UNITED STATES TARIFF COMMISSION

CYLINDER, CROWN, AND SHEET GLASS

Report to the President
on
Escape-Clause Investigation No. 7-101
Under the Provisions of Section 7
of the
Trade Agreements Extension Act of 1951, as Amended

TC Publication 17

Washington
May 1961

UNITED STATES TARIFF COMMISSION

Address all communications to
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REPORT TO THE PRESIDENT

U.S. Tariff Commission
May 17, 1961

To the President:

The U.S. Tariff Commission herein reports the results of its investigation No. 7-101 under section 7 of the Trade Agreements Extension Act of 1951, as amended, to determine whether CYLINDER, CROWN, AND SHEET GLASS, dutiable under paragraph 219 or paragraphs 219 and 224 of the Tariff Act of 1930, are, as a result in whole or in part of the customs treatment reflecting the concessions granted thereon under the General Agreement on Tariffs and Trade, being imported into the United States in such increased quantities, either actual or relative, as to cause or threaten serious injury to the domestic industry producing like or directly competitive products.

The aforementioned investigation was instituted on November 17, 1960, by operation of section 3(b)(1) of the Trade Agreements Extension Act of 1951, as amended. Public notice of the institution of the investigation and of a public hearing to be held in connection therewith was given by posting copies of the notice at the office of the Commission in Washington, D.C., and at its office in New York City, and by publishing such notice in the Federal Register (25 F.R. 11089) and in the November 24, 1960 issue of Treasury Decisions. The public hearing was duly held from March 14 to 17, 1961, and all interested parties were given opportunity to be present, to produce evidence, and to be heard.

In addition to the information obtained at the hearing, the Commission in this investigation obtained information from its files, through fieldwork by members of the Commission's staff, and from responses to questionnaires sent to domestic producers and importers.

Findings[1/]

As a result of the investigation, including the hearing, the Commission finds as follows:

(a) That as a result, in part, of the duties reflecting the concessions granted thereon in the General Agreement on Tariffs and Trade, cylinder, crown, and sheet glass, provided for in paragraph 219 of the Tariff Act of 1930 (except such

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1/ The finding as to serious injury is unanimous, but the finding as to remedy is not. On the latter finding Commissioners Sutton and Schreiber, as a minority, find that it is necessary to increase the applicable duty under paragraph 224 to 5 percent ad valorem and to increase the applicable duties under paragraph 219 to the following rates:

On glass measuring in square inches:

Not over 150	1-7/8¢ per lb.
Over 150 but not over 384	2-1/16¢ per lb.
Over 384 but not over 720	2-7/16¢ per lb.
Over 720 but not over 864	2-5/8¢ per lb.
Over 864 but not over 1200	3¢ per lb.
Over 1200 but not over 2400	3-3/8¢ per lb.
Over 2400	3-3/4¢ per lb.
Provided, That none of the foregoing weighing under 16 but not under 12 ounces per square foot shall be subject to a less rate of duty than	50% ad valorem

The findings in this escape-clause investigation differ from the related peril-point findings of the Commission. Under the peril-point findings, glass weighing not over 4 ounces per square foot was not excepted and the recommended remedy involved the imposition of rates of duty higher than here found to be necessary. Commissioners Schreiber and Sutton, in conformity with their views expressed in investigations Nos. 7-96 and 7-97 regarding tennis rackets and baseball gloves, respectively, deem it necessary to explain that, on the basis of further consideration of the facts, they believe their original peril-point findings are in error to the extent that they differ from their present findings.

glass weighing not over 4 ounces per square foot), whether or not subject to additional duties under paragraph 224 of such Act, are being imported into the United States in such increased quantities, both actual and relative, as to cause serious injury to the domestic industry producing like products; and

(b) that in order to remedy serious injury to the domestic industry concerned, it is necessary that the specific duties applicable to such glass under paragraph 219 be increased to the following rates:

On glass measuring in square inches:	
Not over 384----------	1.3¢ per lb.
Over 384 and not over 864------	1.6¢ per lb.
Over 864 and not over 2400-----	1.9¢ per lb.
Over 2400:	
Weighing not over 28 ounces per square foot----------	2.4¢ per lb.
Weighing over 28 ounces per square foot----------	3.5¢ per lb.

Recommendation

In view of the foregoing findings, the Commission recommends that the appropriate tariff concessions granted in the General Agreement on Tariffs and Trade be modified to permit the application to the aforementioned cylinder, crown, and sheet glass of the increased duties specified in finding (b) above.

Principal Considerations Bearing on the Foregoing Findings and Recommendation

U.S. customs treatment

Cylinder, crown, and sheet glass is specially provided for in paragraph 219 of the Tariff Act of 1930. This glass is also subject to an additional duty provided in paragraph 224 of the act when it is bent, beveled, colored (except glass not under 1/4 inch in thickness which has been obscured by coloring prior to solidification), decorated, embossed, enameled, engraved, etched, flashed, frosted, ornamented, painted, sanded, or stained. Glass subject to this additional duty is also included in this investigation.

Most of the rates of duty applicable under paragraph 219 are specific rates which generally become higher as the surface area of the individual pieces of glass (usually termed "lights" by the trade) become greater (table 1). Glass within a relatively unimportant thickness range[1/] is also subject to a minimum ad valorem rate.

Rates of duty under paragraph 219 of the Tariff Act of 1930 ranged from 1-7/8 cents per pound for lights not more than 150 square inches (1.04 square feet) in area to 3-3/4 cents per pound for lights more than 2,400 square inches (16-2/3 square feet) in area. The current reduced rates of duty range, respectively, from 0.7 cent per pound to 1.4 cents per pound, and are equal to about a third of the 1930 rates.

On January 1, 1932, the original rates under the Tariff Act of 1930 were reduced by 25 percent by Presidential proclamation pursuant

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1/ Glass weighing less than 16 ounces but not less than 12 ounces per square foot.

to section 336 of that act. Pursuant to concessions granted in the bilateral trade agreement with Czechoslovakia, the rates established pursuant to section 336 were further reduced by about 30 percent,[1/] effective from April 16, 1938, to April 21, 1939, inclusive (after which the 1932 rates were restored, by virtue of the termination of the agreement with Czechoslovakia). Pursuant to concessions granted under the General Agreement on Tariffs and Trade (GATT) and initially negotiated with Benelux and Czechoslovakia, the rates of duty were reduced again (with minor exceptions)[2/] to the rates that prevailed under the earlier trade agreement with Czechoslovakia; these reductions were in effect from January 1, 1948, to June 6, 1951. Pursuant to additional concessions granted under GATT and initially negotiated with Benelux, the rates of duty were reduced on the average by about 24 percent,[3/] effective June 6, 1951, and on the average by about 13 percent, effective in several stages beginning June 30, 1956. The currently applicable rates of duty average about 53 percent below those prevailing in 1932.

1/ The reduced basic rates of duty established pursuant to the trade agreement with Czechoslovakia did not apply as basic rates to any of the glass subject to the additional duty provided for in paragraph 224.

2/ The reduced basic rates of duty established in 1948 pursuant to the GATT concession applied to all cylinder, crown, and sheet glass dutiable under paragraph 224 except colored glass.

3/ The reduced basic rates of duty established in 1951 pursuant to the GATT concession applied to all cylinder, crown, and sheet glass dutiable under paragraph 224.

The additional rate of duty provided for in paragraph 224 of the Tariff Act of 1930 on cylinder, crown, and sheet glass that is colored or specially processed[1/] was 5 percent ad valorem. Pursuant to a concession granted under GATT in 1951, this rate was reduced to 2½ percent ad valorem. In 1955 about 8 percent, by weight, of the imports dutiable under paragraph 219 consisted of glass that was colored or bent, et cetera, and was therefore dutiable also under paragraph 224; in 1960 about 1 percent, by weight, of the total imports consisted of such glass.

1/ These processes are as follows: Bending, frosting, sanding, enameling, beveling, etching, embossing, engraving, flashing, staining, painting, ornamenting, and decorating. Glass obscured by coloring prior to solidification and not less than 1/4 inch in thickness is excepted.

Description and uses

Cylinder, crown, and sheet glass, either clear or colored, is glass that, as produced, is flat. Its surfaces are smooth, which distinguishes it from rough-rolled or figured glass; and though flat and smooth, its surfaces are not ground and polished, which distinguishes it from plate glass. Cylinder and crown glasses are glasses made by hand methods which are now largely obsolete in the United States, although some colored glass is still made by the cylinder method. Sheet glass, in contrast, is the common glass of commerce and it accounts for practically all the glass considered in this investigation. It is produced by machine-drawing methods in the United States and abroad.

Sheet glass is used principally as a glazing medium in buildings, vehicles, and the like; as a transparent covering such as is used for pictures, pinball machines, and desk and table tops; and for special windows of various kinds, such as for vending machines. Sheet glass is also used for making mirrors, laminated glass, implosion plates for television tubes, microcover glass, photographic dry plates, sunglasses and protective goggles, and other miscellaneous articles.

The wide variety of uses of sheet glass results in demand for it in many thicknesses and sizes. The thicknesses of sheet glass generally range from 0.002 inch for microcover glass to 1/4 inch for glass table-tops. Some European sheet glass is available in thicknesses of 1/2 inch or more.

The size or surface area of individual pieces or lights may vary from less than a square inch for microcover glass to many square feet for store windows.

The thinnest sheet glass--microcover glass--is used to protect specimens mounted on microscope slides. Cover glasses range from 0.002 to 0.014 inch in thickness and may be cut into small rectangles or circles. After these glasses are cut to size, however, they become dutiable under another tariff provision not included in this investigation.

