

● PC Glass Blocks are becoming more popular—for both new construction and modernization—because they offer so many valuable advantages in a single building material. They combine the light-transmitting values of glass with the insulating values of a masonry wall. They permit the use of large daylight-transmitting panels, without the heat loss and other costs which frequently result from using large areas of ordinary windows.

© 1948  
Pittsburgh Corning Corporation

PC

GLASS BLOCKS

A Modular Product

PITTSBURGH CORNING CORPORATION

• PITTSBURGH, PA.





# PITTSBURGH CORNING CORPORATION

632 Duquesne Way • Pittsburgh 22, Pa.

Distributed by Pittsburgh Plate Glass Company, by W. P. Fuller Co. on the Pacific Coast and by Hobbs Glass Ltd., in Canada

## PC GLASS BLOCKS

### The Mark of a Modern Building

Pittsburgh Corning Glass Blocks are smart and modern in appearance—and in their functional versatility. They admit plenty of diffused daylight and can direct light to remote areas. The insulating properties of PC Glass Blocks reduce heat travel through lighting panels, minimize condensation. Easily cleaned and rarely needing repairs or replacement, PC Glass Blocks also make storm sash unnecessary, never need painting. Consequent reduced costs on artificial lighting, fuel and maintenance add up to important savings.

PC Glass Blocks are "all glass" hollow units with fused glass seals. Dead air space within the blocks gives them their insulating and noise dampening properties.

Mortar edges are plastic coated to provide a perfect bond between glass and mortar. Their design forms a "key lock" joint with a full bed of mortar, leaves a trim, visible joint of about 1/4". Masons use ordinary tools and materials to lay PC Glass Blocks.

Read the captions under the pictures of the individual blocks. They tell you some of the advantages you get with each pattern.

**FOR SASH REPLACEMENT**—To reduce maintenance costs and improve operating conditions, worn sash can be replaced with PC Glass Blocks, a panel at a time, without interrupting plant operation. All patterns and sizes are now in stock, prompt delivery is assured.

**FEATURES OF PC GLASS BLOCKS**—PC Glass Blocks are made of clear, colorless, durable glass. Some patterns cut off unsightly or distracting views, guard privacy.

**THERMAL INSULATION**—Tests run during the past several years have established values for the over-all heat transfer coefficient "U" as follows: under still air conditions: ribbed face block 0.38, smooth face 0.40; with 15-mile per hour wind: ribbed face block 0.46, smooth face 0.49. In computing heat losses through panels for design purposes, it is recommended that a "U" value of 0.49 be used for all block sizes and face patterns.

**COMPARATIVE HEAT LOSSES**—8-in. brick wall (area 50 x 10 ft.)—3/4-in. plaster on furred metal lath. Temperature inside, 70° F.—outside, 0° F. Wind at 15 m.p.h.

#### (A) With 100 sq. ft. of single-glazed steel sash in three openings:

Heat losses, through brick .....	8,960 B.t.u. per hr.
through sash .....	7,910 B.t.u. per hr.
through total wall area.....	16,870 B.t.u. per hr.

#### (B) With 100 sq. ft. of 8-in. PC Glass Blocks in three panels:

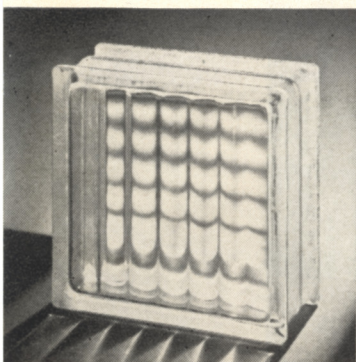
Heat losses, through brick .....	8,960 B.t.u. per hr.
through glass blocks.....	3,430 B.t.u. per hr.
through total wall area.....	12,390 B.t.u. per hr.

Heat loss through light-transmitting area less than half, with a reduction of 26% of total heat loss through the entire wall.

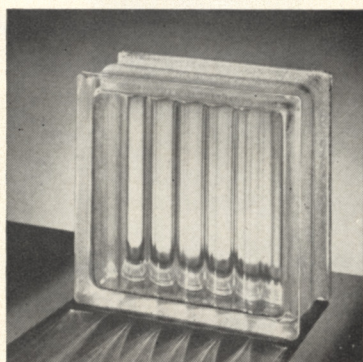
#### (C) With 340 sq. ft. of 8-in. PC Glass Blocks in continuous panel:

Heat losses, through brick .....	3,580 B.t.u. per hr.
through glass blocks.....	11,660 B.t.u. per hr.
through total wall area.....	15,240 B.t.u. per hr.

