UNITED STATES INTERNATIONAL TRADE COMMISSION

ACRYLIC SHEET FROM JAPAN

Determination of Injury in Investigation No. AA1921-154
Under the Antidumping Act, 1921, as Amended
Together with the Information
Obtained in the Investigation

USITC Publication 784
Washington, D. C.
July 1976

UNITED STATES INTERNATIONAL TRADE COMMISSION

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Note.--Information which would disclose confidential operations of individual concerns may not be published and therefore has been deleted from this report. Deletions are indicated by asterisks.

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

[AA1921-154] July 26, 1976

ACRYLIC SHEET FROM JAPAN

Determination of Injury

On April 26, 1976, the United States International Trade Commission received advice from the Department of the Treasury that acrylic sheet from Japan, other than that produced and sold by Mitsubishi Rayon Company, Ltd., is being, or is likely to be, sold at less than fair value within the meaning of the Antidumping Act, 1921, as amended (19 U.S.C. 160(a)). Accordingly, on May 4, 1976, the Commission instituted investigation No. AA1921-154 under section 201(a) of said act to determine whether an industry in the United States is being or is likely to be injured, or is prevented from being established, by reason of the importation of such merchandise into the United States.

Notice of the institution of the investigation and of a public hearing to be held in connection therewith was published in the Federal Register on May 10, 1976, (41 F.R. 19163). Notice of amendment of the notice of investigation and hearing was published in the Federal Register on May 18, 1976 (41 F.R. 20454).

In arriving at its determination, the Commission gave due consideration to all written submissions from interested parties, evidence adduced at the hearing, and all factual information obtained by the Commission's staff from questionnaires, personal interviews, and other sources.

On the basis of the investigation, the Commission has determined, by a vote of 3 to 3, 1/ that an industry in the United States is being injured by reason of the importation of acrylic sheet from Japan that is being, or is likely to be sold at less than fair value within the meaning of the Antidumping Act, 1921, as amended.

1/ Commissioners Bedell and Parker found in the affirmative, and Commissioner Moore found in the affirmative by determining that an industry in the United States is being or is likely to be injured; Chairman Leonard, Vice Chairman Minchew, and Commissioner Ablondi found in the negative. Pursuant to section 201(a) of the Antidumping Act, 1921, as amended, the Commission is deemed to have made an affirmative determination if the Commissioners of the said Commission voting are evenly divided as to whether its determination should be in the affirmative or in the negative.

Statement of Reasons for Affirmative Determination of Commissioners George M. Moore, Catherine Bedell, and Joseph O. Parker

In our opinion an industry in the United States is being injured by reason of the importation into the United States of acrylic sheet from Japan which is being, or is likely to be, sold at less than fair value (LTFV) within the meaning of the Antidumping Act, 1921, as amended. The reasons in support of this determination are set forth below.

The product

The imported product found to be sold at LTFV by the Department of the Treasury (Treasury) is acrylic sheet. Although there are some differences in the price and the physical properties of sheet made by different manufacturing processes, for most applications, sheet produced by one process is directly competitive with that produced by other processes. The term "acrylic sheet" for the purposes of our determination in this proceeding includes all such sheet irrespective of the method of manufacture.

The industry

In this determination we have considered the industry in the United States which is being injured by reason of sales at LTFV to consist of the facilities devoted to the production of acrylic sheet. Twelve firms produced acrylic sheet in the United States in 1975.

LTFV sales

Treasury examined the sales during the period March-July 1975 of the two principal Japanese firms exporting to the United States.

These two concerns supplied more than 70 percent of Japanese exports of acrylic sheet during that period. Although both firms were found to have sold at LTFV, Treasury discontinued its investigation of one producer, Mitsubishi Rayon Co., Ltd. (MRC), because the weighted average margin on that firm's sales was minimal and the firm satisfied other Treasury requirements for a discontinuance. The other Japanese producer, Kyowa Gas Chemical Industry Co., supplied about two-thirds of the sales examined by Treasury. It had a weighted average LTFV margin of almost 50 percent on its export sales to the United States. The Commission's investigation disclosed that this large LTFV margin more than equaled the amount by which these imports undersold domestically produced acrylic sheet.

Market penetration

LTFV imports of acrylic sheet from Japan (total imports from Japan less those produced by MRC) increased by 300 percent between 1974 and 1975. It was in the period March-July 1975 that Treasury examined imports of acrylic sheet from Japan and found that it was being sold at LTFV. As a share of apparent U.S. consumption of acrylic sheet, the LTFV imports increased fourfold from about 1 percent of consumption in 1974, a year of shortages and exceptionally strong demand in the United States, to about 5 percent in the recession year 1975, when demand for the product declined sharply.

The 1975 surge in LTFV imports occurred at a time when U.S. producers' domestic shipments and U.S. consumption of acrylic sheet were declining by 22.3 and 20.5 percent, respectively, from the

levels sustained in the years 1973-74. Thus, the increase in LTFV imports clearly exacerbated the injury that the U.S. industry was already experiencing as a result of the economic recession in 1975. The decline in U.S. consumption and the increase in LTFV imports caused U.S. producers to reduce production. The rate at which they operated their acrylic sheet facilities declined from 100 percent of capacity in 1973 to 60 percent in 1975.

Price depression

LTFV imports of Japanese acrylic sheet undersold domestically produced acrylic sheet by amounts ranging from 2 to 18 cents per square foot on typical high-volume items during the 1974-75 period. This underselling was equal to as much as 24 percent of U.S. producers' prices. In late 1974 and 1975, the underselling and availability of large quantities of acrylic sheet from Japan resulted in Japanese suppliers of LTFV imports increasing their share of the U.S. market. This development contributed to the reductions (as much as 24 percent) in U.S. producers' prices to their largest customers.

The effect of LTFV imports in the U.S. market is further seen in a comparison of the price index for acrylic sheet with the price index for all rubber and plastic products. In April 1976 the index of U.S. producers' prices of 0.125-inch-thick cast acrylic sheet to each producer's three largest customers was only 12 percent above January 1973 levels, whereas the price index of all rubber and plastic products was 38.5 percent above January 1973 levels.

Lost sales

Evidence obtained by the Commission from U.S. producers of

acrylic sheet demonstrates that sales were lost to Japanese exporters. Purchasers verified that in late 1974 and 1975 they increased their purchases of acrylic sheet from Japanese suppliers, including suppliers of LTFV imports, at the expense of reducing their purchases from U.S. producers in order to take advantage of the lower prices of the Japanese material.

Profit and loss

During the years 1971-74 the ratio of U.S. producers' net operating profit to net sales for their acrylic sheet operations ranged between 11.3 percent in 1971 and 18.3 percent in 1972 and averaged about 15 percent for the 4-year period. In 1975, the year in which Treasury found sales at LTFV, this ratio dropped to 1.7 percent.

It is recognized that in 1975 the domestic acrylic sheet industry was suffering from the economic recession. Therefore, the presence of LTFV imports and offers of large quantities of LTFV imports served to aggravate the injury caused by the recession. LTFV imports have an even greater impact under these conditions.

Conclusion

Accordingly, we have determined that an industry in the United States is being injured by reason of the importation of acrylic sheet from Japan found by Treasury to be, or likely to be, sold at LTFV.

Statement of Reasons for Negative Determination of
Chairman Will E. Leonard, Vice Chairman Daniel Minchew
and Commissioner Italo H. Ablondi

On April 26, 1976, the U.S. International Trade Commission instituted investigation No. AA1921-154 under section 201(a) of the Antidumping Act, 1921, as amended. The investigation was made to determine whether an industry in the United States is being or is likely to be injured, or is prevented from being established, by reason of the importation into the United States of acrylic sheet from Japan that the Department of the Treasury (Treasury) has determined is being, or is likely to be, sold at less than fair value (LTFV) within the meaning of such act. In order to find affirmatively, the Commission must find two conditions satisfied in this investigation. First, there must be injury, or likelihood of injury, to an industry in the United States, or an industry in the United States must be being prevented from being established. 1/ Second, such injury or likelihood of injury must be "by reason of" the importation into the United States of the class or kind of foreign merchandise which the Treasury has determined is being, or is likely to be, sold at LTFV.

On the basis of the information developed in the investigation, we have determined that any injury which the domestic industry may be experiencing or may be likely to experience is not by reason of LTFV imports. Therefore the second condition, that of causation, has not been satisfied, and we have made a negative determination.

1/ Prevention of the establishment of an industry is not an issue in the instant case and will not be discussed further.

