



Financial Highlights

The successes PPG has been able to achieve have resulted from the skill, dedication and efforts of its people. In recognition of this, the covers of this Annual Report bear the names of the approximately 34,000 employees of PPG's U.S. facilities.

	1974	1973
Net Sales	\$1,744,003,000	\$1,512,607,000
Income Taxes	48,200,000	54,000,000
Earnings Before Extraordinary Items	93,728,000	93,126,000
Net Earnings	93,728,000	104,448,000
Earnings—Per Cent of Sales	5.4	6.9
Earnings Per Share Before Extraordinary Items	4.51	4.48
Net Earnings Per Share	4.51	5.02
Cash Dividends Per Share	1.70	1.60
Expenditures for Property and Investment	198,787,000	132,382,000
Working Capital	393,800,000	393,061,000
Number of Employees	38,000	38,000
Number of Shareholders	47,851	41,588
Average Common Shares Outstanding	20,791,000	20,787,000

One of the messages we hope to convey with our 1974 Annual Report is as simple as it is true: people are PPG's most valuable and important asset. When the books are balanced at the end of each year, this fact is sometimes left unstated, although it never is forgotten.

PPG's present and future success in the marketplace must be measured by how well it is able to bring together product and process technology, production and distribution skills, and the management and business know-how necessary to provide customers with the goods and services they require. This body of skill and knowledge exists in, and is carried forward by, PPG's people.

PPG is particularly fortunate to have a group of employees in a rich variety of jobs who continue to grow with the Company. They represent a wealth of human resources which demonstrates that talent and ability make no distinction in matters of race, creed, color or sex.

Unlike machines or factories or furnaces, people think, create, dream. Also, of course, they sometimes fail, but the people who are PPG have given the Company positions of leadership in all of our major areas of business because, like a championship team, they try a little harder, give a little more. An extra five per cent of effort can make the difference between a champion and an also-ran in business, just as it can in sports. PPG people make things happen, find new ways of doing things better, and at less cost.

A vital element of continuity also is represented as qualified people are brought along within the organization to fill positions of added trust and responsibility. We are firmly committed to make certain that as we continue to grow as a Company, our employees are rewarded and given the opportunity to go as far as their skills and energies can carry them.

Our recognition of the vital role of PPG people would be less than candid were we not to acknowledge that economic conditions at year's end, particularly in the automotive and residential areas of business, required the closing of some of PPG's older manufacturing plants and curtailment of production at others. Where possible, a placement program and existing employee benefits were utilized to the fullest extent to minimize the impact on the lives of individuals who have been unavoidably affected.

Our 1974 Annual Report is more than a review of the Company's performance. Its covers, which actually are a printout of the names of PPG employees in the United States, are one small way of stressing that without the people who work for us, we are little more than a very expensive array of factories, offices, machines and equipment. We wanted to put that fact on the record.

PPG: a Concern for the Future

Contents

	Page
Our People	2
Letter to Shareholders	4
Business Review	
Chemicals	6
Glass	10
Coatings & Resins	14
Fiber Glass	18
Plant	22
Officers and Directors	24
Operating Review and Financial Information	(See separate section inside back cover)

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



To Our Shareholders:

PPG's 1974 operating earnings of \$93.7 million, or \$4.51 per share, slightly exceeded those of 1973, thus establishing a new high for the fourth consecutive year.

This was accomplished in spite of a series of unusual market conditions, rising levels of inflation, shortages of raw materials, and adoption of the last-in, first-out (LIFO) method of inventory valuation beginning in 1974.

Two of the Company's major areas of business were affected adversely by the economic downturn in 1974. Domestic auto production was down 25 per cent from 1973 levels, while residential housing starts slipped 35 per cent compared with the same period. Our glass business was affected severely by the softness in these market areas. However, the decreasing demand provided the Glass Division with an opportunity to accomplish a major consolidation of its operations. This included streamlining of the internal organization as well as elimination of obsolete, higher-cost sheet glass manufacturing operations. These steps, together with completion of the highly efficient float glass plant at Wichita Falls, Texas, in 1974, put the Company in a strong position to take advantage of an anticipated return to a normal demand.

PPG's chemical business reached record performance levels in 1974. Demand remained strong for virtually all of our chemical products, and a satisfactory profit was accomplished in the face of substantially increased energy and feedstock costs.

Major progress also was made in improving the reliability of our Puerto Rico operations. PPG's wholly owned complex, together with the Company's share of a joint-venture olefins operation, caused a drag of \$19.5 million on pre-tax earnings, compared with \$28 million in 1973. The loss in the fourth quarter, however, was the smallest since operations began in Puerto Rico in late 1971, and in the last six weeks of the quarter operations were at a utilization rate above the break-even point.

Key markets for the Company's other main lines of business—coatings and resins and fiber glass—remained firm until late in the year, with new areas of business and increased market penetration taking up some of the slack caused by declines in the automotive and construction markets.

Significantly, PPG's capital spending reached a record level of \$199 million in 1974, reflecting the Company's confidence in the viability of its lines of business. Since most of the funds were earmarked for plant expansion and modernization, the program insures that each of PPG's four major operating units will continue to enjoy highly competitive positions in their selected market areas when more normal economic conditions prevail.

The effective management of energy and raw materials was a critical factor in our success in 1974. Careful planning insured that production at most manufacturing facilities was not seriously affected. Although raw materials shortages had eased significantly by year's end, adequate supplies of energy continued to be a major concern.

During the four new officers of directors. F. Keating, of Minneapolis

Robert F. dent of gen sion, and th in the Coat Marco Wisn of research Bittle beca and Freder president-a

PPG's pe measure be economic of the gove flation and energy res tainty prev that devel date. Altho likely to be 1975, the and mode in an excu tum quick begins to

Febru
Subm

R. 7
Robi

J. 6
Jose

1 BB 0001554 1

During the year, one new director and four new officers were elected by the board of directors. The new director is Stephen F. Keating, chairman of Honeywell, Inc., of Minneapolis.

Robert F. Wells was elected vice president of general sales for the Glass Division, and three vice presidents were elected in the Coatings & Resins Division. Dr. Marco Wismer was elected vice president of research and development; Harold G. Bittle became vice president-international; and Frederick F. Rhue was elected vice president-automotive finishes.

PPG's performance in 1975 will in great measure be determined by the timing of an economic recovery, as well as the success of the government's efforts to control inflation and assure a fair distribution of energy resources—all areas where uncertainty prevails. The market weaknesses that developed in 1974 continue at this date. Although earnings records are not likely to be set for a fifth straight year in 1975, the Company's long-range building and modernization program has placed it in an excellent position to regain momentum quickly when an economic recovery begins to take shape.

