

PPG Industries, Inc.

Annual Report

1973



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Annual Meeting

The Annual Meeting of Shareholders will be held on Thursday, April 18, 1974, beginning at 2 p.m., at the William Penn Hotel, Pittsburgh, Pa.

Transfer Agent and Registrar

Pittsburgh National Bank
P.O. Box 340746-P
Pittsburgh, Pa. 15230

FINANCIAL HIGHLIGHTS

	1973	1972
Net Sales.....	\$1,512,607,000	\$1,395,921,000
Income Taxes.....	54,000,000	43,000,000
Earnings Before Extraordinary Items.....	93,126,000	82,675,000
Net Earnings.....	104,448,000	82,675,000
Earnings Per Share Before Extraordinary Items...	4.48	3.99
Net Earnings Per Share.....	5.02	3.99
Cash Dividends Per Share.....	1.60	1.455
Expenditures for Property and Investment.....	132,382,000	92,321,000
Unexpended Authorizations for		
Property and Investment.....	197,000,000	74,000,000
Working Capital.....	393,061,000	346,076,000
Number of Employees.....	38,000	38,100
Number of Shareholders.....	41,588	38,115
Average Common Shares Outstanding.....	20,787,000	20,705,000

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The Annual Report on Form 10-K will be made available to interested stockholders upon written request to: Public Relations Department,
PPG Industries, Inc., One Gateway Center, Pittsburgh, Pa. 15222

TO THE SHAREHOLDERS

The year 1973 marked the third straight year that PPG Industries sales and operating earnings reached record levels. Sales increased by 8 per cent, while operating earnings were up 12 per cent over 1972.

Key markets for the Company's main lines of business—glass, chemicals, coatings and resins, and fiber glass—were strong, and we were able to exercise effective control over production and distribution costs.

PPG continued to move ahead in two related programs—one of capital expansion in areas of profitability, and the other of divesting operations which are inconsistent with Company profit objectives.

PPG spent \$132 million on capital improvements in 1973.

The Company began construction of two major plants—a new float glass facility at Wichita Falls, Texas, and a coatings and resins plant at Oak Creek, Wisconsin. One production line of the glass plant—which will be the world's largest float glass facility—is scheduled for completion in the second quarter, and the coatings plant is expected to start up around the end of the year. The Company also started work on a 35 per cent expansion in fiber glass production capacity, to be completed in 1974 or early 1975.

Construction was completed early this year of a coatings and resins research center, and construction began on a new fiber glass research facility, both located near Pittsburgh.

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In keeping with our policy of constantly evaluating investments in relation to profit goals, the Company sold the assets of its fiber glass insulation business at Shelbyville, Indiana, and completed the phase out of the synthetic soda ash and related production operations at the Barberton, Ohio, chemical complex. We also sold our Columbia Cement assets at Zanesville, Ohio, and Bellingham, Washington.

Thomas J. McHugh, senior vice president and investment director of Pitcairn, Incorporated, was elected a director, succeeding Virgil C. Sullivan, who retired from the board.

Frank V. Breeze was elected vice president and general manager of the Glass Division, succeeding Robert M. Hainsfurther, who retired after 43 years' service; Robert H. Mitchel became vice president and controller; and Boyd R. Willett was elected vice president and general manager of the International Department of the Chemical Division.

Power interruptions and a lack of feedstocks continued to hamper our chemicals operations in Puerto Rico during 1973, resulting in a drag on pretax earnings of \$28 million. Improvement is expected in 1974.

The Company does not envision a serious effect upon its manufacturing operations as a result of the energy shortage. Some of our major manufacturing facilities require a significant amount of natural gas, and adequate quantities have been contracted for. In all critical locations, provision has been made for standby alternate fuels. PPG has made considerable progress in developing more efficient use of fuels, and this is helping to lessen the effects of energy price increases.

Based on experience to date, we believe that our operational flexibility will enable us to cope satisfactorily with raw material shortages.

The Company's glass technology has enabled it to capitalize on opportunities resulting from the need to save energy. PPG has been successful in developing and marketing a broad line of insulating and reflective glass products that are significant savers of energy in commercial and residential construction. The Company expects to penetrate these markets still further in 1974 with energy-saving glass.

The strength of the construction and automotive markets played an important role in the Company's 1973 performance. While housing starts will be down in 1974, we expect a rapid growth in the use of *Twindow* double-glazed insulating units in new homes. Furthermore, the trend toward installation of storm windows and doors on existing homes has accelerated in response to the energy shortage, and will help offset any decline in glass sales to the new home market. Commercial construction, which accounts for slightly more than half of PPG's total construction business, will be up.

While there undoubtedly will be a reduction in the amount of glass required for new car production in 1974, PPG will continue to benefit from its strong position in the replacement markets for glass and paint.

We do not expect that 1974 will produce the record earnings of 1973; nevertheless, it should be one of our better years.

February 1, 1974
Submitted on behalf of the
Board of Directors

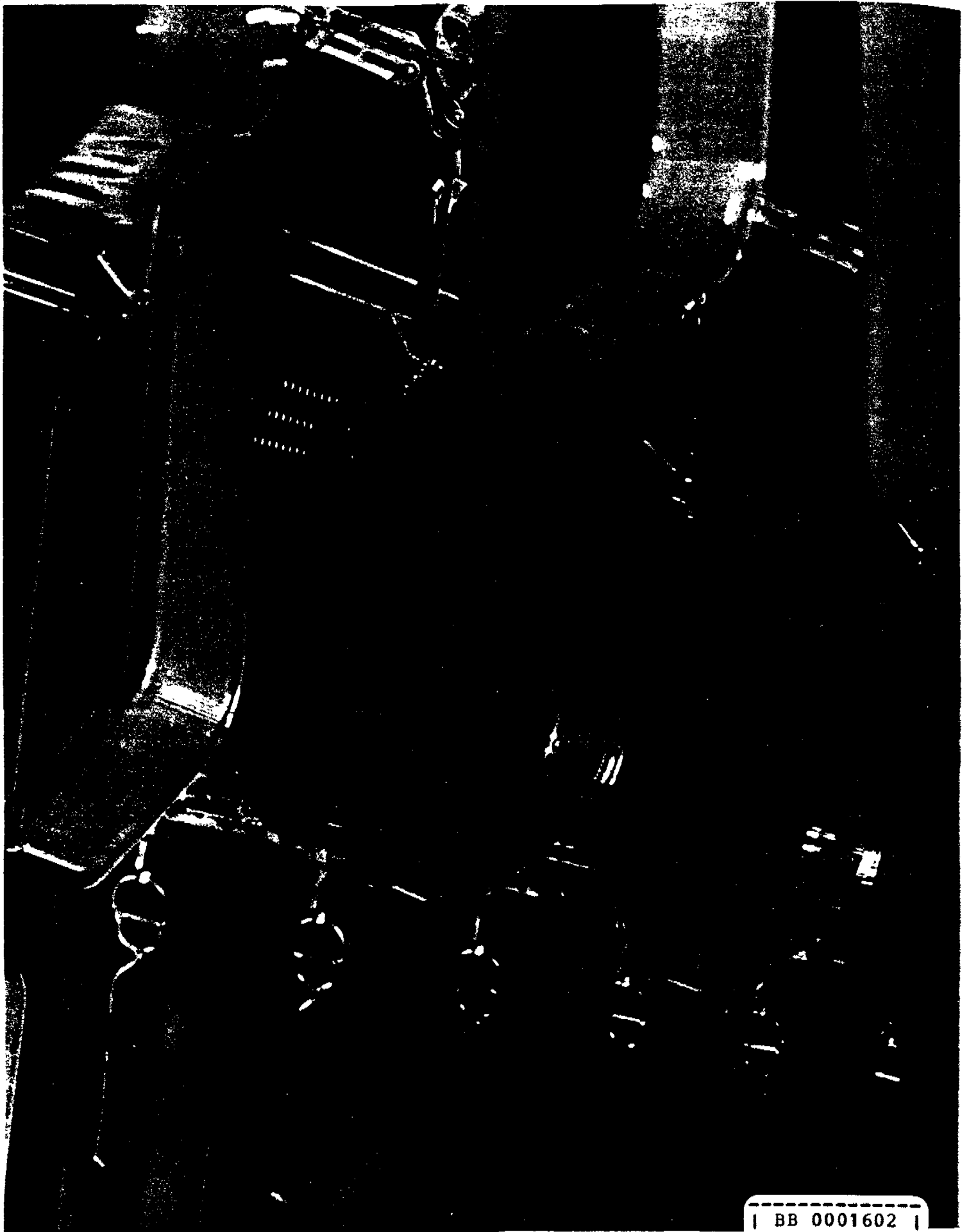


Robinson F. Barker
Chairman of the Board



Joseph A. Neubauer,
President

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COATINGS & RESINS

For the sixth straight year, PPG achieved record coatings and resins sales in a performance that surpassed the industry.

The accomplishment reflected continuing emphasis on highly sophisticated polymer chemistry and coatings formulation, and dynamic marketing programs. Careful control of manufacturing and distribution costs contributed substantially to more profitable operations.

Anticipating still further growth, PPG started construction in 1973 of a multi-million dollar coatings and resins plant at Oak Creek, Wisconsin, near Milwaukee, and completed a new, third-generation basic research center at Allison Park, near Pittsburgh.

When in operation in 1974, the Oak Creek plant will manufacture a broad line of trade paints, industrial coatings and resins.

It will have an annual capacity of 13 million gallons of paint, almost double the capacity of the present Milwaukee facility, which it will replace and which PPG has operated since 1900, when it first entered the coatings business.

The new research center reflects the importance of basic research as a vital key to market leadership. The laboratories at Springdale, Pennsylvania, continue to be utilized for product and process development.

Dealer Network Stronger

A steadily improving line of *Pittsburgh* Paints continued to win broad consumer acceptance in 1973, as the Company's network of dealers and distributors was expanded and upgraded.

While paint centers and dealers remained an important link to the consumer market, a broadened marketing base was achieved with the addition of a number of new home decorating centers. In addition to paints, these centers offer a full selection of interior decorating products in a single, convenient location.

A program of market testing was completed for an improved wall paint product using PPG's patented *Microflo* process, a technological breakthrough in paint manufacture. Unlike ordinary wall paint, *Wallhide* latex using the *Microflo* process forms a paint film that includes air-filled spaces called microvoids that reflect light more efficiently than ordinary hiding pigments. It offers an easier-to-apply, thicker and creamier product than conventional paints, and a durable, washable film that is exceptionally smooth. Market introduction of this product already is under way.

Because of its reputation for providing competitively priced, quality products and dependable service, PPG continued to enjoy the largest share of the coatings market for trade finishes supplied to painter-maintenance customers.

In industrial finishes, PPG's market-directed research efforts have led to strong positions in many fast-growing fields.

The trend toward reducing or eliminating organic solvents in industrial coatings was accelerated sharply by burgeoning pollution abatement legislation and by petrochemical shortages stemming from the energy crisis. Substantial progress was made in perfecting high-solids finishes, powder coatings, and electrodeposition and conventionally applied water-reducible coatings.

Production testing of water-reducible coatings took place in the automotive, container, coil and appliance finishes markets in 1973. Water-reducible flow coating primers and top coatings offer a huge market potential.

Leading Auto Supplier

In 1973, PPG maintained its position as one of the industry's largest suppliers of automotive finishes with a number of key products and processes.

Some 2.5 million domestic cars and trucks were coated with PPG electrodeposition primers in 1973 to protect them against corrosion.

New acrylic topcoats that improve application efficiency while reducing solvent emissions were adopted by auto companies in 1973.

Advanced elastomeric resin technology enabled PPG to capture a substantial share of the market for automotive elastomeric coatings. As the U. S. govern-

ment continued to stiffen its impact and safety requirements, the use of painted resilient plastics, which are furnished to match the car's body color, increased sharply.

PPG's industrial coatings business also moved steadily toward a highly efficient total systems approach. Sales of Radiation Polymer Corporation, a unit of PPG and the leading supplier of ultraviolet-curing equipment, doubled over 1972 levels, reflecting increased penetration of the wood-coating and printing ink markets.

PPG also became the sole owner of Elcoat Systems, a subsidiary established to manufacture and market electro-deposition process control equipment. Two full electrocoating lines were installed for customers, and patented ultrafiltration systems were furnished in conjunction with a dozen new or existing electrodeposition units.

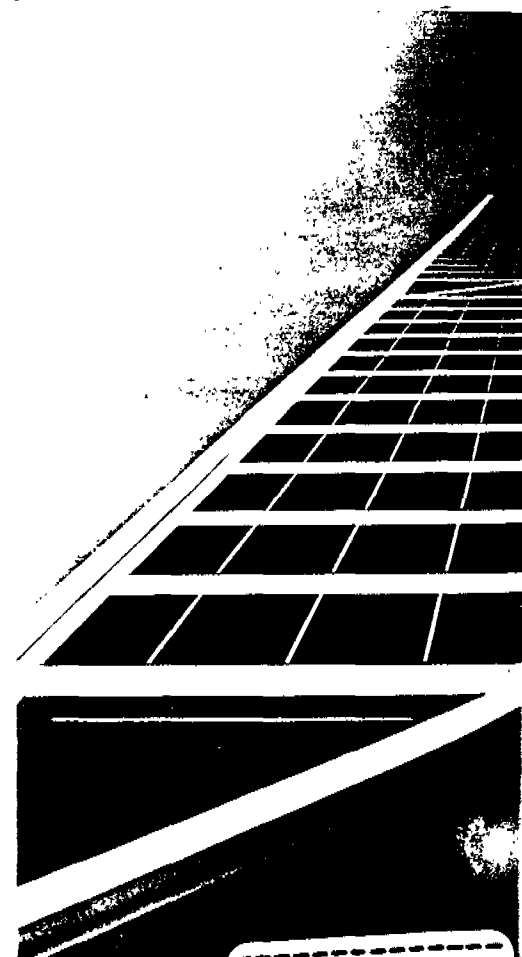
The industrial building segment of the coil coatings market registered sharp gains in market share in a year that saw high levels of non-residential construction.

New Coatings Market

The nation's diagrammatic highway sign program offered an important new market for PPG's *Duranar* fluoropolymer coatings. Large aluminum signs suspended over interstate highways have proven to be more durable than the wooden models they are replacing in some areas. *Duranar* factory-applied finishes reduce maintenance costs by resisting any significant chalking, fading or loss of film integrity for 20 years or more.

