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# INDUSTRY PROFILE

Industry, Science and Technology Canada
Industrie, Sciences et Technologie Canada

# Industrial Rubber Products

Canada

# INDUSTRY PROFILE

# INDUSTRIAL RUBBER PRODUCTS

**1988**

## FOREWORD

In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to survival and growth. This Industry Profile is one of a series of papers which assess, in a summary form, the current competitiveness of Canada's industrial sectors, taking into account technological and other key factors, and changes anticipated under the Canada-U.S. Free Trade Agreement. Industry participants were consulted in the preparation of the papers.

The series is being published as steps are being taken to create the new Department of Industry, Science and Technology from the consolidation of the Department of Regional Industrial Expansion and the Ministry of State for Science and Technology. It is my intention that the series will be updated on a regular basis and continue to be a product of the new department. I sincerely hope that these profiles will be informative to those interested in Canadian industrial development and serve as a basis for discussion of industrial trends, prospects and strategic directions.

Robert de Cotret

**Minister**

Canada

## 1. Structure and Performance

**Structure**

The industrial rubber products industry in Canada consists of 115 establishments engaged primarily in the production of rubber, polyurethane and other elastomeric* components and finished products (excluding tires, tubes and footwear). Products include rubber hose, belting, weather stripping, and a wide range of others.

The industry makes industrial rubber products for virtually all manufacturing and resource processing industries. Its major markets are the resource-extraction, automotive and consumer-durables industries. An estimated 35 percent of the industry supplies products to resource extraction (mining, oil and gas and forestry) while another 30 percent of the industry relies on the automotive market.

The industry can be divided into several distinct product areas — commodity-type products such as hoses, V-belts and flat belting; custom-moulded and extruded goods (a wide range of custom goods supplied to customers mostly within a 150- to 200-kilometre radius of the point of manufacture); and specialized products which are unique or proprietary (some based on patented technology). This last category includes single-ply rubber roofing membranes, industrial and marine drive-shaft bearings and oil seals, marine dock fenders and railway crossing seals. While no precise numbers are available, commodity-type products are believed to account for about 65 percent of the Canadian industrial rubber products market; custom-moulded and extruded products for about 30 percent and specialized products only about five percent.



Industrial rubber products manufactured in Canada, ranked by percentage of value of total shipments, include:

| Product | Percentage value of shipments |
|---|---|
| Hose | 12 |
| Rubber weather stripping | 10 |
| Automotive moulded, extruded and lathe-cut goods | 10 |
| Flat belting, including conveyor, elevator and transmission | 8 |
| V-belts | 6 |
| Non-automotive moulded, extruded and lathe-cut goods | 6 |
| Tread rubber (for tires) | 5 |
| TOTAL | 57 |

* *An elastomer is any one of a number of natural or synthetic polymers with unique properties of deformation and elastic recovery.*

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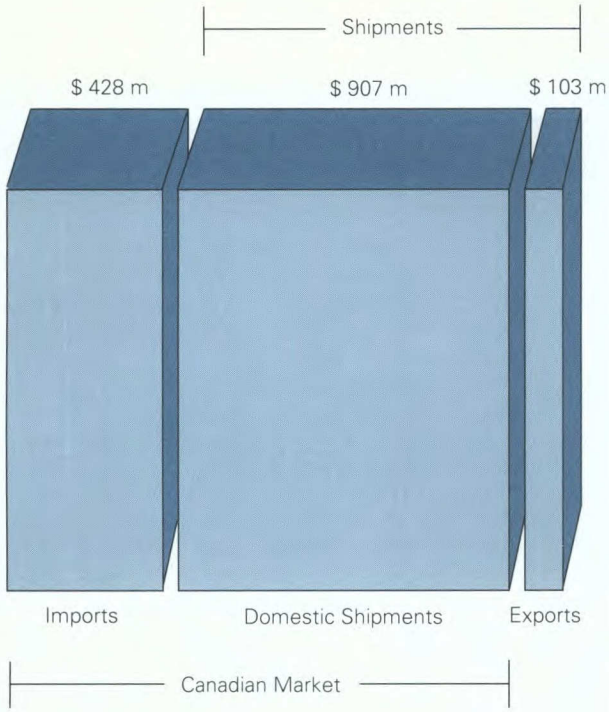



*Imports, Exports and Domestic Shipments 1986*

A wide variety of other products, including printing blankets, mats, vibration dampeners, sheeting and laminated material, make up the balance of the industry's output.

