

wood-treating business. Utility sales were considerably above the year-earlier figures. Improved prices absorbed increased costs.

● A strong U.S. residential construction market stimulated sales of treated wood products, wood-treating chemicals and hardwood lumber. Prices of spruce lumber sold into the U.S. from the Company's Canadian operations were very strong. The housing market is spurring other construction—of churches, schools, and recreational and commercial structures—and demand from these areas for treated and laminated wood continued to grow.

Backlog

Forest Products year-end backlog was \$83.6 million, versus \$69.9 million a year earlier. The total backlog is expected to be shipped during 1979 and, although all orders are considered firm, cancellation can be effected at any time except on finished material or that in process. Forest Products backlog peaks in the first quarter, and the high point represents approximately 50% of annual sales.

Forest Products Business

Koppers is a major producer of chemically treated wood, specialty wood-treating chemicals and laminated wood products, supplying both U. S. and Canadian markets. The Company is also a major producer of hardwood lumber in the U. S. and spruce lumber in Canada.

Chemical treatment of wood under pressure results in products that resist decay, invasion by insects and damage from fire. Products include railroad cross-ties; utility, transmission, distribution and lighting poles and accessory equipment; building poles and timbers; fence posts; foundation and marine piling; red cedar shakes and shingles; and construction lumber and plywood. Koppers also provides contract wood-treating services for industrial and commercial customers. Wood pressure treatments use conventional creosote, pentachlorophenol and waterborne salt preservatives, as well as proprietary processes with specialty chemicals under such trademarks as CELLON, NON-COM, NCX and WOLMAN. Koppers also licenses these proprietary processes and their trademarks and produces and supplies a broad range of chemicals used in pressure treatment, primarily to the more than 70 licensees using Koppers wood-treating processes and trademarks.

Koppers engineers and manufactures glue-laminated wood products for industrial, commercial and residential applications, such as structural wood beams, arches, columns, girders, trusses and lighting standards and power transmission structures.

Koppers International Canada, Ltd., a wholly owned subsidiary, carries out wood-treating and laminating operations in Can-

ada. It also manufactures laminated wood bridges and corrugated metal pipe for sewer and drainage lines.

U. S. sawmills, operated primarily to produce railroad cross-ties, also manufacture a substantial volume of hardwood lumber sold for flooring, furniture, pallets, paneling and other end products. Swanson Lumber Company Ltd., a wholly owned subsidiary, conducts logging and sawmill operations in western Canada to produce spruce lumber, which is sold predominantly in the U. S. housing market.

Raw Materials and Fuel

Timber is the predominant raw material used by Forest Products. The major requirements are Eastern and Southern hardwood to supply railroad cross-ties and furniture products; and softwood timber, primarily Southern yellow pine and West Coast species, to supply utility poles and construction timber. Approximately 10% of the Group's hardwood and softwood needs are supplied by Company-owned timberlands. Demand and price for softwood are directly influenced by housing starts, and thanks to the breadth of Koppers product mix and location of processing plants, the Company is able to purchase the necessary timber and finished raw materials needed. The long-term availability of Eastern hardwood is adequate, since the timber growth rate currently exceeds the rate of cut.

All of the spruce timber used by Koppers in Canada comes from land on which it has Provincial cutting rights that extend into the future and are renewable indefinitely if certain minimum cutting performances are met. Koppers intends to continue to satisfy these minimums.

Natural gas accounts for about half of Forest Products fuel use, fuel oil represents slightly more than one-third, and coal and wood supply the balance. All major plants are equipped to operate on alternative types of fuel. Fuel supply is adequate, and only the usual short-term plant shutdowns that have occurred each winter during periods of cold weather are anticipated.

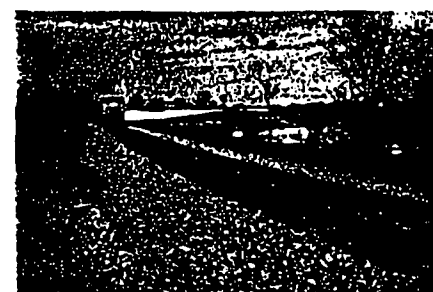
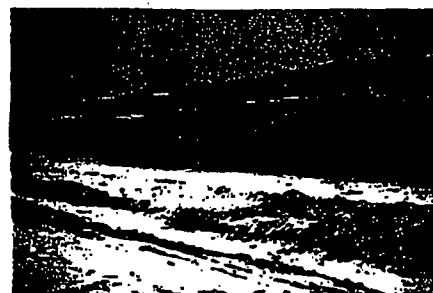
Competitive and Seasonal Conditions

The wood-preserving industry is highly competitive and fragmented. As the major nationwide supplier, Koppers usually has competition from regional operators. In addition,

treated and laminated wood products compete against such other materials as steel, concrete and aluminum. Price and service are the principal requirements for competition. Koppers broad range of products and strategic plant locations provide a significant competitive advantage in this business.

Most products supplied by Forest Products are sold directly to the end user by the Group's sales force. Much of Forest Products business is seasonal, since most products are related to the building industry. Sales are reduced during winter months, usually by about 30%, from the peak level of sales through summer months. Although sales of lumber are relatively stable, production is, for the most part, controlled by weather conditions.

Inventory represents a significant factor in the total investment of Forest Products. Sizable pole inventories must be maintained to ensure prompt, dependable service.



U.S. homebuilding is the primary market for spruce lumber supplied by Koppers Canadian operations.

Home improvement is a new and fast-growing application for Koppers treated wood and specialty wood-treating chemicals.

Railroad cross-ties represent the major application for pressure-treated wood.

Forest Products

1978 Sales by End Market	(\$ Millions)	%
Transportation	\$113.7	37
Lumber and Wood Products	70.0	22
Utilities	49.4	16
Architectural Construction	41.7	13
Engineered Construction	23.5	7
Other	15.4	5
	\$313.7	100