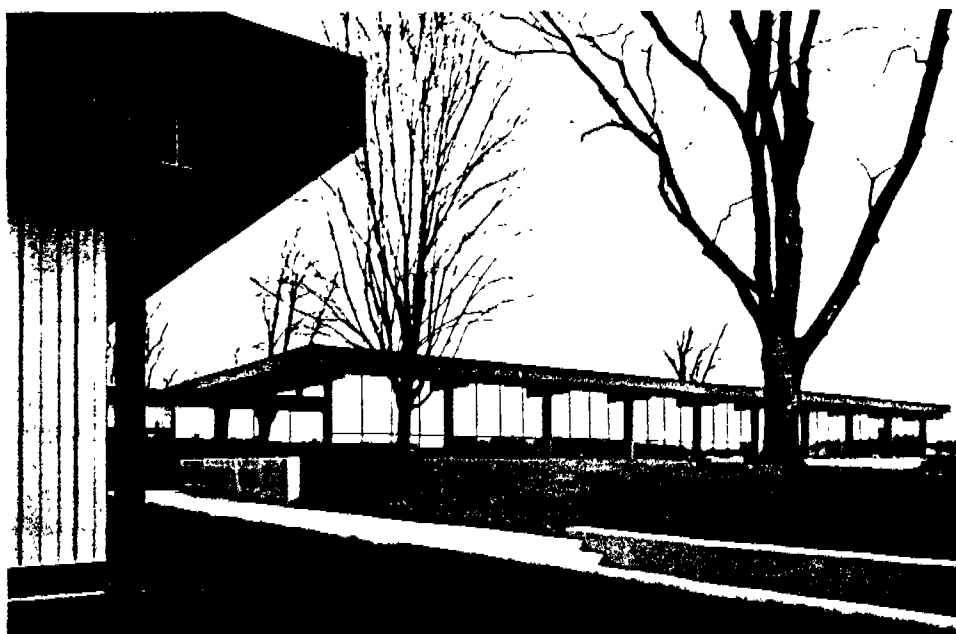


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The growth in coatings and resins operations in France, Italy, Canada and Mexico paralleled the outstanding domestic performance.

Penetration of foreign markets has been achieved by focusing efforts on areas of technical superiority and by application of modern marketing techniques, principles already proven successful in the United States. In general,



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the growth trends in PPG foreign subsidiary and licensing operations have been maintained through continued leadership in the trade paint market coupled with a significantly improved share of industrial markets dependent on sophisticated coatings technology.

TITLE PAGE. Radio Steel & Manufacturing Company in Chicago converted to PPG water reducible coatings for the millions of wagons it produces yearly.

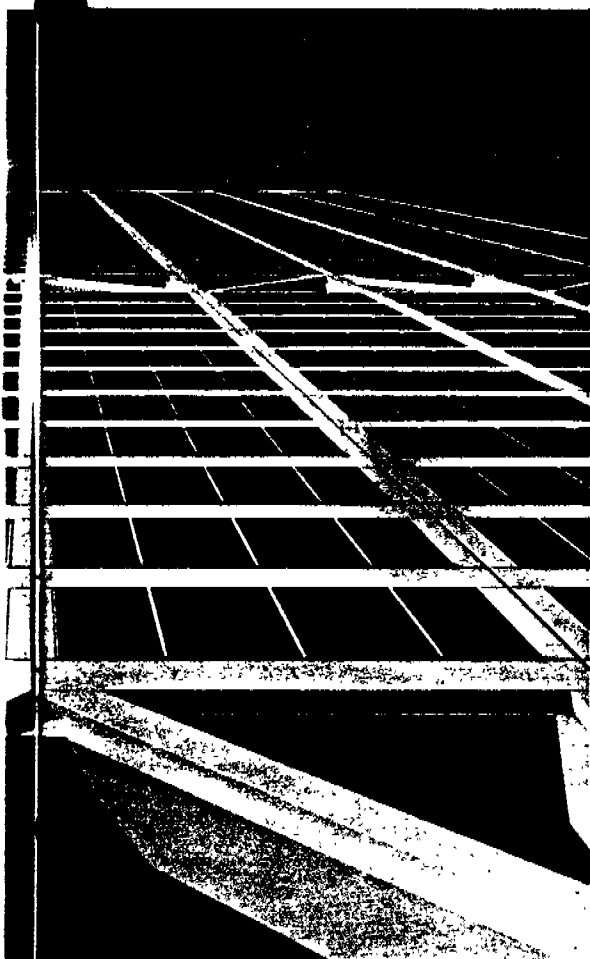
2. A new research center on a 67-acre site near Pittsburgh provides basic coatings and resins research support and supplements current functions of the Springdale, Pennsylvania, research center.

3. Luxurious *Manor Hall* paints in "earth tones" were selected by designers and decorators for the prestigious, new 54-story Edgewater Beach apartments in Chicago.

4. The aluminum exterior of the First Wisconsin Center in Milwaukee is protected from oxidation, corrosion and pollutants by a *Duracron* organic coating.

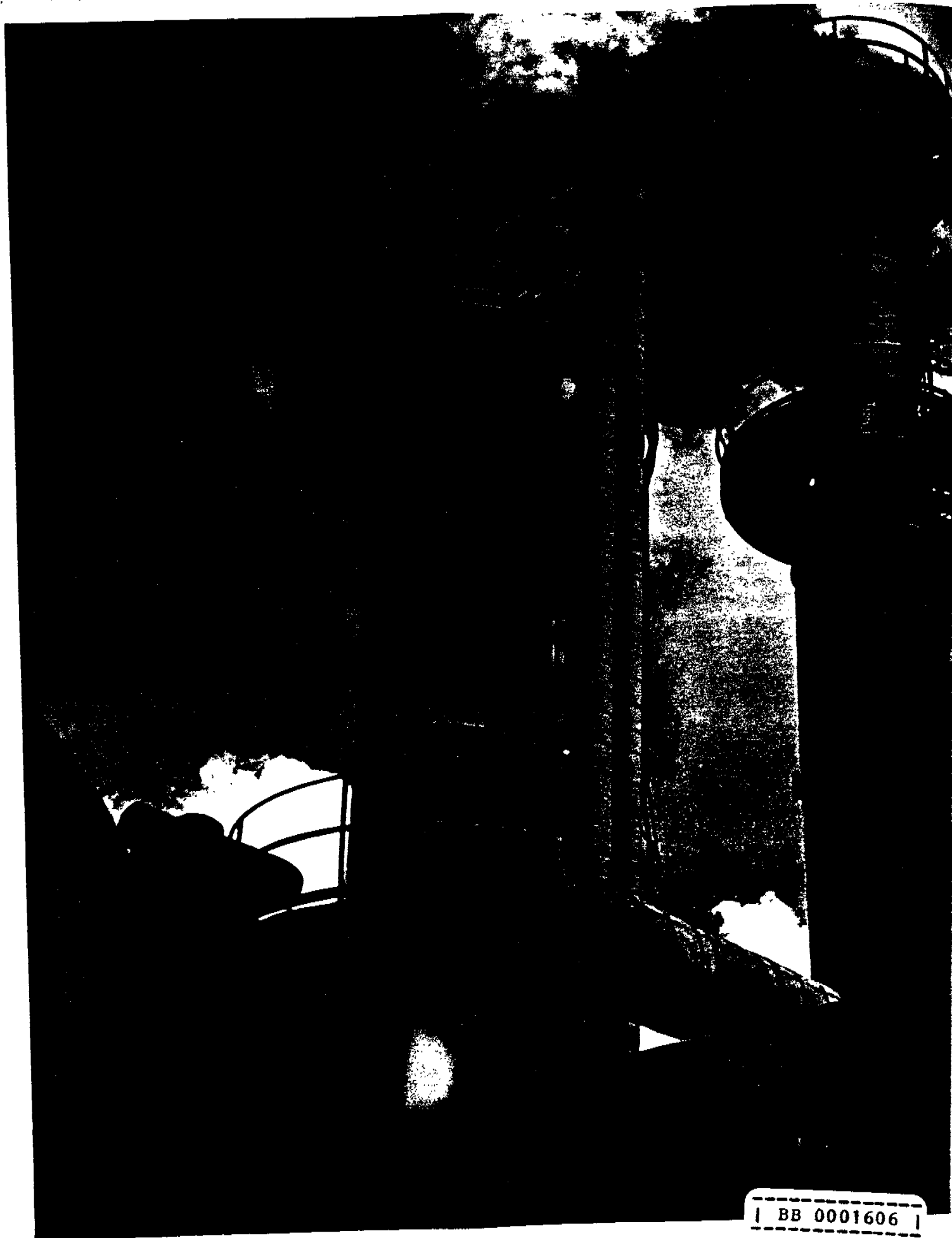
5. An electron microscope is used to scan microvoids of the unique, new *Microflo* process now used in *Wallhide* consumer paints to better reflect light and improve brightness.

6. Trade paints, industrial coatings and resins will be produced in a new plant at Oak Creek, Wisconsin, scheduled for operation in late 1974, which will be one of the largest coatings facilities in the world.



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CHEMICALS

In 1973, chemical operations were marked by continued favorable price trends and strong demand for chlorine, caustic soda and derivatives—products that are the "core" of PPG's chemicals business.

As a result, nearly all of the Company's mainland chemical production facilities operated at or near capacity.

Barring severe dislocations in the economy, PPG's chemicals business should remain strong in 1974.

During the year, the Company virtually completed its program of divestiture of chemical operations which have proved to be unprofitable or inconsistent with present or future goals.

Assets of PPG's Columbia Cement operations were sold, and PPG completed phase out of its synthetic soda ash and related production operations at the Barberton, Ohio, chemical complex. The Barberton plant will continue to produce a range of other products.

Progress was made during the year to resolve some of the operating difficulties at the Company's Puerto Rico operations.

Although production was hampered by electrical power interruptions for much of 1973, new generating capacity went on line late in the year at the Puerto Rican government's south coast facility, which supplies all of the power to PPG's wholly owned complex at Guayanilla. Two additional large generating units are scheduled to begin operation in 1974, which should insure an adequate electrical supply and reserve for the Guayanilla complex, which ships caustic soda, vinyl chloride monomer and ethylene glycol to PPG's east coast mainland terminal facilities, as well as to Caribbean markets.

When adequate power was available for brief periods of 1973, operation of the modern Guayanilla plant, as well as the jointly owned complex at nearby Penuelas, proved these plants to be among the most productive of their type.

The Penuelas operation, which is a joint venture with Commonwealth Oil Refining Company, supplies the Guayanilla plant with ethylene to make vinyl chloride monomer and ethylene glycol. A dispute with Commonwealth over terms of the contract has gone to the courts for adjudication. This is discussed in greater detail in the Financial and Operating Review section of this report. At year's end, the Middle East situation caused concern about the ability to adequately supply the Penuelas facility with feedstocks, which are products of refining.

While PPG maintained its strong position in commodity chemicals, progress was made in pursuit of a program stressing the importance of proprietary, specialty and upgraded products.

Sales of tetraethyl lead gasoline antiknock additives produced by Houston Chemical Company, a unit of the Company, remained strong. Late in 1973, the Environmental Protection Agency announced a five-year program designed to reduce the amount of lead antiknocks in gasoline beginning in 1975. PPG and other firms have taken the public position that retaining lead antiknocks in gasoline is one of the most practical and safest methods of extending our limited energy resources, without constituting any proven health hazard.

International Department Created

In the area of foreign operations, an international department was created last year to manage the Chemical Division's growing assets and sales.

The operations of PPG's Kalium Chemicals Limited, in Saskatchewan, Canada, benefited from improved prices and responded to a strong worldwide demand for potash. Sales of the fine quality agricultural fertilizers produced

by Kalium increased nearly 50 per cent over 1972 levels.

The acknowledged excellence of PPG chemical technology was demonstrated by the increasing number of firms that now manufacture products under PPG license. In the near future, fully 20 per cent of the world's capacity to produce perchlorethylene and tri-chlorethylene—key chemicals for dry

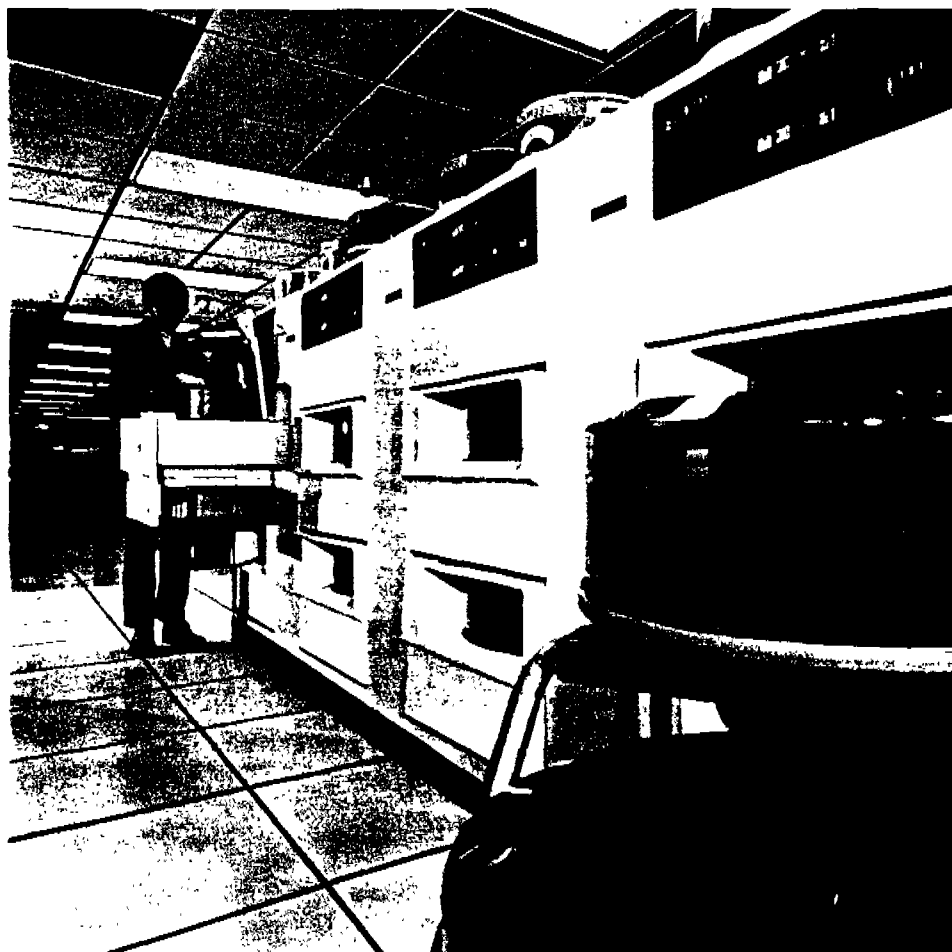
cleaning and degreasing—will be based on a PPG process.

In Bulgaria, a vinyl chloride monomer plant using PPG technology is scheduled to be constructed by the Bulgarian State Economic Corporation.