Based on 1986 data, it is estimated that the industry, which employs about 8500 persons, ships goods valued at approximately $1 billion annually. Fifty-eight percent of the establishments are located in Ontario, 25 percent in Quebec and 16 percent in western provinces. The employment distribution for each region roughly parallels the establishment figures. Establishments in Ontario and Quebec are generally larger than those elsewhere in the country. Ontario accounts for about 63 percent of shipments and Quebec for around 34 percent.

Approximately 75 percent of the value of shipments is produced by foreign-owned companies, which represent one-half of the total number of firms in the industry. The type of products manufactured by many subsidiary companies in Canada are similar to those made abroad by the parent corporations. Nevertheless, it is estimated that 60 percent of Canadian subsidiaries export some of their output, frequently selling to parent companies to complete a product range.

Foreign-owned subsidiaries dominate the manufacture of commodity-type products such as hoses, V-belts and flat belts, while the Canadian-owned firms tend to manufacture custom-moulded products, roll coverings, tank and pipe linings, and custom compounds. One Canadian-owned company, however, is an important manufacturer of hoses and V-belts as well.

The industrial rubber products industry is characterized by a high level of concentration. Some 12 companies in Canada, most of which are U.S.-owned and each with annual sales in excess of $35 million, account for approximately 40 percent of the value of industry shipments. Most of these firms manufacture an extensive range of products, widely used in other industries. Canadian-owned firms tend to be smaller (less than $5 million in sales each) and have a more limited product range. A few large Canadian firms have become prominent in North America in specialized product lines, or have grown through the acquisition of assets from major foreign firms which have been rationalizing their organizations.

Imports of industrial rubber products (83 percent from the United States) were valued at $428 million in 1986 and accounted for 32.1 percent of the Canadian market. These products consisted primarily of motor vehicle parts (17 percent); coated fabric (17 percent); hose (nine percent); belting (eight percent); and packing (seven percent). Interplant shipments by foreign-owned firms to round out product lines comprise a large portion of Canadian imports.

A substantial range of industrial rubber products are accorded duty-free access to the Canadian market. These account for an estimated 23 percent ($310 million) of the total domestic market. Approximately 30 percent of all imports enter Canada duty-free. These include rubber components and materials used in the manufacture of agricultural equipment and a large variety of machinery, and original equipment manufacturer (OEM) automotive rubber parts such as weather stripping, brake parts, bumpers, bushings, gaskets, grommets, engine and body mounts and insulators.

Approximately one-half of the value of duty-free industrial rubber product imports ($65 million in 1986) enter Canada under the terms of the Canada-U.S. Automotive Products Trade Agreement (Auto Pact). An estimated 60 percent of Canada's exports are shipped to the United States under the Auto Pact.

The industrial rubber products industry in Canada serves mainly the domestic market. Only 10.2 percent ($103 million) of the value of shipments were exported in 1986 (78 percent to the United States), mainly as rubber hose (43 percent). Similarly, this industry is also domestically oriented in a number of other countries, including the United States, Europe, Japan and India.

Raw materials account for about 56 percent of direct manufacturing costs for industrial rubber products. Labour and energy costs represent about 30 percent and 14 percent, respectively. Basic elastomers (synthetic, specialty or natural) and additives (carbon black, clays, accelerators, plasticizers, pigments and other chemicals) — used in compounding the precise formulation needed by the manufacturer — account for about 60 percent and 22 percent, respectively, of these raw materials costs. A wide range of other components, yarns, fabrics, hardware and packaging, make up the balance. Approximately 65 percent of raw materials are domestically sourced. Imported raw materials consist primarily of natural and specialty elastomers not manufactured in Canada.

