residential use. Light pigments for asphalt tile in short supply. Delivery will probably be slow on these items through 1947. David E. Kennedy, Inc., Brooklyn, N. Y.

Koroseal Floors, available now; all the characteristics of the plastic Koroseal. Also standard products: felt base floor coverings, linoleum. Slocum-Bibbins Corp., New York 10, N. Y.

Nairn linoleum (household weight, inlaid, dualex felt backing); available in limited quantities. Nairn Marine Deck Covering; unusual weaving and resilience qualities; 1/8" gage, 9" tile form. Nairn Static-Conductive linoleum for grounding of static electricity. New product: Nairn Asphalt Tile. These products now available, with demand heavy; full line will become available during 1947. Material specified during 1947 will be available when time comes for floor installation. Congoleum-Nairn, Inc., Kearny, N. J.

Steel

Klepms, heavy duty, flexible, riveted and welded steel grating, as well as aluminum grating, nats, flooring and decking available. Hextell (heavv duty) and Floorsteel (flexible grids and mats) delivered on short notice. Floorsteel can be filled to provide flush trucking floor. Expect to improve all deliveries and to be able to furnish grating in 30 days. William J. Klemp Co., Chicago, Ill.


Tile, Terrazzo, Etc.


Ceramic floor and wall tile, glazed and unglazed. Plants will be operating at 100% capacity by March. American-Franklin-Olean Tile Co., Lockland, Pa.

Concrete materials; see "Load-bearing Structural Materials."


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Fig. 6: Another example of the use of signs to cover a façade in alteration work. Fig. 7: Signs used to cover spandrels only (shoe store, New York; Ketchum, Gino and Sharp, Architects). Fig. 8: Glazed structural tile, a self-finishing material, is particularly appropriate in any interior where sanitation is important. In no sense a substitute material, in relatively good supply, it has also been successfully used for exterior surfacing.
Sparamics (Ceramic tile mounted on flexible plastic sheets for direct application to surface coated with synthetic adhesive), Sparta Ceramic Co., East Sparta, Ohio.


Terrazzo for floor, wall, and stair finishes. Production of materials has increased; feel they can satisfy demands, depending on labor availability. National Terrazzo & Mosaic Assoc., Washington 5, D. C.


Nofma oak flooring, various figures, widths; Parkay ready-finished hardwood flooring; will be able to meet present demand; output will be increased. The Kawneer Co., Niles, Mich.

Marsh Mouldings, extruded aluminum alloy, plastic, prefinished, Marsh Products, Inc., Dover, Ohio.

Western Pine moldings and millwork. New synthetic resin sealer, new method of seasoning, new method of compressing inch boards. Will not meet demand, but shortage should be less than in 1946. Western Pine Assoc., Portland, Ore.

Wood Gutters, various treatments, including "Luminizing" (coating with aluminum primer) to seal and provide a hard paintable finish. Long Fir gutter Co., Codia, Ohio.

ROOFING, SIDING


Aluminum Cliplap, new product, immediately available in Canada, Cresswell Roll Forming Co., Ltd., Montreal 28, Quebec.


Everwear, "English Slate" type aluminum shingles; thick shadow line. Demand will exceed supply until late 1947. Also available: steel roofing, asphalt roofing, Southern States Iron Roofing Co., Savannah, Ga.

Fiberglas Roofing Mat, new, non-combustible glass fiber felt for built-up roofing. Every effort being made to achieve production that will meet demands; new plant in production November 1946. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

Glasiron Roofing Tile, porcelain enamel tile in colors integrally finished. Plant expanded; hope to meet demand by midyear. Wolverine porcelain Enameling Co., Detroit, Mich.


Richlume, waterproof, insulating roof coating. Available throughout 1947; expect to meet demand. The Richlume Co., Chicago, Ill.

Ruberoid, roll roofing, built-up roof materials and roof coatings. Also thick butt asphalt shingles, asbestos cement shingles, asbestos-cement siding. Supply will be short of demand on asbestos-cement products first half year; supply will meet demand on asphalt shingles and roofings early in year. The Ruberoid Co., New York 18, N. Y.

U.S.G. asphalt shingles, siding, roll roofing; also fireproof gypsum roof decking, available though probably not in sufficient quantity January 1947; should meet demands by mid-year. United States Gypsum Co., Chicago 6, Ill.

Zephyr, stained wood shingles and hand split shakes. Creo-Dipt Co., North Tonawanda, N. Y.

SURFACING MATERIALS

Fig. 9: Egg-crate louvers required by fluorescent lighting fixtures are extended to cover the entire ceiling, eliminating conventional surfacing (shoe store, New York; Ketchum, Gina and Sharp, Architects). Fig. 10: Ceiling surfaced with Nu-Wood tileboard, a type of material whose availability will probably improve during 1947 (George Fred Keck, Architect).
WALL TREATMENT  OFFICE FOR H. B. HUMPHREY CO., New York, N. Y.
KETCHUM, GINA and SHARP, Architects
THE SIGN is part of BUILDING DESIGN

DESIGN:
Barrows TruLite Letters (design unlimited) give the architect complete freedom in designing just the sign that best harmonizes with the overall building design. TruLite Letters are custom-built in any creative design, size, shape or color you specify. They can be as individual and distinctive as imagination itself.

FLEXIBILITY:
TruLite Letters are three dimensional. They are available in all porcelain enamel or a combination of stainless steel and porcelain enamel. TruLite Letters can be non-illuminated or illuminated with neon or bulbs. Unusual silhouette effects are created when lighting is arranged on back of letters.

PERMANENCE:
TruLite Letters have a base of heavy enameling iron. Side flanges and faces are electrically welded together by a patented process. TruLite Letters are covered with genuine weather-resistant porcelain enamel in colors you select. Original, colorful beauty is the same years later as when installed.

OTHER PRODUCTS:
In addition to TruLite Letters, Barrows fabricates architectural porcelain enamel panels and porcelain enamel parts for signs.

Better Signs for Better Buildings

BARROWS PORCELAIN ENAMEL CO.
LANGDON ROAD & PENN. R. R., CINCINNATI 12, OHIO
"First with the Finest"

ARKETEX FOR Ideal Construction

MADE TO ORDER
The complete line of Arketex Ceramic Glazed Structural Tile is as versatile as it is practical for ideal construction . . . it meets the most exacting demands of architects, engineers, and designers. Manufactured to meet rigid specifications for both interior and exterior walls, Arketex is a permanent wall and finish all in one.

DURABLE
The gleaming, bright ceramic glazed surface of Arketex requires no painting or refinishing after installation. It is impervious to oils, grease, moisture, acids, or alkalis. Arketex will not crack, craze, scar, or mar.

VARIETY
Arketex Ceramic Glazed Structural Tile is available in a wide variety of distinctive, permanent colors and a complete assortment of shapes, fittings, and textures. Always specify Arketex—first with the finest!

BETTER WALLS

ARKETEX CERAMIC CORPORATION • BRAZIL, INDIANA

PRESERVATIVES


Armortop hardener and dustproofer for concrete surfaces is available. Anti-Hydro Waterproofing Corp., New York 7, N. Y.

Art-Ruc Aggregate, "built-in" color and hardener for concrete, non-rusting, for inside and outside work. Expect to be able to supply demand throughout the year. Wood floor pre-
the Kawneer K-47 line

A new medium of store front design

Both applied and integral waterproofers and dampproofers are increasing in number, and research is producing more accurate knowledge of the actual performance of these materials. Instead of marketing one product which is called “waterproof” and is presumably recommended for all uses, many manufacturers today are very careful to describe specific uses for specific materials, and to furnish test results as well as application data.

While many promises have been made about wood treatment to prevent deterioration from rot or vermin, little is yet available in this line that was not on the market before the war.

In the chemistry of paints, progress to date and continuing research are both concerned with covering power, drying rapidity, color purity and permanence, washability, and general durability. The excellent performance of most exterior lead-and-oil house paints seems to make the likelihood of any large scale replacement by synthetic paints very small. Most manufacturers agree that standard house paints are here to stay. Interior oil-base flat wall paints (titanox-lithopone group) appear in a weakened position because of the inroads made by the resin-emulsion types. This challenge will undoubtedly spur improvements in the sealing and hiding power of these oil-base paints.

An innovation in resin-emulsion paints lies in the development of glossy enamel-like types possessing greater washability characteristics in addition to their economical “one-coat” feature.

In the cement-water paint group, there are more than forty-five competitive products available. Should some architect find

Figs. 1, 2, 3: “Densifiers” have been developed for admixture with concrete to increase plasticity, workability, uniformity, surface hardness, impermeability, etc., at the same time reducing shrinkage, water required, etc. Examples illustrate effects of using Plastiment: top, strength of bond between pours (Plastiment, left, broke in new concrete, other mix at joint between pours); next, segregation and porosity (Plastiment on left); bottom, surface hardness (Plastiment on left). Fig. 4: Caulking must remain elastic; photo shows penknife inserted in Tremco caulking after several years in service.
this situation insufficienlsly assuring, he can specify his own
mix: 70 pounds of white waterproofed Portland cement (or
white Portland cement with one pound of calcium stearate
added) and 30 pounds of hydrated lime. Clarification of the
legal definition of “waterproofing” by the Department of
Commerce should end the controversy in this field as to
whether any cement-water paint is actually a waterproofer.
(Ed. Note: But it probably won’t!) Architects should be
constantly aware of paint color and lighting relationships;
for example, the fact that the various “white light” fluores-
cent shades affect paint color in so many ways.

All in all the alert designer in 1947 will look for more than
mere protection in his finishing materials. One of the most
sure indications that we are approaching the design of in-
tegrated structures is the increasing interest of many paint
manufacturers in correlation of their products with natural
illumination and the design and placing of windows, with
artificial illumination and the reflection or absorption of
light, and with the psychological and therapeutic effects of
color on the human mind and the human body. The combi-
nation of protection against deterioration, pleasant appearance,
useful surface, and relation to the other architectural factors
in a structure is surely the progressive approach to this de-
sign problem.

Another trend for the designer to watch is the tendency to
develop details which do not put an undue strain on any pro-
tective material. The increasing use of cavity walls, for
example, solves the question of water penetration in a basic
manner, and does not require any material to act as an in-
fallible dampproofing agent. Another instance is the use of a
galvanized shelf angle at lintels, to eliminate almost entirely
the usual asphalt saturated cotton membrane (which is
critical at the moment) or metallic flashing, traditionally
employed. Perhaps soon there may evolve economical non-
ferrous angles which would obviate the necessity for gal-
vanizing and mastic preservatives.

Finishers and protectors should be no problem to the alert
architect.

der, or liquid form is available. A. C. Horn
Co., Long Island City, N. Y.

Hydrocrete Paste for integral waterproofing is
available. L. Sonneborn Sons, Inc., New York
16, N. Y.

Medusa waterproofing powder and waterproof-
ing paste: both are available. Medusa Port-
land Cement Co., Cleveland 15, Ohio.

Plasticmote concrete “densifier” and Concrete
Sika, liquid integral waterproofing, are both available.
Kanox, iron compound for water-
proofing and hardening, will probably be
available in the second half of 1947. Sika
Chemical Corp., Passaic, N. J.

Silicon waterproofing paste; expect to be able
to supply all demands. Truscon Laboratories,
Inc., Detroit 12, Mich.

DAMPPROOFING

Ariz Clear, transparent dampproofing for brick,
stone, stucco, cement. Anti-Hydro Waterproof-
ing Corp., New York 7, N. Y.

Aquella, cement water paint for masonry sur-
faces. Primo Products, Inc., New York 16,
N. Y.

Cabet’s clear brick waterproofing, and Cabet’s
clear cement waterproofing. Supplies limited.

Horn dampproofing products for use above
grade, below grade, for decorative treatment,
are all available. Hornrock cement water paint for
masonry surfaces is available. Dehydratoline
No. 2A, transparent dampproofing with alumi-
num-modified base by A. C. Horn Co., Long
Island City, N. Y.

Hydronon below grade dampproofing. Barrett
Div., Allied Chemical & Dye Corp., New York
6, N. Y.

Hydroza, colorless mineral compound for mason-
ry or wood; applied in two coats. National
Hydroza Co., Cleveland, Ohio.

Igel dampproofing paint for masonry, walls below
grade, and Igel joint sealer, and Conservado P

cement water paint all are available. Sika
Chemical Corp., Passaic, N. J.

Kuhl’s Elastic transparent non-staining liquid for
masonry and stucco surfaces. H. B. Fred Kuhls,
Brooklyn 20, N. Y.

Mastertex, cement-water paint and metallic water-
proofing with ground iron base. The Master
Builders Co., Cleveland, Ohio.

Medusa Portland cement paint. Medusa Portland
Cement Co., Cleveland 15, Ohio.

Minwax Transparent, colored, clear, and Asphal-
t (under plaster on foundations, etc.) should be
available through 1947. Minwax Co., New
York 18, N. Y.

Neendon, synthetic rubber coating for acid tanks
and swimming pools, now available. The Atlas
Mineral Products Co. of Pa., Mertztown, Pa.

Reardon Bondex waterproof cement paint. The
Reardon Co., St. Louis 6, Mo.

Tite-Wall cement-water paint. Truscon Labora-
tories, Inc., Detroit 12, Mich.

Therosal, cementitious masonry coating, ap-
plicated with brush or trowel. Recommend finish-
ing with Quickseal, cementitious powdered
material applied with brush or spray. Delivery in
fourteen days. Standard Dry Wall Products,

Tremco 145 Clear Dampproofing, transparent
dampproofing. The Tremco Mfg. Co., Cleveland,
Ohio.

FLASHINGS

Chase lead-coated copper, sheet copper flashings,
and copper leaders and gutters. Chase Brass &
Copper Co., Inc., Waterbury 91, Conn.

Koppers tapped fabric and plastic cement for
spandrel flashings should be available by the
middle of the year. Koppers Co., Inc., Pitts-
burg 22, Pa.

Minwax Full-seal fabric is available, and Minwax
Superseal fabric will meet demands shortly.
Minwax Co., Inc., New York 18, N. Y.

Rubberseal copper flashings are available in
various weights. Mitchell-Rand Insulation Co.,
Inc., New York 7, N. Y.

Sheet copper flashings. American Brass Co.,
Waterbury 88, Conn.

Stoalkrust, copper-armed, is available. The
Stoalkrust Co., Chicago 6, Ill.

Wesco fabric covered copper and Coppersal,
asphalt-covered copper, are both available for
flashings. Wasco Flashing Co., Cambridge 42,
Mass.

Whitehead Menoi metal flashings, Whitehead
Metal Products, Inc., New York 14, N. Y.

CAULKING AND JOINT FILLING MATERIALS

Benjamin Moore caulking compound: black, gray,
white, and “natural.” Benjamin Moore & Co.,
New York, N. Y.

Flintkote caulking compound. The Flintkote Co.,
New York, N. Y.

Kuhl’s elastic caulking composition and elastic
pointing-up composition; available in colors.
H. B. Kuhls, Brooklyn 20, N. Y.

Minwax caulking compound in cream, gray, and
hull, and asphalt caulking compound (black
only). Also Weathertap framed lead joint
cover. Should meet demand soon. Minwax Co.,
Inc., New York 18, N. Y.

Pecora caulking and glazing compound; avail-
able, delivery depends on raw materials. Pe-

Reardon’s joint cement, for dry wall construction.
Good delivery. The Reardon Co., St. Louis 6,
Mo.

Sika caulking compound, gray and colors, syn-
thetic resin base. Will be available by mid-
year. Sika Chemical Corp., Passaic, N. J.

Tremco caulking and pointing compound; now
available, Tremco Mfg. Co., Cleveland, Ohio.