Glass ranging in thickness from 0.03 inch to 0.06 inch and weighing from 6 to 12 ounces per square foot is used for making microscope slide glasses (the glasses on which specimens are mounted and preserved for future reference); for mounting or protecting photographic negatives; for photographic dry plates, and lantern slides; as thin picture glass; and, in a colored or tinted form, for making sunglasses. Glass weighing from 12 to 16 ounces per square foot, 0.06 to 0.08 inch in thickness, is used principally in framing pictures, for making small mirrors (such as for ladies' pocketbooks), and for making thin laminated glass. 1/

Clear glass that is about 0.09 inch in thickness and weighs about 19 ounces per square foot (known in the United States as single-strength window glass) is used for glazing windows, doors, and storm sash where the maximum sizes (as recommended by domestic producers) do not exceed 40 by 50 inches. Imported single-strength glass is available in both 18- and 19- ounce weights, the bulk of the single-strength imports consisting of 18-ounce glass. 2/ For larger openings--up to 60 by 80 inches--

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1/ Some 16-ounce glass is also used for glazing small windows.

2/ The designations "18 ounce" and "19 ounce," and the like, are only approximate. It is difficult to control precisely the thickness of sheet glass in the production process. Consequently, manufacturers, both domestic and foreign, specify wide tolerances for the various thicknesses of glass that they produce. The tolerances specified for 18- and 19- ounce glass overlap to a considerable degree, so that some 19-ounce glass could be considered as 18-ounce glass and vice versa; the same condition exists, though to a more limited extent, with respect to 24- and 26-ounce glass.

the domestic manufacturers recommend double-strength window glass weighing 26 ounces per square foot (approximately an eighth of an inch in thickness). Imported double-strength glass is available in both 24- and 26-ounce weights; however, the bulk of the double-strength imports consist of 24-ounce glass.

Sheet glass in single- and double-strength thicknesses is also used for making laminated glass for side windows of automobiles. This laminated glass measures approximately 1/4 inch in thickness. This thickness may be made up by the use of a sheet of single-strength and a sheet of double-strength glass combined with a sheet of plastic between them, or by two sheets of a special "lami" glass, weighing about 22 ounces per square foot, made specially for the purpose.

A relatively small amount of glass, in many colors, approximately 1/8 inch in thickness and produced by hand by the cylinder process, is used in making decorative windows, particularly the leaded glass windows for churches.

Glass heavier than double-strength (hereafter referred to as heavy sheet glass) is usually produced in the United States in three thicknesses--3/16 inch, 7/32 inch, and 1/4 inch. The weights per square foot of heavy sheet glass range from about 2-1/2 pounds for 3/16-inch glass

to about 3-1/4 pounds for 1/4-inch glass. These thicknesses are used for glazing windows, doors, and storm sash up to a maximum of 6 feet by 10 feet. Glass 3/16-inch and 7/32-inch thick is also used for shelving 1/ and jalousies, and the thicker glass for furniture tops and mirrors.

Heavy sheet glass having greenish or bluish tints is produced for heat-absorbing purposes for use in glazing vehicles and buildings. Sheet glass having a gray tint is produced for glare-reducing purposes for use in window glazing and for television implosion plates. 2/

Some sheet glass is further processed by surface or edge treatment for particular uses. For example, one or two of the edges of counter dividers are smoothed or ground, and both of the longitudinal edges of the glass used for jalousies are so processed; furniture tops are similarly treated on all edges. Surface treatment by frosting, etching, and sand blasting, formerly quite common, is now unusual; 3/ figured rolled glass has largely displaced such surface-treated sheet glass. Some sheet glass is used for signs and for decoration, and for these purposes is surface-treated by painting or embossing and the like. Such treatment, however, is usually contracted for locally in small shops.

1/ "Bulb-edged" glass is frequently sold for use as shelving. It is the rounded edging which is formed on each side of the sheet as the glass is drawn from the furnace.

2/ The physical properties of the greenish and bluish tints reduce the transmission of infrared rays, and the greyish tints reduce the transmission of both infrared and visible light rays.

3/ Some sheet glass, however, is still frosted for use in drafting and photographic work.

Methods of production

Glass is made by fusing mixtures of silica sand and other materials at relatively high temperatures. The proportions of these materials used in the "batches" or mixtures, vary according to the type of glass produced. Plain or uncolored sheet glass is made from batches that may consist of 35 to 40 percent of silica sand, 35 percent of cullet (scrap glass), 10 to 11 percent of soda ash (sodium carbonate), 8 to 9 percent of dolomite (calcium-magnesium carbonate), 3 percent of limestone, 2 to 3 percent of feldspar, and 1 to 2 percent of salt cake (sodium sulfate).

In most of the sheet-glass plants in the United States these materials are individually stored in large vertical bins, so that measured amounts can be withdrawn from the base of the bins and conveyed to a mechanical mixer. In the newer domestic factories the measuring of materials and the preparation of the batch are controlled electronically and carried on continuously; the materials are weighed, conveyed to a mixer, mixed, and loaded into individual hopper cars entirely automatically. The filled cars are conveyed to a large tank furnace and the mixed batch is emptied by various devices into the melting end of the tank.

The tank furnaces are large refractory-lined tanks, often containing 1,000 tons of molten glass and measuring as much as 30 by 140 feet in width and length. They are generally divided into three

compartments: (1) The melting compartment, in which fusion of the raw materials occurs; (2) the refining compartment, in which, at higher temperatures the impurities in the molten glass are removed; and (3) a working compartment, in which the molten glass is kept at the proper uniform temperature for drawing the glass into sheet form.

There are three processes for drawing sheet glass: The Colburn (or Libbey-Owens), the Fourcault, and the Pittsburgh Plate processes. All three processes require the use of large continuous tanks and are fundamentally the same, differing only with respect to certain details by which the sheet is drawn and annealed.

In the Colburn process, used by Libbey-Owens-Ford in its two plants that produce sheet glass, a ribbon of glass from 7 to 9 feet wide is pulled upward from the working end of the tank, is bent 90° over a bending roll and then drawn horizontally along a series of rollers through a long oven (lehr). Here the glass is gradually tempered or annealed so that the internal stresses formed when the glass was first cooled may be largely removed. At the end of the lehr the glass is cut into stock sheets or cut sizes and packed or stored for shipment.

In the Fourcault process, the glass is drawn upward through a slotted refractory block, or débiteuse, which floats on the molten glass in the working end of the tank. The glass is pulled upward between a series of asbestos-covered rollers placed in pairs above the drawing block. This series of rollers is enclosed in a boxlike structure which retains the heat and thus serves as a vertical annealing lehr. These rollers extend upward for about 20 feet to a platform where the glass is cut, usually into stock sheets. The Pittsburgh Plate process differs only slightly from the Fourcault process. A draw bar instead of a débiteuse is used for drawing the glass. The draw bar is submerged below the surface of the molten glass in the working end of the tank and forces the glass to flow evenly over its surface as the ribbon of glass is pulled upward by knurled rollers that engage both edges of the sheet. The series of rollers extend upward to a height somewhat greater than that in the Fourcault process.

In the production of crown glass and cylinder glass, the batch is melted in a number of individual clay pots that are enclosed in a so-called pot furnace. After the materials are fused and the glass refined, the glass is gathered on the end of a long hollow iron rod and the collected glass or "gather" is then shaped by hand methods.

Crown glass is produced by a blowing process. A gob of glass is gathered on a blowpipe, and is blown by human breath into a large hollow sphere. The sphere is then collapsed or spun by different techniques into a flat disc and cooled. Small sizes of relatively flat pieces of glass are then cut from the disc. Cylinder glass is produced by hand by blowing the glass into the shape of a long hollow cylinder--from 15 to 20 inches in diameter and 5 or 6 feet long--which is allowed to cool somewhat, the ends are then removed, and the cylinder is cut open lengthwise; thus when it is heated in a flattening oven, the cylinder falls out into a flat piece of glass. For a few years before the continuous-drawing process was developed, these cylinders were blown by machine to a length of about 40 feet, permitting the fabrication of much larger sheets than by the hand-blowing method. Because of the processes used, cylinder glass and crown glass have a wavy surface which causes considerable distortion of images viewed through the glass. However, one advantage of the hand cylinder method is the greater flexibility it permits. By the use of a number of individual pots, each of which can contain batches of different kinds or colors of glass, it is possible to produce small quantities of a great variety of kinds or colors of glass much more economically than by the use of continuous tanks.

U.S. producers

Number and location.--Virtually all of the production of sheet glass in the United States is accounted for by the production of seven concerns at fourteen plants. Four of these seven concerns carry on multiproduct operations, whereas three of them make only sheet glass. Of the four multiproduct concerns, three manufacture plate glass as well as sheet glass, and make both laminated and tempered (toughened) glass from the sheet and plate glass that they produce. The other multiproduct concern is presently building a plant for the production of plate glass; this company also makes laminated glass and is one of the principal domestic producers of rolled glass. Three concerns not included above produce insignificant quantities (less than half of 1 percent of the total U.S. output of sheet glass) of special types of sheet glass and a substantial quantity of a number of other glass products.

Of the 14 plants accounting for virtually all of the U.S. production of sheet glass, 4 are located in West Virginia, 2 each in Oklahoma and Pennsylvania, and 1 each in Arkansas, Illinois, Indiana, Louisiana, Ohio, and Tennessee. For almost all of the 14 plants, sheet glass accounts for the entire production, notwithstanding the multiproduct operations of the concerns that own them. Products other than sheet glass are produced at only 2 of these plants; at 1 of these sheet glass accounts on the average for about 90 percent of the value of the plant's output, and at the other, sheet glass is a minor product. These 14 plants are moderately large; employment normally averages 250 workers at the smallest plant, and about 1,800 at the largest plant.