Polysar Limited in Sarnia, Ontario, is the sole domestic supplier of synthetic rubbers and provides most of the synthetic elastomers consumed in Canada. Some Canadian subsidiaries are supplied by their U.S. parent firms.

Suppliers of elastomers, chemical additives and compounded elastomers are major sources of technical assistance to the processing industry.

**Performance**

Over the last 10 to 15 years, neither shipments* nor the apparent consumption of industrial rubber products (excluding rubber tires, tubes) have grown significantly in Canada, the United States, the European Community (E.C.) and Japan. The value of shipments grew at a real annual rate of only 1.1 percent between 1973 and 1986. By comparison, shipments by all manufacturing industries grew at an annual rate of 2.3 percent. Employment has been essentially stagnant over this period, except for the sharp decline and subsequent recovery associated with the 1981-83 recession.

Rationalization in the North American industry began during the mid-1970s and accelerated after the recession. Since then, a few major multinationals have withdrawn from the industrial rubber products industry altogether, and some of their assets have been purchased by new owners or managers. In recent years, there have been a number of new entrants generally engaged in the production of specialized products, such as roofing membrane and custom hose.

* *Principal statistics for establishments, employment and shipments are estimated figures based on industry information and Statistics Canada data for the entire rubber products industry.*

The import share of the market has risen steadily from 23.2 percent in 1980 to 32.1 percent in 1986, while export performance has improved from 5.8 percent of shipments in 1980 to 10.2 percent in 1986, partly as a result of the rationalization of Canadian and U.S. production facilities.

For industrial rubber product manufacturers in Canada, 1982 profits after tax fell dramatically with the start of the recession. They have subsequently recovered and have remained between three percent and four percent, especially since 1984. Barring any significant economic downturn, most manufacturers expect profitable operations to continue.

## 2. Strengths and Weaknesses

**Structural Factors**

The key factors influencing competitiveness in the Canadian industrial rubber products industry are economies of scale, technology, degree of rationalization, service to customers, proximity to markets (for custom moulders and extruders) and the exchange rate.

In general, Canadian plants, which manufacture commodity-type products or custom products, operate on a smaller scale and with shorter production runs than plants in the United States. As a result, they have higher fixed costs per unit of output (overhead, marketing, distribution and administration) than their American counterparts. Canadian producers are usually cost-competitive with U.S. firms in raw material costs and, in some cases, also in labour costs.

Labour productivity (value-added per production-worker hour) is considerably lower in Canada than in the United States because of the smaller economies of scale and lower level of employed capital. In addition, U.S. labour costs tend to be lower in cases where American manufacturers locate their plants in states with "right-to-work" legislation (such as Alabama, where it is not obligatory for a worker to join a union).

Canadian producers of custom-moulded and extruded products and commodity-type products for the resource-extraction industry, are somewhat insulated from import competition because they are close to their customers and can offer extensive customer service.

Many U.S.-owned firms, particularly those serving automotive markets, have rationalized and will continue to rationalize production with their affiliated plants in the United States in order to improve efficiency and productivity. However, some foreign-owned companies in Canada (mostly U.S.-owned) are restricted from serving American and other export markets. This restriction limits their prospects for growth and improved competitiveness.

Currently, Canadian manufacturers benefit from tariff protection of approximately 10 percent for many of the dutiable industrial rubber products imported from the United States.

Exchange rates are an important competitive factor. However, industry estimates are that the competitive advantage is marginal when the Canadian dollar is valued at approximately US$0.85.

Higher freight costs, as well as the cost and logistical difficulty of providing service to customers from greater distances, generally favour Canadian manufacturers in the domestic market. These same factors, however, impede the development of export markets for Canadian producers. Future growth may largely be contingent on an increased foreign market presence through the direct establishment of foreign manufacturing plants and distribution networks. Another approach may be for Canadian firms to enter into partnership agreements with local firms in other markets. This arrangement would help to rationalize production and share marketing and distribution of each partner's products in their respective markets.