February 3, 1975

Submitted on behalf of the Board of Directors

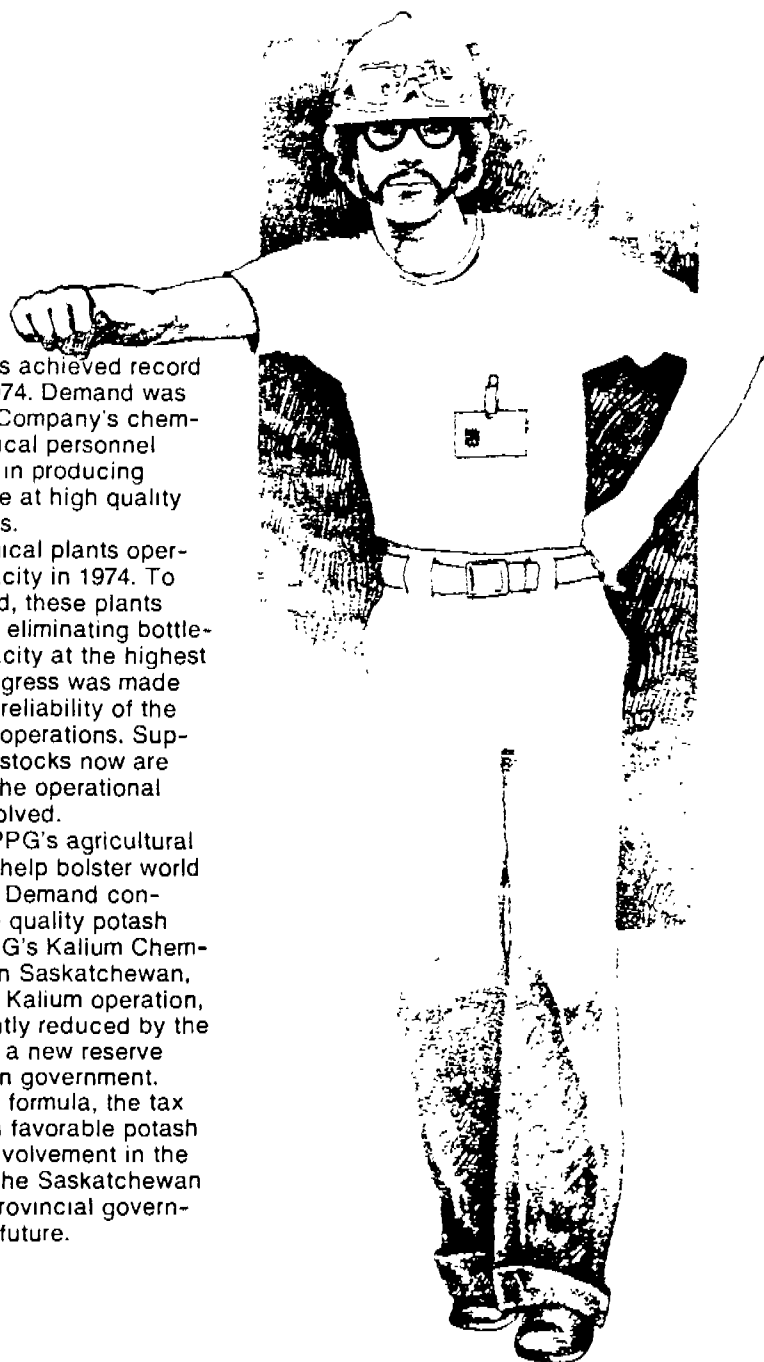
R. F. Barker

Robinson F. Barker, Chairman of the Board

J. A. Neubauer

Joseph A. Neubauer, President





Sports are popular on the island of Puerto Rico and Palmiro Figueroa, a process technician who runs the refrigeration and compression unit at the chlorine plant at PPG's Guayanilla complex, likes to play basketball in his spare time. Puerto Rico's enthusiastic and capable people, together with its geographical location, make it an ideal place for companies like PPG to grow and develop. For Mr. Figueroa, it is the opportunity to "do different things, meet different people, and take your career as far as you want it to go."

PPG's chemical business achieved record performance levels in 1974. Demand was strong for nearly all the Company's chemical products, and chemical personnel played a significant role in producing maximum product volume at high quality to satisfy customer needs.

Nearly all PPG's chemical plants operated close to rated capacity in 1974. To fill urgent market demand, these plants increased production by eliminating bottlenecks and utilizing capacity at the highest possible rates. Major progress was made in 1974 in improving the reliability of the Company's Puerto Rico operations. Supplies of energy and feedstocks now are adequate, and many of the operational problems have been resolved.

Greater quantities of PPG's agricultural chemicals were used to help bolster world food production in 1974. Demand continued strong for the fine quality potash fertilizer produced at PPG's Kalium Chemicals Limited operation in Saskatchewan, Canada. Earnings of the Kalium operation, however, were significantly reduced by the retroactive imposition of a new reserve tax by the Saskatchewan government. Based on a complicated formula, the tax imposes a costly levy on favorable potash selling prices. Greater involvement in the growth and earnings of the Saskatchewan potash industry by the provincial government is expected in the future.

A satisfactory profit was achieved despite a long period of depressed prices in the chemical industry. This was true especially for industrial chemicals, which include PPG's core products—chlorine, caustic soda, ethylene glycol and their derivative chemicals—as well as for agricultural chemicals. Price increases for these products reflected substantially increased energy and feedstock costs, and the increased cost of investment in new production capacity. Although some softening in demand for certain chemicals is anticipated in 1975, prices are expected to remain reasonably firm, and should support a cost of increased capacity.

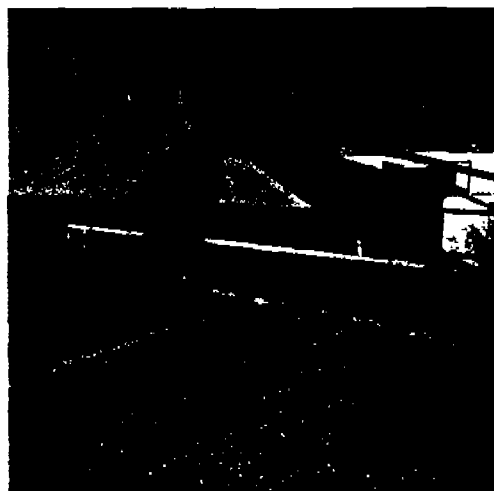
The record chemical performance enabled the Company to support such capital investment commitments, particularly in the area of basic chemicals. Appropriations for chemicals increased significantly in 1974.

Announcement of a \$150 million-plus expansion of chlorine and caustic soda capacity at the Company's Lake Charles, Louisiana, complex reaffirmed PPG's term commitment to this basic chemical business. Construction of the new plant, which ultimately will double that facility's chlorine-caustic soda capacity, is under way. Start-up is scheduled for mid-1976.

Paper, from stationery to newsprint, benefits from the use of silica pigments from PPG's chemical operations. *Hi-Sil* 404 pigment improves brightness and opacity of various papers, and is used to improve printability and other qualities of newsprint.

CR-39 monomer is the principal material from which plastic prescription eyeglass lenses are made. The PPG product also has a number of other specialized applications.

Furloc Chloro IPC herbicide helps increase farm productivity with effective weed control. The herbicide provides specific control, for example, of smartweed, a serious problem in soybeans—the second most valuable cash crop in the United States.



The new complex will utilize the latest available technology, including the *Glanor* electrolyzer, a new type of chlorine-caustic soda production cell jointly developed by PPG and the DeNora Company of Italy. The *Glanor* cell, which provides a number of energy-saving, economic, production and environmental advantages, is being licensed by PPG and DeNora in many areas of the world. About 6,000 tons per day of worldwide chlorine production capacity, utilizing *Glanor* cell technology, were in the planning stage at the end of 1974.

Progress continued in the area of proprietary, specialty, and upgraded chemical products. Two new biodegradable pesticides developed by PPG await government registration before going on the market.

The Industrial Chemical Division, responding to continued growth in the market for bead caustic soda, announced scheduled completion in mid-1975 of a new caustic beads facility at the Natrium, West Virginia, complex. The new unit, and completion of a major expansion of an existing facility at Lake Charles, will boost *Pe/s* caustic soda bead production capacity to more than 120,000 tons a year.

1 BB 0001557 1

Pipelines of many lengths and sizes, carrying materials, intermediates and finished products, are a major part of any chemical complex; this is formed by pipes in an area of the complex in Puerto Rico.

Late in 1974, a new chloroformates plant was completed at the Barberton, Ohio, chemical facility, and production of chlorobenzenes was expanded at the Natrium complex. Chloroformates are used in plastics and agricultural chemicals, and chlorobenzenes are used in a variety of chemical and solvent applications.

Standard Chemical Limited, a Montreal-based PPG subsidiary, announced plans for a two-phase modernization and expansion that ultimately will double production of sodium chlorate, a wood pulp bleaching chemical, at its Beauharnois, Quebec, plant. The first phase is expected to be completed early in 1977.