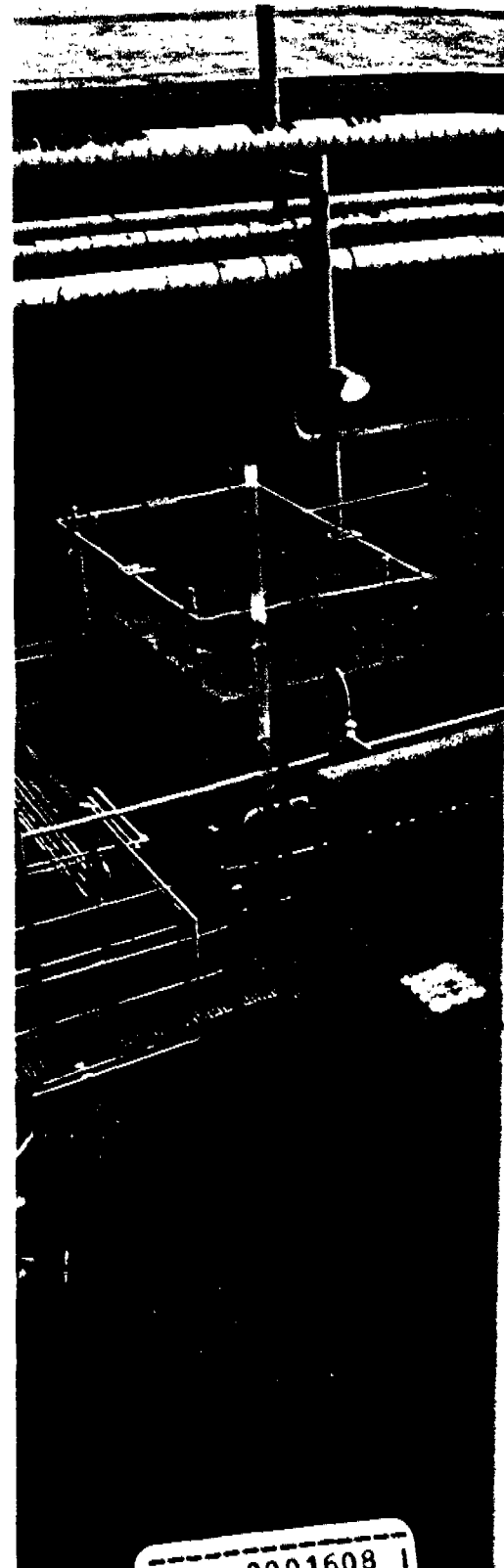
The new *Glanor* electrolytic chlorine cell developed by PPG and Oronzio de Nora Impianti Elettrochimici of Italy is receiving worldwide attention because



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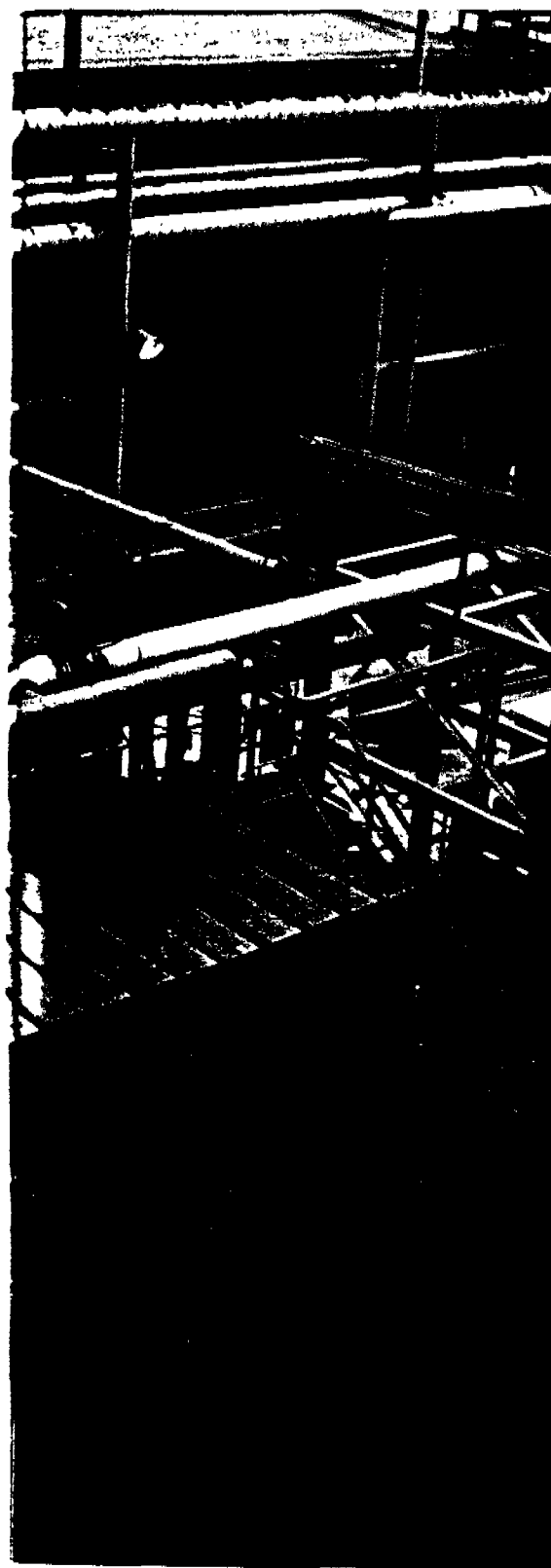
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of economic, production and environmental advantages. Foreign licenses for the cell have been granted, and domestic and other foreign licensing discussions are in progress.



TITLE PAGE. The Lake Charles complex is a leading producer of solvents, vinyl chloride monomer and other key industrial chemicals.

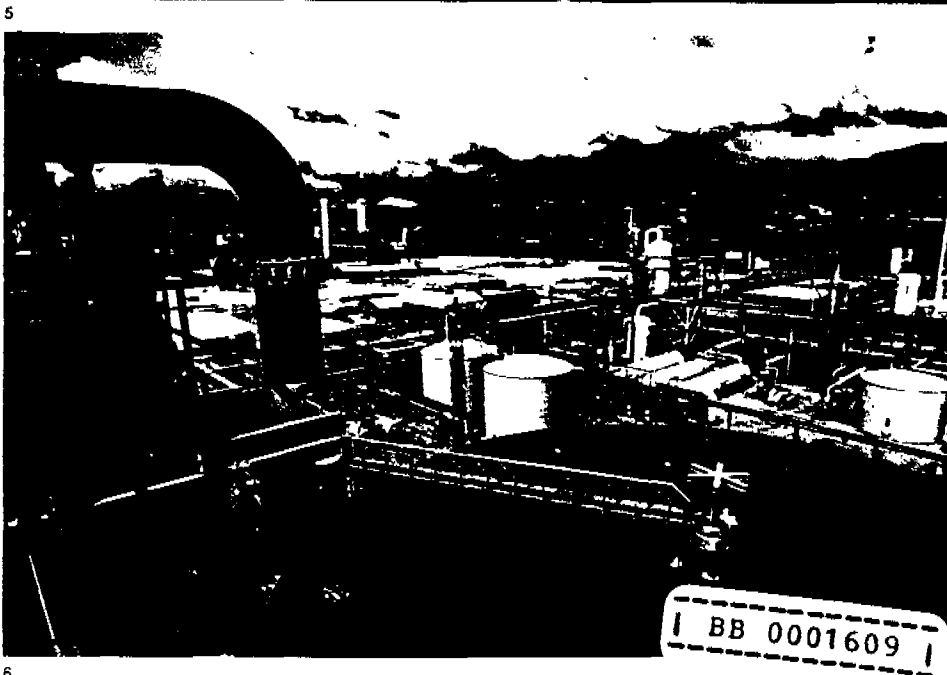
2. The Industrial Chemical Division is an important supplier of a variety of chemicals used to prepare leather for fashion, footwear, upholstery and other markets.

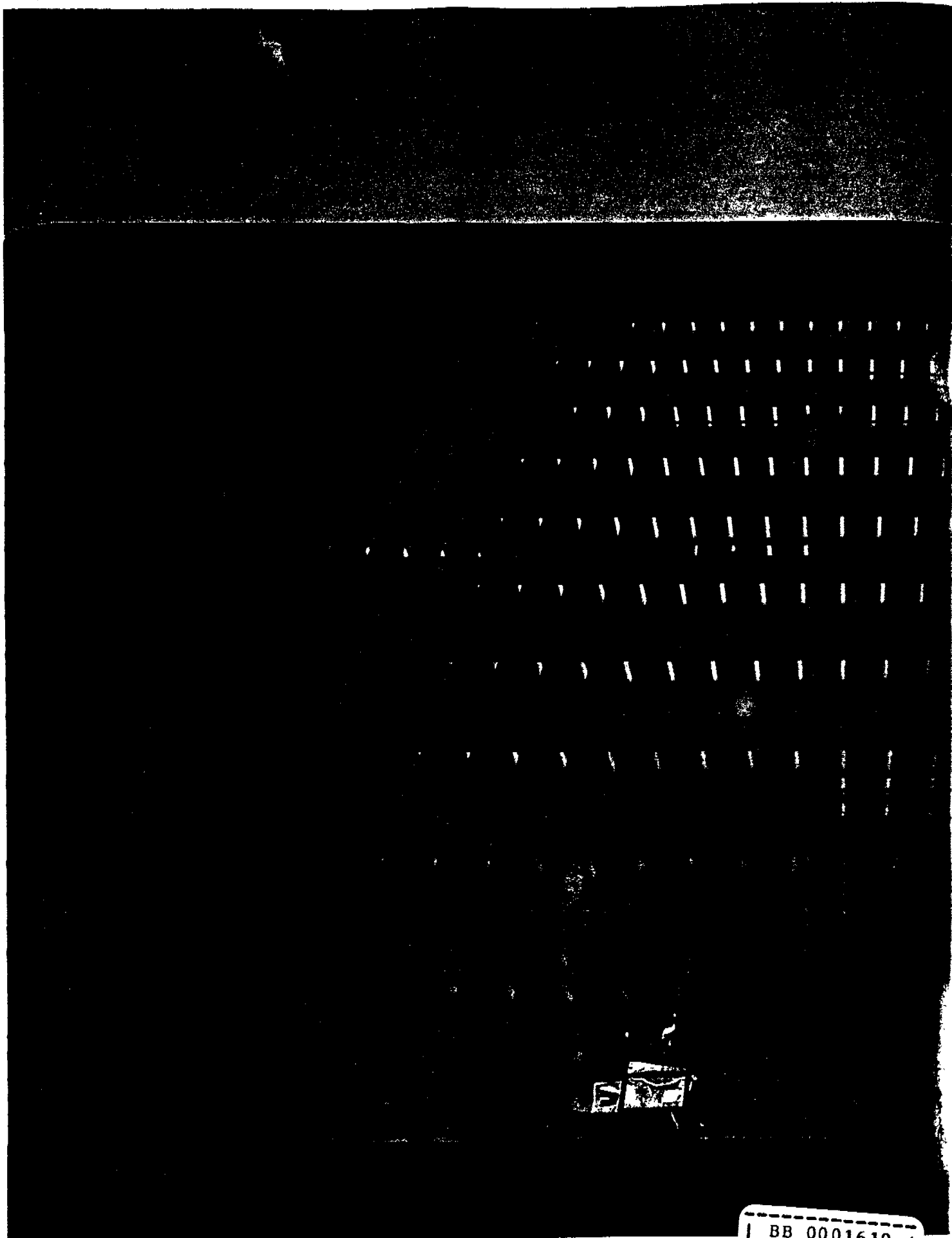
3. Order service operations have been computerized to insure rapid order response and provide instant record surveillance to optimize customer service.

4. The highly efficient *Glanor* electrolyzer, a new chlorine production unit developed jointly by PPG and an Italian firm, is being marketed successfully throughout the world.

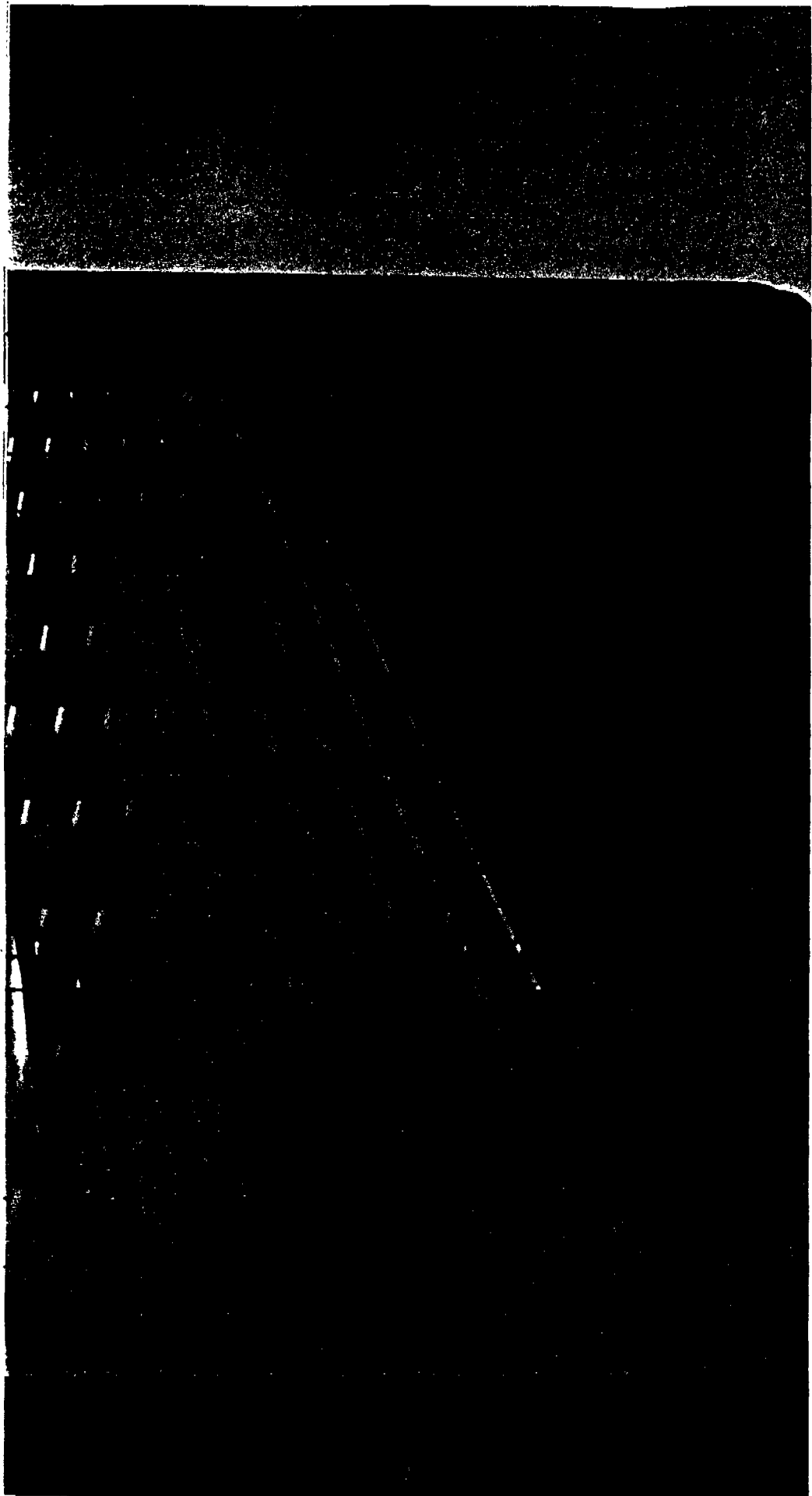
5. Chemicals produced at PPG's Puerto Rico facilities reach mainland markets on the ultra-modern S. S. Puerto Rican, which delivers products to three East Coast terminals.