The product

Acrylic sheet, more commonly known as plexiglas, 1/ resembles glass in appearance. It is made by one of three processes (i.e., cell-casting, continuous-casting and extrusion) that are utilized to polymerize methyl methacrylate (MMA) into sheet form. More cell-cast sheet is produced in the United States than either continuous-cast or extruded sheet. Acrylic sheet is made in a number of thicknesses and sizes and is used in applications such as glazing, signs, lenses, diffusers, sky-lights, and floor- and chair-mats. Although acrylic sheet is available in a wide variety of colors, the bulk of production is clear and/or translucent white.

U.S. industry

The U.S. industry most likely to be adversely affected by the LTFV imports with which this investigation is concerned consists of the facilities in the United States devoted to the production of acrylic sheet by the cell-cast, continuous-cast and/or extruded method. This is the only industry which will be considered herein; no evidence was presented to show that any other industry was possibly injured or threatened with injury by the subject LTFV imports, and it is extremely unlikely that another would be injured or threatened with injury if the industry most likely to be adversely affected is not so injured or threatened, as we find to be the situation in this investigation. Although the method used to manufacture acrylic sheet affects its properties and its cost, and hence to some extent its end-use applications, most sheet made by any of the three processes can be used for the same purpose, is directly competitive, physically interchangeable,

1/ The trade name for such sheet produced by Rohm and Haas.

and is sold through the same channels of distribution. The acrylic sheet industry here identified currently comprises 12 known manufacturers, 6 of which produce cast sheet (cell and/or continuous) and 6 of which produce extruded sheet.

No injury by reason of LTFV imports

Import penetration. -- Total imports from Japan accounted for only 4.7 percent of domestic consumption during the period of Treasury's investigation. Imports from Japan sold at LTFV, i.e., imports other than those produced by Mitsubishi Rayon Co. (MRC), which was excluded from Treasury's LTFV determination, accounted for less than 3.5 percent in this same period. The LTFV import penetration ratio was about 5 percent for all of 1975, dropping significantly to less than 2 percent in the period of January-April 1976. This relatively low import penetration throughout 1975, the only period where the industry may have been injured, occurred during the worst economic recession in the United States since the Great Depression. In light of this rather small import penetration during the period of great economic problems attributable to a recessionary period, it is difficult to attribute any identifiable injury to LTFV imports. 1/

Lost sales. -- During 1974, the domestic industry began putting its regular acrylic sheet customers on allocation. Purchasers sought alternate suppliers, including Japanese sources, in an effort to assure themselves of a continuous source of supply. With this background, allegations of lost sales to LTFV imports in 1975 were made by the domestic industry. However, the Commission's investigation revealed that few lost

1/ With respect to the identifiable causation standard, see Elemental Sulfur From Mexico: Determination of Injury in Investigation No. AA1921-92 . . ., TC Publication 484, 1972, at p. 9; Birch Three-Ply Door Skins From Japan: Determination of Injury in Investigation No. AA1921-150 . . ., USITC Publication 754, 1976, pp. 9-10; and Clear Polymethyl Methacrylate . . . From Japan: Determination of No Injury in Investigation No. AA1921-153 . . ., USITC Publication 780, 1976, pp. 5-7.

sales could be documented, and that about half of the lost sales that could be documented were lost to non-LTFV imports from Mitsubishi Rayon Co. The number of documented LTFV lost sales were insignificant, and lost sales, given the allocation practices in 1974, can not be shown to have been lost because of price discrimination.

Prices. -- While the imported sheet sold at lower prices than the domestic product during 1975, the period of possible injury, part of this price difference is explained by circumstances of the sales. Domestic producers provide considerable technical assistance and are able to deliver acrylic sheet directly from inventory. In contrast, Japanese importers provide no technical assistance, and the time lapse between placing an order and delivery ranges between 30 and 90 days.

The end of the methyl methacrylate monomer shortage and a depressed demand for acrylic sheet in 1975 caused the market for sheet to become over supplied, thus forcing prices of both domestic and imported sheet to drop to their lowest levels since 1973. There has been no indication that any price depression or suppression experienced by the domestic industry is by reason of the importation of LTFV imports from Japan rather than as a result of the intense domestic price competition which usually accompan a period of depressed demand for a product with rather limited uses and close substitutes. Indeed, for the years preceding 1975, a period in which the industry was doing well, Japanese imports undersold domestic sheet by significant amounts, to a large extent as a result of the different circumstances of sales referred to above. The only change in the situation in 1975 was the recession. Further, in January-April,

1976, when prices of the domestic product continued to fall compared to 1975 prices, LTFV imports declined from previous low levels, accounting for less than 2 percent of domestic consumption in that period and the prices of such imports were higher than those of the domestic product. Thus, we cannot conclude that any price suppression or depression with respect to the domestic product is "by reason of" LTFV sales.

Employment. -- The ratio of man-hours involved in the production of acrylic sheet to man-hours involved in the production of all items produced by the same establishments increased steadily from 1971 to 1975, with a significant rise in the period January-April 1976. From 1971-1975, the trend of employment of production and related workers engaged in the production of acrylic sheet was similar to that of production and related workers engaged in the production of all items. In 1975, employment in both areas declined. From Jan. - April 1976, employment in both areas, including the acrylic sheet industry, increased. Thus, it can be seen that the trend of employment in the acrylic sheet industry paralleled that in production of all items in establishments producing acrylic sheet, indicating that imports had no effect on employment.

Profitability of domestic industry.--The acrylic sheet industry in the United States was rather profitable during the period 1971-1974 with net operating profits ranging from 11.3 percent to 18.3 percent of net sales. Although the ratio of net profits to net sales declined to 1.7 percent in 1975, the ratio increased dramatically in the first part of 1976 to 19.5 percent of net sales. In addition, no discernible

difference in the profit pattern for acrylic sheet compared with that of the overall operations of the domestic producers was observed, indicating that any injury experienced by the acrylic sheet industry was not by reason of the LTFV imports, but rather as a result of the general economic conditions and the decreased demand for acrylic sheet.

No likelihood of injury by reason of LTFV imports

Although the Japanese acrylic sheet industry had substantial unused capacity in 1975, there is no reason to expect a sudden increase in import penetration. It is anticipated that economic recovery will result in greater utilization of capacity in both countries. While it is not expected that the Japanese will increase capacity for acrylic sheet production in the forseeable future, confidence in the future of the domestic industry is reflected by the fact that DuPont is scheduled to initiate production of acrylic sheet in August 1976 at a rated capacity of 30 million pounds annually.

Structural factors in the domestic industry indicate that imports will face difficulties in capturing a larger share of the domestic market. With the advent of DuPont's production of acrylic sheet, at least 75 percent of domestic production of acrylic sheet will have its own source of methyl methacrylate monomer, the primary raw material used in the production of acrylic sheet, making it difficult for imports to compete with this vertically structured industry. In addition, the curren dominant U.S. producer has an exceptionally strong distributor network as well as a strong product image.

Conclusion

Because one of two conditions necessary for an affirmative determination, that any injury or likelihood of injury being experienced by a domestic industry be "by reason of" LTFV sales, is not satisfied, we conclude that an industry in the United States is not being and is not likely to be injured by reason of the importation of acrylic sheet from Japan that is being, or is likely to be, sold at LTFV within the meaning of the Antidumping Act, 1921, as amended.

INFORMATION OBTAINED IN THE INVESTIGATION

Introduction

On April 26, 1976, the United States International Trade Commission received advice from the Department of the Treasury that acrylic sheet from Japan, other than that produced and sold by Mitsubishi Rayon Co., Ltd., is being, or is likely to be, sold in the United States at less than fair value (LTFV) within the meaning of the Antidumping Act, 1921, as amended (19 U.S.C. 160(a)). Accordingly, on May 4, 1976, the Commission instituted investigation No. AA1921-154 under section 201(a) of said act to determine whether an industry in the United States is being or is likely to be injured, or is prevented from being established, by reason of the importation of such merchandise into the United States. The statute directs the Commission to make its determination by July 26, 1976.

In connection with the investigation, the Commission conducted a public hearing on June 8, 1976. Notice of the institution of the investigation and of the hearing was duly given by posting copies thereof at the Office of the Secretary, United States International Trade Commission, Washington, D.C., and at the Commission's New York Office, and by publishing the notice in the Federal Register on May 10, 1976 (41 F.R. 19163).