Productive capacity.--Information on tank capacity in terms of output of salable glass was obtained from the domestic producers of sheet glass for the period 1955-60. These data, converted to an annual basis, have been summarized for the 14 domestic plants as follows:

Year	Total annual tank capacity (Million boxes 1/)
1955----------	39.3
1956----------	41.0
1957----------	44.1
1958----------	44.0
1959----------	45.3
1960----------	45.9

1/ Each containing 50 square feet of sheet glass of single-strength equivalent.

Sales outlets.--The U.S. producers sell their glass to carefully selected distributors and jobbers, to fabricators, such as sash and door and jalousie manufacturers, and to processors, such as temperers, laminators, and mirror manufacturers. These so-called recognized factory buyers, selected according to the judgment of the individual producers, are the only concerns that can buy sheet glass directly from the factory. Other concerns desiring to purchase sheet glass, even in carload lots, must order their glass from the recognized factory distributors at correspondingly higher prices.

Under this distribution system the glass may be sold down through succeeding business levels (and at correspondingly higher prices) beginning with the recognized factory buyer and followed by the smaller distributor or jobber, the dealer, and the retailer. The processor

and fabricator, and the building and glazing contractors, depending on their size, buy at different levels. The direct factory buyer classification, however, is carefully controlled by the U.S. producers. As a result of this control jobbers and distributors that are not recognized factory buyers (even though they may purchase in carload quantities) have to compete with the distributors and jobbers that are so recognized and from whom they are forced to buy their glass. This element of competition between the higher and lower levels of distribution of domestic glass has encouraged the importation of sheet glass. Those firms at the lower level of distribution can import directly at the same price levels as the domestic factory buyers and can thus compete with the latter on equal terms.1/

In addition to selling to the independent factory buyers described above, one company distributes a substantial part of its sheet glass production through its merchandising division. This division consists of an integrated system of warehouses, service branches, and retail stores located in the principal centers of population east of the Rocky Mountains. It actually performs the functions of a large distributor and is in direct competition with the entire independent distribution system. The division also services the factory sales accounts of the direct factory buyers.

The domestic manufacturers reported to the Commission the value of their shipments to the important direct-factory-buyer classifications

1/ Importers actually transact their purchases of the foreign glass with the foreign manufacturers' agents in the United States. The minimum quantity sold is usually a carload or a truckload.

and of their intracompany transfers of sheet glass in 1955 and 1959. The relative importance of each of these classifications in the two periods is shown in the following table:

Outlet (buyer classification) 1/	Percent of total shipments and transfers	
	1955	1959
Distributors, jobbers, wholesalers, and contractors	40.6	41.4
Sash and door manufacturers	16.8	21.1
Jalousie manufacturers	1.6	1.5
Laminators (except auto manufacturers)	1.9	1.2
Temperers (except auto manufacturers)	6.0	4.4
Auto manufacturers, direct	5.8	2.6
Mirror manufacturers	3.0	4.2
Intracompany transfers	19.2	17.5
Other	5.1	6.1
Total	100.0	100.0

1/ Classified according to principal function.

U.S. production and shipments

Data on their production of sheet glass were obtained from all domestic producers for the period 1955-60. The number of boxes and the number of pounds of sheet glass produced by these firms in the years 1955-60 are shown below:

Year	U.S. production	
	Million boxes 1/	Million pounds
1955	28.5	1,651
1956	30.4	1,762
1957	22.6	1,311
1958	20.1	1,167
1959	30.6	1,770
1960	23.5	1,359

1/ Hypothetical boxes that would contain 50 square feet of single-strength glass, weighing 58 pounds each.

There were several strikes that affected a number of plants during the period covered by these data, one in 1955, by the glass cutters (members of an A.F. of L. union), and one lasting from late in 1958 to the early part of February 1959, by the general plant workers (members of a C.I.O. union).[1/]

Shipments by the domestic producers, including intracompany transfers, for the period 1950-60 are given in table 2. The volume of shipments in 1955-60 as reported to the Commission are somewhat less than the production reported for that period, partly because of cutting and other losses,[2/] and partly because of inventory accumulation.

The annual volume of sheet glass shipped by U.S. producers during the 1950-54 period ranged between 1.2 billion pounds and 1.4 billion pounds. In 1955 and 1956 the volume of shipments expanded to nearly 1.6 billion pounds; it declined in 1957 to 1.3 billion pounds, and in 1958 to 1.1 billion, the latter being the low point for shipments in the 1950-60 period. Shipments increased to 1.6 billion pounds in 1959, but declined to about 1.3 billion pounds in 1960.

Data on shipments of sheet glass by kinds and thicknesses (weights per square foot) were also obtained from domestic producers, and they are shown in table 3.[3/] Glass weighing under 16 ounces per square foot

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1/ The sheet-glass plants of two companies were shut down by the 1958-59 strike. The Libbey-Owens-Ford Glass Co. plants were shut down for 2½ weeks, from Oct. 10 to Oct. 27, 1958. The Pittsburgh Plate Glass Co. plants were shut down for 19 weeks, from Oct. 7, 1958, to Feb. 17, 1959.

2/ These losses appear to average about 6.5 percent of production.

3/ Data on glass weighing less than 16 ounces per square foot have been combined in order not to reveal the individual operations of the producers.

is relatively unimportant in the total shipments of sheet glass by the domestic producers, and it is offered by only a few of the producers, presumably in order to offer a complete line of sheet glass to their customers. Shipments of common window glass--glass weighing 16 ounces or more but not over 28 ounces per square foot--represent 70-80 percent of the total shipments of all sheet glass, and shipments of heavy sheet glass--glass weighing more than 28 ounces per square foot--account for almost all of the remainder.

Shipments of clear (uncolored) common window glass by the domestic producers declined during the 1955-60 period. Shipments in 1955 amounted to 1.14 billion pounds, increased slightly in 1956 to 1.18 billion, but declined in 1957 and 1958 to 0.92 billion and 0.80 billion, respectively. After the business recovery in 1959, shipments increased to 1.12 billion pounds; however, this was less than the volume in either 1955 or 1956. The increase in 1959 over the volume in 1958 also reflected to some extent the return of several plants to operation after the strike late in 1958. Shipments in 1960 declined, following the trend of general business activity, to 0.82 billion pounds; this was only slightly above shipments in 1958, when the volume was somewhat restricted by the strike as well as by a business recession. Shipments of colored glass of window-glass weight decreased markedly during the 1955-60 period--from 100 million pounds in 1955 to 16 million pounds in 1960.

Shipments of clear heavy sheet glass (over 28 ounces per square foot) ranged between 250 million and 300 million pounds annually in 1955-58, but increased to 360 million in 1959, and to 370 million in 1960. The increase in 1960 over 1959 probably reflected in part the substitution of sheet glass for plate glass in certain types of automobile glazing. Shipments of colored glass of these thicknesses also increased somewhat during the 1955-60 period. The use of heat-absorbing heavy sheet glass, which is considered colored, has grown considerably in recent years as a result of the replacement of thinner (laminated) heat-absorbing glass (largely plate glass) by thick (tempered) heat-absorbing sheet glass for automotive glazing.

U.S. producers' inventories

The factory inventories of domestically produced sheet glass were relatively low at the beginning of 1955 (table 4) and as a result of heavy domestic requirements in that year inventories were reduced further by the end of the year. In 1956, production exceeded shipments, and inventories expanded to the highest level of the 1955-60 period. In 1957 and 1958, production was curtailed more than shipments declined, and inventories were reduced. In both 1959 and 1960, inventories were allowed to accumulate and at the end of 1960 they amounted to 2.3 million boxes--1 million boxes above the level at the end of 1954. The ratio of the closing inventories to total shipments amounted to 3.7 percent for 1955, to about 8 percent for the years 1956-59, and to 10.4 percent for 1960.

U.S. exports

Data obtained from the domestic producers indicate that most exports are made by the distributors rather than by the manufacturers. Although the data on sheet glass collected by the U.S. Bureau of the Census do include exports by distributors, they include only the exports of clear sheet glass. However, it is doubtful that the inclusion of the exports of colored glass would significantly change the small volume of exports as reported by the Bureau of the Census. The exports so reported (table 2) are less than one-half of 1 percent of total U.S. production.

Exports of clear glass went chiefly to Canada, Latin America, and the Scandinavian countries.

U.S. imports

Method of importing.--Most of the importers of sheet glass are distributors, jobbers, and fabricators--to some extent the same firms that are the customers of the U.S. producers. These importers place their orders for foreign glass with the U.S. sales agents of the foreign glass manufacturers, who in turn forward the orders to the foreign manufacturers. Delivery is made directly to the importer or the sales agent. Almost all of these importers continue to purchase at least some glass from domestic sources, notwithstanding their substantial volume of imports. Some distributors offer imported glass for resale at prices below the prices at which they sell domestic glass, and some

distributors commingle the imported with the domestic glass, selling both at the same prices.

Although distributors account for the largest part of the imports, large quantities are also imported by contract glaziers, sash and door manufacturers, and other fabricators, temperers, and laminators.

Terms of sale by foreign manufacturers.--Prior to October 1960 all of the foreign manufacturers sold their sheet glass on a c.i.f. basis delivered to the U.S. sea-port or lake-port docks.[1/] During that month most of the foreign manufacturers in Western Europe began selling their glass on a delivered basis, arranging through the American Express Co. for delivery of their shipments to the customer's warehouse or plant in the United States. Under this system the importer is no longer concerned with the details of customs clearance and reshipment to his warehouse or plant, which could be somewhat burdensome to small firms or infrequent importers.

Trends, kinds, and sources.--Imports during the 1930's were small in comparison with the volume imported in recent years. During the peak year of the 1930 decade, imports amounted to 47 million pounds. In the early 1950's the volume began to rise sharply. Imports at trade-agreement rates increased from 32 million pounds in 1950 to 92 million in 1951; and after declining in 1952 imports again increased sharply to 118 million in 1953 (table 2). Imports increased from 110 million pounds in 1954 to 238 million in 1955.