6. Chlorine produced at Guayanilla, P.R., is used at the same complex for the production of vinyl chloride monomer, as well as for water purification throughout the island.





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GLASS

The year 1973 was the best in history for PPG's glass business.

Sales reached record levels through continuation of strong markets, concentration on upgraded products, and growing acceptance of PPG energy-saving glasses.

The Company benefited from economies of scale and high productivity resulting from continuing production expansions. PPG plants worldwide operated at or near full capacity during the year to meet strong demands for a full range of glass products, particularly for the automotive and construction markets.

Contributing to the strong performance was the fact that 75 per cent of PPG's glass sales dollar stemmed from installed or otherwise upgraded products made by bending, laminating, tempering, coating, drilling or double glazing.

Last year was the first full year of operation for the Carlisle, Pennsylvania, float glass plant. Ground also was broken for a new float plant at Wichita Falls, Texas, which is scheduled to begin production in the second quarter.

When the plant reaches full operation, PPG will have the world's largest productive capacity for flat glass.

Last year also marked the end of an era. In December, the Company shut down its last plate glass line at Cumberland, Maryland, signaling the final replacement of plate glass by the more economical float process.

Upgraded Products Stronger

Environmental and energy considerations resulted in expanded use of PPG upgraded and proprietary architectural glass products. Long before the energy shortage became a matter of world concern, PPG had developed and was marketing a growing family of energy-saving glasses, particularly those that control heat transfer. These products enable architects and engineers to reduce the size, power consumption and costs of cooling and heating systems in buildings, while at the same time permitting the use of daylight instead of artificial light.

The year saw broad market acceptance of PPG's *Solarcool* glasses, which feature an esthetically pleasing, high-performing, durable coating that is applied to float glass at the factory. The *Solarcool* glasses, which can be single glazed, help bring glazing economy to many sections of the south where thermal characteristics of insulating glass may not be required.

To meet a growing demand for *Twindow* insulating window units for residential and commercial buildings, the Company expanded production capacity by nearly 50 per cent at the Lincoln, Illinois, plant. The facility fabricates standard glass-edge *Twindow* units as well as new *Twindow Xi*, a product which contains a special dry gas in place of air between the glass panes for better insulating performance.

Expand Safety Glass Capacity

An increasing concern for home safety provided impetus for the strong sales growth of *Herculite K* tempered safety glass, and tempered glass production capacity for the home construction as well as automotive markets was increased significantly to meet the sharply rising demand.

Two gas hearth tempering facilities were completed at the Carlisle plant for production of *Herculite K* safety glass, giving PPG six large-capacity gas hearth tempering lines located strategically around the United States.

Medium capacity regional tempering centers began operation at Miami and Chicago, with another scheduled for

completion early this year in Dallas. Still other regional centers will be completed this year in Westboro, Massachusetts, and Cockeysville, Maryland. Additional centers are planned to serve other sections of the country.

To serve our expanded share of the automotive market, a multimillion dollar expansion was completed at the Tipton, Pennsylvania, fabrication plant. Two large-volume auto glass tempering lines increased the plant's tempering capacity by 50 per cent.

In addition, roller hearth flat tempering furnaces were completed at Fresno, California, and Crestline, Ohio. These high-capacity furnaces provide tempered glass for a variety of specialty markets.

In the automotive market, the emphasis on safety through improved visibility resulted in increased glass areas on new cars, including the popular compact models. Glass in some intermediate models increased as much as 35 per cent, primarily because fixed rear quarter windows and larger side windows were added on a range of new models.

There were substantial marketing gains in the area of specialty products in 1973. *Hercuvit*, a glass-ceramic material, replaced conventional burners on an increasingly large number of new kitchen ranges to provide a flat counter-

top cooking surface. The first phase of a major expansion at PPG's Ford City, Pennsylvania, plant was completed to help meet growing demand for the product.

Introduced last year were precision-cut and patterned transparent conductive glasses for electronics applications. These glasses, which have special coating patterns for electrical conductivity, are used as transparent display components for calculators, digital clocks and other devices.

Worldwide Operations Grow

In aircraft glass, PPG was certified as a manufacturer of primary windshields for the Boeing 747 jumbo jet transport. The windshields will be produced at the Huntsville, Alabama, facility.

Although PPG is a major manufacturer of flat glass in North America, a much larger world market offers additional profit potential.

Exports of PPG glass products increased as high levels of demand in world markets and dollar devaluations improved our competitive status.



PPG also took a major step to expand and consolidate its European glass capabilities. The Company agreed to merge its subsidiary glassmaking operations in Italy and Belgium with Vetreria di Vernante, S.p.A., a glass manufacturer in Italy.

The new company, in which PPG will have a majority interest, will produce flat and fabricated glass products for

the European market, primarily in the areas of transportation and construction.

Vernante operates sheet glass production plants in the Turin area and is building a float glass unit, with start-up scheduled for mid-1974. This plant will give PPG its first interest in a float glass plant outside the United States.



TITLEPAGE. Energy-saving *Solarban 480* Clear *Twindow* reflective glass units help reduce fuel needs for Federal Reserve Bank of Minneapolis, and give an attractive appearance as well.

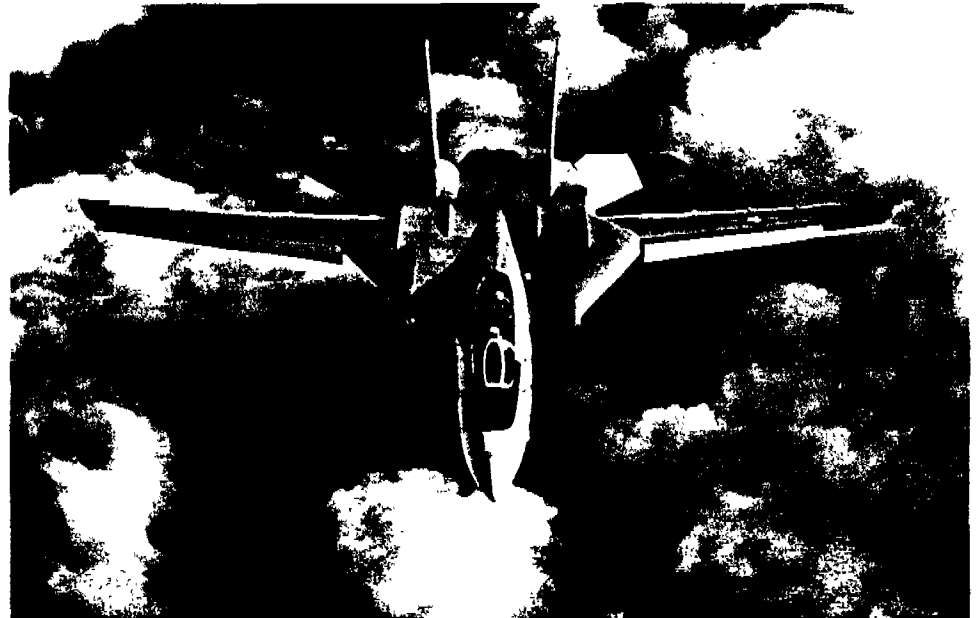
2. More glass in many of today's autos improves visibility for greater safety and viewing pleasure.

3. New glass tempering facilities at the Tipton, Pennsylvania, plant have expanded capacity for the automotive industry.

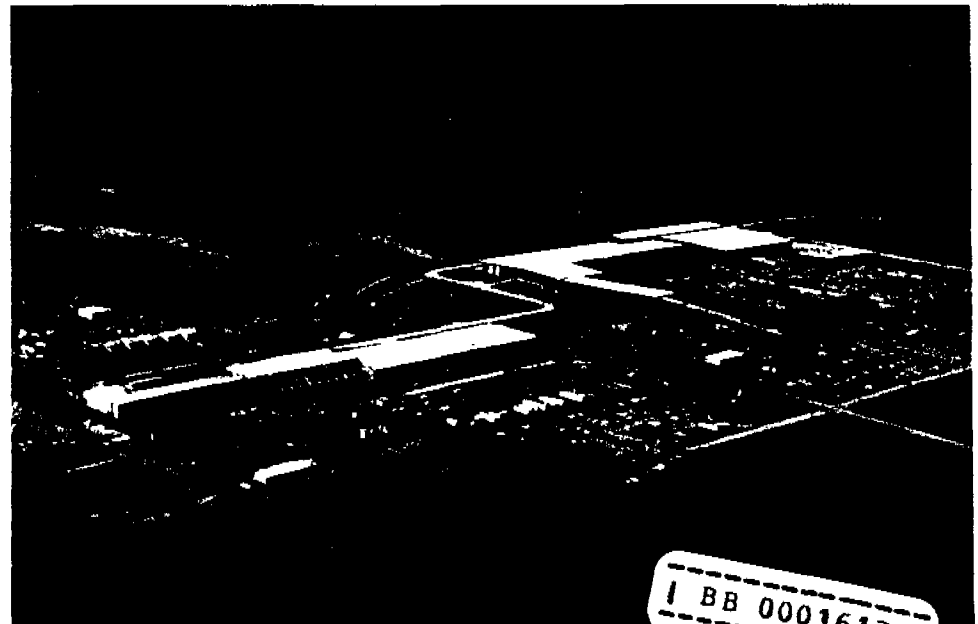
4. Glass-edge *Twindow Xi* unit (right) improves insulation, minimizes indoor fogging compared with single glass window (left).

5. Large bullet-resistant *Flexseal* five-ply windshield for U.S. Navy's F-14A (Tomcat) air superiority fighter withstands high friction temperatures of supersonic flight.

6. World's largest plant designed exclusively for float glass nears completion at Wichita Falls, Texas, and will house PPG's seventh and eighth float lines.



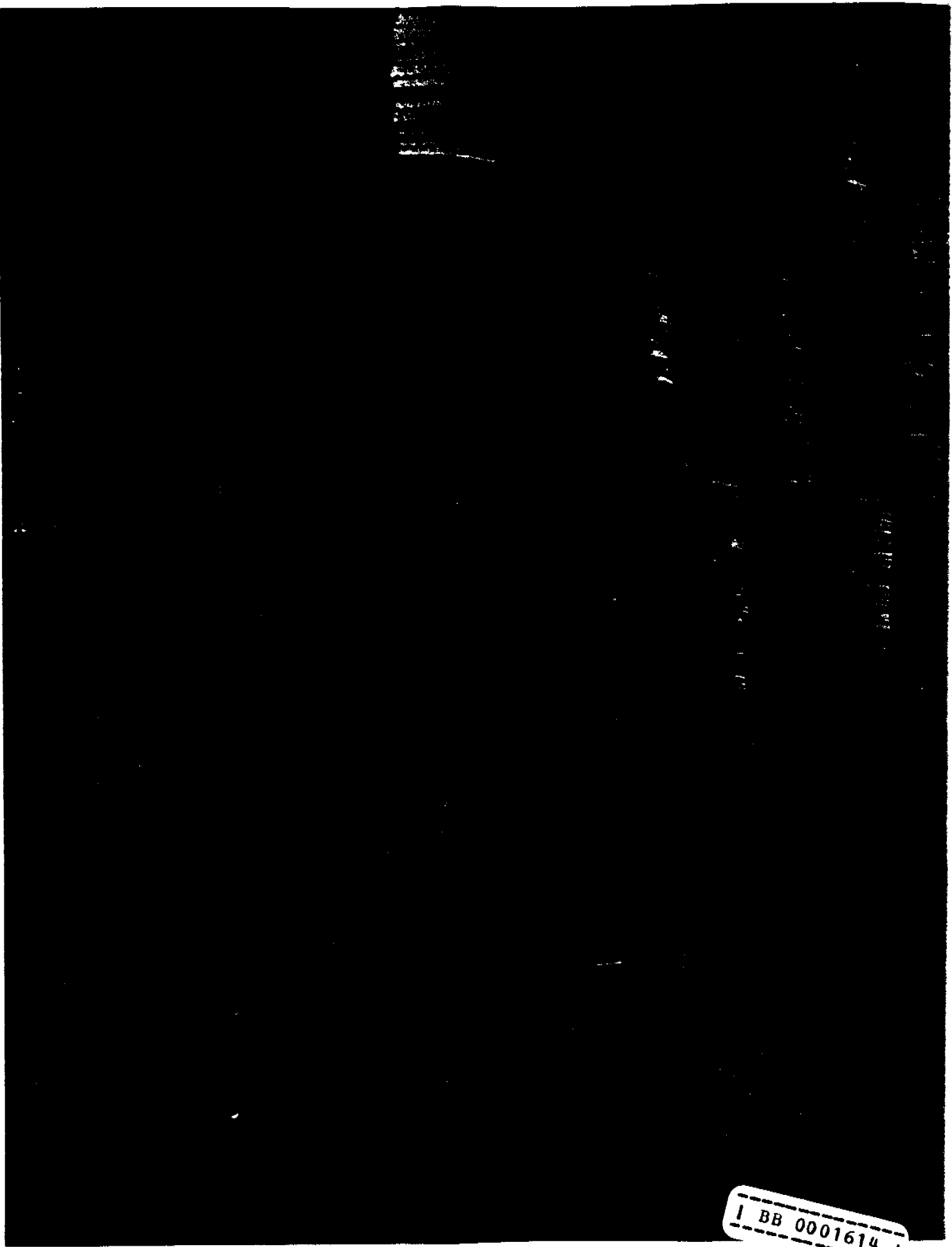
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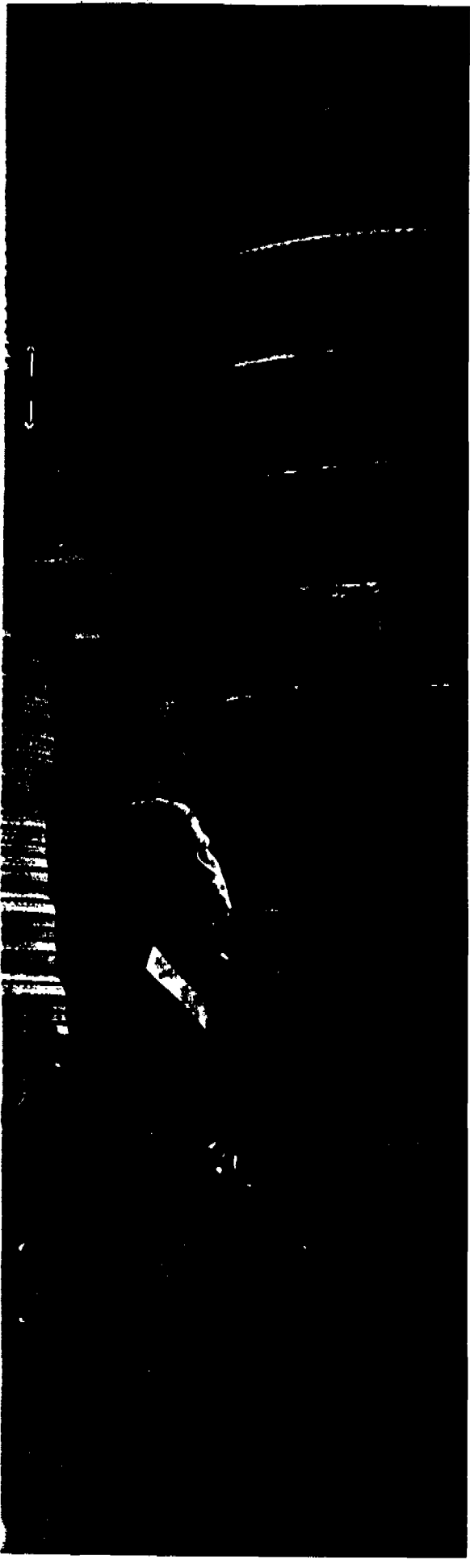
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FIBER GLASS

Record sales in key markets and plans for a major expansion of production capacity highlighted PPG's fiber glass operations in 1973. PPG also moved to expand its efforts in the continuous strand production of fiber glass, where it feels its technical expertise is unsurpassed.