Following receipt of a complaint from the Polycast Technology Corp., Stamford, Conn., the Department of the Treasury instituted an antidumping investigation by publication of an Antidumping Proceeding Notice in the Federal Register on July 21, 1975 (40 F.R. 30509).

On January 22, 1976, a Withholding of Appraisement Notice was published in the Federal Register (41 F.R. 3324). The determination of sales at less than fair value was made on April 23, 1976, and was published in the Federal Register on April 29, 1976 (41 F.R. 17948).

The Product

Description

Acrylic sheet is made by polymerizing methyl methacrylate (MMA) monomer. Clear acrylic sheet resembles plate glass in appearance; the most widely known trade name for the material is Plexiglas. 1/ A number of characteristics of acrylic sheet account for its wide range of uses, e.g., superior weatherability, excellent optical properties, and workability (it can be easily molded with the application of only moderate heat). The method used to manufacture acrylic sheet affects its properties and its cost, and hence its end-use applications.

There are two basic methods of manufacturing acrylic sheet: casting and extruding. Cast sheet, which accounts for approximately 89 percent of the sheet produced in the United States, is made by either the cell-cast or the continuous-cast process. Extruded sheet, which accounts for approximately 11 percent of U.S. production, is less costly to make than cast sheet in thicknesses not exceeding 0.125 inch. However, some of the physical properties of the extruded sheet, such as its surface finish, are somewhat inferior to the properties of cast sheet, according to industry sources.

Although acrylic sheet is available in a wide variety of colors, the bulk of production is clear and/or translucent white. Numerous sizes and thicknesses are available, but the major part of production is in sheets of 4 by 6 and 4 by 8 feet and in thicknesses of 0.125, 0.187, and 0.250 inch.

1/ Trademark for acrylic sheet produced by Rohm & Haas Co.

Cell casting.--This is the original and predominant method of producing acrylic sheet. The cell-cast method involves the use of a mold or "cell" consisting of two sheets of tempered plate glass clamped together face-to-face with a separation gasket between the outer edges of the sheets. The thickness of this gasket determines the thickness of the finished acrylic sheet. MMA monomer is poured between the glass sheets, and the monomer in the cell is then cured by a heat process for 6 to 30 hours until the desired solid acrylic sheet is formed.

Because of the labor intensiveness of the cell-cast method, production costs of sheet made by this process have traditionally been high. However, in recent years the difference in cost between sheet produced by the cell-cast method and that produced by other processes has diminished.

The size and shape of cell-cast sheet are limited to those of the cell. The main advantages of this process are simplicity and the production of a sheet with superior optical properties. Because of such properties cell-cast sheet is used in aircraft construction; however, sheet used in aircraft must be futther processed (multiaxially stretched) in order to obtain added durability and shatter resistance.

Continuous casting.--The continuous-cast method of producing acrylic sheet is a newer process, which may eventually replace the cell-cast method. In the continuous-cast process, liquid monomer is poured onto a moving, continuous, stainless steel belt and is cured, as the belt moves a until the desired solidity is obtained. This process requires

less labor and permits greater uniformity in thickness, as well as ease of handling and production of thinner sheets, than the cell-cast method. It requires a high capital investment, however, and generally produces sheet of slightly inferior optical clarity. While this process has been known in the industry for 25 to 30 years, it is only within the last 10 years that modern technology has been able to overcome most of the technical problems. Although there is some disagreement as to the savings in cost achieved by this process, some industry sources estimate the cost of manufacturing continuous-cast sheet to be as much as 25 percent less than the cost of producing cell-cast sheet. Continuous-cast sheet is commercially manufactured in thicknesses of 0.060 to 0.375 inch and widths up to 110 inches, and it can be shipped as roll stock in lengths up to 1,000 feet.

Extruding.--Extruded sheet is made by a relatively simple production process and requires a smaller capital investment than continuous-cast sheet. Acrylic resin, 1/ usually in pellet form, is heated to a molten state and extruded through a die to form a sheet of the desired thickness. Normally such sheets are thinner than the cast variety. Extruders can produce acrylic sheet from 0.030 to 0.25 inch in thickness, in widths to 120 inches, and in varied lengths.

Uses

Glazing provides a substantial market for acrylic sheet. Used in school and industrial windows where vandalism is prevalent, and in

1/ Also known as polymethyl methacrylate (PMMA) polymer resins. For additional data on PMMA, see U.S. International Trade Commission, Clear Polymethyl Methacrylate of Pellet, Powder, Flake, Granular, or Similar Forms From Japan . . ., USITC Publication 780, 1976.

storm doors in which glass is not allowed because of municipal building codes, acrylic sheet has gained widespread acceptance because of its clarity, lightness of weight, and shatter-resistant quality. The sign industry (in outdoor illuminated signs) and the lighting fixture industry (in lenses, louvers, diffusers, and shields) also consume large quantities of acrylic sheet.

Architectural applications include facings, skylights, facades, and domes and other enclosures. Other important uses include floor- and chair-mat production. As indicated earlier, stretched acrylic sheet is used in military and commercial aircraft.

Although acrylic resins are widely used in the production of automobile components (taillight and turn-signal lenses, et cetera), acrylic sheet as such is not used to produce these parts; they are formed from acrylic pellets by injection molding.

U.S. Tariff Treatment

Imported acrylic sheet is dutiable under three rate provisions in the Tariff Schedules of the United States (TSUS). Flexible acrylic sheet enters under TSUS item 771.42, for which the column 1 (trade-agreement) rate of duty is 6 percent ad valorem. Nonflexible acrylic sheet is dutiable under TSUS item 771.45, for which the column 1 rate is 8.5 cents per pound. The ad valorem equivalent of this rate based on imports entered in 1975 was 11.2 percent. In addition, acrylic sheet not over 15 inches in width and not over 18 inches in length and sheet which has been processed by more than just surface working are dutiable under TSUS item 774.60 (as an article of plastic) at a rate of 8.5 percent ad valorem. 1/ The present column 1 rates applicable to these TSUS items have been in effect since January 1, 1972, when the final stage of the concessions granted in the 1964-67 trade Conference under the General Agreement on Tariffs and Trade (Kennedy Round) became effective. The column 2 (statutory) rates of duty for the three applicable TSUS items are 25 percent ad valorem, 50 cents per pound, and 80 percent ad valorem, respectively.

Table 1 on the following page shows the rates of duty applicable to acrylic sheet since August 31, 1963, the effective date of the TSUS.

1/ Some nonflexible acrylic sheet that would be dutiable under item 771.45 is subjected to minor processing abroad, such as having a hole drilled in one corner, in order to qualify for the more favorable rate applicable to articles entered under item 774.60.

Table 1.--U.S. Rates of duty applicable to acrylic sheet since Aug. 31, 1963

Effective date	Rate of duty for TSUS item--		
	771.42	771.45	774.60
	Percent ad valorem	Cents per pound 1/	Percent ad valorem
Aug. 31, 1963	12.5	17	17
Jan. 1, 1968	11	15.3	15
Jan. 1, 1969	10	13.5	13.5
Jan. 1, 1970	8.5	11.9	11.5
Jan. 1, 1971	7	10	10
Jan. 1, 1972	6	8.5	8.5

1/ The ad valorem equivalent based on imports in 1974 was 10.8 percent; that based on imports in 1975, 11.2 percent.

Note.--Effective Jan. 1, 1976, imports of products of developing countries under these TSUS items were granted duty-free treatment under the Generalized System of Preferences, with the exception of articles imported from Hong Kong under item 774.60.

Nature and Extent of Sales at Less Than Fair Value

During the period of the Department of the Treasury investigation, March 1-July 31, 1975, Mitsubishi Rayon Co., Ltd. (MRC), and Kyowa Gas Chemical Industry Co. (Kyowa) accounted for over 70 percent of Japanese exports of acrylic sheet to the United States. 1/ Price comparisons were made on 100 percent of the export sales to the United States by these two firms during the period of the Treasury investigation. The following tabulation, based on data collected by Treasury, after adjustment to reflect various allowances, summarizes Treasury's findings:

Item	Net export sales to United States	Sales at margin	Margin range	Weighted-average margin of all sales
		Percent	Percent	Percent
Kyowa	* * *	* * *	* * *	* * *
MRC	* * *	* * *	* * *	* * *
Total	* * *	* * *	* * *	* * *

1/ The Department of the Treasury calculates percentage dumping margins as

$$\frac{\text{Home-market price (or fair value) - purchase price (or exporter's sale price)}}{\text{Purchase price (or exporter's sales price)}},$$

while the U.S. International Trade Commission calculates percentage dumping margins as

$$\frac{\text{Home-market price (or fair value) - purchase price (or exporter's sales price)}}{\text{Home-market price (or fair value)}}.$$

The weighted-average margin of all sales of acrylic sheet by Kyowa and MRC based on the U.S. International Trade Commission formula was * * * percent.

