OWENS-ILLINOIS

INSULUX Glass Block

Owens-Illinois Glass Company

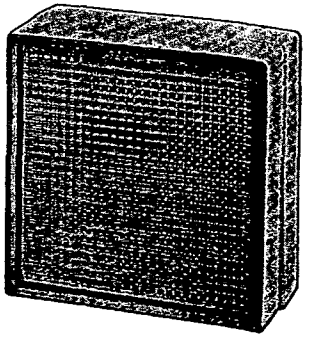
INSULUX PRODUCTS DIVISION

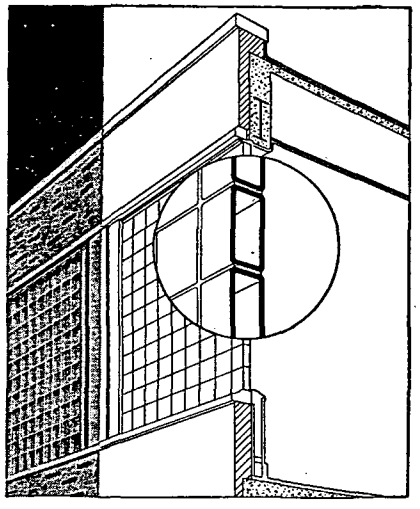
Toledo, Ohio

Dealers in All Principal Cities

Insulux Glass Block Give Better Control of Interior Conditions

Insulux Glass Block are hollow, partially evacuated block, 3⅞ inches thick, with ribbed or patterned walls. Laid up in mortar in solid panels, they form a light-transmitting area that also offers high insulation value. Proper use of Insulux Glass Block results in better control of interior conditions, and therefore greater efficiency and lower initial and operating costs for cooling and heating plants.





Better Insulation

The cross-section drawing above shows why Insulux Glass Block panels give higher insulation than ordinary light-transmitting areas. The glass block, partially evacuated and with thick faces, lower the conductivity and solar heat transmission of the light-transmitting area. Air infiltration is eliminated. The better insulation provided by Insulux is a factor in planning air conditioning and heating equipment and operating costs.

Lower Heat Transmission

Tests on conductivity of Insulux Glass Block show that the heat transmission of Insulux is approximately the same as for a concrete wall 16 inches thick or a brick wall 8 inches thick. This test data is available for inspection by engineers.

Reduction of Solar Heat

In a comparative test of solar heat transmission, a single glazed steel sash transmitted 94 per cent more heat than an Insulux panel. As with sash, however, Insulux panels transmit less solar heat if properly oriented and well shaded. There is variation in the solar heat transmission of different designs of Insulux—data will be furnished on request.

Designs, Sizes, Erection

There are 8 designs of Insulux for both residential and industrial use. Block available in three sizes. Panels are easily and quickly erected by bricklayers. We will gladly supply any technical information and advice on installations on request.

Pittsburgh Corning Corporation

Grant Building, Pittsburgh, Pa.

Distribution through Pittsburgh Plate Glass Company warehouses in principal cities and by the W. P. Fuller Company on the West Coast.

Glass Blocks allow the economical use of large glass areas, reduce heat loss in cold weather and materially aid air-conditioning. This is because each PC Glass Block contains a sealed-in dead-air space that is an effective retardant to heat transfer.

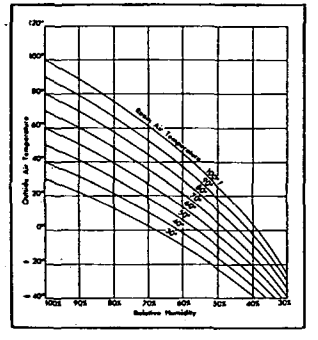
Thermal Insulation

Tests run by nationally recognized laboratories have established the value of glass blocks for insulation of light-transmitting areas. These tests have proved that with glass block panels, heat loss is slightly less than half that experienced with single-glazed windows. In computing heat losses through panels for most design purposes, it is recommended that a "U" value of 0.46 to 0.49 be used for all block sizes and face patterns. For complete data on heat transfer values see the section on heat transfer elsewhere in this Guide—page 97.

Surface Condensation

Due to high insulating value, condensation will not start forming on the room side of glass block panels until 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.

Outdoor temperature required to produce condensation on the room side surface of PC Glass Block panels.



For example, with inside air at 70 F and relative humidity at 40 per cent, condensation will not begin to form on the interior surfaces of a glass block panel until an outdoor temperature of −14 deg is reached. Under similar conditions with single-glazed sash, moisture will begin to form when the outdoor temperature reaches +33 F.

Solar Heat Gain

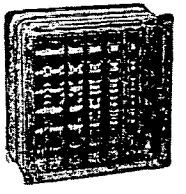
The use of glass blocks for light-transmitting areas results in a marked reduction in total solar heat gain as compared with ordinary windows. This factor is of considerable advantage in buildings that are properly air conditioned, but does not eliminate the need for adequate ventilation or shading in non-air-conditioned rooms.

For data on solar heat gain through glass blocks see the table in the solar radiation section of this Guide—page 135. This table is for standard pattern glass blocks. Where LX-75 blocks (with Fiberglas screen insert) are used, these figures may be reduced approximately 40 per cent.

PC Glass Blocks Aid Air-Conditioning

The three chief aims of air-conditioning—temperature control, humidity control and cleansing of air are all aided by the use of PC Glass Blocks. Heat loss is less in winter—heat gain is less in summer. Ideal humidity conditions are much more easily maintained without undue condensation. Solar heat transmission and radiation are reduced. Dirt can't filter in, for each panel is a tightly sealed unit.

Sizes and Shapes Available



PC Glass Blocks are available in eight attractive patterns, some of the patterns being designed for special control and direction of transmitted daylight. For complete information on the sizes and shapes of PC Glass Blocks, and for illustrations of the many patterns available, write the Pittsburgh Corning Corporation, Pittsburgh, Pa., or call the nearest Pittsburgh Plate Glass Company warehouse.

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Additional technical data, including detailed figures on thermal insulation, solar heat gain, surface condensation, light transmission and construction data, will be furnished on request.