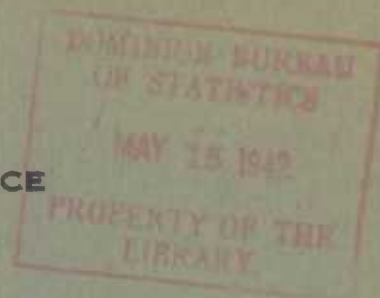


44-203  
C.1

Historical File Copy

Published by Authority of the Hon. James A. MacKINNON, M.P.,  
Minister of Trade and Commerce.

**CANADA**  
**DEPARTMENT OF TRADE AND COMMERCE**  
**DOMINION BUREAU OF STATISTICS**  
**CENSUS OF INDUSTRY**  
**MINING, METALLURGICAL & CHEMICAL BRANCH**



---

**THE**  
**ASBESTOS INDUSTRY**  
**IN**  
**CANADA**  
**1940**

including: 1. The Asbestos Mining Industry.  
2. The Asbestos Products Industry.



OTTAWA  
1942

Price 25 cents



Acting Dominion Statistician:	S. A. Cudmore, M.A., (Oxon.), F.S.S., F.R.S.C.
Chief - Mining, Metallurgical and Chemical Branch:	W. H. Losee, B.Sc.
Mining Statistician:	R. J. McDowall, B.Sc.
Statistician - Metal and Chemical Products	H. McLeod, B.Sc.

THE ASBESTOS MINING INDUSTRY, 1940, and THE ASBESTOS PRODUCTS INDUSTRY, 1940

A - THE ASBESTOS MINING INDUSTRY

Production (mine sales) of asbestos in Canada during 1940 was slightly lower in both quantity and value as compared with the output of 364,472 short tons valued at \$15,859,212 in 1939. The value of sales in 1939 was the highest ever recorded and the tonnage shipped was surpassed only by that of 1937. The entire production in the Dominion during 1940 came from mines in the eastern townships of the province of Quebec. Owing to wartime censorship, complete data relating to 1940 production of asbestos in Canada are not available for publication.

Canadian asbestos as produced commercially in Quebec is of the chrysotile or serpentine variety and is of high quality. Reserves of milling grade asbestos rock have been reported as sufficient for many years of commercial fibre production. Production of asbestos in Canada from 1880 to 1939, inclusive, totalled 6,930,368 short tons valued at \$255,017,509.

The average value per ton for all grades of mine shipments in 1940 was \$45.04 compared with \$43.51 in 1939; value of crudes in 1940 was \$372.12 per ton against \$300.68 in 1939; fibres, \$63.85 per ton in 1940 compared with \$62.12 in 1939 and shorts, \$19.98 in 1940 against \$17.15 in the preceding year.

The total value of Canadian asbestos exports in 1940 reached \$15,832,755 compared with \$15,844,705 in 1939. Imports into Canada of various asbestos products in 1940 were appraised at \$1,620,385, against \$1,072,443 in the preceding year.

The number of Canadian asbestos companies reported as active in 1940 totalled 8; capital employed in the industry amounted to \$19,799,280; employees numbered 3,886 against 3,784 in 1939 and salaries and wages distributed aggregated \$4,728,702 compared with \$4,347,064 in 1939.

Thermal studies on asbestos have recently been made in the laboratories of the National Research Council, Ottawa and the following abstracts are from papers published by the Council:

I. Effect of Temperature and Time of Heating on Loss in Weight and Resorption of Moisture, by D. Wolochow and W. Harold White, N.R.C. No. 969.

"Heating a chrysotile asbestos mill fibre has shown that in the approximate temperature range of 500 to 700 degrees C. the loss in weight depends on both the time and temperature. At other temperatures the loss is practically independent of the time.

"Prolonged heating at about 490 degrees C. expelled about 25 per cent and at 510 degrees C. about 50 per cent of the combined water. Complete dehydration occurred on prolonged heating at about 580 degrees C., but only above 700 degrees C. was the loss in weight rapid.

"On the basis of the data obtained on the resorption of moisture it is suggested that heating for half an hour at 215 degrees C. would be a more accurate and rapid method for determining free moisture than that commonly employed."

II. Effect of Heat on the Breaking Strength of Asbestos Tape and Glass Fibre Tape, by D. Wolochow, N.R.C. No. 970.

"The first result of heating pure chrysotile asbestos tape, crocidolite (blue) asbestos tape, and glass fibre tape to drive off the absorbed moisture is an increase in breaking strength.