The Company announced in the first quarter of last year the sale of its fiber glass insulation assets at Shelbyville, Indiana. The transaction will assist PPG in intensifying its sales and marketing efforts in reinforced plastics, decorative and industrial glass fabrics—where record sales were achieved last year—and in tire cord. All use the continuous strand product.

Major Expansion Under Way

Reflecting the growth anticipated in these market areas was the announcement of the largest fiber glass plant expansion program in PPG history.

Major expansions at the Shelby and Lexington, North Carolina, plants, scheduled for completion this year, include new melting tanks which will increase the plants' aggregate capacity by about 35 per cent.

Scheduled for completion in early 1975 is a new basic fiber glass research and development center near Pittsburgh.

The center will provide fiber glass of consistent quality for pilot plant development to better reproduce actual plant operating conditions, providing faster commercialization of new processes and products.

The Company will achieve more research for its investment because the center will feature central glass-melting facilities and related activities which will operate on a 24-hour-a-day basis.

Construction was completed last year at the Lexington complex of a highly integrated textile evaluation center equipped to handle various textile processing and finishing operations for fiber glass customers, as well as the testing and evaluation of tire cord.

RP Sales Increase

PPG's share of the reinforced plastics market showed continuing growth in 1973. Company sales in this market area increased by about 20 per cent over the previous year.

Automobile and truck manufacturers used more fiber glass reinforced plastic parts last year than ever before. The use of reinforced plastics in new cars, trucks and buses grew from about 250 million pounds in 1972 to an estimated 307

million pounds in 1973. Fiber glass reinforced plastic has become a major metals replacement material because of safety standards and the necessity to reduce vehicle weight as much as possible to cut fuel consumption.

The marine industry continued as a leading market for glass reinforced plastics. Another rapidly growing market is composites for bathtubs, shower stalls and unitized bathroom modules. Other reinforced plastics markets showing significant gains included electronic circuit boards, storage tanks, and pipe and tubing.

PPG continues to have the major portion of the fiber glass tire cord market.

The Company's *Hycor* glass tire cord was used in an increasing number of bias-belted auto tires, which are now furnished on about 75 per cent of new model cars and comprise about 40 per cent of the tire replacement market.

Last year saw the rapid emergence of the radial tire in the United States. At year's end, three major tire manufacturers had announced plans to introduce all-glass radial tires with fiber glass cord in both the body and under-the-tread belts. An all-glass radial tire uses 3.5 to 5 pounds of fiber glass, compared with less than one pound of glass in a bias-belted type tire.

PPG's third-generation *Hycor* fiber glass tire cord is aimed at the growing radial tire market because it is stronger, lighter and less expensive than steel. At equivalent design strengths, fiber glass is the lowest cost tire cord now available. Another factor is the ready availability of *Hycor* fiber glass tire cord.

Industrial Sales Up

Industrial fiber glass markets enjoyed the same healthy growth rates they have for several years, with marked increases in the electrical laminate field, aerospace applications, environmental protection systems and the recreational product market.

There was an unprecedented demand in 1973 for fiber glass textile yarns. Fiber glass, which now accounts for one-third of the ready-made drapery market, continued to gain broad consumer acceptance because of its unique characteristics. Fiber glass draperies need no ironing, wash easily and do not shrink.

New applications for fiber glass textile yarns included carpets and mattresses for use in areas where fire hazards exist.

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A new method of forming fiber glass was announced last year. Called the Mycrodyne process, it is still in the development stage. The Mycrodyne process allows 6,000 or more filaments to be formed from a single bushing, compared with the present yield of 2,000 filaments from a conventional bushing.

PPG also moved ahead in overseas markets. With impetus provided by the devaluation of the dollar, export sales of the Company's fiber glass products increased 75 per cent over 1972.

NV Silenka, PPG's affiliate in Holland, posted record sales in 1973, made possible by increased furnace capacity.

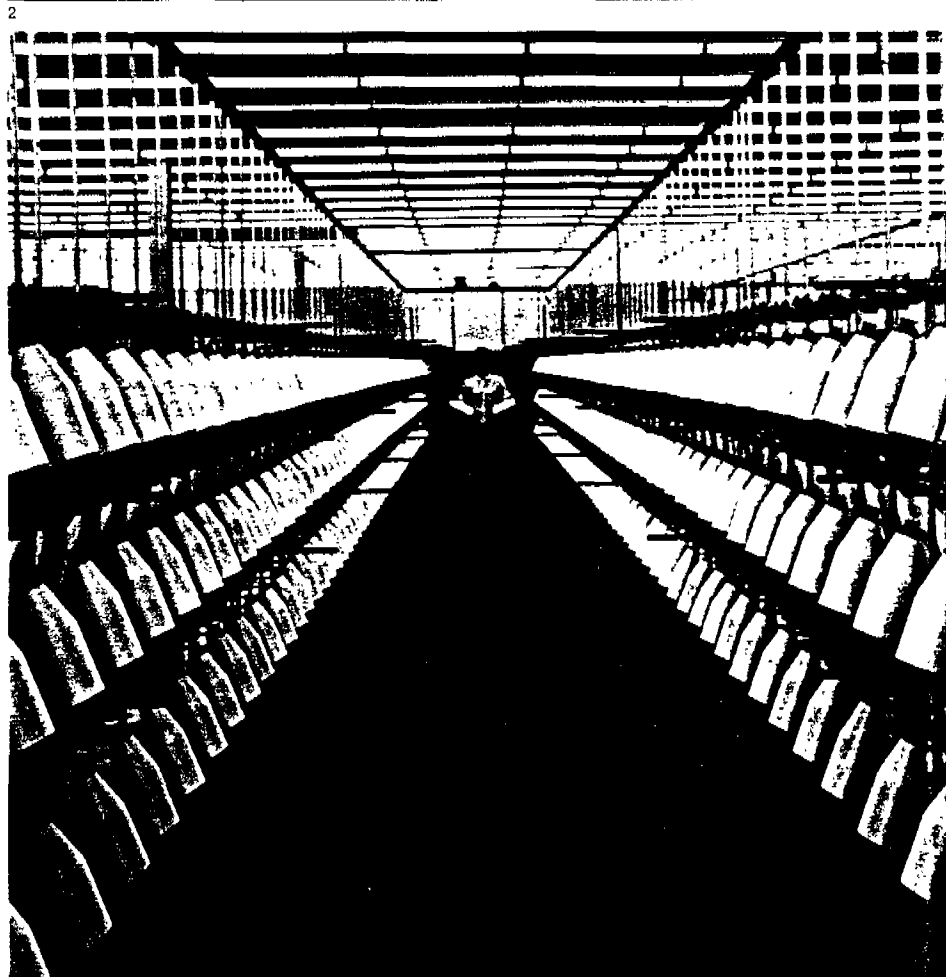
Announced last year was the formation of a joint venture with Asahi Chemical Industry Limited, of Osaka, Japan, for the development of the fiber glass business in that country.

TITLE PAGE. PPG's *Hycor* fiber glass tire cord development program has helped pave the way for all-glass radial ply tires, which are expected to gain an important share of the tire market.

2. Finely woven fiber glass yarn gives weavers new opportunities to create elegant, soft, and colorful draperies in glass fabrics for the fashion-conscious home decorator.

3. Because durability and light weight make fiber glass an excellent plastic reinforcement for boats and vessels of all sizes, the marine industry is a major user of fiber glass.

4. Millions of miles of fiber glass yarn come off the production lines at the Lexington, North Carolina, plant for use in textiles, plastic and rubber reinforcement.



FINANCIAL AND OPERATING REVIEW

EARNINGS

Record 1973 operating earnings—earnings after taxes but before extraordinary items—totaled \$93,126,000, or \$4.48 per share, an increase of 12 per cent over previous record operating earnings of \$82,675,000, or \$3.99 per share, in 1972.

Extraordinary gains, realized from the sale of PPG's fiber glass insulation assets and certain of its cement assets, amounted to \$11,322,000 after taxes of \$6,920,000, equivalent to 54 cents per share, which increased net earnings for 1973 to \$104,448,000, or \$5.02 per share.

For the second straight year, net earnings for each quarter exceeded those for comparable quarters of any other year in the Company's history.

Earnings Per Common Share

	1973	1972
First Quarter.....	\$1.15	\$.91
Second Quarter.....	1.17	1.02
Third Quarter.....	1.02	1.00
Fourth Quarter.....	1.14	1.06
Extraordinary Items.....	.54	—
Total Year.....	\$5.02	\$3.99

This year's outstanding earnings performance was accomplished despite the continued drag on earnings by the Company's Puerto Rico operations, government price controls, higher raw material costs, and the energy problems.

SALES

The Company's record sales in 1973 amounted to \$1,512,607,000, an increase of 8 per cent over 1972's previous record of \$1,395,921,000.

Sales by Quarter

	1973 (Millions)	1972 (Millions)
First Quarter.....	\$ 370	\$ 326
Second Quarter.....	385	358
Third Quarter.....	371	348
Fourth Quarter.....	387	364
Total Year.....	\$1,513	\$1,396

The Company's return on sales of 6.2 per cent was the highest since 1965. As the following table shows, 51.2 per cent of the sales dollar was used for materials and services, and 33.5 per cent was used for wages, salaries and other employee benefits.

Revenue from Sales and How It Was Used

	% of Sales
Paid or set aside for:	
Materials and services.....	51.2%
Wages, salaries and other employee benefits.....	33.5
Taxes (except payroll taxes)...	4.9
Depreciation of plants and equipment.....	4.2
Retained for use in the business.....	4.0
Paid to shareholders as dividends	2.2
Total Sales.....	100.0%

SALES AND EARNINGS BY LINES OF BUSINESS

All four of PPG's major lines of business—Glass, Chemicals, Coatings and Resins and Fiber Glass—continued to strengthen their market and operating positions and contributed significantly to the Company's record results. The contribution of each line of business to the Company's total sales and pre-tax earnings for the last five years is shown on the charts on page 20. Sales by PPG's equity affiliates are not included in the Company's total sales; however, earnings include the Company's share of earnings or losses of such affiliates. Interest charges and certain corporate administrative expenses are allocated to the lines of business on the basis of sales and assets employed.

The Glass business experienced its best year in history and provided 49 per cent of earnings and 44 per cent of total sales. Besides benefiting from the strong worldwide market demands for its full range of glass products, Glass sales achieved record levels through increased market penetration, concentration on upgraded products, and the growing acceptance of PPG energy-saving glasses. The record sales, the expansion of fabricating facilities and the operation of all plants at near-capacity, including a full year's operation of the float facilities at Carlisle, Pennsylvania, contributed to record earnings. In December, the Company shut down its last plate glass line at Cumberland, Maryland, which marked the final replacement of plate glass by the more economical float process.

The Chemicals business represented 22 per cent of earnings and 27 per cent of total sales for 1973. Although certain cement operations were sold and the soda ash operations were terminated, record sales were attained through continued favorable price trends and strong demands for chlorine, caustic soda and derivative products, the "core" of PPG's Chemicals business. Near-capacity

operation at the Company's mainland chemical production facilities and improved foreign affiliate operations were largely responsible for the earnings improvement in Chemicals. The Puerto Rico Chemicals operations, a wholly owned complex together with the Company's share of a joint venture olefins operation, caused a drag on the Company's pre-tax earnings of \$28 million in 1973. Production was again affected by electrical power failures and feedstock shortages for ethylene production. The government power authority experienced delays in installing generating equipment necessary to provide adequate power to PPG and other industrial operations. On Puerto Rico's south coast, two new electrical generating units were brought on line in 1973, an additional unit was started up in early 1974 and a fourth is scheduled to start operating by mid-year. Thereafter, power supply is anticipated to be adequate to maintain uninterrupted operations.

The supply of ethylene, which is produced in the olefins plant, jointly owned with Commonwealth Oil Refining Company (CORCO), was limited by feedstock shortages. The olefins plant is dependent upon CORCO for its petroleum feedstocks. CORCO not only has experienced difficulty in supplying sufficient feedstock to keep the olefins plant operating, but also has refused to supply such material except at substantially higher prices than had been contracted for. CORCO has filed suit in the District Court for the Southern District of New York, seeking a judgment that the existing agreements be restructured with respect to pricing or, in the absence of such restructuring, that the joint venture be terminated. PPG counterclaimed, asking the Court to declare the existing agreements legally binding and enforceable according to their terms and seeking damages for breach thereof by CORCO. While waiting for the case to come to trial, both companies have been exploring possible bases for settlement and have worked out successive interim pricing agreements to enable the olefins plant to operate.

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The Coatings and Resins business accounted for 20 per cent of earnings and 22 per cent of total sales in 1973. Coatings and Resins attained record sales and earnings, an accomplishment resulting from continued strong demand for trade paints and leadership in many industrial coatings markets requiring high technological competence. The record earnings were achieved despite escalating raw material costs. Foreign affiliates have paralleled the domestic performance, and increased penetration of foreign markets has been achieved by relying on the technological achievements and marketing techniques proven successful by our operations in the United States.

