

Libbey-Owens-Ford Glass Company

Toledo, Ohio

THERMOPANE

Metal Sealed Insulating Units

Double-Glass Insulation in a new, Highly Efficient Form—Two panes welded into One Metal-Sealed Unit, to be glazed in a single sash.

Sales Offices in Principal Cities

Thermopane—two panes of glass, with an air space between, sealed with metal—provides efficient insulation for glass areas.

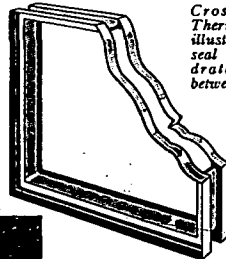
Practically any type of flat glass may be used in Thermopane. It may be made up of two sheets of glass of identical type, such as two sheets of Plate, Window or Figured Glass, or one light may be clear and the other figured. Again, to meet certain summer heat conditions, the outer light might be Aklo Heat-Absorbing Plate Glass and the inner light either clear or obscure. Generally speaking, the types of glass that are practical with Thermopane are limited only by the types of glass available and the particular problem involved.

With Thermopane, the heating engineer and architect have available an excellent means of insulating large areas without sacrifice of vision. Where privacy is desired or diffused light an essential,

fixed walls or partitions. Thermopane insulates the year round—it keeps heat inside in winter, outside in summer.

WIDE SELECTION OF THERMOPANE FABRICATIONS

Generally speaking, the design effects obtainable with Thermopane are limited only by the types of flat glass available. Thus any combination of D.S.A., Polished Plate, Colored Plate, and any of the various Figured glass is practical.



Cross section of Thermopane sample illustrating the metal seal and the dehydrated air space between the two panes of glass.



Thermopane was used very effectively in this picture window to insulate a large area both winter and summer.

CONSTRUCTION—A single Thermopane unit consists of two panes of glass separated by an air space which is hermetically sealed at all edges with metal. The glass used in Thermopane for exterior use ranges from Double Strength A Quality to $\frac{1}{8}$ in., $\frac{3}{16}$ in. and $\frac{1}{4}$ in. Polished Plate Glass, with a standard $\frac{1}{4}$ in. air space. For interior use, the air space may be either $\frac{1}{4}$ in. or $\frac{1}{2}$ in.

The air space between the two mirror-clean lights of glass is dehydrated and hermetically sealed with a metal band at the factory—thus dirt and condensation within the air space are avoided.

Thermopane again fully solves the problem. In addition, Thermopane may be set in movable or sliding sash to eliminate

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THERMOPANE SIZES—Thermopane is available in exceptionally large sizes ranging up to 72 in. x 96 in., depending upon the type of glass used. Following are the maximum and minimum dimensions for each type of glass:

	Maximum Wide Long	Minimum
D.S.A. and $\frac{1}{8}$ in. Polished Plate.....	30 in. x 60 in.	8 in. x 8 in.
$\frac{3}{16}$ in. sheet or Polished Plate.....	48 in. x 72 in.	12 in. x 12 in.
$\frac{1}{4}$ in. Polished Plate.....	72 in. x 96 in.	12 in. x 12 in.

The maximum and minimum dimensions apply equally to Figured glass.

Thermopane is not available in single strength glass.

THERMOPANE THICKNESS—To arrive at the thickness of Thermopane, add the air space thickness to the thickness of the two panes of glass. A plus tolerance of $\frac{1}{32}$ in. for $\frac{1}{8}$ in. and thinner glass and a plus tolerance of $\frac{1}{16}$ in. for glass over $\frac{1}{8}$ in. thick shall be allowed over the specified thickness.

EDGE TOLERANCE—Obviously Thermopane is only available in stock sizes or special sizes to order. In listing cutting sizes, figure $\frac{1}{8}$ in. shorter and

narrower than the opening size for lights up to 24 in. square. Above 24 in., for any dimension; the cutting sizes should be $\frac{3}{16}$ in. under the opening size.

SASH SIZES AND WEIGHTS—Because Thermopane is heavier than single glass, allowance for greater sash balances must be made in double hung sash. (See detail for weight).

Rabbet Width Dimensions: To insure coverage of the edge construction, rabbet widths for lights under 24 in. for any dimension should be $\frac{3}{8}$ in. For lights over 24 in. for any dimension, the width should be $\frac{1}{2}$ in. to $\frac{1}{4}$ in.

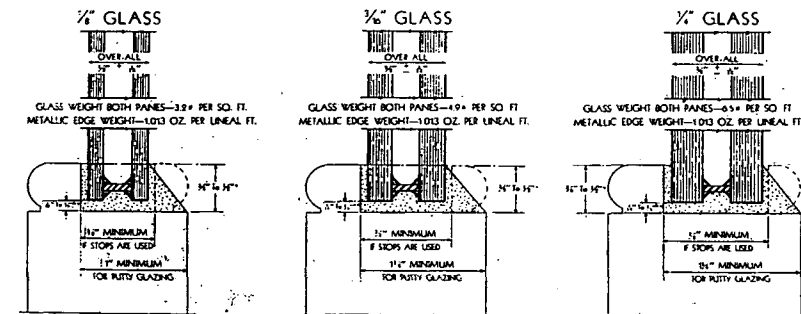
Rabbet Depths: This dimension should not be less than 1 in. for $\frac{1}{4}$ in. air space and $\frac{1}{8}$ in. thick glass. Somewhat more shallow rabbet dimensions can be successfully used, however, if the bright copper color of the metalized edges are allowed to be partially exposed to view.

Increase the rabbet depth correspondingly for thicker glass. (See detail.)

TECHNICAL DATA AND ASSISTANCE—If you have a special problem on which you require more complete information, write to the Architectural Service Department, Libbey-Owens-Ford Glass Company, Toledo, Ohio.

FULL-SIZE THERMOPANE INSTALLATION DETAILS

MAY BE APPLIED TO ANY WOOD OR METAL SASH OR DOOR



* RABBET SHOULD BE 1/4\"/>