Vulcanex caulking material: contains no volatiles.
A. C. Horn Co., Long Island City, N. Y.
COMBINED FLASHING AND STRUCTURAL SUPPORT

FOR CAVITY WALL CONSTRUCTION

ALFRED HOPKINS & ASSOC. Architects

For use in multistory cavity wall construction, Alfred Hopkins & Associates have devised the simple dual-purpose detail shown. The spandrel face is kept flush with the cavity face of the inner wythe; the angle bolted to the spandrel face must be of a corrosion-resistant material and requires conventional flashing only at joints between lengths of angle. If desired, angles may be brush-coated with mastic, but this is not essential. Use of heavily fibrated mastic as shown beneath the angle prevents moisture infiltration in case of shrinkage, settlement, or possible capillary action between adjoining surfaces of metal angle and brick masonry. Mastic used here should be selected with care to insure permanence and strength of bond, and is applied from inside before the top few courses of the inner wythe are laid.
ADVERTISER'S DATA

THIS LIGHT-REFLECTIVE PAINT IS AN IMPORTANT AID TO

startling educational growth IN TEXAS SCHOOLS

OTHER ADVANTAGES OF LUMINALL PAINT

The paint used in the Texas schools described here was Luminall (casein binder) taken from dealers' regular stocks. Its high light-reflective properties were sought.

Other advantages of Luminall are its purity of color; its special velvety texture produced by an exclusive patented method of manufacture.

Luminall has long been a favorite with architects and builders as it can be applied over damp plaster without damage, thus hastening the delivery of a fully decorated structure.

Here is news of high importance to school architects! Many schools are gaining startling educational growth . . . important decreases in students' visual difficulty . . . and reduction in classroom energy problems by painting the interiors of schoolrooms with Luminall paint (light-reflecting) and making changes in fenestration and seating arrangement according to a plan known as the "Texas Method."

These revolutionary achievements developed and proved in the Mexia, Texas Public Schools under the direction of Dr. Darell B. Harmon, Texas State Department of Health, are reported in Illuminating Engineer, Architectural Record, and elsewhere. The modernization necessary to achieve these results is relatively simple.

Send today for "Light on Growing Children" by Dr. Harmon. Learn how easily your school may obtain these benefits for its children. NATIONAL CHEMICAL & MFG. CO., 3611 South May Street, Dept. G, Chicago 9, Illinois

LUMINALL the light-reflective paint for interiors
DOORS AND WINDOWS

By A. Gordon Lorimer, A.I.A., Architect and Consultant

WINDOWS

Practically all window types available prewar are again in production with availability slowly improving. Mid-1947 should see the turning point to shorter delivery schedules, particularly in factories which have been retooling toward more complete mass production.

During the war practically all window manufacturers converted to munitions production of some form. In their efforts to achieve peak war production many new tricks and methods were learned which should pay dividends in postwar output. As in all industries, however, retooling is not easy and will go on for some time. Significant of the trend towards concentration on mass production of a selected line of standardized units is the fact that General Bronze Corporation is now constructing a large plant for the sole production of an economical line of standardized double hung aluminum windows for the domestic market.

The most widespread development of the past few years has been the broad adoption of modular sizes by the window industry in cooperation with Committee A62 of the American Standards Association. Previously window dimensions were arrived at by placing the required metal or wood sections around standard glass sizes in two-inch multiples. While at first glance this might appear conducive to building standardization, it actually produced the opposite effect as each new bar and muntin arrangement produced a different overall dimensional condition. As a result there was no interchangeability of type in a given masonry opening. Today most solid section types are interchangeable in any given modular masonry opening.

In achieving this coordination the Metal Window Institute studied some 30,000 types and sizes previously manufactured and were able to reduce these to about 300 or about 1%, yet still give good selection and flexibility. The manufacturing economies of this reduction are easily understood and today all non-modular sizes are at premium rates.

Job installation procedures have been greatly improved as a result of this standardization. Previously it was necessary to build in the solid-section type of window as the masonry progressed. Modular types can be installed or replaced at any time.

Similarly in double hung wood windows the National Door
Fig. 3: Bishop Venta-glass window has glass louvers (lower half translucent, upper half transparent) operated by moving the inner frame (Nu-Air-Wa Co., Los Angeles). Fig. 4: Truscon commercial projected steel window (Truscon Steel). Fig. 5: Twindow multi-pane prefab glazing, has channel outside glass as well as separators between (Pittsburgh Plate Glass Co.)

Manufacturers Association have adopted a single national standard for 1¾" windows in 4" increments, coordinated for installation in modular masonry and wood frame construction. This replaces a chaotic condition where throughout the country there were at least ten different "markets," each of which arrived at overall dimensions by different procedures producing almost an infinity of slight dimensional variations.

This chaos completely precluded the development of standard window auxiliaries such as storm sash, screens, shades, Venetian blinds, and curtain tracks for national distribution. A fertile field for such development now exists both for metal and wood windows. Much of this development, however, is industry-wide in nature, involving the coordination of many materials. Efforts are now being made at a national level to provide the mechanism for this broad type of building research.

However, there is much that the individual producers can do in studying the relationship of their auxiliaries to the products already standardized. Illustrated is a demonstration of one auxiliary—a metal jamb—studied in relation to other...
Fig. 6: Aluminum garage door, extremely light weight, easily operated (Berry Door Co., Wayne, Mich.). Figs. 7, 8: Trend in locksets is toward compactness, simplicity of installation. Fig. 7 shows Schlage lock, installed in two bored holes; Fig. 8, Carbin lock requires saw-cut slot. Fig. 9: Yale & Towne Springlatch, designed for maximum convenience of operation (for instance, by a housewife with armful of bundles); turning key holds bolt back, closing door automatically closes the bolt.

DOORS AND WINDOWS

products and to the variety of building conditions met. This minor detail is suggestive only and would require study and checking with the various industries before final adoption. The prime function of the suggested jamb is to provide an easily maintained surface adjacent to the window, which will eliminate the “blossoming” and general deterioration so common when plaster is in actual contact with exterior sash and subject to condensation. The metal jamb also produces much more accurate dimensional conditions for auxiliary than is likely if plaster is used.

DESIGN TRENDS

In architectural work of recent years there has been a growing tendency to give up the somewhat cave-like protection of the all-masonry house and to achieve a closer welding of indoors and outdoors. This has necessitated larger areas of glass than could properly or economically be provided by traditional types of operating windows with their attendant requirements of hardware, screens, etc. The introduction of multiple sandwiches of glass and dehydrated air space such as “Thermopane” and “Twindow” have further spurred this tendency.

It is significant from the point of public acceptance that of recent months the women’s “home” magazines have been showing drawings and models of contemporary houses rather than the Cape Cod cottages which filled their pages for more
DOORS
Clark Steel Reinforced Overhead Doors. Standard line available and new product: Clark All-Lite Overhead Door with large glass area. Clark Door Co., Inc., Newark, N. J.

Crawford sectional overhead residential and industrial doors and Craw-Fir one-piece residential doors. Will have available aluminum sectional doors for residential and industrial use about January 1. Expect to meet demand by midsummer. Crawford Door Co., Detroit 14, Mich.

Dahlsrom Hollow Metal Elevator Entrances. Dahlsrom Metallic Door Co., Jamestown, N. Y.

Entrance doors (Krawnee, for stores) new in 1946, free-standing and full-vision types, with trim. Also awnings for stores. Production facilities adequate; as raw materials become available, output is being increased. The Krawnee Co., Niles, Mich.

Fenestra Industrial Swing Doors, Slide Doors, Turnover and Vertical Lift Doors; available but demand will not be satisfied until some months into 1947. New methods for standardizing manufacturing being researched. Detroit Steel Products Co., Detroit 12, Mich.

Hardwood Doors. Will be available later in the year. Hardwood Products Corp., Neenah, Wis.


Mengel Flush Wood Doors. In short supply now but will be freer during 1947. U. S. Plywood Corp., New York, N. Y.

Mesker Steel Industrial Doors. Mesker Bros., St. Louis, Mo.


Snead hollow metal doors, including flush interior doors, standard sizes. Can produce 300 doors a day; supply depends on steel. Snead and Co., Orange, Va.


WINDOWS
Alwine Double Hung Aluminum Windows, 12 standard sizes available, weather-striped and with frames and sash combined; screens easily attached, 1947 production will triple 1946. Aluminum Window Corp., Long Island City, N. Y.

Aristocraft; steel basement windows, weather-proved, full ventilation, interchangeability. Immediate delivery can be made in reasonable quantities. H & H Machine & Tool Co., Cleveland, Ohio.


Gate City Wood Awnings-type Windows and Jalousies (wood ventilating units) are standard products available. New product: an aluminum awning type window, hollow section, full weather stripping, full ventilation. Expect to satisfy 90% of anticipated 1947 demand. Gate City Sash & Door Co., Fort Lou- derdale, Fla.

Hope’s standard line is available with demand exceeding supply; Holford Residence Casements, Catewold Intermediate Casements, Projected, Combination, and Custom-Built Windows, and Lok'd Bar Security, Pivotted, Commercial Projected, and Architectural Projected Window. New modular sizes will result in greater output. Hope’s Windows, Inc., Jamestown, N. Y.


Mesker Steel Sash, full line. Feature "packaged" residency casement (America’s New Home Window) with frame trim and screen. Modular sizes. Mesker Bros., St. Louis, Mo.

Pella Casement Windows, a prefabricated package window unit using both steel and wood, will be in limited production first quarter of 1947. Production expected to increase during the year. Pella Corp., Muskegon, Mich.

Premier Aluminum Windows, double hung sash, spring balances, weatherstripped, pregalzed with Everseat. Shipped packaged to be assembled by jobber. Will introduce new "de-lux" aluminum window early in 1947. Prem-

than a decade. Such magazines are never too far out in front of their public, and as building restrictions are eased one can expect many more efforts at modern house construction.

In another illustration various recent trends are synthesized, in which the architectural form of the house is derived from the observance of natural laws relating to human comfort without the provision of elaborate apparatus. The problem of ventilation has been separated almost entirely from that of daylighting, making it possible to have large areas of insulating glass in the most elementary of frames. Protection against the heat of summer sun is achieved without sacrifice of daylighting, making it possible to have large areas of insulating glass in the most elementary of frames. Protection against the heat of summer sun is achieved without sacrificing the genial radiant warmth of clear winter sunshine. The placement of a window high in the corner of ceiling and wall opposite to the main view window produces a scouring ventilation action removing the heated air which usually is trapped against the ceiling in more traditional designs.

Such an arrangement should produce a greater degree of comfort on hot muggy days than if the room were entirely open on one side only. Ventilation from below the main viewing window invites integration of a means for heating from the same point, as is suggested.

Another distinct trend is toward the elimination of the usually high “brightness contrast” generally derived from unilat-eral lighting. Much interesting work has been done with one-story school types in producing bilateral and monitor lighting to level out the intensity factors over the classroom. Such methods, however, are somewhat impractical in multi-story buildings, and in such cases good results have been achieved with combinations of prismatic glass blocks and clear-vision panels.

In the early days of glass block there was a tendency to use it alone in human occupancy areas. Generally this produced

Drawing at left shows one way of eliminating bad brightness contrast at juncture of wall and ceiling; another might be use of translucent glass, plus louvers or sunshade, above viewing level. Same device might be employed below viewing level as well, where heat source does not interfere. At right, suggestion for use of full-glazed-lift-up garage doors for house walls. Clark Door Co., Newark, N. J., produces sectional lift doors with very narrow stiles and rails which have been so used in commercial buildings.
ise production and delivery of 30,000 windows a week; feel all demand can be met. Premier Metal Products Corp., Phoenix, Ariz.

Steelcraft Steel Basement Windows and new Steel Casement Windows will be available. Steelcraft Mfg. Co., Cincinnati, Ohio.


Windowwall: wood casement, horizontal, sliding, double hung, and basement window units. Andersen Corp., Bayport, Minn.

Wood Ponderosa Sash, stock sizes, and new composite wood and storm sash units available from various licensed manufacturers. Production will improve as lumber supply increases. National Door Manufacturers Assoc., Chicago 4, Ill.

DOORS AND WINDOW EQUIPMENT

Aluminum Screens and Interchangeable Storm Sash in aluminum frame. The Aluminum Window Corp., Long Island City, N. Y.

American Brand Gold Strand (galvanzoid) and Clinton Brand (galvex), welded fabric insect screen cloth. Wickwire Spencer Steel, Div. of the Colorado Steel and Iron Corp., Buffalo, N. Y.


Hartshorn shade rollers and shade cloth. Steward Hartshorn Co., New York, N. Y.


Rittenhouse door chimes, featuring a “floating” percussion unit. Two models are in volume production now; two others will be during 1947. The A. E. Rittenhouse Co., Hoscoy Falls, N. Y.

Truscon Steel Frame Window Screens: available for all types of vents; bronze mesh. Truscon Steel Co., Youngstown, Ohio.

HARDWARE

Cleveland "Noisless" Sash Pulleys. Available now in polished and lacquered finish as well as wrought bronze and brass and electroplated finishes. Hard white maple bearings. Cleveland Lock Works, Cleveland, Ohio.

Coburn overhead door hardware. Wickwire Spencer Steel, Div. of the Colorado Steel and Iron Corp., Buffalo, N. Y.

Fenestra window operators. Detroit Steel Products Co., Detroit 12, Mich.


Sargent, complete line of builders' hardware. New product, now available: Integrifik (simple design; bronze, brass, chrome finishes, sheer pin prevents forced entry). To be introduced during 1947: improved push and pull bars (soon after first of year) and improved dead lock and night latches (after March 1st). Research resulting in substitution of pressure formed metals for castings. Sargent & Co., New Haven, Conn.


Yale & Towne standard line of builders' hardware. New products: night latches, lacquered brass finish, operable with one hand, automatic release. Several locks have "extra throw" to deadlock the latchbolt, and one is "fire resistant. Yale & Towne Mfg. Co., New York, N. Y.


claustrophobia and for some years there was a swing back to plain glass. However, very useful combinations of the two can be made as is shown in Illustration 5. Each material is used to do its best job at its most effective level. The low reinforcements for hollow metal doors, there is not complete interchangeability from all classes of locks. The ultimate goal should be the limited choice of a very few types of factory cutouts to meet major classes of locks and that within these classes there should be standardization in the hardware industry.

In regard to door finishes, the wood door industry has been experimenting with plastic impregnation and at least one manufacturer is supplying plywood doors with laminated plastic facings.

Garage Doors. The writer has not found any radical change in the hardware industry relative to tubular locks and to cutouts and reinforcements for hollow metal doors, there is not complete interchangeability from all classes of locks. The ultimate goal should be the limited choice of a very few types of factory cutouts to meet major classes of locks and that within these classes there should be standardization in the hardware industry.

In regard to door finishes, the wood door industry has been experimenting with plastic impregnation and at least one manufacturer is supplying plywood doors with laminated plastic facings.

Garage Doors. The writer has not found any radical change of operational methods for garage doors as compared with prewar but most manufacturers have refined and streamlined their products both in door finishes and in operating hardware. Aluminum because of its light weight is appearing strongly as a material for solid or roll-up type doors. Wide glazed roll-up doors for commercial type repair stations, etc., are being produced with great elegance of rail proportion, and the writer wonders who is going to be the first to use them as a means of achieving an open or closed porch for a fine residence (or whether anyone already has).

HARDWARE

There is a distinct trend towards locksets of mass produced machined precision type in place of the older assemblies from castings. Smaller size, greater strength, and better performance are being achieved. These new production techniques should lend themselves to greater interchangeability of lock function within standard cutouts.
The New Sargent Integralock*, made of pressure formed metals, is one of the strongest, safest locks ever designed...and one of the most graceful in appearance because of its clean simple lines. All exterior parts are solid brass or bronze.

Illustrated is one of a complete family of Integralocks including these eleven functions: Office Door, Opening Out; Latch; Exit; One Cylinder Utility; Two Cylinder Utility; Class Room; Entrance; Office Door, Opening In; Hotel; Bathroom; Communicating. All are the same in appearance, in engineering design and construction. And all can be installed in the same mortise without remortising the door.