1/ At least two additional Japanese firms produce acrylic sheet for export to the United States. These firms' sales were not examined by Treasury; however, their exports to the United States would be subject to a finding of dumping in the event of an affirmative decision by the Commission in this investigation.

Treasury decided that in the instant case it would discontinue its investigation of MRC because the following criteria were satisfied with respect to MRC's sales in the United States:

(1) No more than minimal margins weighted over 100 percent of sales exist.

(2) Price data on 100 percent of sales have been submitted and analyzed.

(3) There is no pattern of sales at less than fair value on a particular variety of the merchandise under investigation.

(4) Price assurances have been submitted.

Fair-value comparisons were made on the basis of adjusted home-market price and net purchase price. Purchase price, as defined in section 203 of the Antidumping Act (19 U.S.C. 162), was used since all export sales were made to nonrelated Japanese trading companies. Home-market price, as defined in section 153.3 of the customs regulations (19 CFR 153.3), was used since such or similar merchandise was sold in the home market in quantities sufficient to provide a basis of comparison for fair-value purposes.

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Domestic Producers

Virtually all domestic production of acrylic sheet is accounted for by 12 firms. Of these, four firms accounted for 89 percent of total U.S. production in 1975 and eight accounted for the remainder.

The four principal producers of acrylic sheet, the production processes utilized, and the location of their respective plants are shown in the tabulation below:

Company	Production process	Location of plants producing acrylic sheet
Rohm & Haas Co	Cell cast/continuous cast.	Louisville, Ky. Knoxville, Tenn. Bristol, Pa.
American Cyanamid Co	Cell cast	Sanford, Maine
Swedcast Corp	Continuous cast	Florence, Ky.
Polycast Technology Corp	Cell cast	Stamford, Conn. Hackensack, N.J.

Rohm & Haas Co. is the dominant U.S. producer of acrylic sheet, accounting for about * * * of total U.S. production during 1971-75. Its position in the industry is primarily due to an exceptionally strong distributor network, a strong product image (Plexiglas), and its position as the largest of the three U.S. producers of methyl methacrylate monomer, the primary raw material used in the production of acrylic sheet. Of the four leading domestic producers, only Rohm & Haas produces both cell-cast and continous-cast sheet.

American Cyanamid is currently the second largest domestic producer of acrylic sheet; during 1971-75 it accounted for about * * * percent of total U.S. output. Like Rohm & Haas, American Cyanamid is a large, diversified producer of chemicals and plastics, including MMA monomer, which it uses in the production of its own sheet or sells to other companies.

Swedcast Corp. is a domestic producer of continuous-cast sheet. In September 1975, Swedcast, which performed the continuous-cast sheet operations of Swedlow, Inc., Garden Grove, Calif., was acquired by Montedison S.A., a large Italian firm that produces acrylic sheet and MMA monomer in Europe. Swedcast does not produce MMA monomer; it purchases this material from domestic sources. From 1971 to 1975, Swedcast supplied about * * * of total U.S. production of acrylic sheet.

Polycast Technology Corp., the complainant in this investigation, is the smallest of the four principal U.S. producers of acrylic sheet, accounting for about * * * of U.S. production during 1971-75. Polycast produces only cell-cast sheet; it does not produce MMA monomer.

Acrylic sheet is known to account for only a small part of total sales for both Rohm & Haas and American Cyanamid. For Swedcast and Polycast, however, acrylic sheet is the sole product.

Six firms which produce extruded sheet accounted for about 11 percent of total U.S. output of acrylic sheet in 1975. Of these six firms, K-S-H, Inc., of St. Louis, Mo., Plaskolite, of Columbus, Ohio, and Rotuba Extruders, of Linden, N.J., are the largest producers. In

addition, two small firms produced small quantities of cast acrylic sheet which is specially processed and is used only in limited markets.

E. I. du Pont de Nemours & Co., although not presently a producer of acrylic sheet, is an important supplier of MMA monomer. Du Pont is scheduled to begin production of continuous-cast sheet in a plant at Memphis, Tenn., beginning in August 1976. This plant will utilize technology licensed by Mitsubishi of Japan.

As indicated earlier, more cell-cast sheet is produced in the United States than either continuous-cast or extruded sheet. The tabulation below shows the percentages of U.S. production of acrylic sheet, by method of manufacture, for the period 1971-75:

Year	Cell-cast	Continuous-cast	Extruded
1971----------	80	19	1
1972----------	71	26	3
1973----------	64	30	6
1974----------	62	30	8
1975----------	62	27	11

Production of cell-cast sheet as a share of U.S. producers' total production declined over the 1971-75 period, while that of continuous-cast and extruded sheet increased. Industry sources indicate that moderate growth in the production of cell-cast sheet is projected over the 1976-80 period, while production of other types should continue to expand at a faster rate, thereby increasing their shares of total production.

Consideration of Injury or Likelihood Thereof

General economic conditions of U.S. the plastics industry, 1971-76

The early 1970's were exceptionally good years for the plastics industry, of which acrylic sheet is a part, with 1971 and 1972 showing record sales. These conditions prevailed until the end of 1973, when the worldwide oil crisis drastically affected the industry because of its dependence on petroleum products as its source of raw materials.

The crisis created by the dramatic rise in oil prices brought about shortages of raw materials and caused rapid increases in the prices of plastics. From October 1973 to November 1974, MMA monomer, the principal raw material needed for the production of acrylic sheet, was on allocation, creating even more uncertainty. Some panic buying and hoarding took place in 1974, and delivery terms for acrylic sheet were sometimes as long as 1 year.

During 1974 the prices for rubber and plastics goods rose by about 27 percent. The sudden increase in prices, combined with the economic recession and the rapid decline in demand for plastics in the depressed building and automotive markets, resulted in sharply reduced sales of plastics in 1975.

Since the end of 1975, when the overall U.S. economy began to improve, the plastics industry has experienced a slight upturn in sales and increased prices for its products; further improvement is anticipate during the remainder of 1976.

U.S. production, U.S. production capacity, and the ratio of production to capacity

U.S. production of acrylic sheet increased annually from 107.4 million pounds in 1971 to 159.5 million pounds in 1974 and then declined to 119.5 million pounds in the recession year 1975 (table 2). During the same period, U.S. capacity to produce acrylic sheet, as reported to the Commission by U.S. producers, increased each year, rising from 122.9 million pounds in 1971 to 199.2 million pounds in 1975. U.S. capacity will be expanded again in 1976 when the new du Pont plant, which will have a rated annual capacity of 30 million pounds, becomes operational.

In the aggregate, U.S. producers increased the rate at which they operated their acrylic sheet plants from 87 percent of capacity in 1971 to 100 percent in 1973. Thereafter, the rate declined to 60 percent in 1975.

Table 2.--Acrylic sheet: U.S. production and U.S. production capacity, 1971-75

Year	U.S. production	U.S. production capacity	Ratio of production to capacity
	1,000 pounds	1,000 pounds	Percent
1971	107,350	122,905	87
1972 1/	133,988	138,806	97
1973	159,086	159,390	100
1974	159,516	197,590	81
1975	119,492	199,159	60

1/ J. W. Carroll & Sons and Plaskolite began production of acrylic sheet in 1972.

Source: Compiled from data obtained in response to U.S. International Trade Commission questionnaires.

U.S. consumption, U.S. producers' shipments and inventories, and foreign trade

Apparent U.S. consumption of acrylic sheet increased from 107 million pounds in 1971 to 154 million pounds in 1973, but declined in 1974 and 1975, amounting to 120 million pounds in the latter year table 3, p. A-19). The bulk of consumption consists of clear, transparent sheet in three basic thicknesses, i.e., 1/8, 3/16, and 1/4 inch.

U.S. producers' shipments increased from 102 million pounds in 1971 to 152 million pounds in 1974 and then declined to 117 million pounds in 1975. Domestic shipments have accounted for over 90 percent of U.S. producers' total shipments of acrylic sheet in recent years.