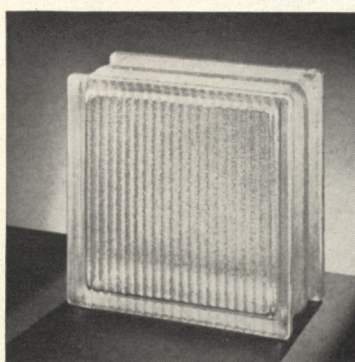
Heat loss 90% of Panel A, but with twice as much light!



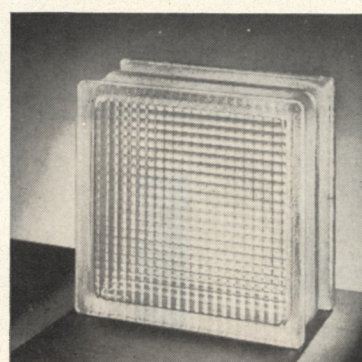
**ARGUS**—A conventional pattern designed for general use, both decorative and utilitarian. High light transmission with good light diffusion. Smooth outside faces permit maximum cleanliness.



**ARGUS PARALLEL FLUTES**—A conventional pattern designed for general use both decorative and utilitarian. High light transmission with good light diffusion. Can be laid with flutes vertical or horizontal.



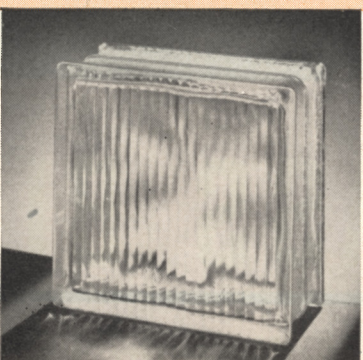
**BRISTOL**—Designed to provide softer, more diffused light. Laid with exterior flutes vertical. Cleanability maintained by smooth exterior flutes and lightly etched border.



**DRUID**—Designed to provide high light transmission and closely match the Prism Light-Directing unit. For use on elevations without sun exposure adjacent to Prism panels.



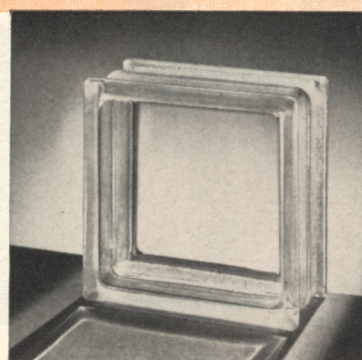
**DECORA**—A decorative pattern ideally suited to harmonize with both modern and conventional design. High light transmission. Smooth outside faces assure maximum cleanliness.



**REEDED-DECORA**—A modified Decora design to increase irregular pattern effects. High light transmission, good diffusion, superior obscurity. Cleanability maintained by the smoothly rounded exterior reeds.



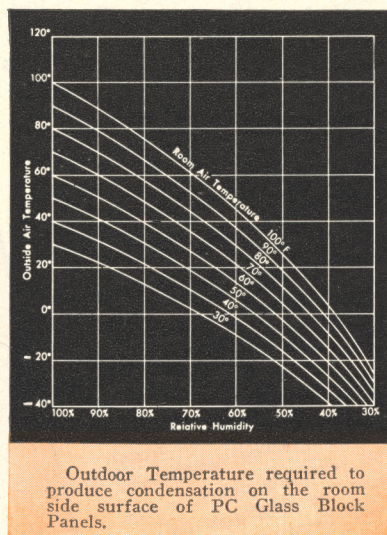
**SAXON**—A pleasing uniform pattern designed for even light diffusion and brightness reduction but with good light transmission. Interior etched surfaces and smoothly rounded exterior reeds assure privacy.



**VUE**—A pattern employing clear glass surfaces to permit sufficient general vision to prevent the "shut-in" feeling. High light transmission. Smooth exterior surfaces assure easy cleaning.