"Pure chrysotile tape does not lose strength till a temperature of 370 degrees C. is exceeded. Prolonged heating at 430 degrees C. causes a loss in strength of about 20 per cent, at 480 degrees C. of about 40 per cent. Heating at 540 degrees C. causes a rapid loss in strength.

"Crocidolite asbestos tape loses strength more rapidly than chrysotile asbestos tape.

"Glass fibre tape, although initially stronger than chrysotile tape, is considerably less resistant to heat, beginning to lose strength rapidly at about 250 degrees C., whereas chrysotile asbestos tape does



not suffer any appreciable decrease in strength till a temperature of 400 degrees C. is exceeded."

III. Effect of Heat on the Breaking Strength of Asbestos Cloth Containing Cotton, by D. Wolochow, N.R.C. No. 972.

"Commercial underwriters' and A grades of asbestos cloth begin to lose strength as soon as heat is applied. On heating for five minutes at 300 degrees C. these three grades of asbestos cloth lose approximately 60, 35, and 25 per cent of their original (conditioned) breaking strength, respectively. Charts are given showing the effect of heating, at temperatures up to 600 degrees C., for periods up to one hour."

MARKET CONDITIONS

(From the June, 1941 publication "Asbestos" - Philadelphia, Pa.)

General Business - The effect of the Defense Program on general business in the United States is being felt to an extent which, despite various warnings and constant reminders, was not really expected by the public six months ago.

The American Public's fond belief that we can do anything we set out to do, while partially justified, at the same time makes it difficult to accomplish all that is to be done, because of the indifference resulting from that belief.

At that the progress to date which has been made in the program is altogether amazing, considering that we had to start practically from "scratch". The rapidity with which many confusing and hindering factors have been straightened out or disposed of, is deserving of the highest congratulations.

Asbestos - Raw Material - The United States is drawing its asbestos requirements more heavily from Canada than for many months past.

Shipments of other types of asbestos from South Africa are reaching these shores with accelerated speed. Larger shipments than formerly are reaching us from Australia and India.

Prices on all asbestos, other than Canadian, are showing an advance due to the increase in ocean freight, marine and war risk insurance rates.

Asbestos--Manufactured Goods - Textiles: There is little new to report on the textile situation. Demand continues to increase; inquiries continue in increasing numbers; prices have reached a more satisfactory level than for many years past, and this does not mean that they are now exorbitantly high, but rather that they were formerly extraordinarily low. Naturally most of this activity, as the activity in many other commodities, is due to defense—in fact much of the demand can be traced to the use of insulating tapes and other textile products in motors.

Table 1 - SALES AND SHIPMENTS(x) OF CANADIAN ASBESTOS, 1937, 1938 and 1939

	1937		1938		1939	
	Tons	\$	Tons	\$	Tons	\$
Crudes .....	3,846(b)	947,917	2,911	955,423	3,121	938,718
Fibres .....	200,247	10,235,820	163,097	9,710,899	193,992(c)	12,049,539
Shorts .....	205,933	3,322,054	123,785	2,223,873	167,359	2,870,955
TOTAL .....	410,026	14,505,791	289,793	12,890,195	364,472	15,859,212
Sand, gravel, and stone (waste rock only) (a) ..	3,980	3,301	3,279	2,464	3,897	2,930

(x) All from the province of Quebec unless otherwise noted.

(a) This production is included under the sand and gravel industry.

(b) Includes 1 ton valued at \$250 produced in Ontario.

(c) Includes 18 tons valued at \$720 produced in Ontario.

	1937	1938	1939
	Tons		
Quantity of rock mined .....	6,477,805	5,816,368	6,650,416
Quantity of rock milled .....	5,440,607	4,874,548	5,548,765

NOTE: Corresponding data for 1940 are not available for publication.

Table 2 - SALES AND SHIPMENTS OF ASBESTOS, 1926 - 1939

Year	Tons	\$	Year	Tons	\$
1926 .....	279,403	10,099,423	1933 .....	158,567	5,211,177
1927 .....	274,778	10,621,013	1934 .....	155,980	4,956,326
1928 .....	273,033	11,238,360	1935 .....	210,467	7,054,614
1929 .....	306,055	13,172,581	1936 .....	301,287	9,958,183
1930 .....	242,114	8,390,163	1937 .....	410,026	14,505,791
1931 .....	164,296	4,812,886	1938 .....	289,733	12,890,195
1932 .....	122,977	3,039,721	1939 .....	364,472	15,859,212