U.S. producers' yearend inventories of acrylic sheet during 1971-75 and on other specified dates are reported below:

Date	1,000 pounds
Dec. 31, 1971	6,995
Dec. 31, 1972	6,907
Dec. 31, 1973	8,897
July 31, 1974	9,361
Dec. 31, 1974	10,152
July 31, 1975	7,248
Dec. 31, 1975	8,613
Apr. 30, 1976	6,696

At the beginning of 1975, inventories totaled 10.2 million pounds, the highest level reported during the 1971-75 period. At that time inventories were equal to more than 1 month's shipments by U.S. producers. On April 30, 1976, inventories had declined to 6.7 million pounds.

U.S. exports of acrylic sheet, as reported by the producers, increased sharply from 1.5 million pounds in 1971 to 12.2 million pounds in 1974. In 1975, exports declined to 8.1 million pounds.

* * *

Table 3.--Acrylic sheet: U.S. producers' domestic shipments, U.S. exports, imports for consumption, and apparent consumption, 1971-75, March-July 1974, March-July 1975, and January-April 1976

Period	U.S. producers' shipments	Exports	Imports	Apparent consumption	Ratio of imports to consumption
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	Percent
1971	102,496	1,470	5,694	106,720	5.3
1972	133,213	1,733	9,087	140,567	6.5
1973	150,219	8,117	10,957	153,659	7.1
1974	151,610	12,182	9,042	148,470	6.1
1975	117,493	8,073	10,960	120,380	9.1
March-July:					
1974	65,570	5,620	2,773	62,723	4.4
1975	46,648	3,061	3,158	46,745	6.8
January-April:					
1976	41,872	3,793	5,182	43,261	12.0

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Canada, the United Kingdom, Italy, and West Germany have been the principal export markets for U.S. acrylic sheet in recent years.

During the period 1971-75, total U.S. imports of acrylic sheet increased from 5.7 million pounds in 1971 to 11.0 million pounds in 1973, declined to 9.0 million pounds in 1974, and then increased to 11.0 million pounds in 1975. In January-April 1976, imports entered at an annual rate of 15.5 million pounds.

The ratio of total imports from all sources to apparent U.S. consumption of acrylic sheet, based on quantity, increased irregularly from 5.3 percent in 1971 to 9.1 percent in 1975. In January-April 1976, imports accounted for 12.0 percent of apparent U.S. consumption.

Approximately 80 percent of U.S. imports of acrylic sheet came from Japan during 1971-75. Other supplying countries include several (Taiwan, Thailand, Hong Kong, and Israel) whose exports to the United States have been entitled to duty-free treatment under the Generalized System of Preferences since January 1, 1976.

Channels of distribution and pricing practices

U.S. producers.--While U.S. producers sell acrylic sheet to both distributors and end users, more than half their total sales are made to distributors. Thus, a strong distributor network contributes significantly to a producer's ability to sell its product. In order for a new producer to enter the acrylic sheet business, it may be necessary for that producer to sell its sheet directly to end users that had been purchasing their requirements from a competitor's distributor.

All major domestic producers of acrylic sheet publish price lists. During the last several years, however, U.S. producers have offered a number of discounts and allowances on their sales, which have had the effect of reducing actual selling prices by as much as 8 to 27 percent below the published price level. Although the prices quoted are f.o.b. point of shipment, transportation costs are frequently paid by the manufacturer.

Both imported and domestically produced acrylic sheet is sold by the square foot. It is usually packed in standard cardboard boxes of 25 sheets each, or in pallets of 90 sheets.

Rohm & Haas Co., the leading U.S. producer of acrylic sheet, provides its customers with considerable technical assistance regarding uses of the material. In addition, Rohm & Haas supports its customers with advertising assistance, by providing design and engineering data, and by working with testing societies and Government agencies in obtaining approval of acrylic sheet in building codes and specifications covering other applications for the material. * * *

Importers.--Two major Japanese producers of acrylic sheet, Mitsubishi Rayon Co., Ltd., and Kyowa Gas Chemical Industry Co., sell their product to Japanese trading companies which import it into the United States and then sell it to distributors and end users. It is estimated that more than 80 percent of all Japanese sheet that is sold in the United States is marketed through distributors. Nissho-Iwai American Corp., Mitsubishi International, and Marubeni Corp. are the principal U.S. importers of Japanese acrylic sheet. Nissho-Iwai and

Mitsubishi International import acrylic sheet produced by MRC, and Marubeni handles materials produced by Kyowa. Nissho-Iwai has two leading outlets in the United States: Argo Plastics in Los Angeles, Calif. * * * ,and Sentinel Enterprises, Miami, Fla. Marubeni also has two principal outlets: Noland Paper Co., Los Angeles, and Almac Co., Long Island City, N.Y.

The Japanese trading companies do not publish price lists. Prices are negotiated for each transaction and vary according to the size of the order, time of delivery, and prevailing market conditions.

The Japanese importers contend that they operate under a handicap in competing with domestic producers because the time between placing an order for their acrylic sheet and delivery in the United States ranges from 30 to 90 days. Domestic producers can usually deliver from stock, often within a matter of a few days. In order to compete effectively, some distributors of the Japanese product keep an inventory of about 4 months' supply of acrylic sheet. In addition, the Japanese importers do not normally provide technical assistance to their customers, an important sales aid in selling acrylic sheet to end users.

Price comparison of domestic and imported (Japanese) cast acrylic sheet

Three thicknesses of cast acrylic sheet, 0.125, 0.187, and 0.250 inch, are reported by representative importers to account for about 95 percent of total imports of acrylic sheet from Japan. It is estimated that the 0.125-inch (or 1/8-inch) material accounts for about 60 percent

of the total. Thus, the following price analysis focuses on sheet of that thickness. Furthermore, the prices for other thicknesses followed practically the same trend as that reported for the 0.125 inch sheet.

1973.--Net delivered selling prices received by U.S. producers and importers of cast acrylic sheet 0.125 inch thick on sales to their three largest customers are shown in table 4 on the following page and in figures 1 and 2 on pages A-25 and A-26. During the first half of 1973, the average price for imported acrylic sheet was between 7 and 12 cents per square foot below the domestic price. The prices of Japanese and U.S.-produced sheet were approximately equal during the third quarter of 1973; a difference of about 5 cents per square foot occurred again during the fourth quarter, when domestic prices increased while the Japanese maintained their prices at the third-quarter level.

1974.--The last quarter of 1973 and most of 1974 witnessed a world-wide shortage of MMA monomer, caused mainly by the oil crisis. It was during this period that allocation of acrylic sheet by domestic producers took place and imported sheet was in short supply. During January-June 1974 the average price of Japanese sheet increased from 56 to 61 cents per square foot, while the domestic price rose from 70 to 76 cents per square foot. Domestic prices increased slightly during July-December 1974 to 78 cents per square foot, while import prices rose to 65 cents per square foot during July-September then dropped to 62 cents per square foot during the last quarter of the year. Throughout the year 1974 the Japanese product undersold domestically produced sheet by 11 to 16 cents per square foot.

Table 4.--Net delivered prices received for cast acrylic sheet 0.125 inch thick by U.S. producers and importers of acrylic sheet from Japan on sales to their 3 largest customers, by quarters, 1973 and 1974, and by months, 1975 and January-April 1976

Period	U.S. producers' prices		Importers' prices		U.S. producers' price minus importers' price	Ratio of importers' price to U.S. producers' price
	Range	Arithmetic average 1/	Range	Arithmetic average 2/		
	Cents per square foot	Cents per square foot	Cents per square foot	Cents per square foot	Cents per square foot	Percent
1973:						
Jan.-Mar	55-67	60.0	41.52	48.0	12.0	88
April-June	55-58	56.2	43-52	49.0	07.2	87
July-Sept	54-58	55.7	50-59	56.1	-00.4	101
Oct.-Dec	54-70	61.0	50-59	56.1	04.9	92
1974:						
Jan.-Mar	56-86	70.3	55-63	59.1	11.2	84
April-June	70-85	76.1	57-64	60.5	15.6	80
July-Sept	70-86	77.4	57-69	64.9	12.5	84
Oct.-Dec	70-86	78.1	56-69	61.9	16.2	79
1975:						
January	68-79	74.2	56-66	59.6	14.6	80
February	66-79	72.4	51-66	58.7	13.7	81
March	56-68	64.3	3/	3/		
April	57-62	59.8	51-55	53.0	06.8	89
May	58-62	59.6	51-51	51.0	8.6	86
June	59-84	69.3	51-62	54.8	14.5	79
July	59-84	70.9	55-62	58.5	12.4	83
August	59-84	75.3	51-66	57.0	18.3	76
September	59-84	68.8	55-72	64.9	3.9	94
October	59-90	73.7	55-72	64.9	8.8	88
November	63-90	71.7	55-72	62.0	9.7	86
December	51-74	64.7	55-66	62.6	2.1	97
1976:						
January	51-76	63.5	66-72	69.0	5.5	109
February	51-70	57.8	66-72	69.0	11.2	119
March	51-70	59.3	66-72	69.0	9.7	116
April	51-76	64.8	66-72	69.0	4.2	106