Available in a number of handsome bronze, brass and chromium finishes, the mortise type Integralock is now being displayed by Sargent distributors. The cut-out type will be available soon.

*Trade Mark

SARGENT & COMPANY
NEW HAVEN, CONN. • NEW YORK • CHICAGO

One mortise accommodates all 11 Integralocks. Case dimensions are only 3½" x 2½" x 1½". Each knob and escutcheon is an integrated factory assembly which insures foolproof installation of the lock in perfect alignment by means of two machine screws.
ELECTED DETAILS

WINDOW DETAILS

SPEARS BUILDING, West Memphis, Ark.

DENT & AYDELOTT, Architects
WARMER in winter—
COOLER in summer.

Windows of Thermopane make rooms more comfortable the year round.
Architect: W. E. Tolford.

Clear visibility through an insulated wall!

When you insulate the walls, include the windows, too. You can with Thermopane®, the time-proved transparent insulating unit.

Think what bigger windows mean in adding the benefits of better daylighting to your buildings—in adding the attractiveness of an outdoor view—in giving rooms a feeling of greater spaciousness.

Thermopane is composed of two or more panes of glass separated by dehydrated air and hermetically sealed around the edges at the factory. When made of two panes of 1/4" plate glass and a 1/4" air space, Thermopane has a heat loss co-efficient U of .57, compared with 1.07 for a single pane of 1/4" glass. Thus, with Thermopane you can have twice the window area without sacrificing comfort.

Libbey-Owens-Ford developed Thermopane. It was the first successful, mass-produced insulating unit of its kind for general use. It has proved its efficiency for nearly a decade... has given satisfactory service in homes, schools, offices and public buildings in the United States, Mexico, Canada, Alaska and even Iceland.

Thermopane is made for most window openings...and in 50 standard sizes for simplification of design and replacement. Before you plan your next building write for desired Thermopane information. Technical data sheets by Don Graf will be sent to architects. Libbey-Owens-Ford Glass Company, 2717 Nicholas Building, Toledo 3, Ohio.


THERMOPANE, the L-O-F windowpane that insulates.
Daylighting requirements vary widely from one factory-type building to the next—refinery, manufacturing plant, warehouse or power plant. That is why the Lupton experience in industrial window applications is so important. There are three basic types of Lupton Windows for industrial buildings—continuous windows, pivoted windows and projected windows—each offering positive assurance of improved working conditions and increased working efficiency through abundant daylighting and controlled ventilation. Write for the 1946 Catalog or see our Catalog in Sweet's.

MICHAEL FLYNN MANUFACTURING CO.
E. Allegheny Avenue at Tulip Street, Philadelphia 34, Pa.
No. 4703AF. The finest casement window operator made for steel sash. Getty exclusive internal gear construction, strongest known in gearing, provides a mechanism which will give positive casement control and trouble-free operation at all times.

No. 4706. An efficient medium-price model for steel casement windows, sturdily built to high standards of precision and priced for the small home. Will give many years of service under hard usage.

Cut-away view shows the case-hardened steel worm, integral with operating arm, fully engaged at all times with the accurately-machined internal-gear teeth. This exclusive feature, pioneered by Getty, is responsible for the strength and dependability of these operators.

Sectional view shows method of installation. Operator may be used without screens or with wood, metal or roll screens, as well as with drapes, shades, or venetian blinds.

These Casement Operators, featuring the Getty exclusive internal gear construction, have been developed as the latest in casement window controlling devices. Precision built to high standards, efficient operation is assured for light, medium and heavy section windows for all types of construction. Their functional refinements and dependable performance are such that they have been preferred by leading architects for many years. Available in Statuary Bronze Lacquer finish as well as standard finishes. Also available in Aluminum Lacquer finish.

No. 4703AW1. Same deluxe construction as the 4703AF, but for wood casements, screened or unscreened. Can be used with flat or roll screens, or with drapes, shades, or venetian blinds. Heavy brass channel guides; high-strength casings. Available in all standard finishes.


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HOPE'S STEEL WINDOWS and BILTIN SUB-FRAMES in GLASS BLOCK

OUTSIDE VIEW OF A TYPE No. 3 WINDOW

In the layouts shown below Type 1 can be used with 6", 8" or 12" blocks. Types 2, 3, 4 and 5 can be used with 8" blocks only. Types 1, 2 and 3 are suitable for industrial and commercial buildings and Types 1, 4 and 5 are suitable for residential buildings. Sub-frames are manufactured from 14 gauge galvanized sheets and, when desired, can be shipped ahead of the windows; or if preferred, sub-frames with windows factory-inserted can be factory-shipped as self-contained units. Windows are prepared for the later reception of screens. Sub-frames and windows are bonderized and painted one coat of gray primer stoved on.

Dimensions given below are C. to C. of ¼" mortar joints. If 3/8" or 5/8" joints are used these dimensions will change proportionately. For further information refer to our Publication No. 105.

OUTSIDE ELEVATIONS

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS
HOPE'S WINDOWS, INC., JAMESTOWN, NEW YORK
Amazing New **Tru-sized** DOOR JAMB

Does A Better Job

7 TIMES FASTER—

Adjustable to variations in Door Sizes!

No Nailing! Only 3 precision milled pieces to handle on the job!

"Shock-Absorber" Springs Assure Accurate Fit for Life of Building!

Almost unbelievable, but it's true—YOU CAN INSTALL 7 TRU-SIZED DOOR JAMBS IN LESS TIME THAN IT TAKES FOR ONE ORDINARY JAMB!

All the work of nailing, squaring and plumbing with wedges, gaining for hinges, and cutting and installing stops is either eliminated or done at the factory!

One at a time, you install each of the 3 precision milled pieces, then adjust them to the exact clearance desired with a few turns of a screwdriver! The "Shock-Absorber" Springs assure permanent accuracy.

You've never seen anything like the many amazing advantages of the new TRU-SIZED DOOR JAMB.

THE WHEELER, OSGOOD COMPANY

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JANUARY, 1947 91
With relatively few exceptions manufacturers of installation materials such as setting mortars, adhesives, fastenings, anchors, ties, clips, reinforcements, and moldings anticipate full availability of their products in 1947. Apparently standard products can be specified as in prewar days, and in addition there are many new products answering the needs of new techniques of installation. In replies to the questionnaires sent them, most of the manufacturers expressed concern over holdups in the basic industries (coal, transportation) rather than their own production abilities to meet the demand once raw materials reach them. Many new manufacturers are entering the fields involved.

Much research has been done and is still being done in this aspect of construction. Manufacturers grew in technical stature during the war years; accelerated war production could not afford the luxury of traditional installation methods and procedures. Powerful adhesives have outdistanced the rivet, the screw, and the nail for many purposes from basic structural assembly to the hanging of fixtures to walls. One

Fig. 6: Clips for attaching Nu-Wood surfacing and insulating tile are designed so installation can proceed in any direction.
development leads to another; as better adhesives appear, research finds better ways to use them. For example, plastic adhesives were in themselves a great advance; electronic heat curing speeds the setting time and marks another step forward.

An interesting development has been the rapid adoption of thin-setting methods for tile installation. In this case manufacturers both of setting mortar and resinous adhesives have come forward with applicable materials.

Noteworthy strides have been made in the development of installation moldings for various purposes. Many manufacturers have kept abreast of store design trends and adapted their products accordingly. Not only are shapes simplified and made more applicable to the open-front store, but setting systems have been rationalized.

A designer in 1947 need not let his imagination be retarded by fear of installation difficulties or connecting or fastening devices. Once the basic materials that are to be used have been determined by their desirability and their availability, it is almost certain that some means of installing them will be at hand. In fact the astounding performance of the new adhesives and the wide range of clips and ties and moldings that can be had should open up new uses for many other materials.

**SETTING MORTARS**


Binda Powder, bonding cement for thin setting of tile. Sika Chemical Corp., Passaic, N. J.

Expanset bonding cement for thin setting of tile. Expanset Corp., Perth Amboy, N. J.

Medusa cements for various uses in setting mortars, including Stoneset (non-staining) and Brikset (for concrete block, tile, brick). Medusa Portland Cement Co., Cleveland 15, Ohio.


Morlite non-shrinking brick mortar. The Truscon Laboratories, Detroit 12, Mich.


Tiger Miracle Lime; immediate plasticity for masonry use. The Kelley Island Lime & Transport Co., Cleveland 14, Ohio.

**FASTENERS**


Kitco mounting plate: a system of attaching plastic disks to walls, for mounting cabinets, etc.
MATERIALS OF INSTALLATION

Uses Kitco adhesive. The Moss-Chase Co., Buffalo 2, N. Y.

Nailock channel for attaching collateral material. Sammetal Products Co., Cleveland 12, Ohio.

Nu-wood Clips, a concealed system for attaching interior finish Nu-wood boards to a nailing base. Wood Conversion Co., St. Paul 1, Minn.

Pomeroy clips and anchor bars for supporting Nu-wood clips, a concealed system for attaching collateral material. Wood Conversion Co., St. Paul 1, Minn.


Ties & Anchors: partition and masonry anchors, brick and hurring ties, cavity wall ties, etc. Hohmann & Barnard, New York, N. Y.


ADHESIVES

Amberlite PR-115 (outdoor use) and Utemite CB-552 (indoor use) resorcinal-formaldehyde (waterproof) resin and urea-formaldehyde resin (highly water-resistant) adhesives, respectively. The Restacous Products & Chemical Co., Philadelphia 5, Pa.

Arabol Lagging Adhesive, for securing glass fiber, canvas, asbestos, etc., to pipes and ducts. Delivery depends on continuous flow of basic materials. The Arabol Mfg. Co., New York 17, N. Y.


Cascopen, Cascome and Casco, casein adhesives for wood, wood combinations, linoleum, metal, plastics, glass, etc. Applicable to prefabrication processes. Durable, weatherproof, “boilproof.” Casein Company of America, New York 17, N. Y.

Kitco adhesive, for use with wall mounting plate (see fasteners). The Moss-Chase Co., Buffalo 2, N. Y.

Marsh Mastic, adhesive for applying Marlite wall tiles. Marsh Wall Products Inc., Dover, Ohio.

Mirocle Adhesive Class I, phenol based plastic with rubber filler. For various purposes: can be used for thin setting of tile. Mirocle Adhesives Corp., Newark, N. J.


Sparmacles Setting Compound, adhesive for thin setting of floor and wall tiles. The Sparta Ceramic Co., East Sparta, Ohio.


MOLDINGS

Anacoda architectural bronze extruded shapes. The American Brass Co., Waterbury 88, Conn.


Cromtrim aluminum moldings, now available. R. D. Werner Co., Inc., New York 16, N. Y.

Ford stainless steel and aluminum moldings, now available. Wilbert C. Ford Co., New York, N. Y.

Glazing moldings, full line, including new line (K-47) of moldings and trim for use with prelab multiple glazing. Standard products available now; new products in spring. As raw material supplies increase, production will increase. The Krawne Co., Niles, Mich.


MOLDING AND COVE DETAILS

NURSES' HOME, Anniston, Ala.
CHARLES H. McCauley, Architect
SANITATION, WATER SUPPLY, DRAINAGE

Shortages of raw materials, as in the case of structural products, are the controlling factor in all types of sanitary equipment. In addition, there have been some difficulties in obtaining postwar labor for such heavy manufacturing processes as iron founding; this has contributed greatly to the acute shortage of bathtubs, for instance. NHA, during the life of the veterans' housing program, found this a most serious obstacle, and in seeking to overcome it found that a few manufacturers of cast masonry tubs existed. The products were clumsy and needed refinement; NHA stimulated the use of such materials as lightweight aggregates, etc.; but with the refusal of the Administration to further the program's aims, this type of activity has probably relapsed into its former state.

In all types of sanitary equipment there remain three opposing factors to be resolved: first, the difficulties with raw materials, ranging from soda ash for manufacturing glass for pipe, traps, strainers, wastes, solder and flared tube type fittings, 80 red brass pipe, available now, The American Brass Co., Waterbury 68, Conn.  
Chase brass and copper pipe and copper tube. Chase Bros. & Copper Co., Waterbury 91, Conn.  
Doran thermosetting water mixing valves in sizes for industrial shower controls, also for group control, industrial purposes, etc. Doran Co., Seattle 4, Wash.  
Duriron acid-resistant drain piping; also Durimet stainless alloy steel, resistant to weak sulphuric acid. Traps, drains, etc. Duriron Co., Dayton 1, Ohio.  
Either-Way ground joint or washer joint connection (extension of insert joint provides reinforcement), and Plumrite brass or copper pipe. Expect to satisfy demand. Bridgeport Brass Co., Bridgeport, Conn.  
Grinnell adjustable pipe hangers and supports. Grinnell Co., Inc., Providence 1, R. I.  
Josam drains, interceptors, mixing valves, etc. Research and improvement specifically on Modulator anti-scalding mixing valve (shuts off hot water when cold water fails) and grease interceptors (flow control valve). New plant; will have capacity to "meet current schedules and further business." Josam Mfg. Co., Michigan City, Ind.  
Knight-Ware acid-resisting ceramic drain piping for laboratories, etc. Maurice A. Knight, Akron 9, Ohio.  
Orangeburg Pipe, fibre sewer pipe. Factory expansion will increase production, but probably not meet demand. Fibre Conduit Co., Orangeburg, N. Y.  
Republic Tencon iron, wrought steel, copper-bearing steel pipe. Republic Steel Corp., Cleveland 4, Ohio.  
Revere red brass and copper pipe; copper tubing, fittings. Revere Copper & Brass, Inc., New York 17, N. Y.  
Speakman showers and fixtures, flush valves, bath fittings. Speakman Co., Wilmington 99, Del.  

BATHROOM ACCESSORIES.

SHOWER STALLS, ETC.

Bradley Multi-Stall Showers for industrial installations, institutions. Bradley Washfountain Co., Milwaukee 1, Wis.  
Columbia medicine cabinets and bathroom accessories. Columbia Metal Box Co., New York 51, N. Y.  
Duke bathroom accessories (porcelain, for building-in); Abington Pottery, Inc., Abington, III.  
Fairfacts vitreous china bathroom accessories. Fairfacts Co., Inc., New York 11, N. Y.  
Fiall shower stalls. Milwaukee Stamping Co., Milwaukee 14, Wis.  
Hall-Mack Aristocrome bathroom accessories (forged brass, chromium plated) and Coronado bathroom accessories (zinc die castings, chrome plated); available now, will meet demand by the end of 1947. Hall-Mack Co., Los Angeles, Calif.  
Hoegger metal cabinets and bathroom accessories. Hoegger, Inc., Jersey City 4, N. J.  
Hol-Anchor adjustable bathtub hangers. Hol-Anchor Hangers Co., Cincinnati, Ohio.  
Ketcham shower and medicine cabinets, metal accessories. G. M. Ketcham Mfg. Corp., Brooklyn 1, N. Y.  
Lawson metal cabinets and accessories. F. N.  

PLUMBING FIXTURES

Alberene Stone acid-resistant sinks, etc., for laboratories, etc. Supply limited. Alberene Stone Corp., of America, New York 16, N. Y.  
Bradley group washing equipment, wash fountains, etc. (industrial) also drinking fountains. Bradley Washfountain Co., Milwaukee 1, Wis.  
Crane, complete postwar line of fixtures, fittings, etc. Newest is Diana lavatory (semi-cylindrical, raised bosses, stainless). Will introduce new designs during 1947. Crane Co., Chicago 9, Ill.  
Eljer vitreous china and enamelled cast iron fixtures. Cast iron in some difficulty as other manufacturers. Eljer Co., Ford City, Pa.  
Halsey Taylor drinking fountains, vitreous china and cast iron. Also water coolers. Halsey W. Taylor Co., Warren, Ohio.  
Knight-Ware acid-resisting ceramic ware for laboratories, etc. Maurice A. Knight, Akron 9, Ohio.  