Table 3 - IMPORTS INTO CANADA AND EXPORTS OF ASBESTOS, 1939 and 1940

	1939		1940	
	Tons	\$	Tons	\$
<u>Imports -</u>				
Asbestos clutch facings for automobiles, motor vehicles and chassis .....	...	36,895	...	84,945
Asbestos brake linings for automobiles, motor vehicles and chassis .....	...	185,673	...	276,292
Asbestos brake linings and clutch facings, n.o.p. Asbestos in any form other than crude, and all manufactures of, n.o.p. ....	...	19,855	...	32,860
Asbestos packing .....	...	764,946	...	1,096,823
Asbestos packing .....	65	65,074	142	129,465
TOTAL .....	...	1,072,443	...	1,620,385
<u>Exports -</u>				
Asbestos (crude) (A) .....	186,230	12,463,177	2,082	728,086
Asbestos milled fibres (a) .....	...	...	179,564	11,653,506
Asbestos waste, refuse and shorts .....	159,780	2,902,111	154,929	3,142,713
Asbestos manufactures, including asbestos roofing .....	...	479,415	...	308,450
TOTAL .....	...	15,844,703	...	15,832,755

(A) Included asbestos milled fibres prior to January 1, 1940.

(a) From January 1, 1940.

Table 4 - PRINCIPAL STATISTICS OF THE ASBESTOS MINING INDUSTRY IN CANADA, 1938, 1939 and 1940

	1938	1939	1940
Number of firms .....	8	8	8
Capital employed .....	\$ 22,008,771	\$ 22,489,233	\$ 19,799,260
Number of employees - On salaries (c) .....	313	299	320
On wages .....	3,398	3,485	3,586
Total .....	3,711	3,784	3,886
Salaries and wages - Salaries .....	\$ 584,792	\$ 608,529	\$ 641,770
Wages .....	\$ 3,439,571	\$ 3,738,535	\$ 4,086,932
Total .....	\$ 4,024,363	\$ 4,347,064	\$ 4,728,702
Selling value of products (a) .....	\$ 12,892,659	\$ 15,862,142	\$ 15,624,656
Cost of fuel and electricity (purchased) ...	\$ 1,298,089	\$ 1,376,568	\$ 1,520,907
Cost of process supplies (b) .....	\$ 1,889,636	\$ 2,086,945	\$ 2,200,061
Net value of sales .....	\$ 9,704,934	\$ 12,398,629	\$ 11,903,688

(a) Includes value of sand and gravel.

(b) Explosives, drill steel, etc.

(c) In 1940 includes 40 females; 41 in 1939 and 41 in 1938.

Table 5 - CAPITAL EMPLOYED IN THE ASBESTOS INDUSTRY IN CANADA, 1940

	\$
Present cash value of the land (excluding materials) .....	3,729,108
Present value of buildings, fixtures, machinery, tools and other equipment ....	7,557,609
Inventory value of materials on hand, ore in process, fuel and miscellaneous supplies on hand .....	1,067,667
Inventory value of finished products on hand .....	1,709,618
Operating capital (cash, bills and accounts receivable, prepaid expenses, etc.)	5,735,278
<b>TOTAL .....</b>	<b>19,799,280</b>

Table 6 - WAGE-EARNERS EMPLOYED, BY MONTHS, IN THE ASBESTOS MINING INDUSTRY IN CANADA, 1937 - 1940

Month	1937	1938	1939	1940		
	TOTAL	TOTAL	TOTAL	M I N E		MILL
				Surface	Underground	
January .....	3,096	3,337	3,121	1,467	559	1,608
February .....	3,028	3,402	3,227	1,504	505	1,605
March .....	3,311	3,331	3,081	1,362	510	1,593
April .....	3,541	3,349	3,212	1,476	556	1,555
May .....	3,656	3,429	3,272	1,515	590	1,602
June .....	3,764	3,410	3,544	1,563	626	1,615
July .....	3,758	3,262	3,631	1,621	586	1,604
August .....	3,804	3,394	3,697	1,601	583	1,615
September .....	3,767	3,398	3,737	1,566	567	1,590
October .....	3,585	3,505	3,714	1,353	477	1,448
November .....	3,490	3,535	3,826	1,333	448	1,409
December .....	3,413	3,412	3,737	1,351	431	1,398

Table 7 - NUMBER OF WAGE-EARNERS IN ASBESTOS INDUSTRY WHO WORKED THE NUMBER OF HOURS SPECIFIED, DURING ONE WEEK(x) IN MONTH OF NORMAL EMPLOYMENT, 1940 - (Does not include overtime)

Hours	Number	Hours	Number
30 hours or less .....	6	49 - 50 hours .....	3
31 - 43 hours .....	3	51 - 54 hours .....	...
44 hours .....	...	55 hours .....	3
45 - 47 hours .....	16	56 - 64 hours .....	110
48 hours .....	3,625	65 hours .....	105

(x) Grand total, employees in week specified - 3,871  
 Total wages paid in week specified - \$76,470.

