UNITED STATES TARIFF COMMISSION
Washington, D.C.

[APTA-W-21]

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TARIFF COMMISSION SUBMITS REPORT TO THE AUTOMOTIVE AGREEMENT ADJUSTMENT ASSISTANCE BOARD IN ADJUSTMENT ASSISTANCE CASE PERTAINING TO CERTAIN WORKERS OF PPG INDUSTRIES' WORKS NO. 1, CREIGHTON, PENNSYLVANIA

The Tariff Commission today reported to the Automotive Agreement Adjustment Assistance Board the results of its investigation No. APTA-W-21, conducted under section 302(e) of the Automotive Products Trade Act of 1965. The Commission's report contains factual information for use by the Board, which determines the eligibility of the workers concerned to apply for adjustment assistance. The workers in this case were employed in Works No. 1 of PPG Industries at Creighton, Pennsylvania.

Only certain sections of the Commission's report can be made public since much of the information it contains was received in confidence. Publication of such information would result in the disclosure of certain operations of individual firms. The sections of the report that can be made public are reproduced on the following pages.

U.S. Tariff Commission
January 3, 1968

Introduction

In accordance with section 302(e) of the Automotive Products Trade Act of 1965 (79 Stat. 1016), the U.S. Tariff Commission herein reports the results of an investigation (APTA-W-21) concerning the possible dislocation of certain workers engaged in the production of automobile glass at Pittsburgh Plate Glass Company's 1/ Works No. 1, Creighton, Pa. The Commission instituted the investigation on November 14, 1967, on the same day that the request (dated November 13) for such investigation was received from the Automotive Assistance Committee of the Automotive Agreement Adjustment Assistance Board. Public notice of the investigation was given in the Federal Register (32 F.R. 12702) on November 21, 1967.

The Automotive Assistance Committee's request for the investigation resulted from a petition for determination of eligibility to apply for adjustment assistance that was filed with the Assistance Board on November 8, 1967, by Local No. 12 of the United Glass & Ceramic Workers of North America, AFL-CIO-CLC on behalf of a group of workers at PPG Industries' Works No. 1, Creighton, Pa. Neither the petitioners nor any other party requested a hearing before the Commission, and none was held.

The petitioners allege that the shipments of laminated glass (primarily windshields) from Works No. 1 have been reduced as a result

1/ The Pittsburgh Plate Glass Co. adopted a new corporate trademark "PPG Industries" in 1966. The legal name of the company is scheduled to be changed to PPG Industries in April 1968. Subsequent references to the company in this report will use the briefer designation, PPG Industries.

of increased imports of laminated glass from Canada with a resultant loss of approximately 150 jobs. They also allege that a substantial reduction in shipments of plate glass to Duplate Canada, Ltd., a majority-owned * * * subsidiary of PPG that manufactures tempered and laminated automobile glass, for further fabrication has caused further unemployment at Works No. 1 in Creighton.

The information reported herein was obtained from a variety of sources, including PPG Industries and other manufacturers of automotive glass, the major U.S. motor-vehicle manufacturers, the United Glass and Ceramic Workers of North America, AFL-CIO-CLC and their Local 12, the Pennsylvania Employment Security Office at Creighton, Pa., the Commission's files and through fieldwork by members of the Commission's staff.

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The automotive product involved--laminated automobile glass

The automotive product involved is described in Section I of the petition as "Automobile Window Glass - Original Equipment." In stating the basis of their complaint, the petitioners refer to "the major reduction" in raw plate glass shipped to Duplate Canada, Ltd., as well as to the reduced shipments of windshields and increased imports of laminated glass. The term "automotive product" is defined in Section 302(1)(1) of the Automotive Products Trade Act of 1965 as "a motor

vehicle or a fabricated component to be used as original equipment in the manufacture of motor vehicles". Inasmuch as the raw plate glass requires further fabrication (i.e., laminating or tempering) before it may be used on a motor vehicle, it apparently would not come within the scope of this definition. This report, therefore, relates primarily to laminated automobile glass, the only "automotive product" produced at Works No. 1.