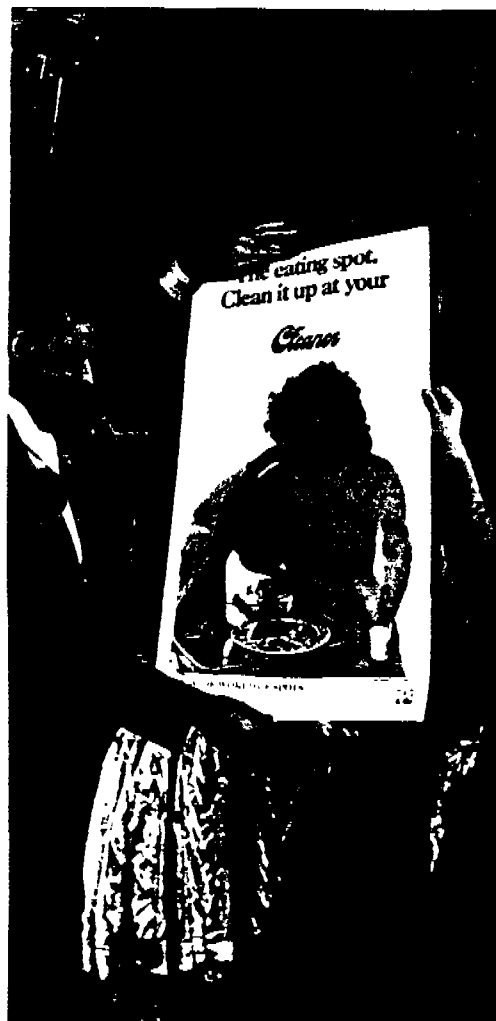
Houston Chemical Company, a unit of the Chemical Division, announced in December a joint venture with Amoco Production Company to produce two million pounds of iodine from underground brines in Oklahoma. Nearly all of the 7.5 million pounds of iodine used in the United States currently is imported.

Based on engineering studies made in 1974, plans were made to double ethylene glycol capacity through modernization at Houston Chemical's Beaumont, Texas, plant.

Safety, health, and welfare measures both inside and outside the Company's chemical units continue to be matters of high priority, and are receiving increasing shares of the capital budget. An environmental affairs department was established to increase the scope of already extensive environmental programs.

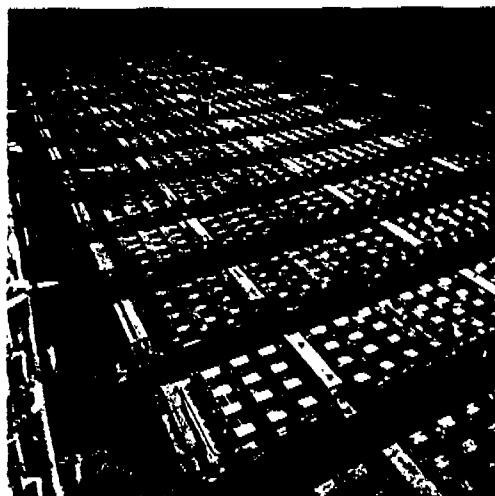


PPG's chlorinated solvents are used by metals manufacturers and fabricators in degreasing and cleaning operations, as well as by professional and coin-operated drycleaners across the country. Drycleaning is the major market for perchlorethylene solvent.



Resembling a giant waffle iron is the chlorine production cell room at the Beauharnois, Quebec, facility of Standard Chemical Limited, a PPG subsidiary. Plans are being completed for a major expansion of the installation's sodium chlorate plant.

Much of the ethylene glycol produced by PPG in Texas and Puerto Rico is used to make polyester fibers, which in turn are made into highly popular women's and men's fashions.



PPG joined with other producers of tetraethyl lead fuel additives and the National Petroleum Refiners Association in a suit contesting an Environmental Protection Agency ruling that would phase lead out of gasoline. PPG and the other plaintiffs argued that the EPA had not demonstrated health dangers from lead in gasoline. In December, the U.S. Circuit Court of Appeals in Washington, D.C., ruled in favor of the plaintiffs.

In the meantime, PPG continued development work on its highly effective particulate emission control system for automobiles, as well as evaluation of promising alternatives to the present catalytic exhaust systems that require lead-free gasoline. PPG's work in this area recognizes the benefits that antiknock compounds in gasoline contribute to the national energy conservation program.

PPG's chemicals operation moves into its 75th anniversary year with pride in its achievements in 1974 and with anticipation of continued strength and growth.

Prolonged softness in the residential and automotive markets, coupled with rapid cost inflation, dramatically reduced sales and profits for PPG's glass business in 1974.

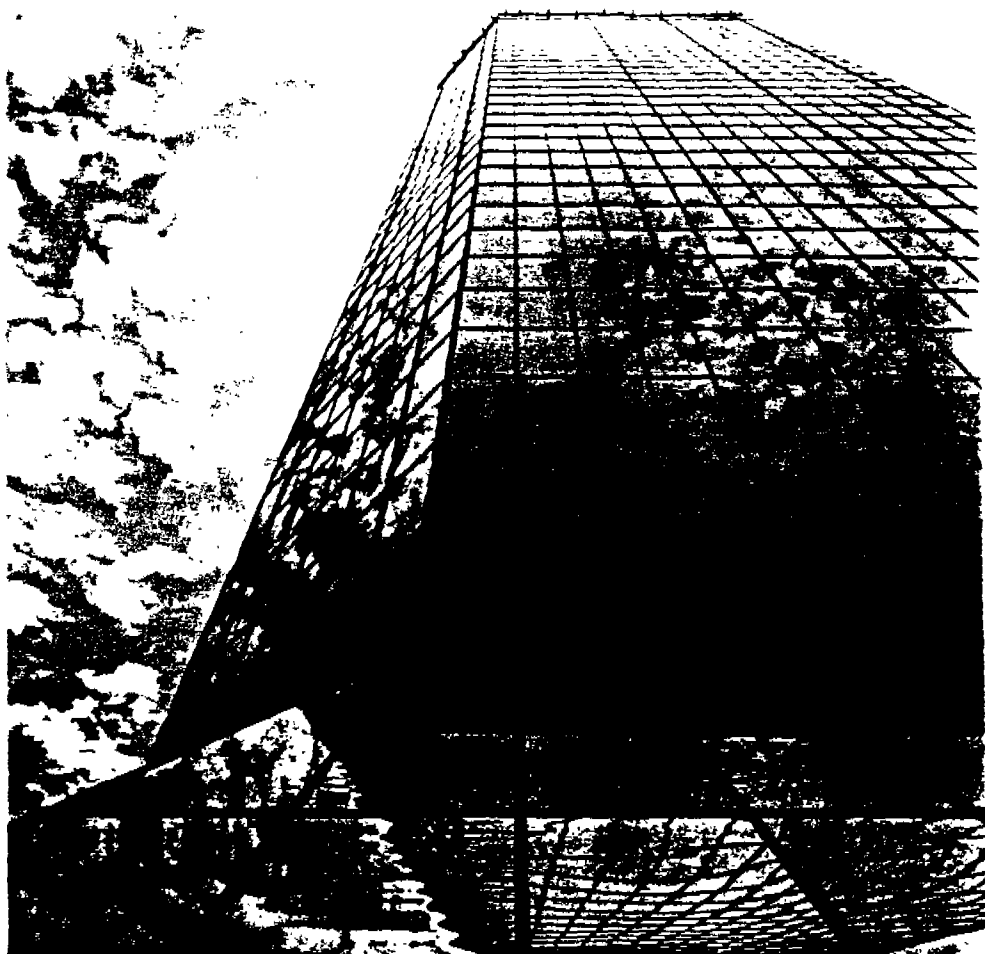
Domestic housing starts fell to about 1.3 million units, in sharp contrast with the slightly more than two million new homes built in 1973. Likewise, only 7.3 million new automobiles were produced in the United States in 1974, compared with nearly 9.7 million in 1973. PPG's auto replacement glass business, however, remained strong, the Company being one of the larger suppliers to this non-cyclical market. Further, brisk sales of high-performance architectural glasses helped offset, to some extent, the weak housing market.

As the energy shortage became more acute, demand increased for upgraded architectural glass products that make possible well-insulated, energy-efficient buildings without sacrificing comfort, appearance and the psychological benefits of large vision areas.