PIPE, FITTINGS

Anacoda copper tubing, copper and brass pipe, trap, strainers, wastes, solder and flared tube, type fittings. 80 red brass pipe, available now. The American Brass Co., Waterbury 68, Conn.  
Chase brass and copper pipe and copper tube. Chase Bros. & Copper Co., Waterbury 91, Conn.  
Doran thermosetting water mixing valves in sizes for industrial shower controls, also for group control, industrial purposes, etc. Doran Co., Seattle 4, Wash.  
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Republic Tencon iron, wrought steel, copper-bearing steel pipe. Republic Steel Corp., Cleveland 4, Ohio.  
Revere red brass and copper pipe; copper tubing, fittings. Revere Copper & Brass, Inc., New York 17, N. Y.  
Speakman showers and fixtures, flush valves, bath fittings. Speakman Co., Wilmington 99, Del.  

BATHROOM ACCESSORIES.

SHOWER STALLS, ETC.

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Hoegger metal cabinets and bathroom accessories. Hoegger, Inc., Jersey City 4, N. J.  
Hol-Anchor adjustable bathtub hangers. Hol-Anchor Hangers Co., Cincinnati, Ohio.  
Ketcham shower and medicine cabinets, metal accessories. G. M. Ketcham Mfg. Corp., Brooklyn 1, N. Y.  
Lawson metal cabinets and accessories. F. N.
medicine cabinets to such metallic materials as sheet steel; second, an unprecedented demand, which will undoubtedly increase now that price restrictions have been removed from house construction; and third, almost universal expansion—in some cases, tripling—of production facilities. Everything seems to be ready for greatly increased production during 1947 provided raw materials become available, yet there is serious doubt that the industry can come close to satisfying the enormous demand by the end of the year.
SPECIAL BATHROOM FIXTURES

RESIDENCE near Chicago, Ill.

McSTAY JACKSON CO., Designers
This brine cooling system is typical of many indirect refrigeration systems where cooling is not effected directly by the refrigerant.

Brine is used where the temperatures maintained fall below the freezing point of water...in cooling systems for fur storage, food storage and for many industrial applications. Defrosting of coils is accomplished by heating the brine and continuing its circulation. Thus, possible damage to coils by mechanical defrosting is avoided.

In normal operation the brine is pumped through cooling coils - the warm brine then returned to cooler where it is cooled in tubes by the refrigerant in brine cooler. Next it by-passes defroster and enters suction pumps. For defrosting, the brine cooler is by-passed and the brine is circulated through the defroster where it is heated. The heated brine is circulated through cooling unit until defrosting has taken place - then normal operation is resumed.

Consultation with accredited piping engineers and contactors is recommended when planning any major piping installations.

Copies of Layout No. 18, enlarged, with additional information, will be sent on request...also future Piping Layouts. Just mail coupon.

**Jenkins PRACTICAL PIPING LAYOUTS 18**

**How to plan a**

**BRINE COOLING SYSTEM WITH AUXILIARY DEFROSTING UNIT**

**Jenkins VALVES**

For every Industrial, Engineering, Marine, Plumbing-Heating Service . . . in Bronze, Iron, Cast Steel, and Corrosion-resisting Alloys . . . 125 to 600 lbs. pressure.

Sold through Reliable Industrial Distributors Everywhere.
WEISTEEL HI-STILE

FLUSH COMPARTMENTS

Weisteele Hi-Stile Flush Compartments combine the attractive and modern appearance of flush stile design with proven construction details resulting from 18 years experience producing flush compartments.

The rigid, flush stile extending from floor to headrail eliminates narrow front panels with double posts and solves a difficult cleaning problem. Dividing partitions, doors and high front stiles are of Weis flush construction with laminated corrugated fibre board cores cemented under pressure to inner metal surfaces. Edges interlocked under tension with drawn mouldings welded at corners.

Write for complete details and specifications of the Weisteele Hi-Stile Flush Compartments fully described in 1947 Weisteele catalog.

HENRY WEIS MFG. CO., INC.
121 Oak Street, Elkhart, Indiana
DURCO Bell and Spigot Drain Pipe

Drain pipe available in 1½", 2", 3", 4", 5", 6" and 8" sizes. 10", 12" and 15" furnished to order.

Permanent, "cast-in" protection enables Durco drain pipe to handle corrosive wastes, safely. Unfailing protection of the life of the pipe is provided by the corrosion resistance inherent in the special alloy, Duriron (see description below), of which it is made. Ask for Bulletin 702-D.

DURCO Corrosion Resisting Exhaust Fans

Exhaust fans are built in five sizes, providing a capacity range from 20 to 5,000 c.f.m.

All parts of these fans which come in contact with the corrosive fumes are made of one of the three well-known Durco corrosion resistant alloys described below—Duriron, Durichlor or Durimet. For full details of these fans, write for new, 12-page bulletin 1102.

THE DURIRON CO., INC.
DAYTON 1, OHIO
Branch Offices in Principal Cities

DURIRON
A high-silicon iron alloy containing approximately 14.5% silicon. Withstands the corrosive attack of all commonly used acids except hydrofluoric, sulfurous and oleum.

DURICHLOR
A high-silicon iron similar to Duriron, but superior for handling hydrochloric acid, chloride solutions and chlorine gas.

DURIMET
A special low carbon stainless steel containing nickel, chromium, molybdenum and copper. Safely handles fumes of oleum, sulfurous acid, sulfur dioxide and hydrofluoric acid.
FIAT Skipper

solves the bathroom problem for low cost housing . . .

- Low installed cost
- Minimum floor space required
- According to surveys made at camps the majority of Veterans, both men and women, have expressed a preference for shower bathing
- Fiat Skipper showers are available

Specifications

SIZE—32 x 32 x 76.

WALLS—BONDERIZED, GALVANIZED STEEL. Finished inside and out with white baked-on-synthetic enamel.

RECEPTOR—Semi-flat standard type Stonetex; slip-proof, leak-proof, non-absorbent. Brass drain for 2" waste connection cast integral with receptor.

VALVES—Combination hot and cold compression valves with shower head and arm.

ACCESSORIES—Curtain rod and curtain.

FIAT METAL MANUFACTURING COMPANY
1203 Roscoe St., Chicago 13, Ill. • 21-45 Borden Ave., Long Island City 1, N.Y. • 32 S. San Gabriel Blvd., Pasadena 8, Calif.
The Ignition Safety Pilot Burner provides both ignition and flame-safety control, is used in conjunction with Electronic Protecorelay (Minneapolis-Honeywell control circuit plus electronic network). Devices are normally thermostat-operated; gas is electrically ignited each time controller calls for heat, also if flame fails. If ignition fails or flame is lost more than momentarily, gas is shut off.

## AIR AND TEMPERATURE CONTROL

By CLIFFORD STROCK, Editor, "Heating and Ventilating"

The outlook for equipment in this category for 1947 is mixed; present research is at unprecedentedly high levels, giving promise of desirable things to come; past research has already resulted in important advances in many phases of the art, including the establishment of entirely new phases, and production of most items of equipment is at peak or near-peak rates. Nevertheless, the outlook is a little less than rosy because of the excess of demand over production.

### AVAILABILITY

**Standard Products.** There is hardly a major standard item of heating, ventilating, or air conditioning equipment or material that is not in short supply, including steel and cast iron boilers, controls of many types, furnace pipe and fittings, steel and cast iron furnaces, oil burners, gas-burning equipment, steel, wrought-iron and copper pipe and fittings, radiators and convectors, registers and grilles, unit heaters, heat transfer surface, refrigerating and air conditioning equipment of all kinds, and fans and blowers. The reasons for the shortages vary, but broadly are due to difficulties on the part of manufacturers in obtaining one or more of the following: (1) steel sheets and plates, pig iron, castings, copper and motors; (2) labor; and (3) manufacturing facilities. In most cases (2) and (3) are of less importance than (1).

The raw materials mentioned in (1) are exceedingly important in making equipment for this group. For example, steel sheets in a wide range of gages are employed in ducts and casings, while steel plates are essential for housings, steel furnaces and boilers, and fans; pig iron is the basis of cast iron products such as cast radiators and convectors, cast boilers and furnaces, while other iron castings are necessary in pumps, oil burners, stokers, compressors; copper sheets are needed for many types of heat exchangers, copper tubing for steam and water heating, and motors are indispensable on an impressive list of equipments.

Labor shortages are gradually clearing, with only some localities in tight position. Lack of plant facilities is also slowly being overcome, but this is still a factor with many companies.

**New Products.** At least three-quarters of the important manufacturers in all categories either already have or will have new products for announcement in 1947, but it is not possible to be too specific about them because, understandably, they do not wish publicity until they are prepared for official announcement or until they can deliver. Among such new equipments are known to be, however, a new hot water heating system, an improved radiant heating system, odor control for individual rooms, a radiant heating control, new air cleaning equipment, low-capacity oil burning equipment, improved heat pump (reverse refrigeration cycle) units; several new fans and blowers, and many new controls of various kinds—and the foregoing does not begin to exhaust the list. The availability of these cannot be predicted in a single case, and in fact even their formal announcement is problematical at this time.

There is a third group of devices, not yet commonplace but already on the market and known to many. An example of this group is the baseboard radiator or convector. The situation with these, as with many other recently publicized post-war developments, is that while in production, they are not yet in mass production; they will probably be in critically short supply in 1947.

**Relation of Production to Demand.** As 1947 begins, the ratio of demand to production for heating, ventilating and air conditioning equipment ranges from an estimated 5 to 1 to about 1 to 1; with (at a guess) an average of 3 to 1. These ratios should, and probably will, decrease throughout the year. It is exceedingly doubtful, though, that supply will exceed demand in any important group.

**Conclusions as to Availability.** Since most equipments are being made at high rates of production—in many cases exceeding prewar rates—and since it appears that there will be fewer artificial restrictions on use in 1947, it may be
concluded that most of this equipment will flow in a free market. Somebody will get the goods. The problem of the individual architect and engineer is whether he can get his share. There are few stocks of anything, and in some cases the backlogs of orders are startling in size.

Research. From the standpoint of the more distant future, current research is of interest. Much of this is privately done by manufacturers in their own laboratories and is purposely not publicized. Increasing awareness of the importance of comfortable and healthy atmospheric environment has, however, resulted in an astonishing number of research projects by governmental agencies and by institutions and associations, as indicated by the following partial list:

The National Bureau of Standards is studying baseboard radiators, chimneys, floor condensation, heat loss through slab floors, and room heaters. At University of Illinois, the Institute of (cast iron) Boiler and Radiator Manufacturers is sponsoring research on these products, while the warm-air furnace manufacturers are continuing a 30-year-old project at the same institution on warm-air heating; Purdue University is studying both radiant heating and solar heating. The heat pump is under investigation at both Southern Research Institute and Armour Research Foundation. Battelle Memorial Institute has several projects under way, financed by bituminous coal interests and ranging from space heaters to a study of the desirability of district heating. Solar heating studies are now under way at University of Colorado. Anthracite Industries Laboratory is working on improved hard-coal-burning equipment. American Gas Association is studying year-round air conditioning with gas. A number of oil companies are working on oil burners. Cornell is studying radiant heating. The Bureau of Mines is working on a stoker-fired water heater.

But this is by no means the end. The American Society of Heating and Ventilating Engineers Research Laboratory (this is the only engineering society to have its own laboratory) has an equally impressive list of its own. These include studies of air flow friction inducts and fittings, barometric dampers for stokers and oil burners, air flow and distribution through slots, perforated panels and jets, air flow into suction hoods, solar heating, heat transmission through insulating materials, weather design data, air cleaning devices and forced convection heat transfer. The ASHVE Research Laboratory is also sponsoring cooperative projects with several universities, including those on cooling towers (California), fluid flow (Texas A. & M.), air flow from grilles (Case), downflow of heated air (Kansas State), periodic heat flow (Cornell), comfort data (Minnesota), and effect of air conditioning shock when entering or leaving cool spaces (University of Illinois Medical School).

It must be emphasized that the results of these studies are long range, and most will have little or no bearing on 1947 practice.

DESIGN POSSIBILITIES

A project designed for immediate construction in early or mid-1947 may be, as can be seen, in a bad position. However, this is not a new experience for designers, and the ingenuity that saved so much critical material in wartime must be employed in seeking new ways of avoiding scarce equipments. In at least some cases the engineer can, by changing his whole approach to the problem, find a solution involving equipment less scarce than that originally contemplated, or in some cases, even avoid using any equipment. Consider, for example:

Evaporative cooling has never been as fully exploited as it might be; in certain cases it has applications in regions other than the Southwest.

Galvanized steel for ducts is scarce, but asbestos ducts have advantages in many applications. One manufacturer of pre-
fabricated ducts is using aluminum instead of steel, and has found the appearance desirable and attractive, the ease of working an advantage.

Since motors for pumps and circulators are critically short, give some thought to using gravity systems, whether the system is air, steam, or hot water. Perhaps a gravity steam system can be used in place of forced hot water; gravity warm air is not necessarily obsolete.

Extensive application of double sealed window glazing may sharply cut radiator, boiler, and pipe sizes; perhaps smaller heating units are available. Solar heating might turn the same trick.

Can the problem itself be wiped out? For example, a warehouse might be left with no heat. Or again, with boilers unavailable, is there exhaust steam procurable nearby—or steam from a utility? Perhaps stokers are available, even if oil burners aren’t.

In certain cases, can we concentrate less on operating economy, and instead seek ways to eliminate the operation; can the condensate be run to the sewer instead of back to the boiler, avoiding a pump—and an almost priceless motor? Sometimes the project may be exceptional in some respect. For example, electric heat is usually far too expensive, but is the project under consideration such that off-peak electric rates are available?

In certain industrial buildings the direct-fired unit heater may be the solution. As a final suggestion, don’t overlook the secondhand market; secondhand radiators may be ornate and clumsy, but they can be replaced later.

It is entirely possible that every one of the foregoing suggestions may be inapplicable to a given project, but this list is only intended as a stimulant to thinking. The final solution may be a bold, even radical, approach to the problem.

PRIME HEAT SOURCES: BOILERS, FURNACES, SPACE HEATERS, ETC.

American (Arco boilers; water heaters) Sunbeam warm-air furnaces; Arcoflame oil burners and oil heating units; gas conversion burners, etc. Full line now in production, but some items in greater supply than others due to materials and parts situation; production steadily increasing, but can’t make definite predictions. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

Bison low-pressure and high-pressure boilers; available from 10 to 150; Bison Compact boilers; Steam-line-Welded boilers; Utility Scotch boilers all available later in year; demand on all expected to exceed production. Farrar & Tefts, Inc., Buffalo 12, N. Y.

Certified Furnaces: gravity and forced air steel furnaces; coal, oil, or gas-fired; concentrating on certain models; expect improvements, also to add new gas-fired models and gas conversion burners during 1947, and to get back into production some models temporarily discontinued. Steel short, motors very short; otherwise production at peak, with anticipated production for first 10 months of 1947 sold out. Certified Furnace Co., Div. of Stainless & Steel Products Co., St Paul 4, Minn.


Coleman oil space heater, oil and gas floor furnaces, specially designed to increase warm-air flow; new line of oil floor furnaces expected during year. Production at least during early 1947 will probably be distributed under own allocation programs; quantities depend on raw materials availability. The Coleman Co., Inc., Wichita 1, Kan.

Cyclotherm steam and hot water generators; demand exceeds production by 80 to 90%.

Firedaire (combination steel fireplace mantel and circulating heater unit) for houses up to 7 rooms. Expect demand to exceed supply throughout 1947. Edwards Mfg. Co., Cincinnati 2, Ohio.

Gilberco oil burners, several models and capacities, all with new Economy Clutch designed to improve efficiency and cleanliness. Materials shortages, but keeping production at highest level possible. Gilbert and Barker Mfg. Co., West Springfield, Mass.

Hollman Oil-fired Warm Air Furnaces. Production depends on raw materials, etc. Hoffman Specialty Co., Indianapolis 7, Ind.