**Trade-related Factors**

Current Canadian Most Favoured Nation (MFN) tariff rates for industrial rubber products range from duty-free to 17.5 percent. Many of these products are assessed at 10.3 percent or 11.3 percent. The U.S. tariff rates range from duty-free to 6.6 percent, with many products dutiable at between 3.1 percent and 5.3 percent. For products which do not fall under the Auto Pact, U.S. rates are generally one-half of those in Canada. Japan and the E.C. have tariff rates ranging from 3.4 to 5.8 percent and from 2.5 to 10 percent, respectively.

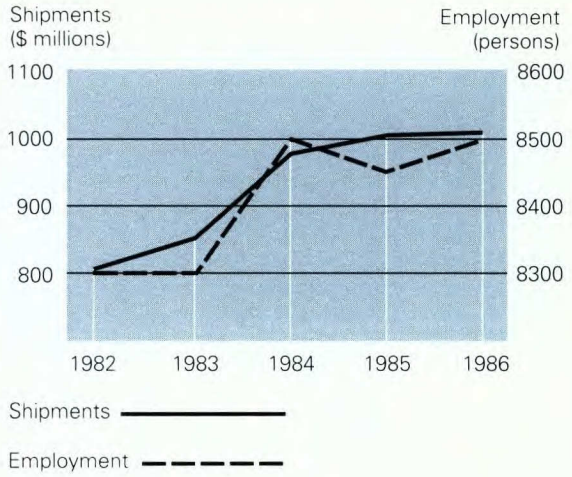
One non-tariff barrier which has adversely affected Canadian exports of hose, conveyor belting and some moulded and extruded rubber products has been the U.S. "Buy-America" legislation.

Under the Canada-U.S. Free Trade Agreement (FTA), Canadian and U.S. tariffs will be eliminated in 10 equal annual steps, beginning in January 1989. As noted above, Canadian tariffs are, on average, double those of the United States. As well, the provision in the FTA for temporary entry should ensure that business persons and enterprises have improved and necessary access to the U.S. market, to sell their products and provide after-sales service to their customers. The FTA provisions on government procurement mark important new progress in expanding the market opportunities for Canadian and U.S. suppliers of goods to each other's governments, by increasing the amount of procurement open for competition.

**Technological Factors**

The industrial rubber products industry in Canada has ready access to technologically advanced raw materials and generally employs modern machinery and equipment. Major sources of product and processing technology are the United States, Japan and European countries.

Limited research and development is performed in Canada, but technology is generally available to foreign-owned subsidiaries.




*Total Shipments and Employment**

** ISTC estimate*

Some Canadian-owned manufacturers have developed technologies resulting in novel products that have contributed to the increase in production and exports. These products include the dual-durometer rubber automotive weather strip; silicone rubber keypads for use in printed circuit boards and membrane switches; synthetic-polymer marine and industrial shaft bearings that withstand high-impact loads and contaminated operating conditions better than conventional bearings; single-ply rubber roofing membranes; and railway crossing seals.

Recent developments in thermoplastic-elastomer chemistry (raw materials) and microprocessor control of process machinery are important technologies which offer improvements in productivity, cost and product quality. While thermoplastic elastomers are unlikely to replace conventional thermoset rubbers totally, they are expected to continue to make inroads into thermoset rubber uses, producing lower-cost parts with equal or better performance. Applications for which thermoplastic elastomers are replacing thermoset rubbers include seals, gaskets, hose, flexible tubing, coated fabrics, weather stripping, sheeting, conveyor belting, boots on steering columns and air ducts in automobiles.

## 3. Evolving Environment

Technological advances, such as the increasing use of injection-moulding machinery and thermoplastic elastomers, could make the industry less labour intensive and more productive. These developments are not likely to improve the trade performance of the Canadian industry significantly, but will be necessary to maintain its productivity and technical position in the domestic market.