Sales of PPG's medium-price *Solarcool* glass continued strong. This architectural glass, which is produced on the continuous float glass ribbon, is a versatile and durable reflective product that may be cut and fabricated like clear float glass without damaging the permanent reflective surface.

A new product was added in 1974 to PPG's family of high-performance insulating glass units, *Solarban 485 Twindow* glass. This double-glazed unit has a bronze tone and subtle level of reflectivity preferred by many architects.

Sloped glass base adds distinction to the Fort Worth National Bank Building—the Texas' tallest. The building's *LHR Solarbronze* reflective glass sheathing reduces air-conditioning loads and improves indoor climate.

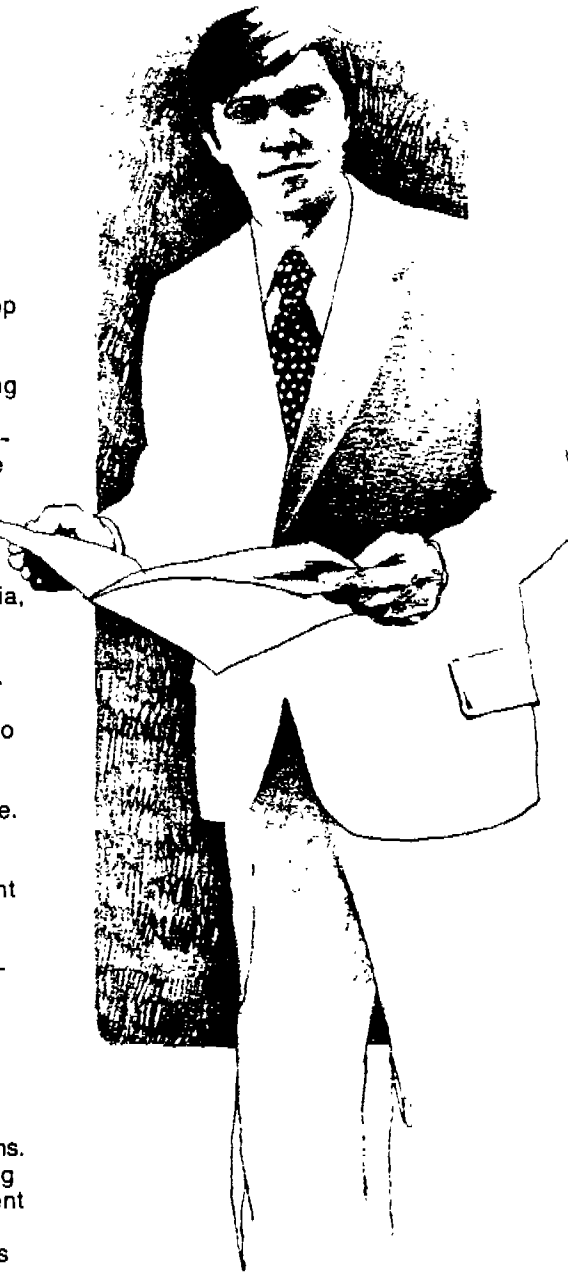


Recognizing the critical need to develop alternate sources of energy in the United States, PPG began production of solar energy collectors for hot water and heating systems for homes, schools and office buildings. Based on the Company's extensive glass technology, the collectors were cited by Industrial Research magazine as one of 1974's top 100 new technical developments.

The flat, tray-like solar collectors, produced at the firm's Ford City, Pennsylvania, plant, include two clear, tempered glass panels and an insulated black aluminum absorber plate enclosed in stainless steel. The sun's energy falling on an array of collectors heats fluid which is circulated to a heat exchanger. This fluid transfers the heat to a building's water heater, heating system or thermal storage unit for later use.

The market potential for economical, non-polluting solar energy systems is large. It is estimated that about 75 per cent of the nation has a climate suitable for practical solar heating. In the next five years, as many as 800,000 homes, in addition to thousands of multifamily and commercial buildings, could be using solar energy for heating, cooling, hot water, or all three applications. To take advantage of this potential, PPG has formed a new marketing group within the Glass Division to merchandise the Company's solar systems.

Progress was made in 1974 in converting production capabilities to the more efficient float glass process, as PPG took steps to enhance its position as the No. 1 flat glass producer in the United States.



At work on the leading edge of a promising new marketing development—solar collectors—is Raymond G. Gallagher, assistant manager of solar system sales. Working closely with research and production teams, Mr. Gallagher, who joined PPG in 1960 as a glass physicist, likes to see research ideas translated into marketable hardware. "Practical solar energy systems for homes and other buildings are available now, today," he says. "Harnessing the sun's power is one of the fastest, most economical ways to achieve energy self-sufficiency in the United States."

Production began in 1974 at Wichita Falls, Texas, PPG's newest and most modern flat glass plant, which was built to serve the commercial and residential construction industry in the west and southwest. The new facility has a production potential of approximately 400 million square feet of glass a year.

Engineering work began to convert PPG's Fresno, California, sheet glass manufacturing plant to production of float glass to serve west coast glass customers.

In expectation that the energy shortage will stimulate a continuing demand for insulating glass by home buyers, PPG broke ground at Marshall, Minnesota, for a second Glass-Edge Twindow glass fabricating plant. When completed, the new facility will provide high-volume fabrication lines for production of improved Glass-Edge Twindow Xi insulating units.

Demand for insulating glass is expected to be particularly strong in northern sections of the country, where double glazing in new homes is projected to increase from today's 70 per cent to nearly 100 per cent in 1978.

PPG's aircraft transparency business remained strong throughout 1974. Plans were announced to expand the Huntsville, Alabama, plant by 50 per cent to meet growing demand for sophisticated aircraft components. The expansion is scheduled for completion in 1975, and will extend PPG's fabricating capabilities further into the rapidly growing area of transparent plastic aircraft components.

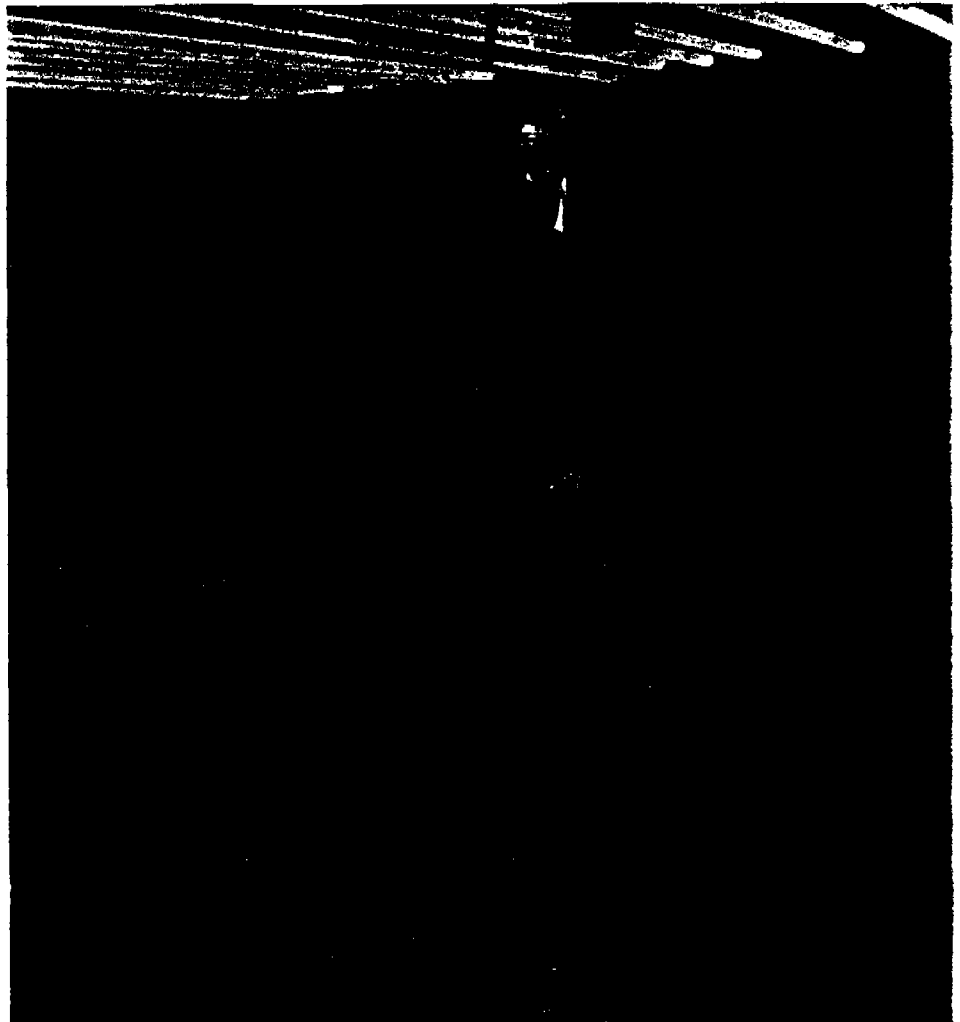
Growing public awareness of the injury potential of ordinary glass in hazardous locations in homes and other buildings, and enactment of safety glazing laws in 31 states in the past five years have spurred the demand for PPG tempered glass.