Janitrol gravity warm air furnace, steam and water boilers; conversion oil burner; new Triple-Service Hot Water System supplies house heat, high-temp. water for laundry and dishwasher, temperate water for personal use. Plant capacity doubled. Surface Combustion Corp., Toledo 1, Ohio.

Kewanee Steel Heating Boilers, Weld & Rivet, Type C, Type R, Square Heat, etc.; also water heaters and tanks; some improvements expected. Scottie Jr. (steam generator) has new small 6 hp size. New products: Residence Square Heat 3 Series and small Round R boilers. Production expected to continue several months behind demand. Kewanee Boiler Corp., Kewanee, Ill.

Mechanical Core, includes heating unit as well as other house mechanical equipment. Ingersoll Steel Div., Borg-Warner Corp., Kalamazoo, Mich.


Petro oil burners and oil-burning equipment (domestic burners, commercial, industrial equipment) currently being produced and distributed at 2 to 3 times highest previous rate but still can't meet demand. Expect during year to introduce belt-driven industrial burners, domestic light fuel oil pressure type burners. Boiler-burner and furnace-burner units expected to be less available than burners only. Chilled difficulty is procurement of parts. Petroleum Heat and Power Co., Stamford, Conn.


South Wind heating unit, gas-fired space heater, noiseless, 14" wide, to fit between studs or joists, for heating 1 to 3 rooms. Available limited quantities in certain parts of country only January 1947; expect to reach 10,000 units per month by midsummer 1947. Difficulties with motors, raw materials, etc., wall on way to solution. Stewart-Warner Corp., Indianapolis, Ind.

Syncromatic steel furnaces (coal — forced and gravity warm air—oil, gas-fired: also Syncromatic gun-type oil burner, furnace-burner combination; impossible to satisfy demand in 1947. Syncromatic Corp., Waterloo, Ia.

Unit Gravity Furnace, also Comforaire winter air conditioners and forced-air furnaces. Being produced in volume as great as supply of raw materials, controls, etc. permits. Vented Wall Heater: new gas-fired space heater for building in wall, designed for low cost houses, available in greater quantity because automatic controls and motors are eliminated. Hammel Radiator Engineering Co., Los Angeles 34, Calif.

Viking gas, oil, or coal furnaces, space heaters, floor furnaces available in limited quantities. Viking Mfg. Corp., Cleveland 14, Ohio.

**RADIATORS, CONVECTORS, HEATING BASEBOARDS, ETC.**

American radiators, convectors, end about full line in production, some items more available than others. Production being steadily increased. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

Base-Ray and Hy-Power Base Ray metal baseboard heating unit for water, 2-pipe steam, or vacuum systems. Burnham Boiler Corp., Hy­ington, N. Y.


Streamaire convectors, forced convector. Design improvements expected first half 1947. Young Radiator Co., Racine, Wis.

Webster Radiation products (Webster Systems) — concealed convectors with built-in traps and valves; Webster Convectors: Type WI Industrial Radiation delivers in substantial volume on priorities; small quantities without priority or large quantities with or without priority, no estimate. Baseboard Heating—delivery in 3-4 weeks on small or moderate quantities subject to priorities. Warren Webster & Co., Camden, N. J.

**UNIT HEATERS**

Blower Fan Type Unit Heaters, Horizontal and Vertical Shaft unit heaters. DeLuxe unit heaters. Demand exceeds supply. Hermon Nelson Corp., Moline, Ill.

Buffalo unit heaters: substantial backlog of orders. Buffalo Forge Co., Buffalo 5, N. Y.

Janitrol Unit Heaters. Plant capacity doubled. Surface Combustion Corp., Toledo 1, Ohio.

Modine unit heaters: heating coils (blast heaters): entire line redesigned. "Greatest demand in
history for our type of product." Modine Mfg. Co., Racine, Wis.

Streamaire unit heaters, blast heaters, forced convectors; improvements in design expected during first half 1947. Young Radiator Co., Racine, Wis.


U. S. Air Conditioning equipment of all types for complete air conditioning, ventilation, or heating installations: blowers, fans, heating and cooling coils, suspended air conditioning units, etc. U. S. Air Conditioning Corp., Minneapolis 14, Minn.

Viking year-round air conditioning units, room coolers, and 3-ton cooling units, available in limited quantities. Viking Mfg. Corp., Cleveland 14, Ohio.

AIR CLEANING, CIRCULATION, VENTILATION, ETC.

Air-X-Hoisters, industrial type, chimney tops, vent flue caps; production is about 35% of demand as far as prompt service is concerned. G. C. Breidert Co., Los Angeles 14, Calif.

Amenostat Draftless Aspirating Air Diffusers available in both ceiling and wall types, for distributing air without causing drafts. Improvements in design expected periodically; also expecting to introduce line of combined diffusers and lighting fixtures. Deliveries should continue 4 to 6 weeks on most items, 1 to 2 weeks on some, if raw materials' supplies hold out. Amenostat Corp. of America, New York 16, N. Y.


Buffalo Type LL ventilating fans, Breez-Air attic cooling fans; new Axial-Flow ventilating fans. Considerable backing of orders. Buffalo Forge Co., Buffalo 5, N. Y.

Dorex Activated Carbon Air Recovery Equipment; also Kno-Draft Adjustable Air Diffusers; expect to maintain satisfactory shipping schedules. W. B. Connor Engineering Corp., New York 16, N. Y.


Fabricated registers and grilles, straight or adjustable air flow, available in unusual sizes well adapted to commercial needs; also wrought steel, type suitable for residence, and wall, floor, baseboard types. Doubt if supply situation will permit production to satisfy demand in 1947. The Independent Register Co., Cleveland, Ohio.

G-E Attic & Kitchen Ventilating fans, will be produced during 1947; demand will probably continue to exceed supply. General Electric Co., Appliance & Merchandise Dept., Bridgeport 2, Conn.

Herman Nelson propeller and centrifugal fans, blowers units, unit ventilators, large-capacity ventilators. Demand exceeds supply. Herman Nelson Corp., Meline, Ill.

Osmetrol equipment for control of odors and air quality (application of Airkem to air conditions). Expect production difficulties to clear by 1947. W. H. Wheeler, Inc., New York, N. Y.


Streamaire air conditioning units, heating and cooling coils; expect to be in full production January 1947. Young Radiator Co., Racine, Wis.

Sturtevant Westinghouse Unit Conditioners, also Sturtevant fans, heating and cooling coils; available for delivery July 1947 and later. Same factors as other manufacturers. B. F. Sturtevant Co., Div. of Westinghouse Electric Co., Boston 36, Mass.


U. S. Air Conditioning equipment of all types for complete air conditioning, ventilation, or heating installations: blowers, fans, heating and cooling coils, suspended air conditioning units, etc. U. S. Air Conditioning Corp., Minneapolis 14, Minn.

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Osmetrol equipment for control of odors and air quality (application of Airkem to air conditions). Expect production difficulties to clear by 1947. W. H. Wheeler, Inc., New York, N. Y.

AIR AND TEMPERATURE CONTROL


usAlrco ventilation blowers, exhaust fans, etc.; also window ventilating units for ventilating, filtering, cleaning, exhausting air from individual rooms; available 1st quarter 1947. U. S. Air Conditioning Corp., Minneapolis 14, Minn.

CONTROLS AND CONTROL SYSTEMS

American Radiator specialties, controls, etc.; also specialized items for hospitals, hotels, schools, etc.; full line in production but cannot predict availability. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

Cadwell valves: Perfection floor and ceiling plates; new types of pressure-relief and pressure-reducing valves (Cadwell) will be on the market; all available during 1947 but quantities uncertain. Beaton & Cadwell Mfg. Co., New Britain, Conn.

Controls (electric) for all types of automatic heating systems. Same factors govern as with other manufacturers. Manufacturing capacity has been greatly increased. Penn Electric Switch Co., Goshen, Ind.

Dialon No. 81 radiator valve (air valve, precision control, quick drainage) and Prevent radiator valve. Expect to meet demand. Bridgeport Brass Co., Bridgeport, Conn.


Hoffman-Honeywell heating controls for oil, gas, stoker-fired furnaces and boilers: Modulflow house heating controls; Personalized apartment heating control system for individual controls; standard controls for heating and air conditioning all types of buildings; also new Honeywell air register (smaller than usual, curved face, designed for even, quiet distribution) and '47 Chronotherm (improved room thermostat). All available during 1947; production currently twice prevare rate, expected to triple; hope to take care of "tremendous demand." Electrical steel is short; aluminum being substituted where possible. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.

Weather-Man, thermostatic control, activated by outdoor temperature, may be used with any type of heating system. Automatic Devices Co., Weather Controls Div. Chicago 4, Ill.

Webster Moderator heating controls — delivery from stock for most used standard equipment; longer for less used and special items. Warren Webster & Co., Camden, N. J.

Webster steam, vacuum, vapor heating specialties (thermostat valves, thermostatic traps, drip traps, strainers, boiler return traps, vent traps, etc.)—modest quantities shipped from stocks, delivery one to five weeks for most used sizes and types. Warren Webster & Co., Camden, N. J.

ADDITIONAL MANUFACTURERS


PIPING, TUBING

Beth-Co-Weld (butt-welded steel pipe) and American (steel pipe for cold bending); Bethlehem Steel Co., Bethlehem, Pa.


Copper tubing: Chase Bros. & Copper Co., Waterbury, Conn.; Revere Copper and Brass, Inc., New York 17, N. Y.

Republic wrought and copper-bearing steel pipe, copper-molybdenum iron pipe; Republic Steel Corp., Cleveland, Ohio.

Ric-Wil insulated pipe units, Standard and Super-Tite conduit and cast iron conduit, all for distribution and insulation of steam, oil, hot water and process liquids. The Ric-Wil Company, Cleveland 14, Ohio.


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**Fig. 15:** Use of triethylene glycol for dehumidifying and sterilizing air. Lower portion shows schematic dehumidifying process; upper, reactivation of glycol. System is useful for industrial dehumidification as well as comfort air conditioning. Fig. 16: Radiatina Tubing, recently developed heat transfer unit, comes in several lengths and 3 diameters; EDR rating from 17.31 to 128.04 (Schuttke & Koerting Co.). Similar products available from other manufacturers. Fig. 17: Prefabricated copper coils, called Thermopanes, for ceiling radiant heating are factory-attached to metal lath base; are well adapted to such installations as the beamed ceiling shown. Not yet ready for national distribution, they are being employed locally in California (Robert Brucn & Son).
INSTALLING ELECTRICAL RADIANT HEATING CABLE

L. N. ROBERSON, Engineer. Seattle, Wash.

JANUARY, 1947 109
In general, the supply picture in regard to electrical and lighting equipment is substantially the same as in other sectors of the building product field: facilities for production have been expanded, the demand is insistent and tremendous, and many raw materials are still scarce, at least in proportion to demand. During 1946, for instance, production of wiring devices was so far behind that the amounts distributors could stock were severely restricted by CPA in order to prevent maldistribution of what was available; there were other CPA orders, priorities, etc.; but most of these have been abandoned by the Administration. In September 1946, prior to their abandonment, the Department of Commerce released statistics showing shortages of representative types of equipment, for the year 1946, ranging in amounts from 9 million toggle switches to 64 million connector boxes. They also released a prophecy for 1947, based upon requirements which, of course, were in turn based upon the existing construction and housing program as well as essential maintenance and repair.

The Department expected a surplus of production over demand for the year; however, the accumulated deficit from 1946 more than wiped out the overage in many items, so that only in a few cases could we expect any surplus over the entire two-year period.

This checks substantially with information supplied by manufacturers. And now a new factor is injected for consideration: With the floodgates open, so to speak, to any and all types of construction, at any price, will even the greatly expanded production we expect come even close to meeting demand? Only the most sanguine can expect the few controls left on building to remain in force for very long. It would seem inevitable that the supply would be far short of the enlarged need.

In research, some of the most interesting in the entire architectural field has been reported during 1946. The studies initiated in Texas in regard to school lighting, and repeated elsewhere in the country, have only begun to be appreciated architecturally. Few architects have known how to correlate natural and artificial lighting, or how to eliminate the glare which has seemed an inevitable result of designing for maximum lighting levels. Indeed, few have understood the physical, mental, and psychic results of imperfect design for lighting. As these studies are assessed, revalued, and interpreted in architectural terms, there is bound to arise a new conception of architectural design.

**LAMPS, FIXTURES**


Corning standard line of bowls, globes, torcheres, lamp parts, and lenselets for incandescent lighting applications. New product: Albo-Lite, translucent glass transmitting full color spectrum; available in rolled sheet form. Corning Glass Works, Corning, N. Y.

Curtis commercial fluorescent fixtures [Sky Lux (40, 60), Star Lux], fluorescent recessed troffers (steel and Alumax aluminum), show window reflectors, fluorescent strip lighting (Curtis-Strip), wiring channel (Curtis-Strip), and incandescent recessing equipment. New designs in development. Making shipments on all listed products but demand exceeds production. Curtis Lighting, Inc., Chicago 38, Ill.
Disinfectaire, ultraviolet germicidal units, wall or pendant types. Art Metal Co., Cleveland 3, Ohio.


Hi-Flood Floodlights, weatherproof lamp with high foot-candle output. Designed for severe service conditions. 300- and 500-watt sizes are available. Radiant Lamp Corp., Newark, N.J.

Lightolier residential lighting fixtures and portable lamps available on a quota basis. New line (incandescent and fluorescent) being developed for store, commercial, and residential use. Lightolier Co., New York, N.Y.


General Electric: Slimline and Circline fluorescent lamps, thinner and longer than standard lamps, now available. New 4500°-white color (balance between present white and daylight colors) is available in all fluorescent lamps including Slimline. General Electric Co., Cleveland, Ohio.

Sylvania: complete line of incandescent and fluorescent equipment, also Long Thin fluorescent. New products: Gorham and Sheffield (residential ceiling fixtures) in fluorescent line. Featuring new 4500°-white lamps. Sylvania Electric Products, Inc., New York 18, N.Y.

Westinghouse: complete line of fluorescent and incandescent equipment. Slimline, and Circline fluorescent lamps available; also 4500°-white lamps. Westinghouse Electric & Mfg. Co., Bloomfield, N.J.

EQUIPMENT & ACCESSORIES


Cannon Box Connectors and Conduit Coupling in various types made of die-cast non-ferrous metals and No-Bolt fixture studs are available. New product: box connectors for new code BX-14-3 are available. Will have available...
ELECTRICAL EQUIPMENT, LIGHTING

during the year cable connectors, hospital systems, pipe systems, and in and out registers. Heavy commitments on box connectors. Other products available throughout 1947. Cannon Electric Development Co., Los Angeles, Calif.


Multi-breakers, fusible service equipment, and industrial switches available. New product: MO-4 Multibreaker with 4 single poles or circuits in small enclosure. Can be used in small homes or as load center in larger buildings. Delivery of Multi-breakers better than on other equipment. Square-D Co., Detroit 11, Mich.


INTERCOMMUNICATION


WIRE, CABLE, CONDUIT

Electrunite E.M.T., electrical metallic tubing (Thinwall conduit), and Fretz-Moon conduit, (heavy conduit, Enamelite, and Galvite) available. Steel & Tubes Div., Republic Steel Corp., Cleveland, Ohio.

Everdur electric conduit. The American Brass Co., Waterbury, Conn.

Okonite electrical wire and cable for power and lighting circuits. Manufacturing entire line, including Hazacode Type R, Watertite moisture-resisting Type RW, Performite heat-resisting Type RH and Permax Type RU small diameter rubber insulated wire, Hazakrome Types T and TW thermoplastic wire, Okobestos heat-resistant Types AYA, AYB, AVL, TA, AIA, A asbestos insulated cables, Okonite Varnished Cambric cables. Researching in use of plastics, glass, and other materials. Heavy backlog of orders. The Okonite Co., Passaic, N. J.