Table 8 - FUEL AND ELECTRICITY USED IN THE ASBESTOS MINING INDUSTRY IN CANADA, 1939 and 1940

Kind	Unit of measure	1939		1940	
		Quantity	Value	Quantity	Value
Bituminous coal - From Canadian mines ....	short ton	30,058	217,931	36,865	284,038
Imported .....	short ton	54	822	46	735
Anthracite coal - From United States ....	short ton	19,211	148,830	18,256	154,222
Other .....	short ton	6,154	44,563	4,664	35,905
Coke (for fuel only) .....	short ton	4	54	...	...
Gasoline .....	Imp.gal.	96,467	19,953	107,112	26,207
Kerosene or coal oil .....	Imp.gal.	7,586	1,358	8,461	1,533
Fuel oil and diesel oil .....	Imp.gal.	67,575	10,605	57,745	9,510
Wood (cords of 128 cu. ft. of piled wood).	cord (a)	210	756	...	...
Electricity purchased, including service charges .....	K.W.H.	119,936,820	931,696	129,406,027	1,008,707
<b>TOTAL .....</b>	<b>\$</b>	<b>...</b>	<b>1,376,568</b>	<b>...</b>	<b>1,520,907</b>

(a) Cut on company's property.



Table 9 - POWER EQUIPMENT (including stand-by or emergency equipment), 1940

Description	Ordinarily in use		In reserve or idle	
	Number of units	Total horse power (x)	Number of units	Total horse power (x)
Steam engines and steam turbines .....	6	210	...	...
Diesel engines .....	1	120	1	100
Gasoline, gas and oil engines, other than diesel engines .....	11	429	2	95
Electric motors - Operated by purchased power .....	1,013	53,194	39	3,254
TOTAL .....	1,031	53,953	42	3,449
Stationary boilers .....	20	1,290	...	...

(x) According to manufacturers' rating.

Table 10 - CONSUMPTION OF ASBESTOS IN SPECIFIED CANADIAN INDUSTRIES, 1937 - 1939

		1 9 3 7		1 9 3 8		1 9 3 9	
Industry		Quantity	Cost at works	Quantity	Cost at works	Quantity	Cost at works
			\$		\$		\$
Electrical Apparatus and Supplies -							
Board .....	pound	252,034	34,226	178,401	32,477	179,631	30,521
Yarn .....	pound	119,140	37,323	71,851	27,424	120,394	46,474
Tape .....	pound	...	16,730	14,945	13,602	21,350	11,194
Boilers, Tanks and Engines .....	...	...	3,914	...	7,309	...	6,556
Asbestos Products -							
Fibre .....		See Table 23 - Asbestos Products Industry					
Other forms .....		"	"	"	"	"	"
Roofing paper .....	ton	2,430	168,334	1,743	73,140	3,740	145,792
Cotton goods, n.e.s. ....	pound	10,252	539	20,171	1,050	1,064	592
Woollen goods, n.e.s. ....	pound	165,027	49,505	127,321	35,649	149,732	40,051

"The asbestos-bearing rock in Quebec is mined both in open pits and underground. The method of block-caving instituted at the King mine of Asbestos Corporation in 1934, has resulted in a remarkable reduction in cost of mining and improvement in grade of mill feed. This development coming at a time when many of the open pits had been worked almost to the economic depth and operators were faced with rising costs and with the prospect of being unable to recover much valuable rock in the walls of the pits, is of the utmost importance to the industry.

"Small deposits of chrysotile asbestos are known in other parts of Quebec and also in Ontario and British Columbia. Several of these have been worked from time to time but there is no production from any of them at present. Certain of these small deposits would yield asbestos having a very low iron content and entirely free from magnetite which should render the product of interest in connection with its use as insulation in electrical machinery.