1/ Domestic producers changed to a delivered price basis in April 1960.

Data on imports of sheet glass between 1955 and 1960 (table 2) reflect a general increase in imports and changes in the level of U.S. business activity and to some extent indicate the effects of the labor strikes against several U.S. sheet-glass plants in late 1958 and early 1959 (table 5). Imports at trade-agreement rates of duty (imports from Communist-dominated countries have remained small) increased from 238 million pounds of sheet glass in 1955 to 312 million in 1956, but declined to 211 million in 1957 and then rose to 292 million in 1958 (table 2). With the substantial improvement in business conditions and the large increase in building construction, imports increased to 491 million pounds in 1959, the largest quantity ever imported in any one year. Imports declined during 1960 to 391 million pounds, probably due primarily to the decline in building construction.

The major part of the increase in imports between 1955 and 1959 consisted of glass weighing 16 ounces or more but not more than 28 ounces per square foot. Imports in this weight bracket are comprised almost wholly of single- and double-strength sheet glass (table 3). Imports for the period 1955-60 are shown by area brackets in table 6. An increasing proportion of the imports consist of glass in the larger area brackets.

Annual imports of colored sheet glass, subject to the additional duty provided for in tariff paragraph 224, ranged from 0.6 to 1.7 percent of the total imports of sheet glass in the years 1955-60

(table 3). Between 1955 and 1960, imports of specially processed glass[1/] that was also dutiable under paragraph 224 declined from 6.6 to 0.2 percent of the total annual imports of sheet glass; this decline was largely the result of a change in the customs classification of certain processed glass from paragraphs 219 and 224 to paragraph 230(d).

Imports have come principally from Belgium, which supplied 35 to 40 percent of total imports of sheet glass during the 1955-60 period (table 7). The four next largest sources have been Japan, West Germany, France, and the United Kingdom, each of which supplied quantities ranging from 5 to 15 percent of the total. Other sources include Italy, Sweden, Yugoslavia, Israel, Canada, and Mexico.

Imports dutiable at the full rates from Communist-dominated countries--principally Czechoslovakia--amounted to less than 300,000 pounds in each of the years 1950-54. By 1955 they had increased to 6.8 million pounds and by 1960, to 19.2 million pounds; in the latter year, they represented about 4.7 percent of the total imports. The average unit foreign value of imports from Communist-dominated countries in 1960 amounted to 3.6 cents per pound, about half as large as that of the imports dutiable at trade-agreement rates in that year (table 7).

1/ Glass that is bent, beveled, decorated, embossed, engraved, enameled, etched, flashed, frosted, ornamented, painted, sanded, or stained.

U.S. consumption

Trend in consumption.--Data on the volume of U.S. consumption of sheet glass for the period 1950-60 have been computed by adding the quantity of sheet glass shipped by U.S. producers (after deducting U.S. exports) to the quantity of sheet glass imported into the United States for consumption (table 2).

The consumption of sheet glass during the decade of the 1950's has increased irregularly. The volume of consumption during the first 5 years showed no pronounced trend; it ranged from about 1.3 billion pounds to about 1.5 billion pounds per year. During the next 5 years, however, the trend was sharply upward. Consumption increased to about 1.9 billion pounds in 1955 and 1956, declined to about 1.5 billion in 1957 and 1958, but recovered again in 1959, reaching a new high of 2.1 billion. In 1960 consumption declined to 1.7 billion pounds.

During the period 1950-60, the share of the U.S. market supplied by U.S. producers declined. The ratio of the volume of sheet glass shipments by U.S. producers to U.S. consumption decreased from 97.8 percent in 1950 to 86.6 percent in 1955, and to 75.4 percent in 1960. The U.S. producers did not benefit at all, in terms of aggregate shipments, from the growth in the U.S. market. The average volume of shipments by the U.S. producers in the 5 years after 1955 was about the same as the average volume of their shipments in the 5 years immediately preceding 1955 whereas the average volume of U.S. consumption in the 5 years since 1955 was 20 percent higher than the average in the 5 years immediately preceding 1955. Conversely, during the period 1950-60, imports supplied an increasing share of the U.S. market. The ratio of

the volume of imports to U.S. consumption increased from 2.2 percent in 1950 to 13.4 percent in 1955 and to 24.6 percent in 1960. Substantially all of the increase was attributable to imports which were entered at reduced rates of duty. Although imports from Communist-dominated countries (imports entering at the statutory (full) rates of duty) increased significantly during the period 1955-60, they accounted for less than 5 percent by volume of the total imports in 1960.

Factors affecting the trend of imports.--The principal factors leading to the increase in imports are as follows: (1) Substantially lower prices for imported glass than for the similar U.S. product, (2) periodic shortages, either actual or threatened, of domestically produced glass, (3) the availability of thinner (and thus cheaper) single- and double-strength glass from foreign manufacturers than was available from domestic producers, and (4) the reluctance of U.S. producers to bypass their direct-factory-distributor customers in order to sell directly to other large volume distributors and industrial users. These factors are discussed in the following paragraphs.

Information obtained from distributors and other factory buyers indicates that the delivered costs of imported glass to these purchasers were substantially lower than the delivered costs of domestically produced glass. The delivered costs of comparable glass show a wide range in price differential between the imported and the domestic product--depending on the location of the purchaser's plant or warehouse, the kind of glass purchased, the source, and the time of the purchase.

A number of distributors in the East indicated that there probably was an actual shortage of sheet glass in 1955-56.

Domestic producers themselves imported some sheet glass in 1955 and 1956. Evidence is not so clear that an actual shortage occurred in 1958-59 because of the strikes at the plants of the Pittsburgh Plate Glass Co. and the Libbey-Owens-Ford Glass Co. The strikes occurred during a time when general business activity and residential construction were relatively high. Anticipation of an extended strike resulted in a greater ordering of glass than would otherwise have been expected. Moreover, it probably induced a number of glass distributors and users to secure and maintain a foreign source of supply. It is not clear whether the anticipation of a shortage contributed significantly to the increase in imports during 1958-59. Imports for 1958 and 1959 are shown by months in table 5.

During the hearings, the point was made that a large part of the imports of sheet glass consisted of 18-ounce and 24-ounce glass--weights of glass that were not available from U.S. producers. Information obtained in the field and from questionnaires indicates that most of the imports of single- and double-strength sheet glass consisted of 18- and 24-ounce glass; also, the domestic producers testified at the hearings that they produced no 18- or 24-ounce glass. On the other hand, no uses were found where 19-ounce glass and 26-ounce glass are not physically interchangeable with 18-ounce glass and 24-ounce glass, respectively. It appears, therefore, that the thinner imported glasses are purchased almost wholly on the basis of price considerations.

Domestic producers are reluctant to bypass their distributor-customers and to sell to all large-scale buyers on the same terms. This situation

has been taken advantage of by the foreign manufacturers, which appear willing to sell to anyone who will pay in advance for carload quantities.

Competition between sheet glass and other products.--Sheet glass meets substantial competition from other types of glass and limited competition from plastics. Plate glass has always competed with sheet glass in uses where surface distortion is an important factor, as in the glazing of windshields and side lights of vehicles, of large windows for residences, of buildings and store fronts, and in mirror glazing. Plate glass, with its ground and polished surface, offers far less distortion than sheet glass, and for most such installations plate glass is used, even at substantially higher prices. However, sheet glass has greatly improved in quality, and has to some extent displaced plate glass in the smaller sizes of lights. For example, in the past plate glass was used almost exclusively for the side lights of automobiles, but in recent years, more and more sheet glass has been used for this purpose. Double-glazed insulating units--two lights of glass separated by an insulating air space--were formerly available only in plate glass; now sheet glass is being used in the smaller sizes of these units.

Rolled glass also competes with sheet glass where obscured glass is desired, or where a wired glass is required for fire protection. A number of years ago sheet glass was surface treated to make it obscured so that it could be used for partitions and the like. However, figured rolled glass has almost completely displaced sheet glass in this application.

Plastic sheeting, such as polyethylene, is used for glazing in agricultural and horticultural applications, as in chickenhouses and

greenhouses. However, plastic sheeting competes with sheet glass almost entirely on the basis of price, and in general such competition is limited to the cheaper plastics and to the uses mentioned. Acrylic plastics are priced substantially above sheet glass and thus are not directly competitive with it.

Prices

Terms of sale of domestic glass.--The U.S. producers quote standard list prices and discounts which apply to these prices. The list prices for thicknesses up to and including double-strength glass are quoted on the basis of boxes of 50 square feet of glass; the price per box increases with increases in the area of the light, or piece, of glass. 1/ List prices for thicknesses in excess of double-strength glass are quoted on the basis of square feet, and these prices also increase with increases in the area of the light.

Until April 1960, prices quoted by U.S. producers to recognized factory buyers were f.o.b. plant, and the freight charges were equalized to those applicable to shipments from the nearest sheet-glass plant of a competing producer. In April 1960, U.S. producers changed from this basis to a delivered basis, that is, prices were quoted f.o.b. plant with freight charges to destination being absorbed by the producer except that the maximum freight absorption on westbound shipments was limited to an amount equal to the freight rate from the producer's plant to Denver, Colo. This system is still in effect.

1/ The size of a light of glass of these thicknesses is indicated in the trade in terms of "united inches" (the sum in inches of the length and width of the light of glass).