Orangeburg fibre conduit and under-floor duct. New factory, but doubt ability to meet demand. Fibre Conduit Co., Orangeburg, N. Y.
NURSES' CALL SYSTEMS: Based upon the use of a portable locking button which the patient pushes to establish signal at points in corridors, nurses' stations, diet kitchens, or utility rooms. Both visual and audible signals are employed, but the latter operate only momentarily and may be silenced altogether. Visual signals continue to indicate until the locked button is reset by the attending nurse at the patient's bed.

VOKALCALL SYSTEMS: A voice communicating system between patient and nurse which supplements the standard visual nurses' call system. Its use saves the nurse many trips to the patient's room, and gives the patient a greater sense of security.

PAGING SYSTEMS: Visual or voice systems controlled from telephone switchboard. Visual is most efficient; doctor's code number is flashed on attractive annunciators throughout hospital.

STAFF REGISTERS tell if doctor is in, notify doctor of messages. Master register is at doctor's entrance, with sub-register at telephone switch board. When doctor registers "in" by flipping switch, his name lights up on all registers. When he flips switch to "out," the reverse takes place. If the telephone operator has a message for him, his name flashes on and off on all registers.

NIGHT LIGHTS: Non-glare, clean, flush or semi-flush types for corridors, stairs and rooms.

INTERCOM TELEPHONES: Many different Auth systems available for inter-departmental use or nurses' home. Selective and non-selective talking systems allowing only one conversation or several conversations simultaneously as may be desired.

FIRE ALARM SYSTEMS supplied to meet local fire regulations. Coded, supervised systems, as well as continuous ringing open circuit systems.

CLOCKS: Synchronous, Telechron-motored clocks, single or double faced with resetting devices to restore to correct time in case of current failure. Also elapsed time indicators for operating, anesthesia and scrub rooms.

ALSO clinic systems, ambulance call systems, return call annunciator systems, chimes, buzzers, etc.

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No matter how efficient your regular heating system may be, there are always times when extra heat is not only a comfort and convenience but an almost necessity.

There are those cold, chilly and damp mornings, for instance, when the regular heating plant is not in operation. Then, there are those cold, blustery days, when wind and cold just will seep into the room and chill it. Or there are those times when it seems hours before heat begins to filter into the house from the regular heating plant.

® Electric Quikheters are ideal for situations such as these. Easy to operate, requiring only the flip of a conveniently-located switch, they send forth billows of warm air that will change the temperature of the average room in three to five minutes.

Install one of these attractive, convenient, fuel-saving, comfort-giving units in your home today and thus provide against unusual weather variations.

Now Available

Built-in ® Electric Quikheters are available in single units of 1,000 and 1,500 watts and twin units of 2,000 and 3,000 watts, for immediate delivery. Contact your nearest electrical contractor for details or send for Bulletin No. 77.

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ELECTRIC QUIKHEATER
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Pittsfield, Mass.

PRIVATE OFFICE, CHEMICAL DEPT., GENERAL ELECTRIC CO.
WILLIAM B. PETZOLD, Designer

JANUARY, 1947
Although manufacturers of all the types of equipment considered under this heading are meeting the same difficulties as others whose products require steel, castings, and motors, there have been many announcements of new models and a few introductions of really noteworthy character. As to availability, during 1946 stocks of domestic equipment on hand, for instance, in both distributors' and factory warehouses, were only a fraction of total shipments. This fact considered by itself is a healthy sign; but considered in conjunction with the enormous demand it does not indicate that such equipment is going to be easy to obtain. In making provisions for kitchen ranges, for instance, the designer must consider that electric ranges are produced in less quantity than gas, so that, unless delivery is guaranteed, electric ranges must be specified with caution. There is also availability of wiring and wiring devices to be considered in this connection.

In kitchen ranges there have been no substantial changes in design, at least beyond the better types available prewar. Some manufacturers have increased the amount or changed the distribution of insulation, modified arrangement of burners, introduced modifications of hinges, rounded corners, etc. But the housewife must still bend far over to examine the contents of oven or broiler. Domestic cold storage has, however, undergone some changes. Numerous manufacturers project "home freezers," and a few are coming on the market. Most refrigerator manufacturers are incorporating storage space for a small amount of frozen food in their products, but few have really closely related these two almost identical pieces of kitchen equipment. Frigidaire has perhaps gone farthest in this direction, by circulating the refrigerant through the walls and some shelves of their new Coldwall refrigerator, thus making possible a substantial amount of deep-freeze space and eliminating the usual space-consuming "freezing" unit (see illustration).

Kitchen cabinets have undergone steady improvement, though nothing individually startling, for several years. The best nowadays employ metal principally, with wood, linoleum, etc., used where specifically needed. Since there are difficulties in obtaining all these raw materials, cabinets are likely to be comparatively scarce and costly for some months.

DOMESTIC KITCHENS, LAUNDRIES
American kitchen cabinets, sinks, tops, cabinets with rounded corners. Line limited somewhat in models available January, but expect to have complete line available later in year; also complete accessories: new automatic dishwasher, garbage disposer, home freezer. Raw materials (steel) availability determines production; don't anticipate meeting demand fully during 1947. American Central Mfg. Corp., Connersville, Ind.

Beautycraft Curv-Line (rounded corners) kitchen cabinets. Factory completely retooled; production potential expanded 200%. Steel, hardware short, Miller Metal Products, Inc., Baltimore 30, Md.

Bendix automatic home laundries; also new dryers, irons. Anticipate greatly increased production; steel the greatest problem. Expect to catch up with demand by end of 1947. Bendix Home Appliances, South Bend, Ind.

Frigidaire, new Coldwall refrigerators (refrigerant circulates through walls, no separate chiller unit); also standard refrigerators; two sizes of home freezers: De Luxe and Standard electric ranges; electric water heaters. Frigidaire Div., General Motors Corp., Dayton 1, Ohio.

General Electric refrigerators, 4 ft home freezer, electric ranges, dishwashers, Disposall (garbage disposal), water heaters, washers, dryers, irons, fans; none available in such quantity that immediate delivery can be assured. Will introduce new washer, home freezer, ventilating fans, two-temperature refrigerator early in year. General Electric Co., Appliance and Merchandise Dept., Bridgeport, Conn.

Hotpoint ranges, refrigerators, dishwashers, Disposall, etc.; complete "all-electric" kitchens. Edison General Electric Appliance Co., Chicago 44, Ill.


Kelvinator and Leonard electric refrigerators, ranges, water heaters; new Kelvinator and Leonard home freezers. Materials shortages, but expect most critical shortages to be eased by summer; probably a year before can satisfy demand. Kelvinator Div., Nash-Kelvinator Corp., Detroit 32, Mich.

Kalamazoo kitchen ranges: coal or wood; gas; coal, wood, or gas combination; electric. Kalamazoo Stove Co., Kalamazoo, Mich.

Kalamazoo kitchen ranges: coal or wood; gas; coal, wood, or gas combination; electric. Kalamazoo Stove Co., Kalamazoo, Mich.

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Kitchen Maid cabinets, counters, sinks of composite construction, part wood, part metal, part...
Majestic incinerator for domestic use, has smoke outlet to connect to chimney flue. Majestic Co., Huntington, Ind.

Majestic incinerator for domestic use, has smoke outlet to connect to chimney flue. Majestic Co., Huntington, Ind.


Do not confuse with Norge refrigerators, freezers, air conditioners. Tappan gas ranges. Production increasing but cannot satisfy demand. Steel shortage may affect adversely. Tappan Stove Co., Mansfield, Ohio.

American laundry equipment: washers, extractors, starching equipment; ironers, all types; pressing machinery, finishers; dry cleaners, rug cleaners, leather cleaners. American Laundry Machinery Co., Cincinnati 12, Ohio.

Art Metal cabinets, shelving, etc., for hospitals, banks, institutional work. Now in production on hospital contracts, expect to meet demands. Art Metal Construction Co., Jamestown, N. Y.


Breese library stacks and equipment. Manufacturing conditions do not permit normal operation. Steel shortage severe. Breese Library & Equipment Co., Inc., Newark 7, N. J.

Capital cubicles and equipment for hospital wards; new four-way fitting requires only one ceiling hook, screens room into four units. Can take care of all anticipated demands throughout 1947. Capital Cubicle Co., Inc., Brooklyn 32, N. Y.

Castle sterilizers, operating lights, incubators, laboratory apparatus, for hospitals sizes standardized and simplified. Wilmot Castle Co., Rochester 7, N. Y.

Conqueror hospital, institutional, and commercial or industrial food service equipment; also specialized hospital equipment, surgical furniture, cabinets, casework; heavy-duty construction, stainless steel; new Tri-Saver coffee urns. Expect to meet most requirements; deliveries will probably be reasonable. S. Blickman, Inc., Brooklyn 19, N. Y.

Duriron, Durichlor, Durimet acid resistant fittings, valves, fans, etc., for corrosion-resistance in laboratories of all types. Expect to satisfy demand. Duriron Co., Inc., New York 17, N. Y.

Elkay hospital equipment: baths, sinks, all types; trays, tubs, tops, etc. Demand huge. Deliveries 60 to 90 days. Facilities being improved, should speed up deliveries. Elkay Mfg. Co., Chicago 50, Ill.

General Fireproofing cabinets, metal equipment, etc. Booking of orders throughout 1947. General Fireproofing Co., Youngstown 1, Ohio.

Jamestown hospital cabinets, expect to increase production stainless steel, sound-insulated. Some difficulty with raw materials, but have not yet been seriously hampered. Jamestown Metal Products, Inc., Jamestown, N. Y.

Keilson apartment house mail boxes; government approved. Production being increased as demands dictate. Bommer Spring Hinge Co., Brooklyn, N. Y.


Nirm Static-Conductive linoleum, specialized conductive flooring for minimizing explosion hazards in operating rooms, laboratories, etc. Situation improving, but do not expect to meet demand during 1947. Conoleum-Nairn, Inc., Kearny, N. J.


Straus-Duparquet food service equipment for commercial, institutional projects. Nathan Straus Duparquet, Inc., New York, N. Y.

COMMUNICATION, AUDIO-VISUAL EQUIPMENT

Amprosound: slide projectors; motion picture equipment, 16 mm silent type Imperial, February 1947; Premier-30 model with new dynamic speaker, January 1947; various other 8 and 16 mm models, silent and sound. Ampco Corp., Chicago 18, Ill.

Bellphone Maestro intercommunicating units; Bell factory paging and music system, February 1947; new residential system later. Production equal to demand; expect some supply problems to be solved better by March 1947. Bell Sound Systems, Inc., Columbus, Ohio.


Filsmsound audio-visual equipment for schools, auditoriums, sales training, etc. Consultant service. Bell & Howell Co., Chicago 45, Ill.


CIRCULATION, TRAFFIC


Materials handling equipment, including new fork truck with 18 ft reach. Elwell-Parker Electric Co., Cleveland 14, Ohio.
Otis elevators, escalators, dumbwaiters; blast furnace hoists, bell hoists, stock line recorders. All available immediately; others delivered during first half of 1947 if materials become available; others should be available by second or third quarter. Otis Elevator Co., New York 1, N. Y. F. S. Payne Co., Cambridge 40, Mass. Rotary Oldraulic elevators, about 12 months delivery; Levelators, 6 to 8 months: expect to catch up with demand later in 1947. Rotary Lift Co., Memphis, Tenn.

FIRE PROTECTION


Recreation, Amusement, Theaters

DRAFTING EQUIPMENT

Fig. 7: Rotary Lift's Oldraulic elevators are being produced in quantities which may permit catching up with demand late in 1947.

Fig. 8: New Cardox Transitank and Fire Trailer for fire protection at airports, large plants.

Fig. 9: Audio-visual teaching methods demand new types of school equipment. Fig. 10: Bell & Howell's Filmsound 179, sound-on-film projector. Fig. 11: Ampro Corp's 8 mm projector; and, Fig. 12, Dual Slide Projector.
THE PROBLEM
To provide economical elevator service for a three-story manufacturing plant of functional design. All movement of raw and finished materials in plant to be handled by fork lift trucks which are to be carried on elevator in process of loading and unloading. Architect's visualization calls for building without elevator penthouse to break streamlined contour.

THE SOLUTION
The architect analyzed his problem as follows:
(1) Since no elevator penthouse was desired, a push-up type elevator should be used. (2) Loading by power vehicles called for unusually accurate landing stops and for an elevator of very strong construction. (3) Initial cost of elevator, including construction provisions, must be held to a minimum. . . . elevator operation and maintenance expense must be low. Result: A Rotary Olddraulic Elevator was selected because it met all these requirements.

Elimination of Penthouse
Streamlines Building Design
The Olddraulic Elevator requires no costly, unsightly penthouse because it's pushed up from below by a powerful hydraulic jack . . . not pulled from above. This also makes possible a lighter shaftway structure . . . no need for heavy load-bearing supporting columns to carry the elevator and its load. No special machine room necessary either . . . the compact power unit can be located in any convenient space on any floor.

Olddraulic Controller
Insures Accurate Landing Stops
Where loading and unloading is done by power vehicles, the Rotary Olddraulic Elevator is first choice. Guided by a highly efficient mechanism called the Olddraulic Controller, it operates smoothly and rapidly, stops at floor landings with accuracy, and holds the landings. Also important for this type of service is the rugged construction of the elevator car, with its heavily reinforced sling and platform.
Selected
MONTGOMERY ELEVATOR DOOR DETAILS

Dimensions on these details based on 1 3/4" door thickness

CENTER OPENING DOORS

SINGLE SLIDING DOORS

TWO SPEED SLIDING DOORS

DIMENSION KEY
A Rough opening size for standard unit type frame.
B Finish width plus 8" on each side, finish height
C plus 8" on top. Con
ductor to fill in around frames after they are set.
D 1/2 landing door opening 4 1/2".
E 5" Power operated doors.
F 3 1/2 Manual operated doors.
G 2 deep sill pocket entire width of hatch.

Center Opening Doors. These doors usually allow an opening about 1/2 the width of the car but more readily permit a successful architectural treatment since both doors are in the same plane. Center opening doors are sometimes advantageous because they operate faster than the other types.

Single Speed Sliding Doors. These are used where a door opening about 1/2 the width of the car is acceptable, and where it is impossible to allow the door to swing out into the corridor in front of the elevator.

Speed Sliding Doors. These are used where a wider opening into the car is desirable. They allow an opening equal to about 2/3rds the width of the car. These are probably the most commonly used, especially where doors are power operated.

MONTGOMERY ELEVATOR
Door Details

Selection and designing of elevator door openings can be greatly simplified through the use of Montgomery Elevator Door Details. Door Details shown here are representative passenger elevator types. Details of other Montgomery Passenger and Freight doors are available. A new folder containing these Details will be sent on request. Use the coupon below!

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Firm Name _______________________
Address _________________________
City __________________ State _______
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RESIDENCE near Chicago, Ill.

McSTAY JACKSON CO., Designers
Air and Temperature Control

1-71. American Air Filters, Complete Catalog “A” (Form 530-40H), American Air Filter Co., Inc. Reviewed December.


1-73. Carrier Air Conditioning, Refrigerating, and Unit Heating Equipment, AIA 30-F-2, 11-p. illus. catalog briefly describing types of heating, refrigerating, and air conditioning systems; use, advantages, characteristics of each. Carrier Corp.

1-74. Certified Counterflow Air Conditioner Heating Systems (383C), 4-p. illus. bulletin on features of domestic heating units; oil, coal, stoker firing. Dimensions, specifications. Certified Furnace Co.


1-77. Johnson Type 30-AV Fuel Oil Burner (Data 30 AV-2), 8 pp.illus. Automatic rotary oil burner for commercial and industrial heating and power; sizes, capacities. S. T. Johnson Co.

1-78. Hi-T cast W eeman Boiler, AIA 34-B-1 (Cat. 89a), Kewanee Boiler Corp. Reviewed December.