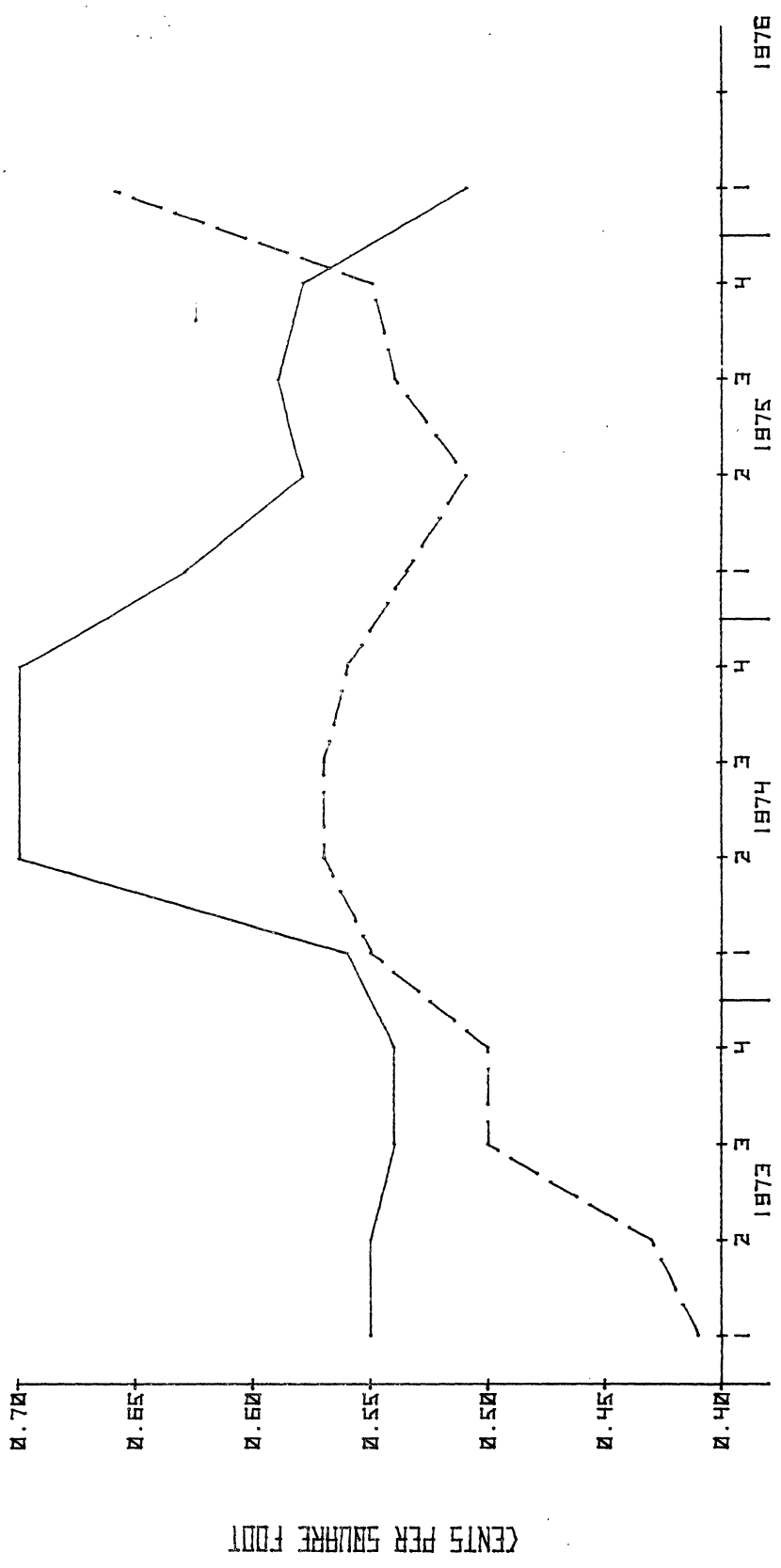
1/ Arithmetic average of 2 to 4 major domestic producers. Data were insufficient to provide a weighted average.

2/ Arithmetic average of 2 importers. Data were insufficient to provide a weighted average.

3/ Not available.

Source: Compiled from U.S. producers' and importers' responses to questionnaires of the U.S International Trade Commission.

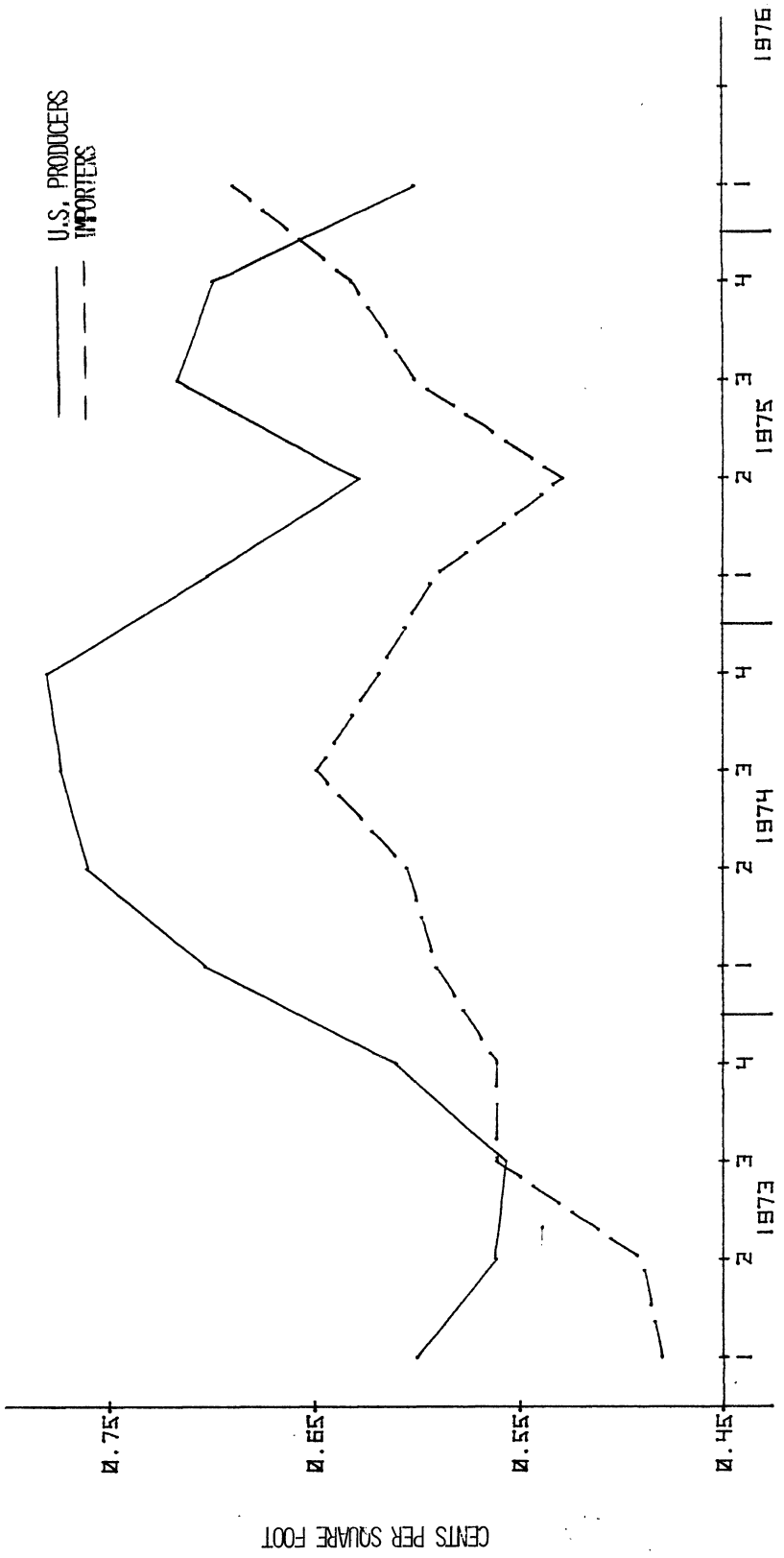
Chart 1.--Cast acrylic sheet, 0.125 inch thick: Lowest net delivered selling prices 1/ received by U.S. producers and importers of acrylic sheet from Japan, January 1973-April 1976



1/ Price data taken from table 4.