Terms of sale of imported glass.--The U.S. sales agents of the foreign manufacturers base their prices for sheet glass on the same units as the U.S. producers. However, they have not quoted nor do they now quote a series of discounts, as many U.S. producers have done. Until October 1960 the prices quoted by foreign manufacturers were c.i.f., duty-paid, subject to certain supplements or allowances, 1/ the amount of which depended on the location of the importer's warehouse or plant in the United States.

The method in which the supplements and allowances were used by the Western European manufacturers resulted in lower supplements or larger allowances on prices paid by importers located further inland than on prices paid by importers located at seaports. 2/ The amount by which the higher delivered cost of imports to importers located inland exceeded the delivered cost to importers located at seaports was substantially less than the amount of the additional inland freight charges borne by the inland importers. This use of supplements and allowances increased the competitiveness of imports with domestic glass at these inland points. In addition to considerably reducing the differences between delivered costs to inland importers and those to seaboard importers, this system also resulted in a lower net realization to the foreign manufacturers on sales to inland importers than on sales to importers located near seaports.

1/ These supplements or allowances were additions to or subtractions from the basic prices and were quoted in terms of cents per hundredweight.

2/ The Japanese manufacturers made no significant distinction between importers located further inland and located at seaports in the supplements or allowances they charged them.

In October 1960 most of the Western European producers changed to a delivered-price basis on their exports to the United States, and the Japanese producers changed to this basis in November 1960. Under the delivered-price basis all prices are quoted delivered destination, duty-paid, and all customs-clearing and wharfage charges are paid by the foreign manufacturer. The only extent to which any supplements have been used under this system has been to charge a supplement on all imports delivered to destinations located west of Denver, Colo. The change to a delivered-price basis by the foreign manufacturers has had the effect of eliminating any differences between the delivered costs to inland importers and those to seaboard importers for imports entering the United States on the same coast. It has also had the effect of continuing the differences between the foreign manufacturers' realization on sales to inland importers and that on sales to seaboard importers.

Price trends.--The prices of domestically produced single- and double-strength glass, which accounts for about two-thirds of total U.S. production of sheet glass, were increased by about 24 and 16 percent, respectively, between 1950 and 1955 (table 8). The prices for heavy sheet glass were increased by about 15 percent during this period. However, there was only a slight increase in prices of domestically produced single- and double-strength and heavy sheet glass from 1955 to the end of March 1960. The shift from a freight-equalized basis to a delivered-price basis in April of 1960, referred to above, was in effect a substantial price reduction on domestic glass by the U.S. producers, particularly to buyers located in most of the seaboard areas. The price increases which the U.S. producers made during the summer of 1960 still left coastal buyers

with a net price reduction over the prices prevailing prior to the change to a delivered basis; however, these subsequent price increases resulted in a net increase of prices paid by inland buyers over the prices prevailing before April 1960 (table 9).

No data were obtained on the prices paid for imported sheet glass for the period 1950-54. Detailed data on prices were obtained, however, from the U.S. sales agents of the foreign manufacturers and U.S. importers for the period 1955-60. These data indicate that the prices paid for imports of single- and double-strength glass landed on the Atlantic and Gulf coasts from Belgium and the other Western European countries increased between May 1955 and November 1957 by about 11 percent. The prices for such glass changed very little after November 1957 until they were reduced in early 1960 to about the level that had prevailed in 1955 (table 10). The prices of heavy sheet glass from those countries changed very little after May 1955 until prices were decreased in early 1960 by about 6 percent.

The prices paid for imports of single-strength glass and those for imports of double-strength glass from Japan landed on the Atlantic coast increased by about 34 and 32 percent, respectively, between May 1955 and May 1958, but in May 1960 both declined by about 15 percent. The prices of Japanese single- and double-strength glass on the Pacific coast were increased by about 46 percent from May 1955 to May 1960. In contrast with the increase in the prices of the single- and double-strength Japanese sheet glass, the prices of the heavy Japanese sheet glass on both the Atlantic and Pacific coasts were reduced substantially between 1955 and 1960. Between May 1955 and May 1960 the prices applicable to

sales of the heavy Japanese sheet glass had declined on the Atlantic coast by about 37 percent and on the Pacific coast by about 15 percent. In general, the prices of both single- and double-strength Japanese sheet glass and heavy Japanese sheet glass have been higher on the Pacific coast than on the Atlantic coast. Western European producers also charge higher prices for sales on the Pacific coast than for those on the Atlantic coast, but, on both coasts, the prices for Japanese sheet glass are lower than those for sheet glass from the Western European countries.

The change to a delivered-price basis by the Western European manufacturers and the changes they made in their list prices between November 1, 1959, and November 1, 1960, resulted in little change in the delivered costs to importers located near U.S. seaports (table 9) but decreased the delivered costs to importers located substantial distances inland.

The change to a delivered-price basis by the Japanese producers resulted in substantial increases in the delivered cost to purchasers located at seaports along the Atlantic and Gulf coasts. However, it resulted in virtually no change in the cost to purchasers located at Pacific coast seaports.

The Western European manufacturers, in addition to charging lower prices for imported stock sheets of heavy sheet glass than U.S. producers charge for the stock sheets they produce, further increase the differential between their prices for heavy sheet glass and those for such glass produced in the United States by charging for cut-sizes more than 25 square feet in area the same prices as they do for stock sheet of that size. The Japanese do not even quote stock-sheet prices on any of their

heavy sheet regardless of size; they quote only cut-size prices. The U.S. producers charge about 20 to 30 percent more for cut sizes than for stock sheets, depending upon the thickness and area of the glass lights.

Employment and earnings of production and related workers

The average number of production and related workers engaged in the production of sheet glass in the United States and the aggregate man-hours worked increased slightly between 1955 and 1956 (table 11), declined by 15 to 30 percent in the 1957-58 period, increased in 1959 to the 1955 levels, and then declined again in 1960 by a little more than 15 percent.

The average hourly wage paid production and related workers producing sheet glass was $2.75 in 1955, and it increased each year thereafter, reaching $3.35 in 1960. In that year, average hourly wages ranged from $2.44 for workers at one company's plant to $3.73 for workers at another company's plant.

Profit-and-loss experience of domestic producers

Questionnaires requesting data showing their profit-and-loss experience on sheet glass were sent to the nine domestic producers of such glass. Usable data were furnished by six concerns which together accounted for 96 percent or more of the total domestic production of sheet glass in 1955-60. The profit-and-loss data furnished by the six concerns are summarized in table 12. Two of the concerns operate on an accounting year ending June 30; data for these concerns for the accounting year ended June 30, 1960, are shown in the table under 1959, and the data for the accounting year ended June 30, 1959, are shown under 1958, and so

forth. This accounts for the fact that in that table the data for 1960 cover only four concerns. The other four concerns all operate on a calendar-year basis.

According to table 12, the aggregate net sales of sheet glass reported by the six concerns decreased from $128.9 million in 1955 to $104.3 million in 1957 and $94.8 million in 1958, and then increased to $128.4 million in 1959. The aggregate net sales of sheet glass reported by the four concerns for which data are shown for all years covered by the table increased from $110.9 million in 1955 to $113.0 million in 1956, decreased to $89.9 million in 1957 and $76.5 million in 1958, increased to $113.5 million in 1959, and decreased to $90.1 million in 1960.

The decline in net sales of sheet glass in 1957 is attributable largely to the business recession that began in that year. Imports in 1957 declined both in actual amount and in relation to domestic consumption. The decline in sales in 1958 is attributable in part to the business recession and to a strike at the several sheet-glass-producing plants, and in part to imports, which in that year increased both in actual amount and in relation to consumption. The decline in sales in 1960 is attributable in part to the decline in building construction, automobile production, and general business. Imports declined from 1959 to 1960, but the ratio of imports to domestic consumption for the 2 years remained virtually unchanged.

According to table 12, the ratio of the aggregate net operating profit (before income taxes) applicable to sheet glass to aggregate net sales of sheet glass for the six concerns decreased from 23.3 percent in 1955 to 6.7 percent in 1958, and increased to 13.4 percent in 1959. The four concerns for which data are shown for 1960 reported an aggregate net operating loss in that year equal to 1.3 percent of their aggregate net sales.

Summary

The information obtained in this investigation shows that imports of cylinder, crown, and sheet glass at trade agreement rates of duty in 1960 were 1,115 percent higher than in 1950 and 64 percent higher than in 1955; that such imports in 1960 amounted to 391.3 million pounds compared with imports of 109.8 million pounds in 1954 and of 238.5 million pounds in 1955; that between 1955 and 1960 the quantity of cylinder, crown, and sheet glass produced domestically declined 18 percent, the quantity shipped dropped 20 percent, and dollar value of sales decreased by approximately $30,000,000, or about 25 percent; that the 1960 production represented the utilization of only about half of the capacity of domestic plants for sheet glass manufacture; that the share of the U.S. market supplied by domestic producers was reduced to 75 percent in 1960 compared with 92 percent in 1954 and 87 percent in 1955; that producers' yearend inventories at the end of 1960 were nearly double the quantities on hand at the end of either 1954 or 1955, the ratio of the closing inventories to total shipments being 10.4 percent for 1960, much higher than the ratio of 3.7 percent for 1955; that between 1955 and 1960 the average number of production and related workers engaged in the manufacture of sheet glass declined 16 percent, total man-hours worked decreased 17 percent, and total wages paid did not change significantly despite an increase of 22 percent in average hourly wages; that the sale of a large and growing volume of imported glass at prices significantly lower than prices for comparable domestic glass has seriously weakened the price structure in the U.S. market;

that since November 1, 1959, domestic producers--despite rising material and labor costs--have found it necessary to reduce their prevailing prices in certain important areas (e.g., New York, Boston, Los Angeles, Miami) where there has been especially sharp intensification of price competition from imports; that whereas an increasing proportion of the imports consist of the larger stock and staple sizes of sheet glass, an increasing proportion of sales of domestic glass consist of the small and the special cut sizes, a development which significantly increases unit labor costs and glass-cutting losses for domestic plants; that the aggregate net operating profit (before income taxes) for the six concerns for which information is available for 1955, and that account for nearly all domestic output, was $30,056,000 in that year compared with an aggregate net operating loss of $1,165,000 in 1960 for the four concerns for which information is available for that year and that account for the bulk of domestic output; and that the ratio of the aggregate net operating profit (before income taxes) to aggregate net sales for the six concerns for which information is available for 1955 was 23.3 percent in that year compared with an aggregate net operating loss on aggregate net sales of 1.3 percent in 1960 for the four concerns for which information is available for that year.