Electricity

1-82. Personalized Heat Control for Apartments (Form SA-11553), 44-p. illus. engineer's handbook on methods of applying pneumatic or electric (or combination) control systems to apartment buildings, 6 layout drawings, engineering data. Minneapolis-Honeywell Regulator Co.

1-79. You Know the Answer to Packaged Heat, “Whirl-O-Matic,” illus. consumer's booklet (4x9) on domestic electric heating unit for steam or hot water systems. Persiro Mfg. Corp.


1-83. Automatic Heat for Real Living, 56-p. illus. consumer's booklet (4x6%). Discussion and advice, directed toward house owners, on house heating in general; various types of heating systems and wiring; air conditioning. Advantages of types of “Janitrol” heating systems and description of equipment. Brief glossary of heating terms. Good to give clients. Surface Combustion Corp.

Electronic Equipment and Lighting


5-51. Electric Time Systems and Equipment (Form 747), 18-p. illus. booklet on time systems and equipment for schools, colleges, offices, industrial plants. Features master, program, and synchronized clocks, time recorders, and control equipment. Cincinnati Time Recorder Co.

5-47. The Overhead Door with the Miracle Wedge, The Overhead Door Corp. Reviewed December.

5-47. Canopy Doors for Private Plane Hangars (C-50-7500), Truscon Steel Co. Reviewed December.

Electrical Heating


From Kent Metal Mfg. Co. Reviewed December:

5-42. Architectural Kent Lighting (Bulletin 14).

5-46. Architectural Lighting.

From National Adequate Wiring Bureau. Reviewed December:


5-15. Modernizing Your Home? (M-3).

5-16. Beauty, Comfort, and Livability in Every Room (M-4).

5-17. Check Your Wiring (M-5).


5-52. Talk-A-Phone Has Everything, 12 pp., illus. Descriptive catalog of electronic inter-communication systems with emphasis on a new sub-station system. Talk-A-Phone Co.


Finishes and Protectors


6-81. The Trowel (Volume 1—No. 9), 12-p. illus. booklet on concrete maintenance. Discusses cause of concrete disintegration; how to make successful repairs on concrete bridges, floors, buildings, railroad structures, etc., with “No-Shrink Enco” and other waterproofing and sealing products. The Master Builder Co.

6-82. Aluminum Paints by Valspar, 4-p. illus. fold-out chart showing 8 types of aluminum paint, their use, sample of finish, drying time, and special purpose. Valentine Co., Inc.

6-50. Dewaxet Lacquer #1, AIA 7-B-2, S & S Chemical Co. Reviewed December.


Insulation (Thermal, Acoustic)


Load-Bearing Structures


12-97. Cemadobe (Second Ed.), 32 pp., illus. Or "how to make your own bricks of earth and build your own house ... suitable for any climate." How to make and use cement-adobe. Cem-Adobe Co. ($1.00 per copy—make check or money order payable to Cem-Adobe Co.)


12-91. Precision Granite Aggregates, AIA 8-B-2 (June 1944, No. 2), H. E. Fletcher Co. Reviewed December.

12-98. The Naperville Plan, 16-p. illus. booklet (8½x11) on the solving of veterans' housing problems by use of prefabricated houses. The Home Ola Corp.

From Lincoln Electric Co. Reviewed December:
12-93. Arc Welded Jack Truss, AIA 13-C-2 (Plate 101, Cont'd from Plate 100).
12-95. A Light Welded Queen Post Truss, AIA 13-C-2 (Plate 103).
12-96. A Light Welded Queen Post Truss, AIA 13-C-2 (Plate 104, Cont'd from Plate 109).
19-74. Macotta, Maul Macotta Corp. (See No. 19-74 under "Surfacing Materials.")
12-100. Vi-Brik-Crete, Model 750, 4-p. illus. folder on a vibrating machine which makes concrete brick. Operation cost, specifications. R. S. Reed Corp.

Materials of Installation

Non-Load-Bearing Structures
14-09. Hollow Metal, AIA 16-A, Jamestown Metal Corp. Reviewed December.
14-11. Moveable Steel Partitions and Metal Wall Paneling, AIA 35-H-6, 14-p. illus. booklet on moveable partitions and paneling for interiors. Detailed drawings of elevations and sections; specifications, construction details, examples. Martin-Parry Corp.
14-10. Glass Blocks (G-5270), Pittsburgh Corning Corp. Reviewed December.
14-13. PC Glass Blocks for Schools (G-2228), 2-p. illus. folder on lighting and insulating value of glass block used in school buildings. Pittsburgh Corning Corp.

Sanitary Equipment, Water Supply & Drainage

Specialized Equipment
19-78. Venus Blue Band Coloring Pencil, illus. folder (2½x5), presenting color and usage charts for the "Venus" waterproof pencil. American Lead Pencil Co.

19-79. Guide for Architects and Engineers Having Veteran's Hospital Commissions. A "Bible" on hospital equipment, very comprehensive and valuable correlation of Veterans Hospital Program requirements with available equipment, with emphasis on sterilizers, all sizes. Room-by-room guide, plans, elevations, details, equipment catalog numbers, mechanical requirements, air conditioning loads imposed, all related to the governing Federal Specifications. Available at once to designers having Veterans' hospital commissions; may be adapted in future for other hospital types. American Sterilizer Co.
13-44. Croker "ABC" of Safety (Cat. 46), Croker Fire Prevention Corp. Reviewed December.
19-50. Diebold (AL-1779-246), 14-p. illus. brochure; equipment including storage and bank vaults, safes, hollow metal and fire-resistive doors, microfilming, and record-keeping systems. Diebold, Inc.
19-51. Faries Presents the New Parkway, 4-p. illus. folder featuring a bonded, zinc-coated, all-steel bathroom cabinet with baked white enamel finish. New features include separate cosmetic, drug, and shaving compartments, razor blade disposal, etc. Lists prices and sizes. Faries Mfg. Co.
19-52. Mengel Module, The Furniture That You Design, illus. folder on pre-fabricated units designed to a standard unit of measurement, making it possible to combine various units to suit individual cabinet furniture needs. The Mengel Co.
13-47. Servel Gas Refrigerator, AIA 30-F-6, Servel, Inc. Reviewed December.

Surfacing Materials
19-74. Macotta, 8 pp., illus. booklet on colored mosaic or veneer units for building exteriors, shop and theater fronts, tunnel and subway linings. Specifications, detail drawings. Maui Macotta Corp.
19-75. Flexwood-Flexglass, illus. folder on advantages and uses of a pliable wood veneer and a flexible glass. United States Plywood Corp.

Traffic Equipment
BOOKS

By JOHN RANNELS


The American Standards Association Project A62 was authorized in July 1939 after a representative industry conference convened by the ASA. The project was sponsored jointly by the American Institute of Architects and the Producers’ Council, Inc., with a staff provided by Modular Service Association. The work of the project is being carried forward by ASA Sectional­al Committee A62 and 16 study committees broadly representative of the construction industry and related interests.

The scope of the project:

a. The development of a basis for the coordination of dimensions of building materials and equipment, and the correlation of building plans and details with such dimensions.

b. Recommendation of sizes and dimensions as standards suitable for dimensional correlation. The following have already been established as “American Standard” and are included in an appendix to this Guide: (1) Basis for Coordination of Dimensions of Building Materials and Equipment; (2) Basis for the Coordination of Masonry; (3) Sizes of Clay and Concrete Modular Masonry Units.

An increasing number of products is being manufactured in modular-coordi­nated sizes. Wood framing, wallboard, glass block, etc., are already made in standard sizes which are in agreement with modular coordination and it is anticipated that all suitable construction materials and equipment will ultimately be dimensioned accordingly. The study of equipment has not yet “jelled” sufficiently to be included in the Guide. The use of these modular products will give increased economies and simplifica­tions whether the methods developed in this Guide are used consistently or not.

The Standard Basis (Ch. 1) is simple: a continuous three-dimensional grid with lines 4 inches apart to which all dimen­sions are referenced. Modular products are sized so that details work out sensi­tively. Thus windows and doors are not themselves multiples of the 4-inch module but consecutive sizes differ by a unit of 4 inches (e.g. a multiple of 4 inches) so that details for all sizes have the same relationship to grid lines. Thus the grid is used pri­marily for the design and coordination of building parts by means of “modular details.” True modular planning, in larger structural increments, and the advantages of this spreading practice (increasing plan flexibility, repetition of a constant structural element) are not developed in this book.

The method of dimensioning has been worked out with admirable consistency, but many an architect will balk at it and it remains to be seen whether the building industry will take to it in actual construction. The gist of it is that units of construction (masonry, wood framing, etc.) are generally en­tered on or between grid lines. Dimen­sions falling on grid lines are indicated by an arrow, other points are indicated by a dot. This keeps the designer in touch with grid relationships, even on small scale drawings. When carried into working drawings, however, it requires the mechanic to reference­ing actual surfaces to the grid by means of “Reference Dimensions.” This is common practice in locating partitions in wood framing but it may not be easy to train masons to measure to center of joints or to work, for example, from a theoretical floor line ½ inch (½ joint) above the actual finished floor.

The 4-inch grid is certainly an excellent instrument for studying the problems of detailing modular products and for determining the most direct and econom­i­cal solutions. Its effective use requires plenty of practice. Perhaps its advantages may be most widely utilized by working out details in accordance with the principles of this Guide and then dimensioning actual drawings in accordance with general practice.

Modular masonry units (Chs. 2, 3) are sized so that a unit plus a joint equals a modular dimension (or a subdivision, as 3 brick courses equal to 8 inches or 4 brick courses equal to 12 inches). Sizes are given to nominal surfaces at center of joints. Thus 5⅞ by 12 inch facing tile is actually 5-1/16 by 11⅜ inches with ⅛ inch joints. Very com­plete diagrams and tabulations are given for bonding the various sizes of masonry units and for achieving flexi­bility in plan layout and wall heights and, of course, economy due to full use of the units without clipping.

Coordination with modular masonry is a major factor in the development of modular details for other elements of the building. In fact the method is based very largely on masonry and in some instances other products are “forced” to fit nominal masonry openings. This is especially true of details for glass block where the mechanic to be constantly adjusted­ment of the joints in the block panels. Custom masonry (Ch. 4—cut stone, cast stone, precast concrete, terra cotta) can be closely coordinated with modular masonry without putting any restric­tions on the designer. Or stonework may be designed to nominal grid sizes in the same manner as used for modular masonry units in the Guide. Manufacturers supply ashlar in nominal grid sizes on order; stone sills have been developed by A62 committees for use with stand­ard wood and steel sash; various slab thicknesses for sills have been recom­mended by the industry; but so far none of these products has been estab­lished as “standard.” This section of the Guide shows most clearly the method of modular coordination apart from modular products.

Floors (Ch. 5) in masonry structures are set with finished floor ½ inch below the “nominal” floor level, which is placed on a grid line. This seems to be done on the assumption that a joint in exterior masonry will also occur at the nominal floor line. Floors in wood frame (next chapter) are han­dled more intelligently, placing the sur­face of the underfloor on the grid line. Forcing the nominal floor to a grid line might result in more difficulties than simplifications.

Wood frame (Ch. 6) is treated rather briefly but very well. The details have not been studied by A62 committees but are based on experience of Modular Service Association and various archi­tects and contractors. There is no dis­cussion of modular planning so impor­tant in utilizing lumber and building board. Details are generally very good although an occasional detail is “forced” into grid positions for no apparent prac­tical reason.

Windows, Doors, Glass Block (Chs. 7, 8, 9) furnish the most thoroughly worked out material in the book. Here are de­tails developed by the industries and recommended as standard. Complete schedules of standard sizes and types of windows are included but close attention to details is required to determine over­all sizes. For example, double hung steel window widths include the frame while double hung wood window widths are sash sizes.

In Chapter 9 discrepancies “must be absorbed” by compressing mortar joints between glass block. Such strict adherence to “grid openings” may be more trouble than it’s worth. (In Chapter 7 jamb clearance for steel sash is ob­tained by clipping brick—a more rati­onally obtained procedure.)

Chapter 9 has an elevation diagram showing combinations of glass block and window sections which is key to the large-scale details. This sort of coordi­nation of information is all too rare in the book.

Skeleton Frame (Ch. 10) is largely an application of the dimensioning princi­(Continued on page 130)
QUESTION: What's the best method of flashing valleys for various kinds of slopes?

ANSWER: See pages 56 to 59 in Revere Manual* of Sheet Copper Construction.

LIKE every other type of sheet copper construction, valleys were included in Revere's extensive sheet copper research program. New basic principles were discovered and tested, were applied to valleys as well as to every other kind of building construction in which sheet metal plays a part.

The results are clearly presented in text and detail sheets in Revere's 96-page manual* on the subject. In all matters of sheet copper construction it will pay to turn to this manual first. It is designed to be of practical use to all architects and sheet metal experts. By relying on this authoritative booklet you can be sure of superior, enduring sheet copper construction based on sound engineering design.

Revere materials are available from leading distributors throughout the United States. A Revere Technical Advisor, Architectural, will always be glad to consult with you without obligation.

*Entitled "Research Solves Problem of Stress Failures in Sheet Copper Construction."

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Truscon Welded Steel Fabric is made in various sizes for concrete reinforcing in all types of structures, and highways. Each joint is electrically welded for permanence.
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PIVOTED WINDOWS
Adaptable to all types of industrial and commercial buildings. Easy to open and close. Come in a wide range of sizes.

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Lever Arm or Rack and Pinion Types for operating long runs of Pivot or Projected Windows.

CRANE DOORS
Frequently the cost of this type door can be saved in a single season due to increased efficiency of workmen and fuel savings. Door leaf can be completely filled with sash to permit maximum transmission of daylight. Doors open and close quickly. Usual electric operating speed is 45 feet per minute.

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Truscon swing and slide doors are adaptable for use in basements, rear entrances, boiler rooms, fire exits and similar places in residences, hotels, apartments, schools, churches, shops, warehouses, factories, filling stations and stores. They are durably made for heavy usage.

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Consists of two leaves, each approximately 1/2 the opening height, sliding vertically upward. The setting rail joint between the two leaves is effectively weathered. Rubber weathering an also be applied at the top and to the bottom rail.

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Designed for rapid operation, they are effective barriers to infiltration of cold air and resultant heat loss in industrial buildings of all types. An important advantage of this type door is the reduced clearance required inside the building for opening and closing these doors.

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pies of Chapter 1, with particular emphasis on coordination with modular masonry. Brief as it is (14 pp.) this chapter is "padded" with large-scale diagrams. There is just a hint in the sections on column layout which might be developed into a demonstration of modular structural planning. A sample layout is given which illustrates the variety of factors involved in frame coordination. (Plan and elevations at ¼ inch scale; details at 1½ inch scale.)

Stairs (Ch. 11) do not work too well into the grid system but can be referenced to it with resulting economy of detail. Good details are given for 10-inch treads and a riser table is given to show all heights (varying from 7.2 to 7.8 inches) to coordinate with all floor heights from 8 to 13 feet.

Working Drawings (Ch. 12) are illustrated by a full selection from the actual drawings for a New York City health center in which modular coordination and a variety of modular products are used. Not all the recommendations of the Guide were followed, notably the referencing of vertical dimensions. (The architects have placed the grid line on the finished floor, for example.) These drawings demonstrate that the method is entirely practical. When this job goes out for bids, the reactions of the contractors (if they can be assembled) will complete the critical evaluation of the method.

The value of modular coordination is established. In the A62 Guide are assembled for the first time the results of a great amount of serious work by the many representatives of the building industry who have been concerned with it. The Guide is worth careful, open-minded study by all architects. If this results in a series of arguments in the technical press, it will bring out to the fullest extent the values inherent in the principles of modular coordination and their reduction to general office practice. It is to be hoped that modular construction details from various architectural offices will be published. This might accelerate the more general use of modular products which are not yet as widely produced as the Guide seems to imply. (Modular masonry is not yet generally available in the New York area, for example.)