The Fiber Glass business contributed 9 per cent of earnings and 6 per cent of total sales for 1973. As a result of the sale of its fiber glass insulation assets, Fiber Glass experienced decreased total sales; however, this transaction will permit the division to concentrate its efforts in the continuous strand production of fiber glass. Continuous strand products, sold to markets such as plastics and decorative and industrial fiber glass fabrics, reflected a 16 per cent increase in sales in 1973. Operations of equity affiliates in Canada and the Netherlands also were improved over 1972.

MARKETS

PPG continues to serve a wide variety of markets. Construction, which includes both residential and commercial building, represented less than one-third of total sales. Transportation, both original equipment and replacement, accounted for over one-fifth, most of which went to the automotive sector. Chemical processing and petroleum refining approximated one-fifth of total sales. More than one-sixth was accounted for by foreign markets, while the balance was distributed among several industrial and agricultural segments.

FOREIGN OPERATIONS

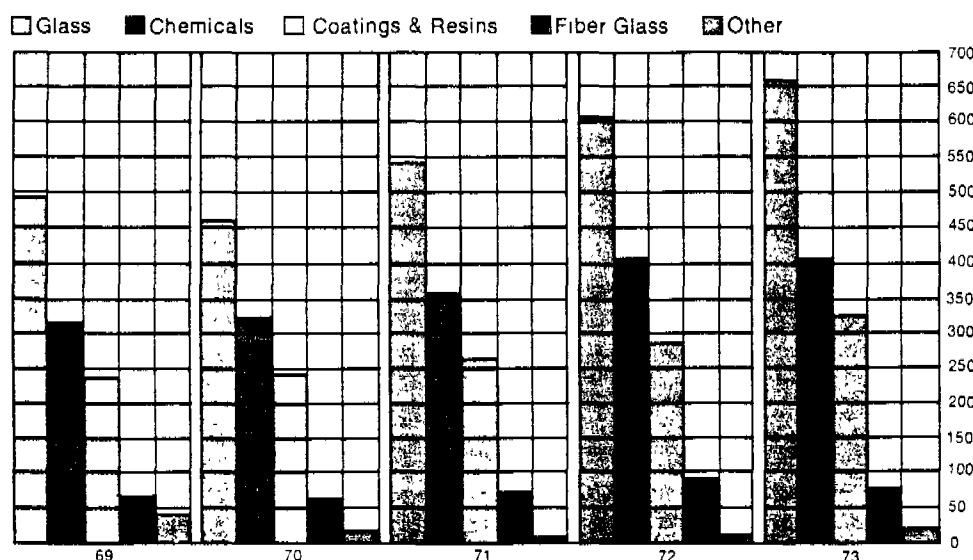
The Company's foreign operations, located in Canada, Western Europe, South America, Japan and Mexico, manufacture and market lines of products similar to those in the United States. Sales of foreign subsidiaries, included in the accompanying lines of business chart, amounted to 16 per cent of net sales in 1973, compared to 15 per cent in 1972. Pre-tax earnings from such sales, and earnings from foreign equity affiliates were 19 per cent of total pre-tax earnings during 1973, compared with 18 per cent in 1972. Canadian operations, consisting primarily of potash, automotive fabricated glass, sheet glass, installed and upgraded products for commercial construction, trade and industrial coatings, chlor-alkalies and sodium chlorate, contributed 11 per cent of total Company sales for 1973.

In December 1973, PPG agreed to merge its subsidiary glassmaking operations in Italy and Belgium with Vetreria di Vernante, S.p.A., a glass manufacturer in Italy. It is planned that a new company be formed in 1974, in which PPG would have a majority interest. This merger would significantly improve our glass manufacturing capacity for the important European market and would give PPG its first interest in a float glass plant outside the United States.

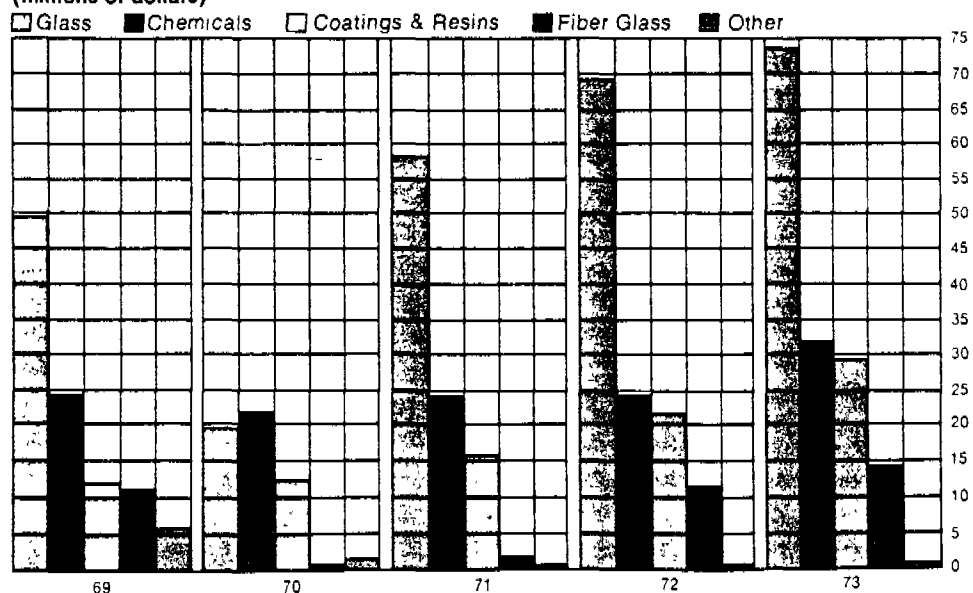
RAW MATERIALS AND FUELS

The Company utilizes in its operations a wide variety of raw materials and a large amount of energy from a variety of sources. The effect of energy and petroleum feedstock shortages on our Puerto Rico operations has been discussed under "Sales and Earnings by Lines of Business."

Sales by Lines of Business
(millions of dollars)



Pre-Tax Earnings by Lines of Business
(millions of dollars)



The Company's operations have experienced some shortages of raw materials; however, they have managed to cope with most of the shortages in 1973. Despite the existence of supply contracts and spot-buying agreements to meet planned operating levels in 1974, future events could affect availability of critical raw materials. In some product lines, we have not been able to extend our business as much as we had planned because of limitations on availability of raw materials.

In regard to the energy problem, natural gas is required in significant quantities at a number of the Company's major manufacturing locations. Adequate quantities are contracted for, but in some cases, fuel allocations have required the utilization of alternate fuels. Notwithstanding the previously reported legal action by Continental Oil Company, seeking relief from a long-term contract to supply natural gas to the Lake Charles chemical complex, the Corporation's gas needs for its Lake Charles plant are being met. PPG has organized a company-wide program to conserve all types of energy used in our operations, and a number of plants have provided for the use of alternate fuels. At this time, our fuel supplies and our secondary systems for stand-by energy needs appear sufficient in scope and supply to cover our planned activity levels with no curtailments in U. S. operations; however, because of the importance of fuel in our operations, the energy problem will continue to receive constant management attention.

GOVERNMENT ECONOMIC STABILIZATION PROGRAM

The Company and its domestic subsidiaries are subject to the Economic Stabilization Program with respect to prices, wages, salaries and dividend distributions. Under Phase IV of the Program, the Company may increase the prices of its manufactured products to reflect on a dollar-for-dollar basis allowable cost increases reduced by government calculated allowances for productivity gains. Such price increases can be implemented 30 days after pre-notification to the Cost of Living Council.

In 1973, the Company was entitled to implement a number of price increases which were prenotified, and will continue to file for additional price increases. However, market considerations prevent full pass-through of justified cost increases.

ENVIRONMENTAL MATTERS

Various governmental regulations, laws and standards have been recently enacted or proposed relative to protection of the environment. Since the regulatory standards are in a period of development, the required capital and operating costs cannot be accurately determined. Capital expenditures by the Company for pollution control equipment during the past three years have approximated \$5 million per year.

The Company manufactures lead antiknock compounds for use in gasoline. While the Company recognizes the probability of declining future usage of lead additives in gasoline, it is contesting the government regulations which are forcing the reduction. At a time when lead in gasoline can be very important in stretching scarce petroleum supply, the Company is arguing that emphasis of the pollution regulations should be on controlling particulate and harmful emissions from the automobile exhaust rather than simply banning or reducing lead in the gasoline. Some hopeful developments indicate such emission controls are a practical possibility without requiring the elimination of lead antiknock compounds.

INCOME TAXES

The effective income tax rate on PPG's pre-tax earnings for 1973 was 36 per cent, compared to 33.4 per cent in 1972. The reduced corporate tax rates for both 1973 and 1972 reflect a number of complex tax factors, and are primarily related to the investment tax credit and the Company's investments in facilities and subsidiaries outside continental United States.

The following table details the major factors reducing the U. S. Federal income tax rate of 48% for 1973 and 1972:

	% of Pre-Tax Earnings	
	1973	1972
Federal income tax rate	48.0%	48.0%
Reductions in tax rate resulting from:		
Investments in facilities and subsidiaries outside continental United States	(7.7)	(6.6)
Investment tax credit	(4.0)	(6.4)
Miscellaneous—net	(.3)	(1.6)
Effective tax rate	36.0%	33.4%

During 1973, the Company settled with the Internal Revenue Service the majority of the issues on which tax deficiencies were asserted for the years 1967 through 1969. These settlements had no effect on earnings. Federal income tax returns for the years 1970

and 1971 currently are being examined by the Internal Revenue Service. In the opinion of management, adequate provision has been made for all tax liabilities for the years 1970 through 1973, plus open claims for years prior to 1970.

PENSIONS

PPG has pension plans covering substantially all employees. Generally, charges to income are determined from actuarial valuations of the pension plans. The cost of these pension plans, including amortization of prior service costs, charged to earnings was \$30 million in 1973 and \$26 million in 1972. Pension liabilities are funded by periodic payments to pension fund trustees.

WORKING CAPITAL

Working capital at December 31, 1973, amounted to \$393,061,000, compared to \$346,076,000 at December 31, 1972. The ratio of current assets to current liabilities was 2.7 to 1.

CAPITAL EXPENDITURES

Expenditures for property and investments amounted to \$132 million in 1973, compared with \$92 million in 1972. A major portion of this investment was for the start of construction for a new float glass plant at Wichita Falls, Texas, and a new coatings and resins plant at Oak Creek, Wisconsin. Both of these plants will begin production during 1974. Other significant expenditures were for expansion of glass fabricating facilities at five plants, enlargements of both fiber glass plants, additional chemical facilities, and new research centers for both Coatings and Resins and Fiber Glass. Funds required to complete capital projects approved prior to December 31, 1973, aggregated approximately \$197 million at year-end.

SHAREHOLDERS' EQUITY

Shareholders' equity reached \$802,630,000 at the end of 1973, an increase of 10 per cent over the \$731,243,000 at the end of 1972. Equity per common share increased to \$38.61 from \$35.32 last year. There were 41,588 shareholders of record at year-end.

DIVIDENDS

The Board of Directors increased the annual dividend rate from \$1.50 per share to \$1.70 per share, effective with the dividend paid September 12, 1973. Dividends paid in 1973 totaled \$33,260,000, or \$1.60 per share, compared to \$30,134,000, or \$1.455 per share in 1972. This marked the 74th year of uninterrupted dividends paid by PPG.

SUMMARY OF ACCOUNTING POLICIES

The following accounting principles and practices of PPG Industries, Inc., and its consolidated subsidiaries are set forth to facilitate the understanding of data presented in the financial statements.

Principles of Consolidation

The consolidated financial statements include the accounts of the Corporation and all significant subsidiaries, domestic and foreign, in which PPG owns more than 50 per cent of the voting stock. The investments in all companies in which PPG owns 20 to 50 per cent of the voting stock are carried at equity, and PPG's share of the earnings or losses of such equity affiliates is included in the statement of consolidated earnings. Transactions between PPG, its subsidiaries, and its equity affiliates are eliminated from the consolidated financial statements.

Translation of Foreign Currencies

The accounts of foreign subsidiaries and equity affiliates are translated to U. S. dollars based on the official or free rates of exchange applicable in the circumstances. Current assets, current liabilities and long-term debt are translated at the rates of exchange in effect at the end of the year. All other assets and capital shares are translated at the exchange rates prevailing when the assets were acquired or the capital stocks issued. Income and expense accounts are translated at average exchange rates for each year, except that depreciation is translated at historical rates.

Gains and losses relating to the translation of long-term debt are deferred and amortized over the life of the debt. All other translation gains and losses resulting from normal exchange rate fluctuations are reflected in current earnings. The Corporation maintains a reserve for gains and losses arising from major exchange rate fluctuations.

Inventories

Inventories are stated generally at the lower of cost or market. Cost is determined using either average or standard factory costs, which approximate actual costs, excluding certain fixed expenses such as depreciation, property taxes and rentals.

Property and Depreciation

Property includes the cost of land, buildings, equipment, and significant improvements which add to productive capacity or extend the life of the assets. When units of property are abandoned or disposed of, the cost and accumulated depreciation are removed from the accounts, and any resulting gain or loss is credited or charged to earnings.

Depreciation, for financial reporting purposes, is computed by the straight-line method based on the estimated useful lives of depreciable assets.

Pre-Operating Costs

During construction of major facilities, costs are incurred for acquiring and training employees, providing light, heat, and water, and maintaining new equipment in operating condition. When such pre-operating costs are significant and there is no offsetting revenue being generated, the costs are deferred and amortized over a 10-year period.

Goodwill

When the Corporation purchases companies for prices in excess of book values of the net assets acquired, the excess cost is accounted for as goodwill and is amortized over a period not exceeding 40 years. Acquisitions made by exchanging common stock are generally recorded on a pooling-of-interests basis and no goodwill is recognized.

Income Taxes

Certain charges to earnings in the financial statements differ in amount from those deducted in tax returns. For example, depreciation is computed on accelerated methods for income tax purposes and on the straight-line method for financial reporting purposes. The tax effects of these differences are provided for as future income taxes in the financial statements.

The Corporation follows the policy of treating the investment credit allowance for capital projects as a reduction of income tax expense in the year in which the projects are completed, except for amounts which it anticipates might be recaptured. Prior to 1969, the Corporation followed the policy of deferring the investment credit allowance and amortizing the credit over the estimated useful lives of the related assets.

No provision is made for income taxes on undistributed earnings of affiliates if the taxes payable would be substantially offset by tax credits or when the Corporation intends to invest such earnings permanently.

Research and Development

Research and development expenditures, including development costs of products, processes, and product applications, are expensed in the year incurred rather than deferred.

Provision for Maintenance and Repairs

Current operations are charged with the cost of labor and materials incurred in maintaining properties in, and restoring properties to, good operating condition. Major furnace repairs, however, are provided for in advance by charging current operations with the estimated costs.

Provision for Self-Insurance

PPG maintains a reserve which, in the Company's judgment, adequately provides for the cost of casualty losses which, if sustained, would not be covered by insurance.