In view of the foregoing considerations, the Commission concludes that cylinder, crown, and sheet glass (except such glass weighing not over 4 ounces per square foot 1/) are being imported

1/ Economic information relating to the production and trade in cylinder, crown, or sheet glass weighing not over 4 ounces per square foot cannot be published since domestic production is confined to one manufacturer.

in such increased quantities, both actual and relative, as to cause serious injury to the domestic industry producing like products.

Respectfully submitted.

Joseph E. Talbot, Chairman

J. Allen Overton, Jr., Vice Chairman

Walter R. Schreiber, Commissioner

Glenn W. Sutton, Commissioner

J. Weldon Jones, Commissioner

William E. Dowling, Commissioner

STATISTICAL APPENDIX

Table 1.--Cylinder, crown, and sheet glass: 1/ U.S. rates of duty, June 18, 1930-May 1961

Item	Effective date	Basic rates under par. 219: Specific rates on glass measuring in square inches--: Not over 150	Over 150 but not over 384	Over 384 but not over 720	Over 720 but not over 864	Over 864 but not over 1,200	Over 1,200 but not over 2,400	Over 2,400	Minimum rates 2/ on glass weighing under 16 but not under 12 ounces per square foot	Additional rates under par. 224 3/ on glass colored or specially processed
		Cents per pound	Cents per pound	Cents per pound	Cents per pound	Cents per pound	Cents per pound	Cents per pound	Percent ad valorem	Percent ad valorem
Pars. 219 and 224:										
Cylinder, crown, and sheet glass, by whatever process made, and for whatever purpose used:										
Statutory rate	6-18-30	1-7/8	2-1/16	2-7/16	2-5/8	3	3-3/8	3-3/4	50	5
Modification:										
Sec. 336 4/	1-1-32	1-26/64	1-35/64	1-53/64	1-62/64	2-1/4	2-34/64	2-52/64	37-1/2	5/
Czechoslovakian trade agreement 6/	4-16-38	63/64	1-5/64	1-18/64	1-24/64	1-37/64	1-49/64	1-62/64	30	5/
Sec. 336 7/	4-22-39	1-26/64	1-35/64	1-53/64	1-62/64	2-1/4	2-34/64	2-52/64	37-1/2	5/
GATT	1-1-48 8/	63/64	1-5/64	1-18/64	1-24/64	1-37/64	1-49/64	1-62/64	30	5
	6-6-51	0.8	0.8	1.0	1.0	1.3	1.3	1.6	20	2-1/2
	6-30-56	0.76	0.76	0.95	0.95	1.2	1.2	1.5	19	5/
	6-30-57	0.72	0.72	0.9	0.9	1.15	1.15	1.44	18	5/
	6-30-58	0.7	0.7	5/	5/	1.1	1.1	1.4	17	5/
		Index of rates of duty (June 17, 1930=100)								
Statutory rate	6-18-30	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Modification:										
Sec. 336 4/	1-1-32	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	100.0
Czechoslovakian trade agreement 6/	4-16-38	52.5	52.3	52.6	52.4	52.6	52.3	52.5	60.0	100.0
Sec. 336 7/	4-22-39	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	100.0
GATT	1-1-48 8/	52.5	52.3	52.6	52.4	52.6	52.3	52.5	60.0	100.0
	6-6-51	42.7	38.8	41.0	38.1	43.3	38.5	42.7	40.0	50.0
	6-30-56	40.5	36.8	39.0	36.2	40.0	35.6	40.0	38.0	50.0
	6-30-57	38.4	34.9	36.9	34.3	38.3	34.1	38.4	36.0	50.0
	6-30-58	37.3	33.9	36.9	34.3	36.7	32.6	37.3	34.0	50.0

1/ Dutiable under par. 219 or pars. 219 and 224 of the Tariff Act of 1930.

2/ Glass described hereunder is dutiable at the specific rates, provided that such rates are not less than the minimum ad valorem rates specified in this column.

3/ Cylinder, crown, and sheet glass, dutiable under par. 219 is also dutiable under par. 224 if bent, frosted, sanded, enameled, beveled, etched, embossed, engraved, flashed, stained, colored (except glass not less than 1/4inch thick, when obscured by coloring prior to solidification), painted, ornamented, or decorated.

4/ Currently applicable to the products of Communist-dominated countries or areas designated by the President pursuant to sec. 5 of the Trade Agreements Extension Act of 1951, as amended. The products of Poland were subject to these rates only during the period Jan. 5, 1952-Dec. 15, 1960, inclusive.

5/ No modification.

6/ Rates established pursuant to the trade agreement with Czechoslovakia. These rates did not apply as base rates to glass subject to the additional duty under par. 224.

7/ The rates established pursuant to sec. 336 on Jan. 1, 1932, again became effective, following the termination of the trade agreement with Czechoslovakia.

8/ These base rates were not applicable to colored glass described in par. 224; the rate on such colored glass was bound at rates not above those in effect Jan. 1, 1932; the additional duty on glass dutiable under par. 224 was bound at 5 percent.

Table 2.--Cylinder, crown, and sheet glass, whether or not colored or specially processed: 1/ Shipments by U.S. producers, U.S. exports of domestic merchandise, U.S. imports for consumption, and apparent U.S. consumption, 1950-60

Item	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
	Quantity (million pounds)										
Shipments by U.S. producers	1,442.8	1,395.5	1,243.6	1,416.9	1,297.9	1,590.0	1,576.2	1,256.6	1,117.3	1,580.0	1,264.6
Domestic exports 2/	10.0	5.0	5.3	5.5	3.4	5.3	3.9	2.5	3.0	3.2	4.2
U.S. imports for consumption--											
At trade-agreement rates of duty	32.2	91.4	36.9	117.9	109.8	238.5	312.1	210.8	292.4	491.4	391.3
At full rates of duty 3/	-	.1	.3	.1	.1	6.8	17.9	3.2	11.0	15.6	19.2
At all rates of duty (total)	32.2	91.5	37.2	118.0	109.9	245.3	330.0	214.0	303.4	507.0	410.5
Apparent U.S. consumption	1,465.0	1,482.0	1,275.5	1,529.4	1,404.4	1,830.0	1,902.3	1,468.1	1,417.7	2,083.8	1,670.9
	Percent of U.S. consumption										
Share supplied by--											
Shipments 4/ by U.S. producers	97.8	93.8	97.1	92.3	92.2	86.6	82.7	85.4	78.6	75.7	75.4
U.S. imports for consumption--											
At trade-agreement rates of duty	2.2	6.2	2.9	7.7	7.8	13.0	16.4	14.4	20.6	23.6	23.4
At full rates of duty	-	-	-	-	-	.4	.9	.2	.8	.7	1.2
At all rates of duty (total)	2.2	6.2	2.9	7.7	7.8	13.4	17.3	14.6	21.4	24.3	24.6

1/ Dutiable under paragraph 219, or paragraphs 219 and 224 if bent, beveled, colored (except glass not under 1/4-inch thick, which has been obscured by coloring prior to solidification), decorated, embossed, enameled, engraved, etched, flashed, frosted, ornamented, painted, sanded, or stained.

2/ Official statistics are reported in square feet, and have been converted to pounds at the ratio of 1 sq.ft.=1.16 pounds. Data do not include colored glass; it is believed, however, that exports of colored glass are considerably smaller than exports of glass not colored.

3/ Imports of products of Czechoslovakia, Poland, and the U.S.S.R. became dutiable at full rates in 1951-52; such imports dutiable previously at trade-agreement rates.

4/ Excluding exports.

Source: Compiled from official statistics of the U.S. Department of Commerce, and from information submitted to the U.S. Tariff Commission by the producers.