The question of dimensioning, so paramount in the Guide, can stand considerable airing. The method of the Guide may prove to be the best technique for the detailer to set up a job for economy of materials, yet it may be preferable for working drawings to be dimensioned as at present for the benefit of the mechanic on the job.

The Book itself is a beauty, handsomely printed on very good paper with generous margins, about half text and half drawings. The text is well organized; the drawings are large-scale, clear and open. In fact the presentation is so impressive that there is danger of making a ritual of its method or else rejecting it altogether as doctrinaire. There’s too much of worth here for it to deserve either fate.

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No. 117—Furnace cleaning, portable
No. 138—Dry mop cleaning
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HANDBOOKS

By JOHN RANNELLS

Procedure Handbook of Arc Welding Practice, Eighth Ed. 1945. The Lincoln Electric Co., 12818 Colt St., Cleveland, Ohio. 1267 pp., illus. 5½ x 8½, index, tables, diagrams. $1.50.

Of primary interest to mechanical and structural engineers, this compendious volume also has much of value for architects and industrial designers. Here is the "dope" on welding, complete. The sections on welded steel construction, designing of arc-welded structures, and typical applications of arc welding are particularly full of suggestions for the designer.
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JANUARY, 1947 131
This critical bibliography is drawn largely from wartime American and British articles about the Soviet Union which have appeared in the professional planning and architectural journals. It includes also pertinent articles from certain popular periodicals, newspapers, and books. The review is incomplete for it was not possible to note all publications in English which might have been relevant.

The bibliographical notes are arranged alphabetically under each section, with British publications preceded by an asterisk. Certain abbreviations are used, and articles which fall under more than one category are cross-referenced. Only mention was given articles of secondary interest. The kind services of the Regional Planning and Architectural Libraries of Harvard University facilitated this research.

**REVIEWS**

**PLANNING, HOUSING, ARCHITECTURE IN THE U.S.S.R.**

By RITA DAVIDSON

(Continued on page 134)

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**RECONSTRUCTION**

American Russian Institute, Inc.

U.S.S.R. IN RECONSTRUCTION. A COLLECTION OF ESSAYS. (New York: The Institute, 56 W. 45 St., 1944, 160 pp.) These essays deal with the various phases of rebuilding the Union, including problems of resources, agriculture, labor, and trade. Of particular note: Planning and Reconstruction, by Mary van Kleeck (which surveys the prewar plans for industrialization and collectivization of agriculture and the way reconstruction has been fitted into this pattern) and Municipal Reconstruction, by Hans Blumenfeld, noted below.

ASPO, NATIONAL PLANNING IN THE U.S.S.R. (Jan., 1945, p. 8)

*Cran, A. O. PLANNING IN THE U.S.S.R. (P & R Yrbk, 1942, pp. 168-73) Reconstruction was a process interrupted, not initiated, by the war and is a matter of carrying out existing, partially realized plans. The background of the earlier plans (first, second, and third) is given in terms of the development of agriculture, industry, transportation, commerce, and social progress.

Hersey, John. REPORT FROM RUSSIA. (Forum, Oct., 1944, p. 77) Soviet reconstruction has 3 stages: (1) restoration of minimum living facilities; (2) semi-permanent temporary housing and emergency factories; and (3) long-range reconstruction. The Russians are not rebuilding, but rather are replanning completely and projecting the five year plans of the prewar period. Temporary reconstruction is being executed with extraordinary attention to the details of the long-range plans, many of which were already drawn up.

*Kahn, Henry S. THE RECONSTRUCTION OF RUSSIA. (Muncpl Jrl, Sept., 8, 1944, p. 1521) The Academy of Architecture has the responsibility for creating plans to reconstruct not only the destroyed towns but to replan the backward towns which were not ravaged. The ultimate goal is beautification of all towns rather than a mere rebuild.

PP, RUSSIA IS NOT WAITING FOR THE END OF THE WAR TO BEGIN RECONSTRUCTION. (July 1944, p. 23)


(Continued on page 134)

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1 ABBREVIATIONS USED

ASPO, American Society of Planning Officials (monthly newsletter)

Am City, The American City

Arch Jrl, The Architects' Journal

Arch Rev, The Architectural Review

Forum, The Architectural Forum

GR, The Geographical Review

J RIBA, Journal of the Royal Institute of British Architects


Nat Muncpl Rev, The National Municipal Review


PP, Pencil Points

P & R Yrbk, Planning and Reconstruction Yearbook (London: The Todd Publishing Co., Ltd.)

R, Record, The Architectural Record

T & CP, Town and Country Planning
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(Continued from page 132)

first things are first. Industries are restored, the schools are put in order, and public restaurants, commercial food centers, and some theaters are rebuilt, in that order. Villages are being replanned in toto, and, instead of lying alongside a main highway in two monotonous rows, will form cul-de-sacs off the main transportation route. One side of a village may even be scrapped completely if it does not fit in with the new scheme.

Strong, Anna Louise. RUSSIA REBUILDS. (The Atlantic Monthly, Dec. 1944, pp. 92-6) A vivid description of the passion for reconstruction in all phases of life—health, industry, agriculture, and shelter. Amazing are accounts of the efforts to preserve historic monuments in the midst of rebuilding and the detailed rebuilding plans which were worked out long before the enemy was routed.

Survey Graphic. (Feb. 1944) In this entire issue devoted to the U.S.S.R. are articles about various aspects of the wartime nation. Of these, two are particularly pertinent here, Mary van Aken's The Soviets and the New Technology, pp. 105-7, and Maurice Hindle's Youth and its Skylines, pp. 102-4.

* & CP. SOVIET RECONSTRUCTION PLANS. (Autumn 1943, pp. 123-4)


VILLAGE, TOWN AND REGIONAL PLANNING

Am City. RUSSIAN URBAN RECONSTRUCTION EMPHASIZES PLANNING. (Nov. 1945, p. 102) Description of an extensive program for the construction of seven major cities.

Archis Jrl. SOVIET TOWN PLANNING. (Oct. 16, 1944, pp. 258-9) Russian standards for gardens, playing fields, etc., on a per capita basis.

Blumenfeld, Hans. MUNICIPAL RECONSTRUCTION. (THE U.S.S.R. IN RECONSTRUCTION. (Task Magazine No. 5, Oct. 1942, pp. 31-52) Urban population in the Soviet Union in 1959 was about 60 million, an increase of 30 million over 1927. The task of accommodating this vast number of new city dwellers in so short a time reveals the magnitude of the Russian city planning problem. This article is the most satisfactory of any which are concerned with Soviet policy on location and city size, land use, the superblock, and the important distinction between social-economic planning and physical planning. The article, in condensed form, also appears in Soviet Culture in Wartime No. 2, 1944, pp. 16-22.

Blumenfeld, Hans. REGIONAL AND CITY PLANNING IN THE SOVIET UNION. (Task Magazine No. 3, Oct. 1942, pp. 31-52) Urban population in the Soviet Union in 1959 was about 60 million, an increase of 30 million over 1927. The task of accommodating this vast number of new city dwellers in so short a time reveals the magnitude of the Russian city planning problem. This article is the most satisfactory of any which are concerned with Soviet policy on location and city size, land use, the superblock, and the important distinction between social-economic planning and physical planning. The article, in condensed form, also appears in Soviet Culture in Wartime No. 2, 1944, pp. 16-22.

Blumenfeld, Hans. SOVIET CITY PLANNING. (P & R Yrbk, 1946, pp. 230-50) Blumenfeld, who worked on the plan for Vladimir (a city about 120 miles east of Moscow), describes planning development in that city to illustrate the Soviet urban planning process. (A similar article by Blumenfeld appeared previously in the Am Review of the Soviet Union, No. 4, 1944, pp. 53-65.)

Gray, George H. AUTHOR'S IMPRESSION OF RUSSIAN PLANNING IN 1937. (Housing and Citizenship, A Study of Low-Cost Housing. New York: Reinhold Publishing Corp., 1944, pp. 113-15) A brief review, with photographs, of planning efforts so vast that one feels Roman Emperors, Louis XIV, and Napoleon III were "makers of little plans."


Harris, Chauncey D. CITIES OF THE SOVIET UNION. (GR. Jan. 1945, pp. 107-21) ETHNIC GROUPS IN CITIES OF THE SOVIET UNION. (GR. July 1945, pp. 466-75) Harris draws no conclusions from the wide information and maps.

(Continued on page 138)
Air Conditioning . . . Builder of Good Will and Business for Banks

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REVIEWS

(Continued from page 134)

be provides showing growth, distribution, functional classification, and ethnic factors of the Russian cities. These articles provide, however, excellent factual background for an understanding of the urban structure of the Union and its current town planning practices.

*Heath, Frank. TOWN PLANNING IN THE SOVIET UNION. (Am City, Aug. 1941, pp. 44-5) A good survey of the city planning organizations, their legislative framework, and the way planning ideas have crystallized. Includes a description of the Soviet concept of the neighborhood unit.

*Ivanitsky, A. THE DEVELOPMENT OF CITY PLANNING IN THE SOVIET UNION. (Am City, Aug. 1941, pp. 103-9) A quick survey, useful if one's time is limited, but really presents no information which cannot be found in the other articles here.

*Ling, Arthur. PLAN IN THE SOVIET UNION. (Am City, Aug. 1941, pp. 179-83) All inhabited centers must have a plan, and industrial location and agricultural policy are basic to these schemes. Ling makes the planning seem very human and indicates that the individual character of each city is preserved.

*Natl Munpl Rev. SOVIET PLANNING. (Dec. 1945, p. 593)

*Parkes, Bertram C. TOWN PLANNING AND THE SOVIET UNION. (Archs' Jot, Nov. 1 1, 1943, p. 155) Short description of the organization and training for planning, with emphasis on planning as a team responsibility and the way the prevailing economic and social system conditions training. The student does not have our worries about land ownership, land use control, etc., and can utilize fully his technical training, but Ling neglects to mention what problems DO face him.

*Ling, Arthur. PLANNING IN THE SOVIET UNION, OP & R Yrbk, 1944-5, p. 179-83) All inhabited centers must have a plan, and industrial location and agricultural policy are basic to these schemes. Ling makes the planning seem very human and indicates that the individual character of each city is preserved.

*Parkes, Bertram C. TOWN PLANNING IN THE SOVIET UNION, (P & R Yrbk, 1943, pp. 199-202) Stresses that town planning is only part of an overall scheme of national development and that the construction programs are very definite, with a strict time limit, in contrast to present planning here. Parkes shows, by reference to the Moscow plan, how "city planning" in the Union includes all aspects of a municipality's requirements.

*Semonov, Vladimir. HOW THE U.S.S.R. IS MODERNIZING ITS CITIES. (Am City, Oct. 1941, p. 165) Cultural heritage is emphasized on a national scale in the replanning programs placed in the perspective of the major town building which occurred ten to fifteen years prior to this war.

(Continued next month)

NOTICES

Announcement has been made of the appointment of SERGE CHERMAYEFF as director of the Chicago Institute of Design, succeeding the late L. Moholy-Nagy.

LESTER C. TICHY has announced that C. RALPH FLETCHER and RAOUl L. DuBRUL have become associates in his firm.

VICTOR BOHM has moved his Trenton, N.J., office to 146 W. State St., opposite the State House.

CHARLES ROBERTS, A.I.A., has opened an architectural office at 539 N. Home­wood Ave., Pittsburgh, Pa.

K. RODERICK O'NEAL has announced the opening of an office for the practice of architecture at 111 W. Jackson Blvd., Chicago, Ill.
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WE HOPE THAT ALL OF YOU WILL NOTICE THE SERIOUS ATTEMPT MADE IN THIS ISSUE TO STIMULATE INFORMATIVE TECHNICAL ADVERTISING ON THE PART OF THE MANUFACTURERS OF BUILDING MATERIALS. It is the result of offering to the advertisers the chance to place their ads in the editorial body of the magazine in this special issue—provided they met certain standards of format and information. A constant gripe on the part of the profession is that the manufacturers advertise in the architectural press as though they were speaking to consumers rather than designers. Here is our first step in a campaign to improve the situation.

* THIS QUESTION CAME UP AT A RECENT MEETING OF THE NEW YORK CHAPTER OF THE A.I.A. DEVOTED TO THE SUBJECT OF ARCHITECTURAL JOURNALISM. Your correspondent pointed out that this magazine, like the others, is available to you at a reasonable subscription rate because we sell advertising (otherwise subscriptions would cost somewhere between $15 and $20 a year), and it is obviously impossible to dictate the point of view of the ads. However, we can guide and advise, and we are doing that. I also pointed out that the reasons for non-technical advertising are several: in some cases the manufacturers and their advertising agencies are merely shortsighted; in other instances they are honestly convinced that the contractor, not the designer, controls the selection of products. There is a selling job to be done here by the magazine, but in a sense we are acting as your spokesman. We are selling the new architect, interested in, specifying in the materials, methods, practice—all of these, not as ends in themselves, but as they affect progress in architecture, the end result we are all working for.

Readership: design professionals only.

Selection: on the basis of a planned program, with types, regions, and designers as diversified as our aims allow.

Advertising: as much guidance toward informative advertising as we can possibly effect; an objective editorial treatment, never colored by advertising pressure.

Criticism: as much criticism of the material we publish as the profession will stand.

The discussion on criticism reached no conclusion, but ended with the inevitable, still unanswerable question: can the profession take criticism? Will you readers and contributors and designers support it? We aren't ready yet to report on reactions to our November hospital critique, except to say that all comments have been favorable. That isn't enough; everyone loves to read criticism, but when it's your job being analyzed, can you take it? We'll have to think this through very carefully and we hope more groups will discuss the matter. It concerns the whole profession, not just PROGRESSIVE ARCHITECTURE and its policies.

* SO YOU THINK AN ARCHITECT IS IMPORTANT? YOU THINK HE'S A PLANNER, A VISUALIZER, AN ADVISER TO CLIENTS WITH SHELTER TROUBLES? You think he determines the size, the shape, and the disposition of elements? Then swallow this bit of correspondence:

"University of Chicago Office of Press Relations

Release to papers, Saturday, Oct. 19, after 12 o'clock noon.

Gift of a million dollars by the Goldblatt Brothers Foundation to establish The Nathan Goldblatt Memorial Hospital as the center of the University of Chicago's extensive program of cancer treatment and research was announced yesterday (Sat.) by Ernest C. Colwell, president of the University. If conditions permit, construction of the hospital will begin next spring. Immediate application for approval will be made to the Civilian Production Administration. Preliminary plans call for a six-story structure, which probably will be increased to seven floors, with basement and sub-basement, providing a minimum of 800,000 cubic feet and 50,500 square feet of floor space.

The hospital will provide at least 50 beds in single and two-bed rooms, together with the usual service features necessary for the comfort of patients. There will also be two operating rooms, an outpatient clinic, offices and research laboratories for the staff, diagnostic laboratories, administrative quarters, reception rooms for patients and their relatives, and conference rooms for the staff and the scientists working under the Committee on Cancer and the Committee on Normal and Neoplastic Growth."

"Office of Press Relations

University of Chicago

Chicago, Illinois

Dear Sirs:

We have your press release dated 10-18-46, concerning the Nathan Goldblatt Memorial Hospital. A great deal of useful information is contained therein but the name of the architect who is preparing plans is noticeably missing. Since this is the one thing in which we are most interested, I would very much appreciate your filling the gap.

Editor, Progressive Architecture"

"Editor, Progressive Architecture:

I have delayed answering your letter relative to the architect of the new Nathan Goldblatt Memorial Hospital at the University of Chicago, for I thought the choice was only a matter of days. The decision, however, has still not been made. The elevation sent you is an artist's sketch of what the building would look like.

When a decision is made, I shall be very glad to let you know the name of the architect.

Department of Press Relations

University of Chicago"

Inconceivable? Yes, but true.