To provide faster service for non-standard sizes and replacement orders of *Herculite* tempered glass, medium capacity regional tempering centers were completed in 1974 at Dallas, Texas; Westboro, Massachusetts; and Cockeysville, Maryland. PPG now has five such regional tempering facilities, with additional units scheduled for construction in 1975.

To provide a broader range of building materials, PPG obtained distribution rights for three mineral panel products used for architectural cladding and a variety of internal cladding applications. The reinforced mineral panels, which presently are used widely in Europe, will be distributed nationally by independent distributors, as well as through PPG's distribution outlets. The panels are manufactured by Eternit, S.A., of Belgium.

Together with a minority shareholder, FEAL S.p.A., an Italian company, PPG organized a U.S. subsidiary, PPG-FEAL, Incorporated, for the design and construction of mid-rise office buildings using FEAL S.p.A. building systems. The company's building program has particular value to developers desiring a quality building with life-cycle cost advantages.

Shielded from heat by a protective technician monitors the coating of electrically conductive glass at the Huntsville, Alabama, production plant. The glass will be part of a new generation of defogging aircraft windows.



Sunshine not only makes plants grow, but also helps heat, cool and furnish hot water for a solar energy home in Columbus, Ohio. PPG's flat plate solar collectors, seen through the skylight, are the heart of the home's solar system.

Thinner auto glass, shown at left compared with previous size, contributes weight savings to many 1975-model cars. Improved fabrication technology at plants producing tempered side and rear windows provides up to 17 per cent weight reduction.

Laser beam helps a technician check the optical quality of a fabricated glass part. The use of laser beams and other advanced technology assures high quality control at plants producing fabricated glass products for transportation, construction and other markets.



New production technology at the Tipton, Pennsylvania, and Crestline, Ohio, plants has made it possible to produce thinner automotive tempered glass. Weight reduction of as much as 17 per cent has been achieved for *Herculite* safety glass windows for some 1975-model cars.

Merger of PPG's subsidiary glass operations in Italy with Vetreria di Vernante, S.p.A., a glass manufacturer in Italy, was completed in 1974. With the phase-out of the Glaces de Courcelles fabricating unit in Belgium, PPG glass manufacture and fabrication in Europe became concentrated in Italy. Production also began at the new Vernante float glass facility near Turin, giving PPG its first interest in a float glass plant outside the United States.

Market conditions at year's end caused temporary curtailment of operations at the Company's sheet glass plant at Mount Vernon, Ohio, and at PPG's oldest float glass installation at Cumberland, Maryland. The softness in demand provided an opportunity for a major consolidation of glass operations. This included streamlining the internal organization and elimination of obsolete facilities with the permanent shutdowns of higher-cost sheet glass operations at Henryetta, Oklahoma, and Clarksburg, West Virginia. With this consolidation, PPG remains in a strong position to take advantage of a return to normal level of demand.

PPG achieved record coatings and resins sales in 1974, surpassing industry performance for the seventh consecutive year.

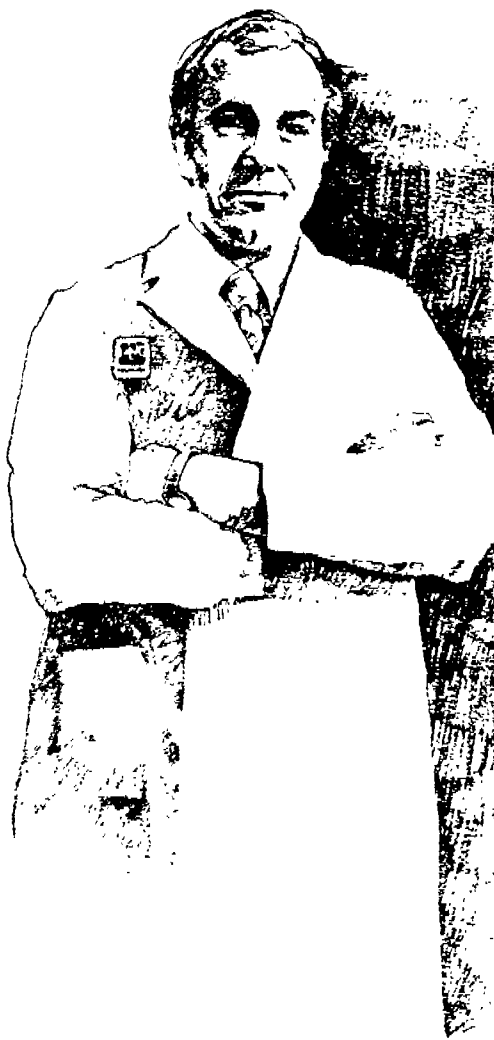
In this area of business, the Company enhanced its position as a progressive, creative, technically oriented unit able to meet environmental requirements as well as the needs of customers. This high level of performance, in a year marked by uncertain business conditions, acute shortages and sharply rising costs, reflects the blending of sales, marketing and technical skills of the people within the organization.

PPG's technical competence was spotlighted when raw materials shortages required reformulations in most product lines. This technological leadership enabled the Company to make the reformulations with the assurance that standards of quality expected by customers would be maintained.

Last year also saw progress in the development and customer acceptance of a more complete line of consumer and industrial water-base coatings. While some of these products contain small amounts of solvents, they meet increasingly stringent environmental standards.

A series of programs to expand research and production capabilities accelerated in 1974.

A new research center was dedicated at Allison Park, near Pittsburgh, reflecting PPG's commitment to highly sophisticated polymer chemistry in the area of coatings and resins. The new facility houses more than 100 scientists engaged in a variety of advanced research projects. Allison Park represents only one important segment of



Research associate Roger Scriven helped develop Durethane 200, a flexible coating for bumper systems, and is now at work on expanding PPG's line of water-base coatings. "Coatings research," he says, "is based on highly sophisticated polymer chemistry." Dr. Scriven sees the Company's new Allison Park Research Center as more than just a pleasant place to work and discover. "It indicates to me," he says, "that PPG is dedicated to its role of innovation and leadership in the coatings and resins field, an area with a bright future, and I want to be part of it."

PPG's coatings and resins research activities, and supplements its research and development laboratories nearby Springdale, as well as up-to-date technical laboratories at each of several domestic coatings and resins manufacturing plants.