Laminated automobile glass is a type of safety glass consisting of two pieces of glass separated by, and bonded to, a thin plastic (polyvinyl butyral) interlayer. The plastic interlayer prevents the glass from shattering when broken and thereby minimizes the danger of passenger injury from broken glass. The use of laminated glass in motor vehicle windshields is required by law. Regulations established by the Interstate Commerce Commission also require the use of laminated glass in the side and rear windows of buses and of certain trucks. Tempered (toughened) glass, another type of safety glass, is used in the side and rear windows of automobiles and in some trucks.

Laminated glass is dutiable under item 544.41 of the Tariff Schedules of the United States at the rate of 16 percent ad valorem; however, if it is a Canadian article for use as original motor-vehicle equipment (OEM) it enters duty free under item 544.42.

The production of a laminated windshield involves several operations. The two sheets of glass which form the windshield are cut to shape--the outer sheet being slightly larger than the inner because of its larger radius. One sheet is then placed on top of the other and

the two sheets are transported through the bending oven where they are heated until they become plastic, whereupon they sag to conform to the shape of the curved windshield mold. After the sheets are cooled and washed, the plastic interlayer is inserted between them and the windshield is pressed between two rollers to force out any air between the inner surfaces. The semi-completed windshield is then passed through another oven where glass and plastic form an initial bond. The edge of the windshield is trimmed (of any excess plastic) and sealed and the windshields are submerged in the autoclave (a tank of oil), where a combination of heat and hydraulic pressure creates a permanent bond between the glass and plastic.

The nature and structure of the automobile glass industry in Canada and the United States

The manufacture of automobile glass involves two distinct phases: (1) the production of the raw flat glass, which may consist of plate glass, float glass, or sheet glass; and (2) the fabrication (e.g., cutting to shape, bending, and laminating or tempering) of the raw flat glass into the completed automotive glass product. The manufacturing functions are divided variously between the major manufacturers of flat glass, the automobile manufacturers, and independent fabricators of automobile glass. * * *

Since the introduction of domestically produced float glass [1/] to the United States market in early 1964, the production of flat glass for automotive use has been undergoing a major technological transformation. Before 1964 plate glass had been used exclusively in the windshields of all automotive vehicles and in the side and rear windows of all automobiles produced by General Motors. Sheet glass, the less expensive product, had been used in all side windows and in some rear windows by other automobile manufacturers.

Float glass, which is comparable in quality to plate glass but substantially cheaper to produce, was first used by General Motors in automobile side windows late in the 1964 model year and was first used in windshields in the 1966 model year. Six facilities for producing float glass are now operating in the United States; PPG Industries, Libbey-Owens-Ford Glass Co., and the Ford Motor Co., each operate 2 plants; * * *

The first Canadian float glass facility was officially opened in Toronto, Ontario, in June 1967. Before the completion of that facility, Canada (which has no plate glass facilities) was primarily dependent on imports from the United States for its plate glass for automotive use. The new float facility has a substantially greater capacity than Canada's

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1/ The technique of manufacturing float glass was developed by a British firm--Pilkington Bros., Ltd. It was first produced in commercial quantities in 1959 and first imported into the United States in 1960.

present requirements--both automotive and non-automotive--for high quality (plate or float) glass.

The second major phase of the process of manufacturing automobile glass is performed by a few independent fabricators and Chrysler Corp., as well as by the basic flat glass manufacturers (which classification includes the Ford Motor Co.). When automobile glass is fabricated by a basic flat glass producer, the fabrication usually takes place in or near the plant where the raw flat glass is manufactured.

No major technological changes in the process of producing laminated automobile glass, the product covered by this investigation, have occurred in recent years. Neither has there been any major realignment in the ownership or geographic location of the laminating facilities in the United States or Canada during the past five years. Consequently, where float glass was substituted for plate glass in making windshields, as at Creighton, it had to be shipped from another plant.