Source: Compiled from U.S. producers' and importers' responses to questionnaires of the U.S. International Trade Commission.

Chart 2.--Cast acrylic sheet, 0.125 inch thick: Average net delivered selling prices 1/ received by U.S. producers and importers of acrylic sheet from Japan, January 1973-April 1976.



1/ Price data taken from table 4.

Source: Compiled from U.S. producers' and importers' responses to questionnaires of the U.S. International Trade Commission.

1975.--As the temporary shortage of MMA monomer ended in late 1974, the U.S. demand for acrylic sheet weakened in early 1975 as a result of the recession, and imports increased. Thus, what had recently been a tight market for acrylic sheet became an over-supplied market. This change had an adverse effect on prices, with both domestic and import prices dropping during January-May to their lowest levels since 1973. An upturn began in June and continued unevenly through October, then another sharp drop occurred during November-December 1975. During the whole year, Japanese prices were 2 to 18 cents per square foot below average domestic prices.

March-July 1975.--During March-July 1975, the period when the Department of the Treasury found LTFV sales, the average price of Japanese acrylic sheet 0.125 inch thick ranged between 7 and 15 cents per square foot below the average price of the domestic product. The prices of Japanese sheet ranged between 51 and 59 cents per square foot, while the domestic producers' prices ranged between 60 and 71 cents per square foot. Thus, importers of Japanese sheet undersold U.S. producers by 11 to 21 percent during this period.

January-April 1976.--The arithmetic average of U.S. producers' prices of 0.125-inch-thick acrylic sheet to their largest customers was at its lowest level (58 cents per square foot) in February 1976 since that reported in the third quarter of 1973. The average price increased to 65 cents per square foot in April 1976; however, throughout the January-April period, U.S. producers' prices were lower than those reported by importers by amounts ranging from 4 to 11 cents per square foot.

Employment

The average number of U.S. production and related workers engaged in the production of acrylic sheet increased from 466 in 1971 to 1,390 in 1973, then decreased to 1,240 in 1975. Average employment of such workers in the period of the Treasury investigation, March-July 1975, was 1,069 compared with 1,339 in the corresponding period a year earlie In January-April 1976, the average number of production and related workers engaged in the production of acrylic sheet increased to 1,275.

The average number of production and related workers engaged in th production of all products at U.S. establishments where acrylic sheet was produced followed the same general pattern as that described above for workers producing acrylic sheet only.

Data on the average number of production and related workers employed in U.S. establishments producing acrylic sheet for various periods between January 1971 and April 1976 are shown in the tabulation below:

Period	Average number of production and related workers in U.S. establishments producing acrylic sheet that are engaged in the production of--	
	All products	Acrylic sheet
1971	817	4
1972 1/	1,116	5
1973	3,687	1,3
1974	3,440	1,4
1975	2,952	1,2
March-July--		
1974	3,437	1,3
1975	2,660	1,0
January-April		
1976	2,902	1,2

1/ J. W. Carroll & Sons and Plaskolite began producing acrylic sheet in 1972.

The following tabulation shows the number of man-hours reported in producing acrylic sheet and in producing all products in the U.S. establishments in which acrylic sheet is produced; the ratio of production man-hours for acrylic sheet to production man-hours for all products is also shown:

Period	Man-hours worked on all products (A)	Acrylic sheet (B)	Ratio of (B) to (A)
	Thousands	Thousands	Percent
1971	7,473	2,431	33
1972 1/	8,372	2,677	32
1973	8,302	2,722	33
1974	7,938	2,818	36
1975	7,109	2,804	39
March-July			
1974 2/	2,002	744	37
1975 2/	1,585	576	36
January-April 1976	1,927	819	43

1/ J. W. Carroll & Sons and Plaskolite began producing acrylic sheet in 1972.

2/ Figures for Swedlow and/or Swedcast are not available.

It can be seen from the tabulation above that man-hours worked in producing of acrylic sheet increased from 1971 to 1974, then declined slightly in 1975. A major decrease in man-hours (23 percent) occurred between March-July 1974 and the bottom of the U.S. recession in March-July 1975. The tabulation also shows that the ratio of man-hours worked in producing of acrylic sheet to man-hours worked in producing all products increased between 1971 and 1975, and this ratio continued to increase during January-April 1976.

Profit-and-loss experience

Seven domestic producers of acrylic sheet submitted some profit-and-loss data for the years 1971-75 and part of the year 1976. The data account for more than 90 percent of total U.S. production of acrylic sheet.

Net sales for total establishment operations increased from $150.3 million in 1971 to $263.3 million in 1974, then decreased to $220.9 million in 1975 (table 5). The ratio of net operating profit to net sales ranged from 11.3 percent to 16.2 percent in 1971-74, then decreased sharply to 3.2 percent in 1975 and rose to 18.5 percent in partial year 1976.

Net sales of acrylic sheet increased annually from $78.4 million in 1971 to $132.5 million in 1974. Net sales then decreased to $103.6 million in 1975. Net operating profit was $8.9 million in 1971, $18.6 million in 1972, $14.0 million in 1973, $20.9 million in 1974, and $1.7 million in 1975. The ratios of net operating profit to net sales were reasonably good, fluctuating from 11.3 percent to 18.3 percent in 1971-7 A sharp drop in the operating profit ratio to 1.7 percent occurred in 1975. The profit ratio increased to 19.5 percent for partial year 1976.

Table 6 shows the individual operations on acrylic sheet for the responding domestic producers for various accounting periods 1971-75 and partial year 1976. Net sales for the firms generally rose from 1971 to 1974 but decreased in 1975.

Table 5.--Profit-and-loss experience of 6 U.S. producers on the total operations of their establishments in which acrylic sheet is produced and on their acrylic sheet operations, 1971-75 and partial year 1976

Item	Net sales	Cost of goods sold	Gross profit	General, selling, and administrative expense	Net operating profit	Other income or (expense)	Net profit	Ratio of net operating profit to net sales
	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars	Percent
Total establishment operations:								
1971	150,307	108,451	41,856	24,846	17,010	(4,883)	12,127	11.3
1972	191,803	130,100	61,703	30,623	31,080	(5,121)	25,959	16.2
1973	217,222	150,446	66,776	35,782	30,994	(5,073)	25,921	14.3
1974	263,340	185,446	77,894	37,536	40,358	(5,157)	35,201	15.3
1975 1/	220,906	178,306	42,600	35,607	6,993	1,823	8,816	3.2
1976--partial year 2/	44,584	29,479	15,105	6,845	8,260	(169)	8,091	18.5
Acrylic sheet operations:								
1971	78,394	55,480	22,914	14,027	8,887	(2,548)	6,339	11.3
1972	101,373	66,004	35,369	16,817	18,552	(2,427)	16,125	18.3
1973	107,795	72,685	35,110	21,151	13,959	(2,504)	11,455	12.9
1974	132,459	89,751	42,708	21,798	20,910	(2,554)	18,356	15.8
1975 1/	103,583	82,305	21,278	19,530	1,748	(1,371)	377	1.7
1976--partial year 2/	41,801	27,338	14,463	6,332	8,131	(185)	7,946	19.5

1/ Swedlow, Inc., sold its acrylic sheet operations to Swedcast Corp. in September 1975. Data for 1975 include part-year operations for both firms. Data for Rotuba Extruders, Inc., are not available for 1975. * * *

2/ Part-year data for 1976 include data for American Cyanamid for 4 months, for J. W. Carroll for 3 months, for Polycast for 4 months, for Rohm & Haas for 5 months, and for Swedcast Corp. for 3 months.