Specialty elastomers, such as silicone, polychloroprene, polyisoprene, urethane, ethylene-propylene and copolyester, are expected to account for a larger share of total elastomer consumption over the next five to 10 years. Nearly 30 percent of elastomers consumed by the Canadian industrial rubber products industry are of these types — a percentage which may rise to 40 percent by 1993. Most of these specialty elastomers are, and probably will continue to be, imported mainly from the United States. As a result, there will likely be a reduction in the volume of domestically produced synthetic rubbers.

Automobile makers in North America are now committed to leading-edge technology. This commitment has forced a number of industrial rubber product manufacturers, traditionally important suppliers to auto manufacturers, to adopt modern methods such as statistical process control and just-in-time delivery systems.

In general, the implementation of the FTA will mean easier access to a huge portion of the adjacent U.S. market for Canadian producers, most of whom are located in southwestern Ontario and southern Quebec. The reduction of tariffs (which are generally twice as high in Canada compared with those in the United States) is expected to depress prices in Canada. This price cut will adversely affect the profitability of the Canadian industry in the market for commodity-type products.

The 10-year phase-in period will ease these effects and generally allow manufacturers to adjust. Rationalization of commodity-type product manufacturing within many U.S.-owned, multi-plant firms has already taken place and will probably intensify under the FTA. Regional manufacturers of custom-moulded and extruded goods will not be greatly affected by the FTA because these products are not generally traded. Smaller manufacturers of commodity-type products likely will rationalize their product range and further penetrate market niches in North America. Exports of specialized products are likely to rise as a result of improved U.S. market access.

The net effect of the FTA is expected to be a nominal increase in the volume of production (five to 10 percent) from Canadian plants, and a slight increase in total employment.

In a free-trade environment, geographic market rationalization is expected, with central Canadian suppliers focusing on adjacent Canadian and U.S. markets. As a result, they may restrict or eliminate shipments to far eastern and western regions of Canada in order to concentrate market area and thus lower unit marketing and distribution costs. Increased marketing and capital costs needed to improve competitiveness could be difficult for the smaller manufacturers to absorb. The development of new partnerships and joint ventures with other companies, therefore, may be essential for their continued participation in the marketplace.

For suppliers of industrial rubber products, the FTA provisions on government procurement should expand market opportunities to government markets in both the United States and Canada.

## 4. Competitiveness Assessment

Canadian plants that manufacture commodity-type or custom industrial rubber products generally have higher operating costs than their American counterparts. Foreign-owned manufacturers dominate the production of many major commodity-type product lines. They have forced, and will continue to force, corporate rationalization on a North American scale. In some cases, this rationalization has favoured Canadian locations. Favourable exchange rates will be a major factor in future rationalization decisions.

Manufacturers of specialized products are already internationally competitive because of the unique performance qualities of their products. They are expected to continue to compete successfully as long as their products offer a performance advantage — more a technological than productivity challenge.

Within a free-trade environment, the industrial rubber products industry in Canada will likely see its U.S.-controlled companies rationalize even more quickly. For Canadian-owned companies, the FTA will result in improved efficiencies and competitiveness through commercial alliances with U.S.-based firms for the distribution of a narrower product range to the U.S. market. While significant net changes in production are not likely for many Canadian subsidiaries, Canadian-owned manufacturers which have, or can develop, the required production, marketing and financial capabilities, are expected to increase their volume of shipments to the more accessible U.S. market.