Provision for Losses on Discontinued Operations

PPG follows the practice of providing for significant losses on terminating operations or on abandoning facilities when such losses can be reasonably estimated. Such losses are recognized as a charge against earnings concurrent with management's announcement to its customers, employees, shareholders, and other interested parties of its intention to suspend operations.

Pension Costs

Pension costs charged to current earnings include charges for current service and amortization of prior service costs over 30 years. The extra cost of improvements in benefits to present retirees is amortized over 10 years.

STATEMENT OF CONSOLIDATED EARNINGS AND RETAINED EARNINGS

		Year Ended December 31,	
		1973	1972
Earnings for the Year:	Net Sales.....	\$1,512,607,000	\$1,395,921,000
	Cost of Sales.....	984,817,000	914,866,000
	Gross Margin.....	527,790,000	481,055,000
	Other Expenses:		
	Selling, general and administrative expenses.....	218,326,000	203,032,000
	Depreciation expense.....	63,676,000	62,946,000
	Taxes—exclusive of taxes on income.....	44,404,000	37,204,000
	Research and development.....	40,804,000	35,101,000
	Interest expense.....	24,317,000	23,106,000
	Equity in net losses of equity affiliates.....	7,823,000	4,909,000
	Other charges—net.....	4,215,000	2,909,000
	Total Other Expenses.....	403,565,000	369,207,000
	Other Earnings.....	25,785,000	16,819,000
	Earnings Before Income Taxes, Minority Interest, and Extraordinary Items.....	150,010,000	128,667,000
	Domestic and Foreign Taxes on Income.....	54,000,000	43,000,000
	Minority Interest.....	2,884,000	2,992,000
	Total.....	56,884,000	45,992,000
	Earnings Before Extraordinary Items.....	93,126,000	82,675,000
	Extraordinary Items, Net of Income Taxes.....	11,322,000	—
	Net Earnings.....	\$ 104,448,000	\$ 82,675,000
Earnings Per Common Share:	Before Extraordinary Items.....	\$ 4.48	\$ 3.99
	Net Earnings.....	\$ 5.02	\$ 3.99
	Average Common Shares Outstanding.....	20,787,000	20,705,000
Retained Earnings:	Balance at January 1.....	\$ 553,740,000	\$ 501,199,000
	Net Earnings.....	104,448,000	82,675,000
	Total.....	658,188,000	583,874,000
	Cash Dividends (per common share:		
	1973, \$1.60; 1972, \$1.455).....	33,260,000	30,134,000
	Balance at December 31.....	\$ 624,928,000	\$ 553,740,000

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The "Summary of Accounting Policies" and "Notes to Financial Statements" are an integral part of this statement.

CONSOLIDATED BALANCE SHEET—ASSETS

		December 31,	
		1973	1972
Current Assets:	Cash, including time deposits.....	\$ 30,665,000	\$ 29,454,000
	United States Government and other marketable securities— at lower of cost or market..... (Quoted market value: 1973, \$81,762,000; 1972, \$50,037,000)	81,664,000	50,015,000
	Notes and accounts receivable less estimated losses: 1973, \$5,565,000; 1972, \$4,482,000.....	252,649,000	235,911,000
	Inventories.....	239,365,000	215,975,000
	Prepayments and other current assets.....	19,251,000	17,417,000
	Total Current Assets.....	623,594,000	548,772,000
Investments:	Investments in equity affiliates.....	75,183,000	75,366,000
	Other—at cost or less.....	10,790,000	7,804,000
	Total Investments.....	85,973,000	83,170,000
Property—At Cost:	Land, buildings, machinery and equipment, etc.....	1,440,146,000	1,440,916,000
	Less accumulated depreciation.....	701,364,000	715,156,000
	Property—Net.....	738,782,000	725,760,000
Other Assets:	Deferred charges and other assets.....	42,188,000	36,883,000
	Total.....	\$1,490,537,000	\$1,394,585,000

The "Summary of Accounting Policies" and "Notes to Financial Statements" are an integral part of this statement.

ACCOUNTANTS' OPINION

To the Shareholders of
PPG Industries, Inc.:

We have examined the financial statements of PPG Industries, Inc., and its consolidated subsidiaries for the years ended December 31, 1973 and 1972. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We did not examine the financial statements of three consolidated Canadian subsidiaries, which statements

CONSOLIDATED BALANCE SHEET—LIABILITIES

		December 31,	
		1973	1972
Current Liabilities:	Notes payable.....	\$ 12,743,000	\$ 10,329,000
	Current maturities of long-term debt.....	7,328,000	6,339,000
	Accounts payable and accrued expenses.....	185,669,000	156,050,000
	Domestic and foreign taxes on income.....	24,793,000	29,978,000
	Total Current Liabilities.....	230,533,000	202,696,000
Long-Term Debt:	Long-term debt.....	304,049,000	300,705,000
Deferred Credits and Accumulated Provisions:	Future income taxes.....	62,939,000	65,968,000
	Investment credit—unamortized balance.....	8,068,000	10,047,000
	Maintenance and repairs.....	19,085,000	19,074,000
	Insurance and unfunded and uninsured pensions.....	32,474,000	14,938,000
	Discontinued operations.....	4,346,000	28,599,000
	Other.....	6,168,000	2,863,000
	Total Deferred Credits and Accumulated Provisions.....	133,080,000	141,489,000
Minority Interest:	Minority interest in consolidated subsidiaries.....	20,245,000	18,452,000
Shareholders' Equity:	Cumulative preferred stock—authorized but unissued 5,000,000 shares, without par value.....	—	—
	Common stock—authorized 50,000,000 shares, par value \$2.50..	213,327,000	213,335,000
	Retained earnings.....	624,928,000	553,740,000
	Common stock in treasury—at cost.....	(35,625,000)	(35,832,000)
	Shareholders' Equity.....	802,630,000	731,243,000
	Total.....	\$1,490,537,000	\$1,394,585,000

reflect total assets and revenues constituting approximately 7 per cent and 8 per cent, respectively, of the related consolidated totals for each of the years. We were furnished with reports of other auditors on their examinations of the financial statements of these companies for the years ended December 31, 1973 and 1972. Our opinion expressed below, insofar as it relates to the amounts included for these companies, is based solely upon the reports of the other auditors.

In our opinion, based upon our examination and the reports of other audi-

tors, the accompanying consolidated balance sheet and statements of consolidated earnings, retained earnings, and source and use of funds present fairly the financial position of PPG Industries, Inc., and consolidated subsidiaries at December 31, 1973 and 1972, and the results of their operations and sources and uses of their funds for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Haskins & Sells
Pittsburgh, Pennsylvania
January 31, 1974

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STATEMENT OF CONSOLIDATED SOURCE AND USE OF FUNDS

		Year Ended December 31,	
		1973	1972
Source of Funds:	Earnings before extraordinary items.....	\$ 93,126,000	\$ 82,675,000
	Extraordinary items, net of income taxes.....	11,322,000	—
	Charges to income not requiring funds:		
	Depreciation.....	63,676,000	62,946,000
	Amortization of intangible assets.....	1,311,000	3,055,000
	Future income taxes and investment credit.....	1,861,000	6,449,000
	Increase in accumulated provisions.....	18,590,000	425,000
	Equity in net losses of equity affiliates.....	7,823,000	4,909,000
		<u>197,709,000</u>	<u>160,459,000</u>
	Funds provided from operations.....		
Use of Funds:	Issuance of long-term debt.....	8,737,000	22,783,000
	Disposition of property and investment.....	23,067,000	8,282,000
	Issuance of common shares.....	199,000	3,518,000
	Total.....	<u>\$229,712,000</u>	<u>\$195,042,000</u>
	Expenditures for property and investment.....	\$132,382,000	\$ 92,321,000
	Cash dividends paid.....	33,260,000	30,134,000
	Increase in deferred charges and other assets.....	6,616,000	3,781,000
	Reduction in long-term debt.....	5,393,000	23,498,000
	Other—net.....	5,076,000	(2,057,000)
	Increase in working capital.....	46,985,000	47,365,000
Changes in Working Capital:	Total.....	<u>\$229,712,000</u>	<u>\$195,042,000</u>
	Cash and securities.....	\$ 32,860,000	\$ 20,818,000
	Notes and accounts receivable.....	16,738,000	25,314,000
	Inventories.....	23,390,000	11,769,000
	Prepayments and other current assets.....	1,834,000	(900,000)
	Notes payable.....	(2,414,000)	6,622,000
	Current maturities of long-term debt.....	(989,000)	12,163,000
	Accounts payable and accrued expenses.....	(29,619,000)	(11,708,000)
	Domestic and foreign taxes on income.....	5,185,000	(16,713,000)
	Total.....	<u>\$ 46,985,000</u>	<u>\$ 47,365,000</u>

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The "Summary of Accounting Policies" and "Notes to Financial Statements" are an integral part of this statement.

NOTES TO FINANCIAL STATEMENTS

1. **Inventories**—A comparison of inventories by major components at December 31, 1973 and 1972, is as follows:

	1973	1972
Finished Products.....	\$ 135,541,000	\$ 124,026,000
Work in Process.....	25,316,000	25,295,000
Raw Materials.....	53,987,000	45,274,000
Supplies.....	24,521,000	21,380,000
Total.....	\$ 239,365,000	\$ 215,975,000

2. **Property**—A summary of total property by major category at December 31, 1973 and 1972, is as follows:

	1973	1972
Land.....	\$ 19,296,000	\$ 19,655,000
Buildings.....	274,837,000	278,081,000
Machinery and Equipment.....	1,032,097,000	1,075,003,000
Other.....	42,527,000	38,823,000
Construction in Progress.....	71,389,000	29,354,000
Total.....	\$1,440,146,000	\$1,440,916,000

3. **Pre-Operating Costs**—At December 31, 1973 and 1972, pre-operating costs, included in "Deferred Charges and Other Assets," amounted to \$7,580,000 and \$8,454,000, respectively. Amortization of pre-operating costs charged against earnings amounted to \$1,015,000 in 1973 and \$914,000 in 1972.

4. **Translation of Foreign Currency**—In converting financial statements of foreign operations to United States dollars, the Corporation calculated unrealized translation losses of \$4,164,000 in 1973 and \$1,700,000 in 1972. These unrealized losses included \$3,281,000 in 1973 and \$970,000 in 1972, relating to the conversion of long-term debt, which were deferred and are being amortized over the life of the debt. Earnings for 1973 and 1972 have been charged with foreign currency translation losses of \$1,106,000 and \$730,000, respectively, including amortization of prior years' deferrals. At December 31, 1973, translation adjustments of \$4,028,000 have been deferred and included in "Deferred Charges and Other Assets."

5. **Long-Term Debt**—At December 31, 1973 and 1972, long-term debt consisted of the following:

	1973	1972	
9% debentures due in 1995 for which sinking fund payments of \$8,000,000 will be made in each of the years 1980 to 1994.....	\$125,000,000	\$125,000,000	The aggregate maturities and sinking fund requirements for the next five years on long-term debt outstanding at December 31, 1973, are as follows:
5½% debentures due in 1991 for which sinking fund payments of \$6,250,000 will be made in each of the years 1974 to 1991..	106,250,000	112,500,000	
European borrowings at 7% to 7¾%, due 1975 to 1986.....	27,684,000	23,886,000	
Bank note due 1980 to 1982.....	16,000,000	16,000,000	
Various other debts, primarily debt incurred by consolidated subsidiaries.....	29,115,000	23,319,000	
Total.....	\$304,049,000	\$300,705,000	
			1974..... \$ 7,328,000
			1975..... 27,441,000
			1976..... 8,973,000
			1977..... 8,504,000
			1978..... 7,729,000

The Corporation has unused short-term and long-term loan arrangements totaling \$184,000,000 with a number of banks. The Corporation is expected to maintain compensating cash balances with the banks in connection with most of these arrangements and with some outstanding loans; such balances also compensate the banks for other banking services performed for the Corporation. At December 31, 1973, compensating balances, after giving effect to float, were not significant in relation to the Corporation's total cash and marketable securities. The long-term loan arrangements may be terminated by the Corporation at any time. Commitment fees at the rate of ½% per annum are payable on the unused amount of long-term loan commitments, and amounted to \$318,000 in 1973.

The various loan agreements provide for the pledging of assets as collateral or contain certain restrictive covenants including limitations on working capital, sale and leaseback of property and incurrence of additional debt. The Corporation is in compliance with these covenants.

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6. Capital Stock—Changes in Common Stock Issued and Common Stock in Treasury for the years ended December 31, 1973 and 1972, are as follows:

	Common Stock Issued		Common Stock in Treasury	
	Shares	Amount	Shares	Amount
Balance January 1, 1972.....	21,784,387	\$212,153,000	1,111,850	\$38,168,000
Shares issued under employee stock option plans.....	42,546	947,000	(11,205)	(386,000)
Shares delivered to retired employees under incentive compensation agreements.....	—	—	(3,009)	(99,000)
Shares issued for purchase of a company.....	—	235,000	(53,667)	(1,851,000)
Balance December 31, 1972.....	21,826,933	213,335,000	1,043,969	35,832,000
Shares issued under employee stock option plans.....	—	(3,000)	(2,550)	(89,000)
Shares delivered to retired employees under incentive compensation agreements.....	—	(5,000)	(3,431)	(118,000)
Balance December 31, 1973.....	21,826,933	\$213,327,000	1,037,988	\$35,625,000

Amounts shown on the balance sheet for "Common Stock" represent the par value of shares issued plus capital contributed for stock in excess of par.

7. Stock Option and Incentive Compensation Plans—Information regarding stock options as of December 31, 1973 and 1972, is summarized as follows:

	1973	1972
Shares reserved for issuance upon exercise of employee stock options.....	239,445	241,995
Shares under option*.....	217,995	164,995
Options granted during year.....	58,900	90,500
Options exercised during year*.....	2,550	53,751
Options terminated during year.....	3,350	116
Exercisable.....	94,144	53,995

*At prices ranging from \$22.53 to \$45.56 per share.

The Corporation had also reserved 41,904 shares and 43,996 shares of its common stock at December 31, 1973 and 1972, respectively, for future issuance under incentive compensation agreements with certain key employees.

8. Rents, Lease Commitments and Contingencies—Rental expense for 1973 and 1972 was \$29,830,000 and \$27,271,000, respectively.

Aggregate minimum rentals on long-term noncancelable leases (excluding payments for real estate taxes, maintenance, and insurance required under certain leases) are: 1974—\$14,944,000; 1975—\$13,769,000; 1976—\$12,449,000; 1977—\$11,036,000; 1978—\$10,002,000; 1979-1983—\$40,131,000; 1984-1988—\$25,125,000; 1989-1993—\$9,683,000; 1994 and thereafter—\$1,919,000. Of the total aggregate minimum rentals on noncancelable leases, 53% is for transportation equipment and 47% is for real property.

The Corporation is contingently liable for approximately \$10,300,000 as a guarantor of lines of credit in connection with the financing of the sale of Corporation products, loans, etc.