Table 3.--Cylinder, crown, and sheet glass, whether or not colored or specially processed: 1/ Shipments by U.S. producers and U.S. imports for consumption, by thickness (weight per square foot) and by kinds, 1955-60

Item	Weighing per square foot--							Total			
	Less than 16 ounces, 2/ total or average	16 ounces or more, but not over 28 ounces			Over 28 ounces			Clear	Colored	Processed	Total or average
		Clear	Colored	Total or average	Clear	Colored	Total or average				
1955											
U.S. shipments----1,000 pounds--	13,980	1,141,261	97,666	1,238,927	282,426	54,597	337,023	1,436,513	153,417	3/	1,589,930
U.S. imports----------do----	18,746	124,406	2,661	127,067	76,255	652	76,907	218,596	4,124	15,810	238,530
Ratio of imports to shipments percent--	134.1	10.9	2.7	10.3	27.0	1.2	22.8	15.2	2.7	3/	15.0
1956											
U.S. shipments----1,000 pounds--	16,605	1,180,260	42,837	1,223,097	278,758	57,691	336,449	1,474,226	101,925	3/	1,576,151
U.S. imports----------do----	27,197	180,287	545	180,832	95,023	736	95,759	302,005	1,783	8,259	312,047
Ratio of imports to shipments percent--	163.8	15.3	1.3	14.8	34.1	1.3	28.5	20.5	1.7	3/	19.8
1957											
U.S. shipments----1,000 pounds--	13,958	915,333	33,011	948,344	249,730	44,621	294,351	1,177,948	78,705	3/	1,256,653
U.S. imports----------do----	16,868	116,937	346	117,283	74,189	602	74,791	207,605	1,337	1,816	210,758
Ratio of imports to shipments percent--	120.8	12.8	1.0	12.4	29.7	1.3	25.4	17.6	1.7	3/	16.8
1958											
U.S. shipments----1,000 pounds--	13,424	803,016	14,846	817,862	248,303	37,660	285,963	1,064,141	53,108	3/	1,117,249
U.S. imports----------do----	17,828	188,406	303	188,709	83,246	1,274	84,520	289,143	1,914	1,306	292,363
Ratio of imports to shipments percent--	132.8	23.5	2.0	23.1	33.5	3.4	29.6	27.2	3.6	3/	26.2
1959 4/											
U.S. shipments----1,000 pounds--	17,781	1,120,585	26,396	1,146,981	359,611	55,504	415,115	1,497,779	82,098	3/	1,579,877
U.S. imports----------do----	32,375	322,759	645	323,404	132,371	1,777	134,148	486,990	2,937	1,488	491,415
Ratio of imports to shipments percent--	182.1	28.8	2.4	28.2	36.8	3.2	32.3	32.5	3.6	3/	31.1
1960 4/											
U.S. shipments----1,000 pounds--	15,211	815,183	16,282	831,465	369,274	48,626	417,900	1,199,562	65,014	3/	1,264,576
U.S. imports----------do----	32,987	260,870	1,562	262,432	94,811	167	94,978	386,263	4,134	922	391,319
Ratio of imports to shipments percent--	216.9	32.0	9.6	31.6	25.7	0.3	22.7	32.2	6.4	3/	30.9

1/ Dutiable under paragraph 219, or paragraphs 219 and 224 if bent, beveled, colored (except glass not under 1/4-inch thick, which has been obscured by coloring prior to solidification), decorated, embossed, enameled, engraved, etched, flashed, frosted, ornamented, painted, sanded, or stained.
2/ Data for separate classifications have been combined in order to avoid disclosure of the operations of the individual producers.
3/ Data included under total colored glass in order to avoid disclosure of the operations of the individual producers.
4/ Import data are preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce, and from information submitted to the U.S. Tariff Commission by the producers.

Table 4.--Cylinder, crown, and sheet glass: U.S. producers' inventories, as of Dec. 31, 1954-60 1/

(In thousands of boxes of 50 square feet single-strength equivalent)

Date	Colored	Other	Total
Dec. 31--			
1954	67	1,195	1,262
1955	71	949	1,020
1956	77	2,229	2,306
1957	232	1,584	1,816
1958	133	1,263	1,396
1959	225	1,945	2,170
1960	92	2,165	2,257

1/ Do not include inventories of cylinder, crown, or sheet glass that has been specially processed.

Source: Compiled from data submitted to the U.S. Tariff Commission by the producers.

Table 5.--Cylinder, crown, and sheet glass: [1] U.S. imports for consumption, by months, 1958-60

Type of entry and month	1958		1959 [2]		1960 [2]	
	Quantity	Foreign value	Quantity	Foreign value	Quantity	Foreign value
	Pounds		Pounds		Pounds	
Entries at reduced rates of duty:						
January	17,915,000	$1,170,644	41,936,948	$2,769,965	30,933,840	82,194,278
February	17,533,886	1,134,838	39,265,858	2,568,185	32,081,532	2,157,204
March	20,162,001	1,343,815	48,151,464	3,145,585	34,985,950	2,411,900
April	19,601,433	1,268,088	41,667,812	2,773,282	30,684,021	2,122,915
May	19,730,279	1,267,081	48,087,568	3,222,442	38,721,225	2,690,894
June	21,201,057	1,366,309	43,707,655	2,972,368	32,868,132	2,122,709
July	21,156,849	1,356,212	44,143,273	2,984,726	29,752,563	1,907,438
August	22,934,360	1,459,068	36,818,310	2,518,425	34,567,422	2,227,729
September	28,710,435	1,789,525	42,974,881	2,890,327	34,046,916	2,233,513
October	30,480,960	1,981,205	31,260,826	2,119,480	30,981,539	2,039,358
November	30,878,584	1,982,037	32,900,616	2,223,506	30,136,285	2,073,406
December	38,837,568	2,548,323	36,074,754	2,467,837	26,499,852	1,910,032
Total	289,142,412	18,667,145	486,989,965	32,656,128	386,262,277	26,091,376
Entries at full rates of duty:						
January	530,061	20,643	1,145,085	51,368	1,953,228	89,229
February	509,687	22,551	449,297	21,323	1,682,624	63,556
March	151,335	8,551	1,792,082	69,220	783,254	34,947
April	1,184,433	43,739	757,924	24,555	2,255,339	92,365
May	240,432	9,602	580,239	23,203	484,912	20,549
June	760,461	25,746	1,378,424	60,201	1,896,502	51,690
July	1,630,755	52,147	1,903,637	62,289	3,162,020	115,054
August	634,449	20,535	1,447,489	50,068	921,512	32,703
September	1,011,971	32,401	1,547,598	54,325	2,150,379	72,566
October	1,754,822	62,995	2,228,991	78,572	1,107,603	40,769
November	866,431	42,644	2,074,351	72,828	635,570	25,088
December	1,734,928	66,497	263,252	10,752	2,153,363	78,961
Total	11,009,765	408,051	15,568,369	578,704	19,186,306	697,477
Grand total	300,152,177	19,075,196	502,558,334	33,234,832	405,448,583	26,788,853

1/ Includes glass dutiable under par. 219 only; does not include glass dutiable under pars. 219 and 224.

2/ Preliminary.

Source: Compiled from the official statistics of the U.S. Department of Commerce.

Table 6.--Cylinder, crown, and sheet glass: 1/ U.S. imports for consumption, by tariff provisions, at trade-agreement rates of duty, 1955-60

Item	1955		1956		1957		1958		1959 2/		1960 2/	
	Quantity	Foreign value	Quantity	Foreign value	Quantity	Foreign value	Quantity	Foreign value	Quantity	Foreign value	Quantity	Foreign value
	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars	1,000 pounds	1,000 dollars
Cylinder, crown, and sheet glass, by whatever process made and for whatever purpose used, measuring in square inches--												
Not over 150	36,414	2,463	40,459	2,796	29,342	1,962	33,837	2,165	42,220	2,834	38,375	2,712
Over 150 but not over 384	63,103	4,753	59,320	3,693	53,173	3,391	55,570	3,754	82,364	5,489	59,763	4,377
Over 384 but not over 720	32,506	2,565	48,720	3,029	29,354	1,846	44,062	2,750	76,380	4,902	68,973	4,431
Over 720 but not over 864	21,367	1,436	38,012	2,399	27,005	1,710	41,972	2,738	73,379	4,869	43,013	2,941
Over 864 but not over 1200	14,601	998	28,283	1,863	13,715	879	28,417	1,859	51,405	3,367	40,069	2,684
Over 1200 but not over 2400	18,963	1,367	22,551	1,602	13,270	949	24,964	1,741	50,371	3,632	34,080	2,499
Over 2400	38,883	3,157	57,663	4,490	33,039	2,499	55,462	4,027	101,013	7,846	90,771	6,862
Any of the above dutiable at the minimum ad valorem rates provided for glass weighing under 16 ounces but not under 12 ounces per square foot	12,693	784	17,039	1,030	11,860	711	8,078	499	14,283	892	16,274	980
Total at trade-agreement rates of duty	238,530	17,523	312,047	20,902	210,758	13,947	292,362	19,533	491,415	33,831	391,318	27,486

1/ Dutiable under paragraph 219 or paragraphs 219 and 224 of the Tariff Act of 1930. 2/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 7.--Cylinder, crown, and sheet glass: 1/ U.S. imports for consumption, by principal sources, 1955-60 (Revised)

Country	1955	1956	1957	1958	1959 2/	1960 2/
	Quantity (1,000 pounds)					
Belgium	92,060	130,314	89,720	110,074	187,473	150,009
Japan	22,421	33,970	15,690	34,107	69,174	58,042
West Germany	20,608	23,384	24,889	38,247	49,730	42,658
France	27,792	35,861	26,572	37,575	48,925	34,453
United Kingdom	21,274	29,856	21,208	30,313	66,538	43,213
Italy	9,352	18,383	12,231	8,929	15,323	12,470
All other	45,023	40,279	20,448	33,117	54,252	50,473
Total	238,530	312,047	210,758	292,362	491,415	391,318
Communist-dominated countries at full rates of duty	6,733	17,905	3,252	11,008	15,568	19,186
Grand total	245,263	329,952	214,010	303,370	506,983	410,504
	Foreign value (1,000 dollars)					
Belgium	6,325	8,254	5,421	6,919	12,044	9,608
Japan	1,086	1,861	812	1,959	4,529	3,965
West Germany	1,496	1,804	1,837	2,834	3,818	3,327
France	2,274	2,761	2,182	3,028	4,022	3,173
United Kingdom	1,388	1,940	1,407	2,010	4,662	3,108
Italy	607	1,294	785	581	1,086	887
All other	4,347	2,988	1,503	2,202	3,670	3,418
Total	17,523	20,902	13,947	19,533	33,831	27,486
Communist-dominated countries at full rates of duty	536	1,096	153	408	579	697
Grand total	18,059	21,998	14,100	19,941	34,410	28,183
	Unit foreign value (cents per pound)					
Belgium	6.9	6.3	6.0	6.3	6.4	6.4
Japan	4.8	5.5	5.2	5.7	6.5	6.8
West Germany	7.3	7.7	7.4	7.4	7.7	7.8
France	8.2	7.7	8.2	8.1	8.2	9.2
United Kingdom	6.5	6.5	6.6	6.6	7.0	7.2
Italy	6.5	7.0	6.4	6.5	7.1	7.1
All other	9.7	7.4	7.3	6.6	6.8	6.8
Average	7.3	6.7	6.6	6.7	6.9	7.0
Communist-dominated countries at full rates of duty	8.0	6.1	4.7	3.7	3.7	3.6
Average	7.4	6.7	6.6	6.6	6.8	6.9

1/ Dutiable under paragraph 219, or paragraphs 219 and 224, of the Tariff Act of 1930.