For further information concerning the subject matter contained in this profile, contact:

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Attention: Industrial Rubber Products
235 Queen Street
Ottawa, Ontario
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(613) 954-3016

## PRINCIPAL STATISTICS — SIC(s) COVERED: 1521 & 1599 (1980)

| | 1973 | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|---|
| Establishments[e] | 72 | 100 | 102 | 101 | 104 | 115 |
| Employment[e] | 8 685 | 8 300 | 8 300 | 8 500 | 8 450 | 8 500 |
| Shipments ($ millions)[e] | 280 | 805 | 855 | 980 | 1 005 | 1 010 |
| Gross domestic product* (constant 1981 $ millions) | 278 | 286 | 334 | 428 | 412 | 406 |
| Investment ($ millions)* | 42 | 86 | 38 | 46 | 47 | 52 |
| Profits after tax ($ millions)* | 14 | 18 | 25 | 53 | 49 | N/A |
| (% of income) | 3.3 | 1.8 | 2.1 | 3.9 | 3.3 | N/A |

## TRADE STATISTICS

| | 1973 | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|---|
| Exports ($ millions) | 17 | 67 | 68 | 81 | 93 | 103 |
| Domestic shipments ($ millions) | 263 | 738 | 787 | 899 | 912 | 907 |
| Imports ($ millions) | 94 | 249 | 295 | 392 | 405 | 428 |
| Canadian market ($ millions) | 357 | 987 | 1 082 | 1 291 | 1 317 | 1 335 |
| Exports as % of shipments | 6.1 | 8.3 | 8.0 | 8.3 | 9.3 | 10.2 |
| Imports as % of domestic market | 26.3 | 25.2 | 27.3 | 30.4 | 30.8 | 32.1 |

| Source of imports (% of total value) | | U.S. | E.C. | Asia | Others |
|---|---|---|---|---|---|
| | 1982 | 83 | 8 | 7 | 2 |
| | 1983 | 84 | 6 | 7 | 3 |
| | 1984 | 84 | 7 | 7 | 2 |
| | 1985 | 83 | 8 | 7 | 2 |
| | 1986 | 83 | 8 | 7 | 2 |

| Destination of exports (% of total value) | | U.S. | E.C. | Asia | Others |
|---|---|---|---|---|---|
| | 1982 | 73 | 4 | 4 | 19 |
| | 1983 | 85 | 4 | 3 | 8 |
| | 1984 | 78 | 4 | 4 | 14 |
| | 1985 | 78 | 3 | 4 | 15 |
| | 1986 | 78 | 3 | 5 | 14 |

**(continued)**

## REGIONAL DISTRIBUTION — Average over the last 3 years

| | Atlantic | Quebec | Ontario | Prairies | B.C. |
|---|---|---|---|---|---|
| Establishments – % of total | 1 | 25 | 58 | 6 | 10 |
| Employment – % of total | — | 33 | 60 | 3 | 4 |
| Shipments – % of total | — | 34 | 63 | 2 | 1 |

## MAJOR FIRMS

| Name | Ownership | Location of Major Plants |
|---|---|---|
| Goodyear Canada Inc. | American | Bowmanville, Ontario<br>Owen Sound, Ontario<br>Collingwood, Ontario<br>Québec City, Quebec |
| DiversiTech General, Engineered Elastomers Division | American | Welland, Ontario |
| Waterville TG Inc. | Canadian | Waterville, Quebec<br>St-Jérôme, Quebec<br>Coaticook, Quebec |
| Gates Canada Inc. | American | Brantford, Ontario |
| Epton Industries Inc. | Canadian | Kitchener, Ontario |
| American Biltrite Canada Ltd. | American | Sherbrooke, Quebec |
| Aeroquip Canada Inc. | American | Toronto, Ontario<br>Perth, Ontario |

e ISTC estimate
N/A Not available
* Values are determined by a process which pro-rates shipments of industrial rubber products against shipments of all rubber products, including tires and tubes and footwear.

**Note**: Statistics Canada data have been used in preparing this profile.

# Regional Offices

### Newfoundland

Parsons Building
90 O'Leary Avenue
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ST. JOHN'S, Newfoundland
A1B 3R9
Tel: (709) 772-4053

### Prince Edward Island

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CHARLOTTETOWN
Prince Edward Island
C1A 7M8
Tel: (902) 566-7400

### Nova Scotia

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Tel: (902) 426-2018

### New Brunswick

770 Main Street
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New Brunswick
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