PPG Industries and its facilities used in the production of automobile glass

PPG Industries, with headquarters in Pittsburgh, is a large diversified corporation (its sales in 1966 were $942 million) which operates about 60 domestic plants. Domestic sales of flat glass and flat glass products (including automobile glass) accounted for 34 percent of the value of its total sales in 1966. The company also produces fiber glass, chemicals, oil and gas, coatings, and resins.

Glass-producing facilities.--PPG Industries operates plate glass plants at Ford City and Creighton, Pa.; Cumberland, Md.; and Crystal City, Mo. Its sheet glass plants are located in Clarksburg, W. Va.; Mt. Vernon, Ohio; Henryetta, Okla.; Mt. Zion, Ill.; and Fresno, Calif. To the extent that sheet glass has been used in fabricating automobile glass, which is mainly in tempered side windows, it has come chiefly from the Clarksburg, Mt. Vernon, and Mt. Zion plants. PPG has float glass facilities at Cumberland and Crystal City (both contiguous to the plate glass facilities at those locations) and is currently constructing a float glass plant at Meadville, Pa.

PPG Industries operates facilities for fabricating automobile glass at Ford City, Creighton, Greensburg, and Tipton (all in Pennsylvania), at Crystal City, Mo., 1/ and at Crestline in north-central Ohio. * * *

Duplate Canada, Ltd., PPG Industries' Canadian subsidiary, operates three plants in which it produces automobile glass. These plants are located at Windsor, Oshawa, and Oakville, all in Ontario (the two latter plants are near Toronto).

Facilities used in the production of laminated automobile glass.--PPG Industries fabricates laminated automobile glass at Creighton and Greensburg, Pa. 2/ The laminating departments at Creighton serve

1/ Fabricating operations at the Crystal City plant have been minimal for several years and are being gradually phased out.

2/ A negligible quantity of laminated glass is also produced at its Crystal City, Mo., flat glass plant.

primarily the OEM market while the Greensburg plant, which is PPG Industries' distribution center for replacement automobile glass, serves primarily the aftermarket (i.e., the replacement market). All flat laminated automobile glass (which is used exclusively in trucks and buses) is produced at Creighton. The operations on curved windshields at Creighton are designed to achieve high-volume production runs for the OEM market. Following the OEM production run a limited quantity of windshields is also produced for the replacement market. Conversely, windshield production facilities at the Greensburg plant, which are designed for the numerous low-volume runs that the replacement market requires, are more flexible but less efficient. A few low-volume OEM windshields are therefore produced at the Greenburg plant.

Duplate Canada, Ltd., fabricates curved windshields at each of its three plants and fabricates flat laminated glass at its Oshawa plant.

The Creighton operations

PPG Industries' Works No. 1 is located at Creighton on the Allegheny River approximately 20 miles northeast of Pittsburgh. Creighton is a small town of 2,900 persons, which is considered by the Pennsylvania Bureau of Employment Security to be within the Pittsburgh labor market area. In September 1967, the latest month for which data are available, 923,000 persons were employed in the Pittsburgh labor market area and the unemployment rate was 2.7 percent. 1/ Works No. 1 is the oldest

1/ Pittsburgh Area Labor Market Letter, Commonwealth of Pennsylvania, Department of Labor and Industry, Bureau of Employment Security, Oct. 18, 1967.

plate glass plant in the country, having begun operations in 1880, three years before the formation of the present PPG Industries. During the 1930's a laminating facility was built adjacent to the plate glass plant. Current operations at Works No. 1 are divided between three major departments. The activities of these three departments are described briefly below:

1. Plate glass department.--This department, which produces the raw plate glass, consists of the batch handling facilities, furnace, grinding and polishing line, and wareroom (i.e., cutting, inspecting, packing, and shipping). One of three plate glass furnaces at Works No. 1 was permanently dismantled in 1963. The remaining furnaces and the grinding and polishing line are the smallest and most obsolete plate glass facilities in the company and, therefore, are among the first to be closed down when shipments decline or when new capacity is created. The sporadic nature of operations in this department has been largely responsible for the long-term erratic employment history that has characterized Works No. 1.