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Table 6.--Profit-and-loss experience of individual U.S. producers on their acrylic sheet operations, 1971-75 and partial year 1976

Company and period	Net sales	Net operating profit or (loss)	Ratio of net operating profit or (loss) to net sales
	1,000 dollars	1,000 dollars	Percent
American Cyanamid Co.:			
1971	* * *	* * *	* * *
1972	* * *	* * *	* * *
1973	* * *	* * *	* * *
1974	* * *	* * *	* * *
1975	* * *	* * *	* * *
1976 (4 months)	* * *	* * *	* * *
J.W. Carroll & Sons:			
1972	* * *	* * *	* * *
1973	* * *	* * *	* * *
1974	* * *	* * *	* * *
1975	* * *	* * *	* * *
1976 (3 months)	* * *	* * *	* * *
KSH Inc.:			
1971	* * *	* * *	* * *
1972	* * *	* * *	* * *
1973	* * *	* * *	* * *
1974	* * *	* * *	* * *
1975	* * *	* * *	* * *
Polycast Technology Corp.:			
1971	* * *	* * *	* * *
1972	* * *	* * *	* * *
1973	* * *	* * *	* * *
1974	* * *	* * *	* * *
1975	* * *	* * *	* * *
1976 (4 months)	* * *	* * *	* * *
Rohm & Haas Co.:			
1971	* * *	* * *	* * *
1972	* * *	* * *	* * *
1973	* * *	* * *	* * *
1974	* * *	* * *	* * *
1975	* * *	* * *	* * *
1976 (5 months)	* * *	* * *	* * *

Table 6.--Profit-and-loss experience of individual U.S. producers on their acrylic sheet operations, 1971-75 and partial year 1976--Continued

Company and period	Net sales	Net operating profit or (loss)	Ratio of net operating profit or (loss) to net sales
	1,000 dollars	1,000 dollars	Percent
Rotuba Extruders, Inc.:			
1971	* * *	* * *	* * *
1972	* * *	* * *	* * *
1973	* * *	* * *	* * *
1974	* * *	* * *	* * *
Swedlow, Inc.:			
Fiscal year ended Mar. 31--			
1972	* * *	* * *	* * *
1973	* * *	* * *	* * *
1974	* * *	* * *	* * *
1975	* * *	* * *	* * *
Apr. 1-Sept. 29, 1975	* * *	* * *	* * *
Swedcast Corp.:			
Oct. 1-Dec. 31, 1975	* * *	* * *	* * *
1976 (3 months)	* * *	* * *	* * *

Source: Compiled from data submitted to the U.S. International Trade Commission by the domestic producers.

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The Japanese industry

Five Japanese firms (Asahi, Mitsubishi Rayon, Kyowa Gas, Nitto Jushi Kogyo, and Sumitomo) produce acrylic sheet. Mitsubishi Rayon and Kyowa Gas are the largest Japanese producers, accounting for an estimated * * * and * * * percent, respectively, of total Japanese output in 1975.

Counsel for the Japanese importers furnished the Commission with information on the estimated production capacity of the Japanese producers and their total shipments for the years 1970-75. These data are shown in the tabulation below in thousands of pounds:

Year	Estimated production capacity	Shipments
1970	* * *	* * *
1971	* * *	* * *
1972	* * *	* * *
1973	* * *	* * *
1974	* * *	* * *
1975	* * *	* * *

Consideration of the Causal Relationship Between LTFV Imports and the Alleged Injury

Market penetration of imports from Japan

Total U.S. imports of acrylic sheet from Japan increased from 4.9 million pounds in 1971 to 8.2 million pounds in 1972 and then declined to 7.3 million pounds in 1974, a year characterized by strong demand and shortages of supply in the major world markets, including the United States. In 1975, when there was a substantial decline in the demand for acrylic sheet in the United States, and a worldwide recession, imports from Japan increased to 8.9 million pounds. As a share of apparent U.S. consumption, imports from Japan accounted for 5.8 percent in 1972, 5.0 percent in 1974, and 7.4 percent in 1975 (table 8). During March-July 1975, the period of Treasury's investigation of sales at LTFV, imports from Japan accounted for 4.7 percent of consumption, as compared with 3.5 percent in the corresponding period in 1974.

* * * * * * *

Table 8.--Acrylic sheet: U.S. imports from Japan, imports from Japan other than those produced by Mitsubishi Rayon Corp. (MRC), and apparent U.S. consumption, 1971-75, March-July 1974, March-July 1975, and January-April 1976

Period	Imports from Japan (A)	Imports from Japan other than those produced by MRC (B)	Apparent U.S. consumption (C)	Ratio of-- A/C	Ratio of-- B/C
	1,000 pounds	1,000 pounds	1,000 pounds	Percent	Percent
1971	4,894	* * *	106,720	4.6	* * *
1972	8,212	* * *	140,567	5.8	* * *
1973	7,570	* * *	153,659	5.0	* * *
1974	7,330	* * *	148,470	5.0	* * *
1975	8,874	* * *	120,380	7.4	* * *
March-July:					
1974	2,207	* * *	62,723	3.5	* * *
1975	2,214	* * *	46,745	4.7	* * *
January-April:					
1976	2,119	* * *	43,261	4.9	* * *

Source: Compiled from data obtained in response to U.S. International Trade Commission questionnaires.

Approximately 75 percent of U.S. imports of acrylic sheet from Japan have consisted of cell-cast material. An analysis of the imports from Japan, by method of manufacture, for the years 1971-75 are shown in the tabulation below in percent: 1/

Year	Cell-cast	Continuous-cast	Extruded
1971	78	20	2
1972	81	14	5
1973	69	25	6
1974	77	21	2
1975	77	12	11

The bulk of U.S. imports of continuous-cast sheet are believed to have been supplied by MRC, and virtually all of the extruded sheet is believed to have been supplied by Asahi Chemical Co.

Evidence of lost sales

In the questionnaire sent to each domestic producer, information was requested with respect to sales lost to LTFV imports and evidence supporting claims of such lost sales.

Only one domestic producer, * * * , was able to support allegations of lost sales to foreign suppliers by naming the customer, the Japanese producer, the month the transaction occurred, and the volume of the sale.

* * * * * *

1/ For a similar analysis of U.S. production by method of manufacfure, see the tabulation on p. A-15 of this report.

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Price suppression

Table 9 on the following page compares price indexes for acrylic sheet, MMA monomer, rubber and plastics products, and industrial chemicals. It is evident from the values reported in the table that the price of acrylic sheet was suppressed during the period from January 1975 to April 1976. For the entire period for which price data were obtained (January 1973-April 1976) the index for acrylic sheet increased by only 12 percent, whereas the price of MMA monomer, the principal material used in the production of acrylic sheet, increased during the same interval by 165 percent.

Table 9.--Price indexes for acrylic sheet, MMA monomer, rubber and plastics products, and industrial chemicals, January 1973-April 1976

(January 1973=100)

Period	Acrylic sheet 1/	Methyl methacrylate monomer	Rubber and plastics products	Industrial chemicals
1973:				
January	100.0	100.0	100.0	100.0
July	100.4	103.0	102.6	102.0
1974:				
January	126.0	123.0	107.0	106.6
July	133.8	147.1	126.8	153.3
1975:				
January	114.6	168.0	136.0	194.1
July	121.9	188.2	136.5	203.5
1976:				
April	111.8	264.7	2/ 138.5	N/A

1/ Based on prices of 0.125-inch-thick, clear, cell-cast acrylic sheet as reported to the U.S. International Trade Commission by major domestic producers.

2/ January 1976 data.

Source: U.S. Department of Commerce, Survey of Current Business, except data on MMA monomer and acrylic sheet, which were compiled from responses to questionnaires of the U.S. International Trade Commission.

APPENDIX

TREASURY LETTER AND MEMORANDA RELATING TO DETERMINATION OF SALES AT LTFV

A-46

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

ASSISTANT SECRETARY

#389

APP-2-04-O:D:T SN bs

APR 23 1976

Dear Mr. Chairman:

In accordance with section 201(a) of the Antidumping Act, 1921, as amended, you are hereby advised that acrylic sheet from Japan, other than that produced and sold by Mitsubishi Rayon Company, Ltd., is being, or is likely to be, sold at less than fair value within the meaning of the Act.

The United States Customs Service will make the files on sales or likelihood of sales at less than fair value of the acrylic sheet subject to this determination available to the International Trade Commission as soon as possible. These files are being furnished for the Commission's use in connection with its investigation as to whether an industry is being, or is likely to be, injured, or is prevented from being established, by reason of the importation of this merchandise into the United States.

Since some of the data in this file is regarded by the U.S. Customs Service to be of a confidential nature, it is requested that the United States International Trade Commission consider all information therein contained for the official use of the Trade Commission only, and not to be disclosed to others without prior clearance with the U.S. Customs Service.

Sincerely yours,

David R. Macdonald
Assistant Secretary
(Enforcement, Operations, and Tariff Affairs)

The Honorable
Will E. Leonard, Jr., Chairman
United States International
Trade Commission
Washington, D.C. 20436

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