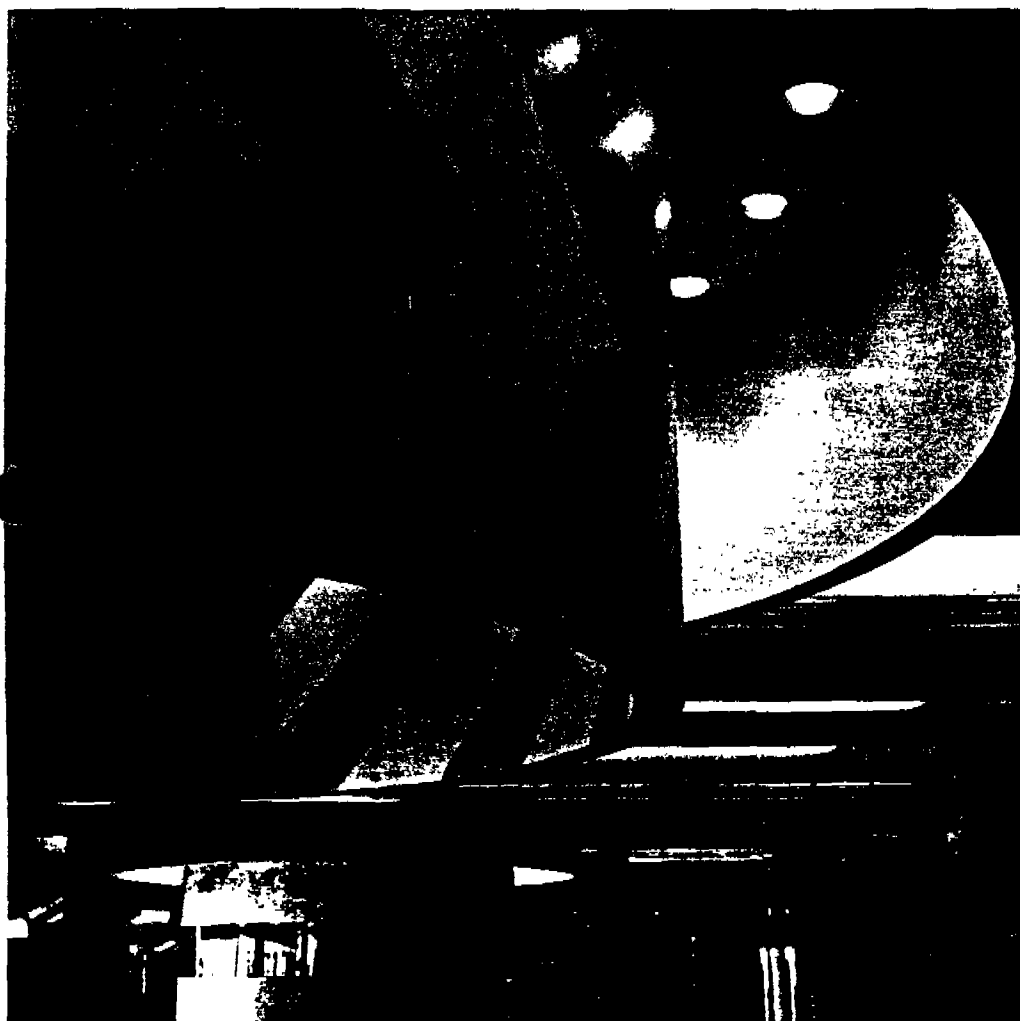
Construction of two new plants—at Oak Creek, Wisconsin, and Dover, Delaware—was under way in 1974. Segments of the Oak Creek plant, on a 160-acre site five miles south of Milwaukee, were completed in 1974, and by early 1975 production begun for all product lines. The three-building complex is PPG's largest paint plant, with an annual capacity of more than 13 million gallons, and will replace the Milwaukee facility, which was acquired from the Patton Paint Company in 1969. The year 1975 thus marks the 75th Anniversary of PPG's entry into the paint business.

The Dover plant, scheduled for completion in mid-1975, initially will produce the Company's line of water-base consumer paints, with a resins plant to be added later. At capacity, Dover will be capable of producing five million gallons of Pittsburgh Paints each year.

Designed to be a high-efficiency, high-volume plant, Dover will utilize pre-processed raw materials to achieve lower manufacturing costs. The new facility is strategically located to serve major coastal metropolitan markets.

Intensive research and development programs paid off in a number of product areas in 1974. In industrial coatings, substantial progress was made in custom-

Thousands of gallons of Pittsburgh Paints were used to enhance the terminal and hangar facilities of Braniff International Airlines at the new Dallas/Ft. Worth Airport in Texas.



conversions from solvent-base to water-base coatings formulated to meet federal and state emission standards.

There was acceptance of a significant PPG breakthrough, *Environ 1776*, the world's first water-borne interior coating commercially approved for beer and soft drink cans. The new product is a sprayable formulation that substantially reduces the amount of hydrocarbons emitted into the atmosphere during the spraying process. The *Environ 1776* coating is clear, does not transmit flavor, and protects cans from corrosion. It is expected to capture a large share of the beverage and beer can market in 1975.

PPG continued to maintain its competitive edge in the electrodeposition business. A new development, cationic electrodeposition, was cited by *Industrial Research Magazine* as one of the world's 100 most significant technical advancements of 1974.

Cationic electrodeposition is an electrolytic dip coating process which deposits a protective coating that provides at least five times the salt spray resistance of conventional anionic electrodeposition systems now in use. The new cationic systems hold great promise in the appliance and automotive fields.

There was increased acceptance by automobile manufacturers of water-base topcoats in 1974, and a new water-base flowcoat primer was used successfully in the appliance field, on farm machinery and in other areas where large surfaces must be coated.

1 BB 0001565 1

Restoration of nearly 600 century-old homes is a continuing project for the Lafayette Square Restoration Committee. Many of the homes in this area of St. Louis already have been refurbished with Pittsburgh Paints.

PPG introduced *Environ* 1776 coating, the world's first interior water-borne liner commercially approved for beer and soft drink cans. It is a sprayable formulation that reduces air pollution during the coating process.

Environ III, a water-base primer and topcoat system for galvanized steel and aluminum, is gaining acceptance in the metal building industry. It was introduced late last year and is expected to capture a significant portion of that important market in 1975.

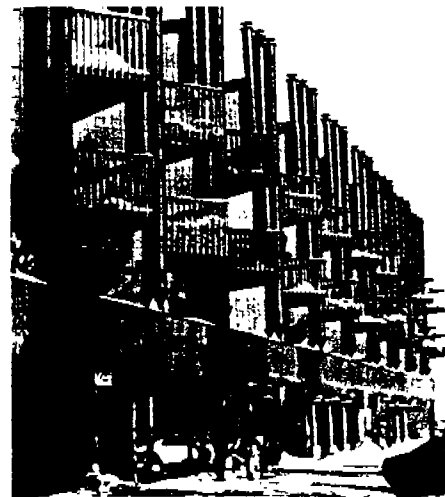
In the area of resin products, the first successful pigmentable polyester resin compounds for sheet molding applications were introduced, and already have achieved acceptance for use in housings and frames for computers and electrical switchgear.

In trade paints, there also was emphasis on the introduction of new lines of water-base finishes to meet customer demands and satisfy environmental considerations. Some 80 to 90 per cent of flat interior paints and 50 to 60 per cent of semi-gloss interior paints sold in the United States today are water-base coatings. Water-base paints are capturing an increasing share of the exterior paint market.

Three new water-base trade paints were introduced at year's end. *Pitt-Glaze* water-base acrylic-epoxy coatings are intended for use in place of the older solvent-base product where durability and high resistance to stain and chemical attack are required. Demand for the water-base product is expected to increase in such buildings as hospitals and schools, where minimal odor during application is particularly important.

REZ stains and varnishes have been used extensively in Colorado, where new construction has been increasing. A Pittsburgh product, *REZ* finishes are used on virtually all types of wood.

Lift trucks made by Towmotor Corporation, a subsidiary of Caterpillar Tractor Co., are flow-coated with PPG's water-based buff.



The new coatings and resins research center in suburban Pittsburgh features the most modern technological equipment available.



PPG also announced a water-base interior and exterior high-gloss enamel in keeping with the new "wet look" in interior decorating, and a water-base varnish that matches the properties of traditional high grade varnish.

Earlier in the year, the Company introduced a second line of less expensive Pittsburgh Paints in response to customer demand for a quality paint at lower cost.

With these new product introductions, PPG now has commercialized a matching water-base formulation for nearly every solvent-base paint in its trade sales line.