**LIGHT TRANSMISSION**—Light transmission values taken through the glass block faces of the individual units have been determined by two slightly different methods. Average value is 80% for the Argus, Argus Parallel Flutes, Decora, Druid, Reeded-Decora and Saxon Patterns; 70% for Bristol; 85% for Vue; 65% for Prism Light-Directing; 50% for Essex; 55% for Bristol LX-75; 60% for Druid LX-75.



**SURFACE CONDENSATION**—Due to the high insulating value of PC Glass Blocks, condensation will not start forming on the room side of glass block panels until the outside air has reached a temperature much lower than that necessary to produce condensation on single-glazed windows. The accompanying chart shows at what temperatures condensation will form.

**MODULAR COORDINATION**—The American Standard Basis for the Coordination of Dimensions of Building Materials and Equipment A62.1-1945 established a standard grid based on a Module of 4 in. Most producers of masonry products, glass blocks, windows and other building materials have adopted Modular Coordinated Sizes. For additional information on this subject, refer to the "A62 Guide for Modular Coordination" published by Modular Service Association, 110 Arlington Street, Boston 16, Massachusetts.

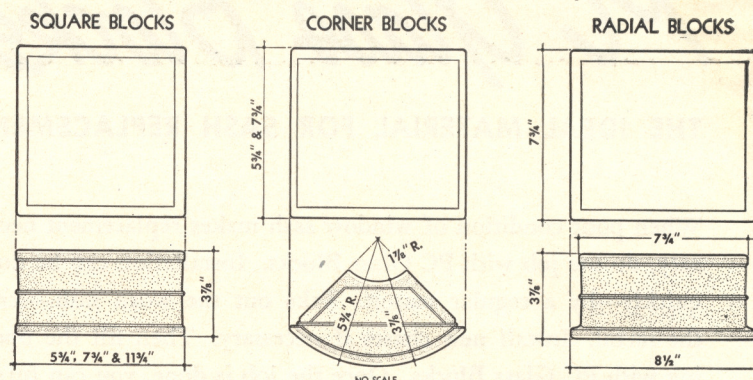
**SOUND INSULATION**—Glass block panels have sound insulation properties equal to or better than other forms of masonry construction having equal weight per unit surface area, and are decidedly superior to single-glazed sash. Tests give sound reduction factors for standard glass block panels of 37.6 to 42.0 decibels, a value closely approximating that for a 4-in. hollow clay tile wall plastered both sides.

**SOLAR HEAT GAIN**—The use of glass blocks for light-transmitting areas results in marked reduction of solar heat gain as compared with ordinary windows. This factor is of considerable advantage in air-conditioned buildings, but does not eliminate the need for adequate ventilation in non-air-conditioned rooms.

**CRUSHING STRENGTH**—Glass block construction should never be used for load-bearing walls or panels. However, it is necessary that the construction have ample strength to resist the forces created by conditions within itself, and repeated tests have indicated that the crushing strength is well above that of accepted masonry constructions. Tests made of square wallethes laid up

## SIZES, SHAPES AND PATTERNS AVAILABLE

(Subject to change without notice)



PC Glass Blocks have Standard Coordinated Dimensions, and meet the requirements of American Standards Association Project A62 and conform to the American Standard Basis for Coordination A62.1-1945.

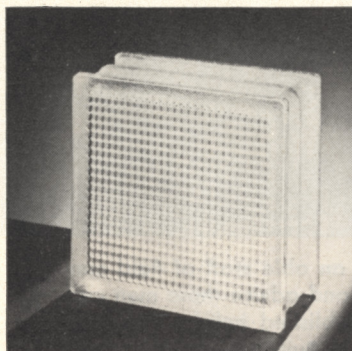
PATTERNS	5 3/4" Square	7 3/4" Square	11 3/4" Square	5 3/4" Corner	7 3/4" Corner	7 3/4" Radial
Argus	●	●	●	●	●	●
Argus Parallel Flutes	●	●	●			
Bristol		●			●	●
Decora	●	●	●	●	●	●
Druid		●			●	●
Essex		●			●	●
Prism Light-Directing		●				
Reeded-Decora	●	●	●	●	●	●
Saxon	●	●	●	●	●	●
Vue		●				●
Bristol LX-75		●			●	●
Druid LX-75		●			●	●

with PC Glass Blocks show a minimum panel compressive strength of 400 to 600 lbs. per sq. in. of gross loaded area.