2. The curved windshield department.--The smallest department in the plant is the only department engaged exclusively in the production of automobile glass. This department operates two lehrs (ovens) used in the fabrication of curved laminated windshields. Ordinarily one lehr operates the year round and the other, approximately 8 months of the year--the 4-month downtime being required (typically during February-May) for model changeovers. * * *

this department during 1966 and 1967 (to date) entered the OEM market, and the remainder was transferred to PPG Industries' plant in Greensburg for distribution to the aftermarket.

3. The flat laminating and specialty glass department.--The predominant activity of this department in recent years has been the fabrication of specialty products primarily for aircraft use. These specialty products include various multiple laminates, two different types of electrical conducting glass, and special tempered glass for high speed aircraft and spacecraft.

The only OEM automotive product produced in this department is flat laminated glass. Flat laminated glass is used in some bus and truck windshields, in all side and rear windows of buses, and in some side and rear windows in trucks. A portion of the flat laminated glass produced in this department enters the replacement market for the previously cited applications. Some flat laminated glass is also used by the replacement market to replace flat tempered glass. * * *

Another PPG plant (Works No. 3, at Creighton adjacent to Works No. 1) manufactures double-glazed insulating glass for the construction market. Its operations have expanded moderately in recent years and have afforded alternate employment opportunities for a few employees that have been laid off from Works No. 1. Although employees do not

have transfer rights between the two plants, laid-off employees from Works No. 1 are given preference in filling new or vacant jobs at Works No. 3.

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Operations of Duplate Canada, Ltd.

Duplate Canada, Ltd., fabricates laminated glass at each of its three plants. The Oshawa plant produces curved windshields, flat laminated glass, and a wide range of tempered glass parts; the Oakville plant produces only curved windshields; and the Windsor plant produces curved windshields and curved tempered glass parts.

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Shipments of laminated windshields by Duplate Canada, Ltd., have gone primarily to the Canadian OEM market. * * * All shipments of laminated automobile glass (other than windshields) have been to the replacement market.

Since Pilkington's float glass plant was completed in early 1967, Duplate Canada, Ltd., has procured a substantial portion of its raw glass from Pilkington. The efficiency of the float process and the proximity of the float plant to two of Duplate Canada's three fabricating plants, combined with pressures by some motor-vehicle manufacturers to obtain automobile glass for their Canadian assembly plants with 100 percent Canadian content, will probably lead Duplate Canada, Ltd., and most other Canadian automobile glass fabricators as well, to obtain the great bulk of their raw glass from Pilkington Glass, Ltd.

The President of Pilkington Glass, Ltd. (Canada) has indicated that the plant was built several years ahead of long-term planning schedules because of the Canada-U.S. Automotive Products Agreement with the expectation that their glass would be one of the components contributing to the Canadian value of cars produced in Canada.

Production and trade between the United States and Canada

The Tariff Commission obtained information from the major North American motor-vehicle producers respecting the production of, and trade between, the United States and Canada in laminated automobile glass for use as original equipment in the assembly of motor vehicles.

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The production of laminated automobile glass in both the United States and Canada increased in model years 1965 and 1966 and declined in model year 1967. In the United States the increase in laminated automobile glass production exceeded the increase in the production of motor vehicles while in Canada the increase in laminated glass production was less than the increase in automobile production as is illustrated by the following tabulation, based on the number of units produced:

Model year	Index of U.S. production of--		Index of Canadian production of--	
	Motor vehicles	Laminated automotive glass	Motor vehicles	Laminated automotive glass
1964	100	100	100	100
1965	108	112	109	107
1966	112	113	128	114
1967	98	101	124	105

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