2/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 8.--Sheet glass: Indexes of freight-equalized prices charged by U.S. producers, by weight of glass, on specified dates, May 1, 1950, to Nov. 1, 1959 1/

Date	Indexes based on May 1, 1950=100			Indexes based on May 1, 1955=100		
	Glass weighing--			Glass weighing--		
	19 ounces per square foot (single-strength)	26 ounces per square foot (double-strength)	Heavy sheet 2/	19 ounces per square foot (single-strength)	26 ounces per square foot (double-strength)	Heavy sheet 2/
1950:						
May 1	100.0	100.0	100.0	80.6	85.9	86.5
Nov. 1	108.0	108.1	108.3	87.1	92.9	93.7
1951:						
May 1	108.0	108.1	108.3	87.1	92.9	93.7
Nov. 1	108.0	108.1	108.3	87.1	92.9	93.7
1952:						
May 1	108.0	108.1	108.3	87.1	92.9	93.7
Nov. 1	108.0	108.1	108.3	87.1	92.9	93.7
1953:						
May 1	108.0	108.1	108.3	87.1	92.9	93.7
Nov. 1	120.4	115.4	115.7	97.1	99.1	100.1
1954:						
May 1	120.4	115.4	115.7	97.1	99.1	100.1
Nov. 1	120.4	115.4	115.7	97.1	99.1	100.1
1955:						
May 1	124.0	116.4	115.6	100.0	100.0	100.0
Nov. 1	124.0	116.4	115.6	100.0	100.0	100.0
1956:						
May 1	124.0	116.4	115.6	100.0	100.0	100.0
Nov. 1	126.9	122.5	118.1	102.3	105.2	102.2
1957:						
May 1	126.9	122.5	118.1	102.3	105.2	102.2
Nov. 1	126.9	122.5	114.1	102.3	105.2	98.7
1958:						
May 1	125.6	121.3	112.9	101.3	104.2	97.7
Nov. 1	125.6	121.2	115.6	101.3	104.2	100.0
1959:						
May 1	126.9	122.5	116.8	102.3	105.2	101.0
Nov. 1	126.9	122.5	116.8	102.3	105.2	101.0

1/ Based on freight-equalized prices paid by recognized factory purchasers. In April 1960 U.S. producers began selling on a delivered basis (full freight absorbed).

2/ Includes 3/16-inch and 7/32-inch sheet glass weighing approximately 38 to 45 ounces per square foot.

Source: Computed from data submitted to the U.S. Tariff Commission by the producers.

Table 9.--Single-strength sheet glass: Indexes of prices of glass produced in the United States and imported glass delivered to U.S.-factory-recognized buyers and importers located in certain U.S. cities on specified dates, Nov. 1, 1959, to Nov. 1, 1960

Item	Index of prices of sheet glass delivered to customers in--							
	Boston	New York	Miami	New Orleans	Chicago	Pittsburgh	St. Louis	Los Angeles
	Indexes based on Nov. 1, 1959=100							
U.S. production 1/								
Nov. 1, 1959	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
May 1, 1960	86.6	90.2	84.5	92.6	95.2	96.4	95.2	86.2
Nov. 1, 1960	94.7	98.3	92.6	100.7	103.3	104.5	103.3	94.3
	Indexes based on May 1, 1960=100							
Imports from--2/								
Belgium:								
May 1, 1960	100.0	100.0	100.0	100.0	100.0	3/	3/	100.0
Nov. 1, 1960	108.1	107.1	110.5	107.7	108.7	3/	3/	107.1
Japan:								
May 1, 1960	100.0	100.0	100.0	100.0	3/	3/	3/	100.0
Nov. 1, 1960	115.8	121.2	117.6	123.0	3/	3/	3/	101.4

1/ Based on prices paid for 19-ounce glass by factory-buyers (less freight allowance) plus the cost to the buyer for delivery to his warehouse. U.S. producers changed from a freight-equalized pricing system to a delivered-price basis beginning in April 1960.

2/ Based on prices paid for 18-ounce glass by importers, plus the cost to the importer for delivery to his warehouse. On exports to the United States, Western European producers changed from a c.i.f., ex dock basis to a delivered-price basis beginning in October 1960; Japanese producers made this change on Nov. 20, 1960.

3/ No index was calculated owing to a lack of a significant quantity of imports delivered to this city.

Source: Computed from data submitted to the U.S. Tariff Commission by U.S. producers, importers, and foreign manufacturers' agents in the United States.

Table 10.--Sheet glass: Indexes of prices paid by U.S. importers for various weights of imported sheet glass, by port of entry and country of origin, on specified dates, May 1, 1955, to May 1, 1960 1/

(May 1, 1955=100)

Date	C.i.f. New York, imported from--						C.i.f. Los Angeles, imported from--					
	Belgium 2/			Japan			Belgium 2/			Japan		
	Glass weighing--			Glass weighing--			Glass weighing--			Glass weighing--		
	18 ounces per square foot	24 ounces per square foot	Heavy sheet 3/	18 ounces per square foot 4/	24 ounces per square foot	Heavy sheet 3/	18 ounces per square foot	24 ounces per square foot	Heavy sheet 3/	18 ounces per square foot 4/	24 ounces per square foot	Heavy sheet 3/
1955:												
May 1	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0
Nov. 1	100.0	100.0	100.0	113.0	113.0	100.6	100.0	100.0	100.0	106.8	121.1	105.7
1956:												
May 1	100.0	100.0	100.0	113.0	113.0	100.6	100.0	100.0	100.0	106.8	121.1	105.7
Nov. 1	103.6	103.5	98.6	116.4	102.6	100.6	104.8	103.6	98.9	109.9	109.9	105.7
1957:												
May 1	103.6	103.5	98.6	127.6	116.6	88.7	104.8	103.6	98.9	131.2	135.1	95.2
Nov. 1	111.2	111.1	97.5	127.6	116.6	88.7	111.6	110.5	97.8	133.0	137.4	81.7
1958:												
May 1	111.2	111.1	97.5	134.5	122.3	74.4	111.6	110.5	97.8	138.9	141.3	83.9
Nov. 1	111.2	111.1	100.7	132.3	120.2	72.9	111.6	110.5	100.8	138.9	141.7	84.2
1959:												
May 1	110.0	110.0	99.1	120.0	110.9	63.1	111.6	110.5	101.7	144.7	149.8	83.7
Nov. 1	110.0	110.0	99.1	120.0	110.9	63.1	115.6	111.8	103.9	144.7	149.8	83.7
1960:												
May 3	99.0	100.2	93.5	120.0	106.8	63.0	101.2	101.1	98.4	146.6	152.8	85.6

1/ Based on c.i.f., duty-paid, ex dock prices. In October 1960, foreign producers began selling to U.S. importers on a delivered basis (full freight absorbed).

2/ The trends of prices for imports of sheet glass from Belgium are about the same as trends of prices for imports from West Germany, France, and the United Kingdom.

3/ Includes 3/16-inch and 7/32-inch sheet glass.

4/ Japanese 18-ounce sheet glass was not available for importation until after May 1, 1955; this index is based on the price relative for Japanese 24-ounce sheet glass for Nov. 1, 1955 (for prices c.i.f. New York) and for Nov. 1, 1956 (for prices c.i.f. Los Angeles).

Source: Computed from data submitted to the U.S. Tariff Commission by importers and foreign manufacturers' agents in the United States.

Table 11.--Employment of production and related workers, man-hours worked, and wages paid in sixteen U.S. plants producing sheet glass, 1955-60

	Average number of workers	Man-hours worked	Wages paid	Average hourly earnings
		1,000 man-hours	1,000 dollars	
1955	8,523	16,445	45,210	$2.75
1956	8,668	17,015	49,811	2.93
1957	7,248	13,462	40,589	3.02
1958	6,673	12,095	38,711	3.20
1959	8,527	16,465	53,251	3.23
1960	7,134	13,696	45,854	3.35

Source: Compiled from data submitted to the U.S. Tariff Commission by the producers.

Table 12.--Profit-and-loss experience of 6 U.S. producers on their sheet-glass operations for 1955-59 and of 4 U.S. producers for 1960 1/

Item	1955	1956	1957	1958	1959	1960
Net sales and intracompany transfers----------1,000 dollars--	128,901	126,810	104,290	94,822	128,371	90,077
Cost of goods sold----------do----	93,009	94,699	87,557	81,147	103,056	83,517
Gross profit----------do----	35,892	32,111	16,733	13,675	25,315	6,560
Administrative, selling, and research expense----------1,000 dollars--	5,836	6,609	6,726	7,326	8,039	7,725
Net operating profit or loss (-) before income taxes--1,000 dollars--	30,056	25,502	10,007	6,349	17,276	-1,165
Ratio of net operating profit or loss (-) to net sales------percent--	23.3	20.1	9.6	6.7	13.4	-1.3

1/ Two concerns operate on an accounting year ending June 30; the data for these concerns for the accounting year ended June 30, 1960, are shown under 1959, data for the accounting year ended June 30, 1959, are shown under 1958, etc.

Source: Compiled from information submitted to the U.S. Tariff Commission by the domestic producers.