Penetration of foreign markets continued in 1974, as record sales were achieved. Sales outside the United States account for more than 20 per cent of the Company's coatings and resins business. Significant progress was made worldwide in both sales and technical innovations in automotive and appliance finishes as well as coil coatings and electrodeposition. PPG is a major supplier in the world market for these industrial finishes through manufacturing operations in France, Italy, Mexico, Venezuela and Canada, and through worldwide licensing of its coatings and resins technology.

One of the world's largest melting tanks for glass is part of a 1974 expansion at the Shelby, North Carolina, plant. The facility's annual capacity was increased to 150 million pounds.

PPG's fiber glass business continued to demonstrate the capacity for real growth in 1974, and operated at high levels in most areas.

The sharp decline in new car production affected markets for reinforced plastic auto components and fiber glass tire cord, but this was offset partially by a strong demand for corrosion resistant materials, particularly piping.

To help meet the demand for a wide variety of PPG products, plant capacity was increased significantly during the year, with another expansion project scheduled for completion in 1975.

A multimillion dollar expansion was completed at the Shelby, North Carolina, complex for textile yarns and plastic and rubber reinforcements. Going on stream was a new melting tank—one of the largest in the world, with an annual capacity of 35 million pounds of fiber glass. The tank was installed with a computer-controlled glass melting system, and can produce more fiber glass than the combined production of the first 16 tanks built at the complex.

An additional 35 million pounds of fiber glass yarn capacity will be added to PPG's production volume in 1975 with completion of the expansion of the Company's Lexington, North Carolina, plant.



DOMESTIC

Glass

Carlisle, Pa. Flat Glass, Tempered Glass
Creighton, Pa. Automotive and Aircraft Glass Fabrication
Crestline, Ohio Automotive and Specialty Glass Fabrication
Crystal City, Mo. Flat Glass
Cumberland, Md. Flat Glass
Ford City, Pa. Architectural and Insulating Glass Fabrication, Coated Glass, Tempered Glass, Solar Collectors
Fresno, Calif. Flat Glass, Tempered Glass
Greensburg, Pa. Automotive Replacement Glass Fabrication
Huntsville, Ala. Aircraft and Specialty Transparency Fabrication
Kokomo, Ind. Architectural Metals
Lincoln, Ill. Insulating Glass Fabrication
Meadville, Pa. Flat Glass
Mount Vernon, Ohio Flat Glass, Tempered Glass
Mount Zion, Ill. Flat Glass, Tempered Glass
Tipton, Pa. Automotive Glass Fabrication
Wichita Falls, Tex. Flat Glass

Chemicals

Barberton, Ohio Chlor-Alkalies, Silica Pigments, Fine Chemicals, Hydrogen Peroxide, Portland Cement.
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, Chlorobenzenes, 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 Electrocoating Equipment
Houston, Tex. Trade and Industrial Coatings, Polyester Resins
Milwaukee, Wis. Trade and Industrial Coatings
Oak Creek, Wis. Trade and Industrial Coatings, Resins
Plainfield, Ill. Radiation Curing Equipment
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

As many as 6,000 fiber glass filaments are drawn through bushings at the Shelby and Lexington, North Carolina, plants. The filaments are gathered into strands for use in textiles, plastics and as rubber reinforcements.

X-rays of radial tire sections reinforced with Hycor fiber glass tire cord are part of the testing and evaluation program designed to help tire manufacturers take advantage of the performance qualities of fiber glass.

For marine and land transportation uses, fiber glass reinforced plastics play an important role because they are light, strong and durable.



New product applications include the use of fiber glass as a reinforcement medium for cement and other inorganic structural materials. PPG research and development efforts in this area are focusing on the formulation of low-alkali cement systems that permit the use of production fibers.

Fiber glass carpeting became a semi-commercial reality in 1974 with approval by the Navy for shipboard use. Fiber glass carpeting has inherent fire safety characteristics that make it especially suitable for use in such areas as hospitals and aircraft.

In 1974, the Mycrodyn process, a new method of forming fiber glass, moved from the developmental to the scale-up stage. The Mycrodyn process utilizes a pressure rather than gravity system to form the fiber, vastly increasing the yield.

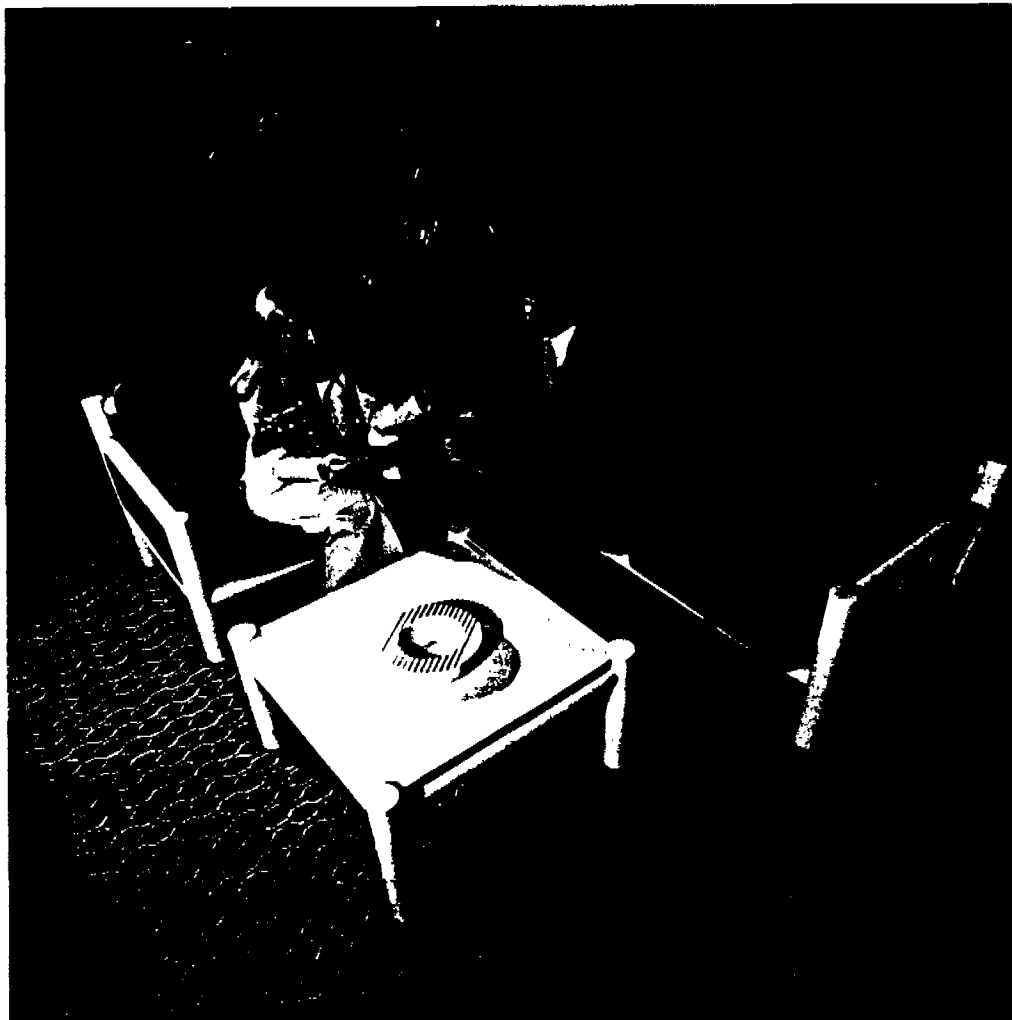
Because of continued favorable marketing conditions, export sales of PPG fiber glass continued at high levels throughout many parts of the world. In addition, significant interest has been generated in PPG's fiber glass manufacturing technology, and opportunities to license that technology are being explored.

Stylish furniture molded from fiber glass reinforced plastic is one of the many decorative applications for fiber glass.