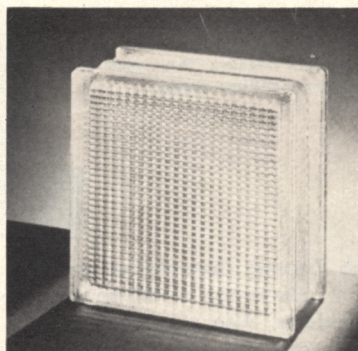
**BOND STRENGTH**—PC Glass Blocks have a special grit-bearing, moisture-and-alkaline-resisting coating on all mortar edges. This insures a complete and permanent bond between the glass and the cement mortar and provides a panel construction having a high degree of wind resistance and water tightness.

**WIND RESISTANCE TESTS**—Wind pressure tests have been run on many PC Glass Block panels ranging in area from 50 sq. ft. (5 x 10 ft.) to 256 sq. ft. (16 x 16 ft.). From these data it has been found that any panel, within the area limit recommended, will withstand a safe wind load of 20 lbs. per sq. ft. with a factor of safety of at least 2.7.

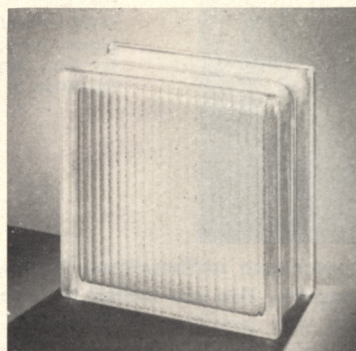
**WEATHERING AND DURABILITY**—Under all sorts of weather conditions, PC Glass Blocks will give satisfactory service. Tests of panels subjected to repeated cycles of heating, water spray and freezing (0° F. to -40° F.) show no sign of leakage, cracking or other structural deterioration.



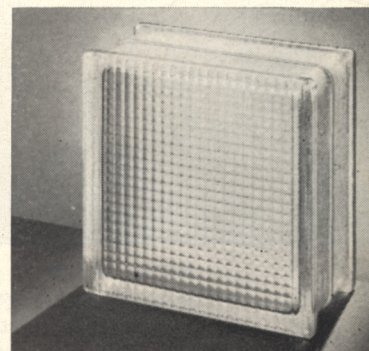
**ESSEX**—Specially designed for low light transmission. For use below eye-level in panels containing Prism Light-Directing Blocks and on exposures not adaptable to Prism units.



**PRISM LIGHT-DIRECTING**—Specially designed to control the direction of sunlight. Light is directed toward the ceiling for reflection as indirect daylight to working areas in room. Not to be used below eye-level.



**BRISTOL LX-75**—(with a fibrous glass screen) Provides softer, more diffused light, reduces brightness and solar heat transmission. The screen insert and pattern of block produce maximum light diffusion.



**DRUID LX-75**—(with a fibrous glass screen) Provides a light diffusing unit in panels containing Prism Light-Directing blocks. The glass screen insert helps to reduce brightness and solar heat transmission.



# PC Glass Blocks

## THE IDEAL MATERIAL FOR SASH REPLACEMENT

When poor condition of window sash makes replacement necessary, do the job with PC Glass Blocks. Installation can be done quickly—by a regular mason. Take out the worn sash—scrap the metal. Install new chases if necessary. Then fill the opening with PC Glass Blocks. Once the job is done, you can forget about window sash troubles—for neither the glass blocks themselves nor the mortar joints will rot or corrode.

**IMPROVE PLANT OPERATING EFFICIENCIES**—PC Glass Blocks do double duty. For they not only serve as a timely means of replacing worn-out sash—they improve operating conditions at the same time. Many plant owners have found sash replacement one of the most valuable steps in plant modernization and rehabilitation. A survey of the many advantages discussed elsewhere in these pages will show how they can help you.