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9. Litigation—A number of lawsuits are pending against the Corporation, including those brought by Commonwealth Oil Refining Company and Continental Oil Company (see pages 19 and 21 for a discussion of those cases). Two other pending lawsuits purport to be class actions seeking substantial damages on behalf of the members of the classes. One of those was filed against the Corporation and other manufacturers of polyurethane foam products by several purchasers who claim that using polyurethane foam as interior insulation presents a fire hazard. The other action was filed on January 2, 1974, against Pittsburgh Corning Corporation (a 50% owned affiliate), the Corporation and others, by former employees of Pittsburgh Corning, alleging that their work exposed them to asbestos fibers which caused or will cause various pulmonary diseases. The courts have not yet decided whether those actions properly may be maintained as class actions.

Although the amounts of liability with respect to the litigation pending against the Corporation are not determinable, management, upon advice of the Corporation's counsel, believes that the outcome of such litigation will not have a material adverse effect on the financial position or results of operations of the Corporation and its consolidated subsidiaries.

10. Taxes On Income—Provisions for domestic and foreign income taxes in 1973 and 1972 amounted to:

	1973	1972
Current—Federal.....	\$39,350,000	\$28,835,000
Current—Foreign.....	2,685,000	3,322,000
Current—City and State.....	4,673,000	4,737,000
Deferred Investment Credit Amortized.....	(1,979,000)	(1,979,000)
Future Income Taxes.....	9,271,000	8,085,000
Total.....	\$54,000,000	\$43,000,000

Future income taxes include \$8,511,000 for 1973 and \$8,615,000 for 1972 applicable to tax depreciation in excess of book depreciation. The current provisions for income taxes for 1973 and 1972 have been reduced by \$4,071,000 and \$6,223,000, respectively, for investment credits taken directly into earnings in those years. The unamortized investment credit of \$8,068,000 at December 31, 1973, deferred from years prior to 1969, will be added to earnings over the next five years.

11. Earnings Per Share—Earnings per share are computed on the basis of weighted average shares outstanding during each year. Shares reserved for issuance under the Corporation's employee stock option plans and deferred incentive compensation agreements would not materially dilute earnings per share.

12. Reference is made to the Financial and Operating Review section, beginning on page 19, for additional information regarding extraordinary items, income taxes, pensions, and amounts required to complete capital projects approved prior to December 31, 1973.

TEN-YEAR DIGEST

	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964
Earnings										
(Millions of Dollars)										
Net Sales.....	1,512.6	1,395.9	1,238.5	1,093.8	1,151.7	1,048.4	948.1	943.9	897.5	827.6
Earnings Before Income Taxes.....	147.1	125.7	98.4	57.9	101.0	92.2	79.8	92.1	107.1	92.3
Income Taxes.....	54.0	43.0	35.2	26.8	50.5	47.5	37.6	42.5	49.0	43.3
Earnings Before										
Extraordinary Items.....	93.1	82.7	63.2	31.1	50.5	44.7	42.2	49.6	58.1	49.0
Net Earnings.....	104.4	82.7	47.2	31.2	50.5	44.7	42.2	49.6	58.1	49.0
Depreciation and Depletion.....	63.7	62.9	59.1	54.7	53.7	45.4	47.3	46.9	47.0	44.1
Dividends.....	33.3	30.1	28.8	28.7	28.7	27.5	26.4	26.8	26.6	25.5
Balance Sheet										
(Millions of Dollars)										
Current Assets.....	623.6	548.8	491.8	445.4	436.3	415.5	396.2	407.4	360.6	336.7
Current Liabilities.....	230.5	202.7	193.1	217.7	239.3	203.2	161.2	147.1	152.5	140.3
Working Capital.....	393.1	346.1	298.7	227.7	197.0	212.3	235.0	260.3	208.1	196.4
Plant and Equipment										
(Less Depreciation).....	738.8	725.8	710.1	706.5	652.0	621.5	564.2	480.1	401.8	376.2
Total Assets.....	1,490.5	1,394.6	1,320.7	1,270.3	1,181.0	1,119.7	1,040.8	973.9	840.6	783.5
Long-Term Debt.....	304.0	300.7	301.4	277.6	182.1	186.2	184.6	157.5	16.2	15.6
Capital and Retained Earnings.....	802.6	731.2	675.2	653.4	650.6	638.9	615.2	596.2	599.9	560.9
Expenditures for Property										
and Investment.....	132.4	92.3	123.5	153.2	110.7	113.2	137.6	115.2	79.7	57.3
Per Common Share*										
Earnings Before										
Extraordinary Items.....	4.48	3.99	3.07	1.51	2.47	2.19	2.08	2.40	2.74	2.31
Net Earnings.....	5.02	3.99	2.29	1.52	2.47	2.19	2.08	2.40	2.74	2.31
Quoted Market Price:										
High.....	47	50	45	37¼	42	46¼	34½	40½	42¼	38¾
Low.....	21½	36	32	21½	31¾	31¼	26¾	25	33¾	28
Price/Earnings Ratio:										
High.....	10	13	15	25	17	21	17	17	15	17
Low.....	5	9	10	14	13	14	13	10	12	12
Dividends.....	1.60	1.455	1.40	1.40	1.40	1.35	1.30	1.30	1.25	1.20
Equity.....	38.61	35.32	32.78	31.88	31.76	31.35	30.29	28.86	28.26	26.40
Shares Outstanding—Average										
During Year (Thousands).....	20,787	20,705	20,596	20,496	20,484	20,380	20,313	20,655	21,254	21,235
Employees										
Number of Employees (Thousands)...										
Payroll and Benefits										
(Millions of Dollars).....	507.2	476.0	430.8	398.6	393.5	356.2	332.7	317.1	292.9	275.8

*Adjusted for 2-for-1 stock split in 1968 and all stock dividends to date.

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WORLDWIDE MANUFACTURING LOCATIONS

(Includes subsidiaries and affiliates in which PPG has at least 30% equity. The percentage of equity in those not wholly owned is shown in parentheses.)

DOMESTIC

Glass

Carlisle, Pa. Float and Tempered Glass
Clarksburg, W. Va. Sheet Glass
Creighton, Pa. Glass Fabrication
Crestline, Ohio Glass Fabrication
Crystal City, Mo. Float Glass
Cumberland, Md. Float Glass
Ford City, Pa. Glass Fabrication, Insulating Glass, Tempered Glass
Fresno, Calif. Sheet and Tempered Glass
Greensburg, Pa. Automotive Replacement Glass Fabrication
Henryetta, Okla. Sheet Glass
Huntsville, Ala. Aircraft and Specialty Transparency Fabrication
Kokomo, Ind. Architectural Metals
Lincoln, Ill. Insulating Glass
Meadville, Pa. Float Glass
Mt. Vernon, Ohio Sheet and Tempered Glass
Mt. Zion, Ill. Sheet and Tempered Glass
Tipton, Pa. Automotive Glass Fabrication

Chemicals

Barberton, Ohio Chlor-Alkalies, Silica Pigments, Fine Chemicals, Hydrogen Peroxide, Portland Cement, Calcium Hypochlorite Bleach
Beaumont, Tex. Antifreeze, Ethylene Glycol, Fuel Additives
Corpus Christi, Tex. Chlor-Alkalies, Chrome Chemicals
El Dorado, Ark. (50%) Bromine
Guayanilla, P.R. Chlor-Alkalies, Ethylene Glycol, Vinyl Chloride Monomer
Lake Charles, La. Chlor-Alkalies, Chlorinated Solvents, Silica Pigments, Vinyl Chloride Monomer
Natium, W. Va. Chlor-Alkalies, Sulfur Chemicals, Ammonia
Penuelas, P.R. (50%) Ethylene, Propylene, Butadiene

Coatings & Resins

Baltimore, Md. Brushes and Rollers
Circleville, Ohio Resins
Cleveland, Ohio Original Equipment Automotive Finishes, Industrial Coatings

Delaware, Ohio Industrial Coatings, Automotive Refinishes
East Point, Ga. Trade and Industrial Coatings
Farmington, Mich. Modular Electro-coating Equipment
Houston, Tex. Trade and Industrial Coatings, Polyester Resins
Milwaukee, Wis. Trade and Industrial Coatings
Plainfield, Ill. Radiation Curable Coatings and Curing Systems
Springdale, Pa. Trade and Industrial Coatings, Polyester Resins
Torrance, Calif. Trade and Industrial Coatings, Automotive Refinishes, Polyester Resins

Fiber Glass

Lexington, N.C. Continuous Strand Textile and Plastic Reinforcement Products
Shelby, N.C. Continuous Strand Plastic Reinforcement Products, Tire Cord

Other

Columbus, Ind. Injection Molded Components for Home Furnishings and Industrial Applications
Newton, N.C. Decorative and Structural Furniture and Factory-built Home Components
Port Allegany, Pa. (50%) Cellular Glass Products, Glass Block
Sedalia, Mo. (50%) Cellular Glass Insulation, Modular Glass Products

FOREIGN

Glass

Caracas, Venezuela (51%) Automotive and Architectural Glass Fabrication
Courcelles, Belgium Insulating Glass, Automotive Glass Fabrication
Hawkesbury, Ont. (66%) Automotive Glass Fabrication
London, Ont. Mirror, Insulating Glass and Metal Fabrication
Montreal, Que. Mirror, Insulating Glass and Metal Fabrication, Sheet Glass
Moose Jaw, Sask. Insulating Glass
Oshawa, Ont. (66%) Automotive Glass Fabrication

Owen Sound, Ont. Sheet Glass, Tempered Glass
Roccasecca, Italy (93%) Automotive Glass Fabrication
Salerno, Italy (93%) Sheet Glass
Strathroy, Ont. Metal Fabrication
Tejerias, Venezuela (51%) Automotive Glass Fabrication
Vancouver, B.C. Metal Fabrication

Chemicals

Beauharnois, Que. Chlor-Alkalies, Sodium Chlorate
Belle Plaine, Sask. Potash
Tokyo, Japan (50%) Chlorinated Solvents, Vinyl Chloride Monomer

Coatings & Resins

Clarkson, Ont. Trade and Industrial Coatings
Milan, Italy (78%) Industrial Coatings
Montreal, Que. Trade and Industrial Coatings
North Vancouver, B.C. Trade and Industrial Coatings
Saultain, France (62%) Industrial Coatings
Tlalneapantla, Mexico (59%) Trade and Industrial Coatings
Toronto, Ont. Trade and Industrial Coatings
Valenciennes, France (62%) Trade Coatings

Fiber Glass

Candiac, Que. (32%) Insulation Products
Edmonton, Alta. (32%) Insulation Products
Guelph, Ont. (32%) Continuous Strand Textile Products
Hoogezaand, Netherlands (50%) Continuous Strand Textile and Plastic Reinforcement Products
Sarnia, Ont. (32%) Insulation Products

Other

Burlington, Ont. (33%) Plastic Containers
Georgetown, Ont. (66%) Electrical Devices
Tessenderlo, Belgium (50%) Cellular Glass Insulation

BOARD OF DIRECTORS

Robinson F. Barker†	James F. Jungé*	Joseph A. Neubauer*
Charles M. Beeghly	John A. Mayer*	Jack W. Robbins*‡
Hon. Paul Desruisseaux■	Thomas J. McHugh■	Julio A. Torres■
W. H. Krome George	Robert W. Morse■	George D. Woods*

OFFICERS

•Robinson F. Barker	Chairman of the Board and Chief Executive Officer
•Joseph A. Neubauer	President and Chief Operating Officer
•W. F. Newton	Vice President, Marketing
William Carpenter	Vice President, Corporate Relations
W. Parmer Fuller III	Vice President, Western Region
David D. Ogilvie	Vice President, Corporate Development
•L. Stanton Williams	Vice President, Finance
Edward H. Eaton	Vice President and Treasurer
Robert H. Mitchel	Vice President and Controller
R. Wayne Oates	Assistant Vice President, Finance
Cyrus V. Anderson	Vice President, Law
David A. Cort	Vice President and Secretary
Donald G. Griffin	Vice President, Traffic and Transportation
Edward J. Slack	Vice President, Employee Relations
Richard F. Sperring	Vice President, Supply
Frank V. Breeze	Vice President and General Manager, Glass Division
John L. Baldwin	Vice President, Contract and Supply Department, Glass Division
Charles P. Blahous	Vice President, Research, Glass Division
Felix T. Hughes	Vice President, General Sales, Glass Division
Francis B. O'Neil	Vice President, Planning and Foreign Operations Group, Glass Division
Robert C. Perry	Vice President, Automotive and Aircraft Group, Glass Division
John H. Strome	Vice President, Sales, Marketing and Distribution Group, Glass Division
John B. White	Vice President, Flat Glass Group, Glass Division
Elmer C. Larsen	Vice President and General Manager, Coatings and Resins Division
Richard P. Cook	Vice President, Trade Paint Sales, Coatings and Resins Division
Howard L. Gerhart	Vice President, Research and Development, Coatings and Resins Division
James A. Kassekert	Vice President, Manufacturing, Coatings and Resins Division
Howard J. Mather	Vice President, Industrial Products, Coatings and Resins Division
J. Earl Burrell	Vice President and General Manager, Chemical Division
Richard H. Blair	Vice President, Operations, Chemical Division, PPG Industries (Caribe)
William R. Harris	Vice President and General Manager, Organic Chemicals Department, Chemical Division
John M. Robinson	Vice President and General Manager, Houston Chemical Company
Vincent A. Sarni	Vice President and General Manager, Industrial Chemical Division
Charles J. Sindlinger	Vice President and General Manager, Chemical Division, PPG Industries (Caribe)
Robert C. Twiehaus	Vice President, Technical Director, Chemical Division
Robert E. Widing	Vice President, Manufacturing, Industrial Chemical Division
Boyd R. Willett	Vice President and General Manager, International Department, Chemical Division
George M. Zapp	Vice President, Marketing, Industrial Chemical Division
Robert A. McLaughlin	Vice President and General Manager, Fiber Glass Division
John E. Brownell, Jr.	Vice President, Sales and Marketing, Fiber Glass Division
Franklin H. Green	Vice President, Manufacturing, Fiber Glass Division
John W. Morris	Vice President, Technical Services, Fiber Glass Division

•Member, Management Committee
†Chairman, Executive Committee
*Member, Executive Committee
‡Chairman, Audit Committee
■Member, Audit Committee

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TRADEMARKS

These registered trademarks of PPG Industries, Inc., are used in this report: PPG Industries (monogram), *Duracron*, *Duranar*, *Flexseal*, *Herculite*, *Hercuvit*, *Hycor*, *Manor Hall*, *Pittsburgh Paints*, *Solarban*, *Solarcool*, *Twindow*, *Wallhide*.

Other trademarks of PPG Industries appearing in this report are: *Microflo*, *Xi*. *Glanor* is a trademark of PPG Industries, Inc., and Oronzio de Nora Impianti Elettrochimici S.p.A.

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