Last year saw substantial growth in PPG's fiber glass yarn markets—industrial and decorative fabrics, tape and film reinforcement, non-woven electrical products, scrim, cordage, twine and carpet sealing tape. The possibility of new federal flammability standards for drapery fabrics, as well as introduction of new novelty yarns, is expected to increase the market for fiber glass decorative fabrics. Particularly promising is the outlook for fine fiber required for the laminates that make up many electronic printed circuit boards.

Fiber glass continues to compete with steel for the growing radial tire market. There now are more than 20 brands of fiber glass radial tires on the market. A key advantage of fiber glass tire cord over petitive materials is cost. At equivalent gn strengths, fiber glass is the lowest cost tire cord available, and is likely to remain so. In addition, tire manufacturers have found that an all-fiber glass radial tire can be built on an existing bias tire mold.

Fiber glass radial tires, which currently sell for about 15 to 20 per cent less than steel belted radial tires, are expected to be a factor in the 150-million-unit-a-year replacement tire market. This is about three times the size of the original equipment tire market.



David S. Banks likes people, one reason he has the job of manager of employee benefits at PPG Shelby, North Carolina, fiber glass plant. He sees his job as more than the administration of insurance, retirement and other benefits program. "Shelby and PPG need each other," he says. "When this plant and the community grow together, everyone benefits." In his job, Mr. Banks likes to stress the human aspects of this relationship. "People have got to know you really care," he says. "There's no way you can fake that. At PPG has shown it's a company that cares about people."

Construction began on a basic research center at a 16-acre industrial park in O'Hara Township, near Pittsburgh. Scheduled to be in operation by mid-year, the center will be equipped with a full-scale melting tank that will enable researchers to conduct round-the-clock experiments in such areas as melting techniques, binder development, bushing environments, and winder control. Previously, it was necessary to borrow production bushings for many such experiments.

At year's end, there was a significant reduction by the supplier in the contracted natural gas supply at the Shelby and Lexington plants, resulting in a temporary cutback in production as well as work force. The natural gas reductions were expected to continue at least into the spring of 1975. Fortunately, however, standby systems have been installed, a process that is continuing now, and substantial quantities of alternate fuels have been procured to minimize the effect of these cutbacks.

There was substantial growth in 1974 in two of the three primary fiber glass markets—reinforced plastics and textile yarns. The remaining major market—rubber reinforcements—was affected by the slump in automobile production, but signs continued to be encouraging in the radial tire business.



In the reinforced plastics market, which accounts for the largest share of the Company's fiber glass production, user requirements are expected to grow from an estimated 479 million pounds in 1974 to 755 million pounds by 1978. Accordingly, the Company's reinforced plastics marketing organization was revamped to provide flexibility to meet current and anticipated market needs. Five market units—marine, land transportation, construction, corrosion and electrical—were set up within the organization, and represent the areas where the most growth is expected to occur through 1978.

Marine applications continue to be the largest single end use of fiber glass reinforced plastics. Reinforced plastic is used as the hull material on about 40 per cent of all outboard boats, 88 per cent of all inboards, 96 per cent of all inboard/outboard combinations, and 98 per cent of all sailboats.

The land transportation market, which includes parts for cars, truck cabs and trailers, buses, recreational vehicles, tank trucks, and railway, subway and urban transportation vehicles, is expected to grow significantly. Principal advantages of fiber glass reinforced plastic parts for these uses include high strength-to-weight ratios, greater design and styling flexibility, lower tooling costs, and proven durability including resistance to corrosion.

FOREIGN

Glass

Caracas, Venezuela (49%) Automotive and Architectural Glass Fabrication
Cuneo, Italy (69%) Flat Glass, Architectural Glass
Hamilton, Ont., Canada Architectural Metals Fabrication
Hawkesbury, Ont., Canada (66%) Automotive Glass Fabrication
London, Ont., Canada Mirror, Insulating Glass, Architectural Metals Fabrication
Montreal, Que., Canada Insulating Glass, Architectural Metals and Mirror Fabrication, Flat Glass
Pose Jaw, Sask., Canada Insulating Glass Fabrication
Oshawa, Ont., Canada (66%) Automotive Glass Fabrication
Owen Sound, Ont., Canada Flat Glass, Tempered Glass, Insulating Glass
Roccasecca, Italy (69%) Automotive Glass Fabrication
Salerno, Italy (69%) Flat Glass
Strathroy, Ont., Canada Architectural Metals Fabrication
Tejeras, Venezuela (49%) Automotive and Architectural Glass Fabrication
Vancouver, B.C., Canada Architectural Metals, Fabrication
Vernante, Italy (69%) Flat Glass

Chemicals

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

Coatings & Resins

Milan, Italy (78%) Industrial Coatings
Mississauga, Ont., Canada Trade and Industrial Coatings
North Vancouver, B.C., Canada Trade and Industrial Coatings
Saultain, France (62%) Industrial Coatings
Tlalnepantla, Mexico (59%) Trade and Industrial Coatings
Toronto, Ont., Canada Trade and Industrial Coatings, Polyester Resins
Valenciennes, France (62%) Trade Coatings

Fiber Glass

Candiac, Que., Canada (32%) Insulation Products
Edmonton, Alta., Canada (32%) Insulation Products
Guelph, Ont., Canada (32%) Continuous Strand Textile Products, Chemical Resin
Hoogezand, The Netherlands (50%) Continuous Strand Textile and Plastic Reinforcement Products
Sarnia, Ont., Canada (32%) Insulation Products

Other

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

(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.)

1 BB 0001573 1

Board Directors

- †**Robinson F. Barker**, Chairman of the Board and Chief Executive Officer, PPG Industries, Inc.
- Charles M. Beeghly**, Retired Chairman of the Board and Chief Executive Officer, Jones & Laughlin Steel Corporation
- A. Paul Desruisseaux**, Chairman, Melchers Distilleries Ltd. (Canada)
- W. H. Krome George**, President and Chief Operating Officer, Aluminum Company of America

- ***James F. Jungé**, President, Pitcairn Incorporated
- Stephen F. Keating**, Chairman of the Board, Honeywell, Inc.
- ***John A. Mayer**, Retired Chairman of the Board and Chief Executive Officer, Mellon National Corporation and Mellon Bank, N.A.
- **Thomas J. McHugh**, Senior Vice President and Investment Director, Pitcairn Incorporated

- **Robert W. Morse**, Associate Director, Woods Hole Oceanographic Institution
- ***Joseph A. Neubauer**, President and Chief Operating Officer, PPG Industries, Inc.
- *†**Jack W. Robbins**, Senior Vice President and General Counsel, Pitcairn Incorporated
- **Julio A. Torres**, Executive Vice President, Banco de Ponce

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
- W. 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
- 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
- Robert F. Wells**, Vice President, General Sales, Glass Division
- John B. White**, Vice President, Flat Glass Group, Glass Division
- Elmer C. Larsen**, Vice President and General Manager, Coatings and Resins Division
- Harold G. Bittle**, Vice President, International, Coatings and Resins Division
- Richard P. Cook**, Vice President, Trade Paint Sales, 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
- Frederick F. Rhue**, Vice President, Automotive Finishes, Coatings and Resins Division
- Marco Wismer**, Vice President, Research and Development, Coatings and Resins Division

- J. Earl Burrell**, Vice President and General Manager, Chemical Division
- Richard H. Blair**, Vice President and General Manager, 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

- 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

- †Chairman, Executive Committee
- *Member, Executive Committee
- Member, Management Committee
- †Chairman, Audit Committee
- Member, Audit Committee

Annual Meeting

The Annual Meeting of Shareholders will be held on Thursday, April 17, 1975, 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

TRADEMARKS

These registered trademarks of PPG Industries, Inc., are used in this report: PPG Industries (monogram), CR-39, Furlon, Herculite, Hi-Sil, Hycor, LHR, Pels, Pitt-Glaze, Pittsburgh Paints, PPG: a Concern for the Future, REZ, Solarban, Solarbronze, Solarcool, Twindow, Twindow Xi.

Another trademark of PPG Industries, Inc., appearing in this report is: *Environ*.

Glanor is a trademark of PPG Industries, Inc., and Oronzio de Nora Impianti Elettrochimici S.p.A.