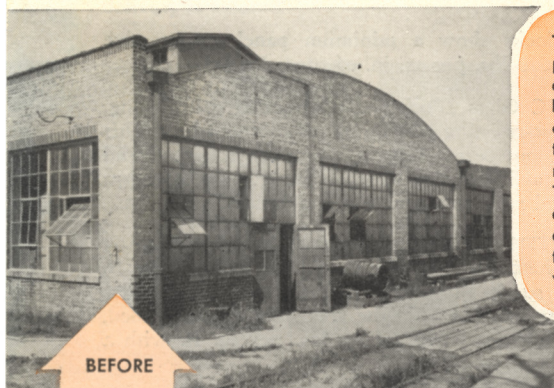
*Also Makers of PC Foamglas Insulation*

### FIRE RESISTANCE

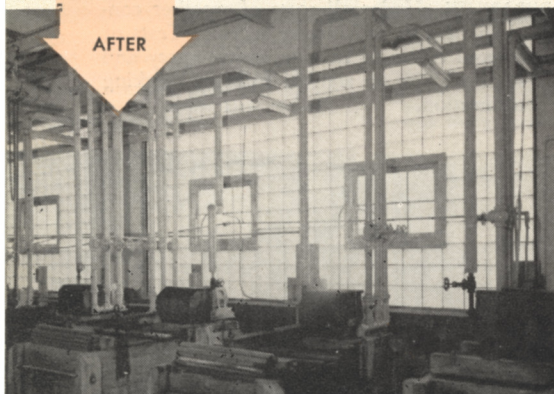
PC Glass Blocks are listed by the Underwriters' Laboratories, Inc., Chicago, Ill., under Guide No. 40 UM2.6.5. File R2556 dated December 11, 1945, for window openings not exceeding 120 sq. ft. in area nor 12 ft. in width or height, subject to light fire exposure (Class F openings).

This listing covers the following sizes and patterns. PC hollow glass blocks, nominally  $5\frac{1}{4}$ " by  $5\frac{1}{4}$ " face dimensions  $3\frac{7}{8}$ " thick of the Argus, Argus Parallel Flutes, Decora and Saxon Patterns and PC Blocks nominally  $7\frac{3}{4}$ " by  $7\frac{3}{4}$ " face dimensions  $3\frac{7}{8}$ " thick of the Argus, Argus Parallel Flutes, Bristol, Druid, Decora, Essex, Saxon and Prism Light-Directing Patterns.

The glass blocks must be installed according to special construction requirements. For information regarding details of construction, consult the Pittsburgh Corning Corporation, 632 Duquesne Way, Pittsburgh 22, Pa. or your nearest branch of the Pittsburgh Plate Glass Company.



BEFORE



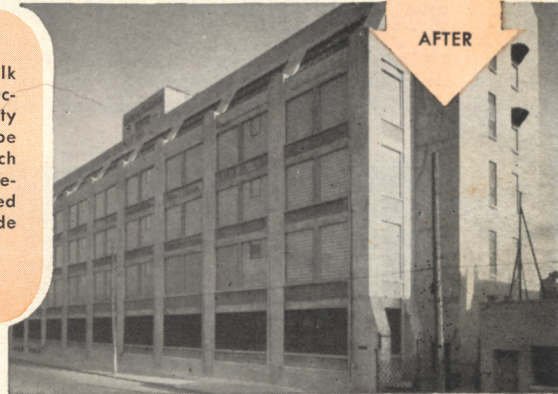
AFTER

The operators of this plant are more than pleased with their sash replacement job: "We are well satisfied with the installation of glass blocks in our plant. Lighting and working conditions have improved considerably since this installation, plus the fact that our maintenance problem on steel sash is over with. The problem in our plant, with the excessive amount of condensation and steam, is quite an extreme test and we are very well satisfied with the results. Any future expansion will certainly include glass blocks."

This Brooklyn textile plant, previously a silk mill, recently was converted to rayon production. For the rayon processes, high humidity was required and temperatures had to be controlled within close limits—conditions which could not uniformly be maintained with single-glazed windows. PC Glass Blocks were used for sash replacement because they provide insulation of light-transmitting areas.



BEFORE



AFTER

**WHERE TO GET PC SERVICE AND INFORMATION:** Pittsburgh Corning Corporation maintains an able staff of field consultants and glass experts. You are invited to take full advantage of the cooperation and advice these men can extend in connection with problems involving PC Products. Also we have recently published helpful booklets, in which many and varied uses for PC Glass Blocks in Industrial, Commercial and Public Buildings are illustrated and described. They also contain valuable technical data, installation details and specifications. Write to —

## PITTSBURGH CORNING CORPORATION

632 DUQUESNE WAY

PITTSBURGH 22, PA.