"Numerous deposits of other varieties of asbestos occur in Canada including anthophyllite, fibrous tremolite, and fibrous actinolite, all referred to commercially as amphibole asbestos. The fibres are harsher and weaker than those of chrysotile and are in little present demand. None of these deposits is being worked, although formerly fibrous actinolite was quarried near the village of Actinolite, Hastings county, Ontario, for use in the making of roofing materials. Asbestos deposits reported as having been found in recent years in Manitoba east of Lake Winnipeg, and in Ontario in the Lake of the Woods district and 260 miles north of North Bay, are of the amphibole varieties. There is a possibility that material from some of these deposits may be suitable for use in special products, such as acid filters, and where long, harsh fibres are required." (Bureau of Mines - Ottawa)

Table 11 - WORLD PRODUCTION OF ASBESTOS (Long tons)

Producing Country and Description	1 9 3 8	1 9 3 9
<u>BRITISH EMPIRE</u>		
Southern Rhodesia .....	52,509	52,065
Uganda .....	52	...
Union of South Africa -		
Amosite .....	7,850	10,088
Blue .....	7,841	9,042
Chrysotile .....	4,977	476
Anthophyllite .....	...	11
Canada -		
Chrysotile (b) .....	261,671	328,901
Crude .....	2,598	2,787
Fibre .....	145,622	173,207
Shorts .....	110,522	149,428
Sand and gravel (waste rock only) .....	2,928	3,479
Cyprus .....	9,532	9,836
India .....	89	...
Australia .....	173	...
Swaziland .....	...	4,099
TOTAL .....	344,000	...
<u>FOREIGN COUNTRIES</u>		
Czecho-Slovakia .....	(a)	...
Finland .....	6,321	...
France .....	450	...
Greece .....	84	...
Italy .....	6,752	...
U.S.S.R. ....	85,000	...
United States -		
Chrysotile .....	11,519	13,113
Amphibole .....		402
Bolivia .....	21	...
Venezuela .....	(a)	...
French Indo-China .....	...	...
Japan (estimated) .....	1,000	1,000
Korea .....	(a)	...
Turkey .....	657	87
Argentina .....	...	108
TOTAL .....	116,000	...
WORLD'S TOTAL .....	460,000	...

Asbestos is also produced in China.

(a) Information not available.

(b) Sales and shipments.

Table 12 - ASBESTOS PRODUCTION, UNION OF SOUTH AFRICA, 1940

	Tons of 2,000 pounds
Chrysotile .....	645.56
Cape blue .....	6,381.01
Transvaal blue .....	2,520.38
Amosite .....	17,767.10
Anthophyllite .....	78.19



The main varieties of asbestos produced in the Union of South Africa at present are crocidolite, or blue asbestos, and amosite. Crocidolite is marketed as Cape blue or Transvaal blue fibre and is usually graded according to length, which ranges from 1/8 inch to 1 1/2 inches under the producers' own marks.

Amosite, a whitish iron amphibole asbestos, noted for its length of fibre, is sold in six grades. The best grades are from 1 1/2 inches upwards and of white to ash-gray colour and good tensile strength. The lower grades are progressively more yellowish in colour and of lower tensile strength.

The Havelock mines in Swaziland are important producers of chrysotile. This property began production in June, 1939 and has become an important factor in the asbestos industry in Africa. Publication of data on production was discontinued for the duration of the war, beginning with August, 1940, and according to the United States Bureau of Mines the production for the first seven months of 1940 amounted to 13,125 short tons compared with 7,973 for the entire year 1939.

India - Interest in the asbestos deposits of India has been renewed by the recent development of a deposit of chrysotile surpassing in quality anything obtained in the country heretofore. A specimen received by the Bureau of Mines is light amber in color, resembling closely the fiber found in Arizona. The maximum fiber length is 3 1/2 inches, the material is exceptionally soft and silky, and possesses superior strength and flexibility. Rarely has the Bureau of Mines examined asbestos having such excellent qualities.

The deposit is said to occur near Cuddapah, which is in the Madras Presidency about 125 miles northwest of Madras. No information is yet available as to the nature or extent of the occurrence. A production of 30 tons is reported, and some of it has reached the United States. A greatly increased output is predicted.

Asbestos production in India has been reported since 1906, ranging from zero to a maximum of 1,818 long tons in 1920, though rarely exceeding 300 tons for only one year. Production (in metric tons) during recent years was as follows: 1935, 64; 1936, 57; 1937, 102; 1938, 90. Data for 1939 and 1940 are not yet available.

Heretofore the principal productive area has been the Hassan district of Mysore State, where both chrysotile and amphibole fibers are available. A small output of tremolite asbestos was reported from Bihar and Orissa from 1921 to 1932. Asbestos has been reported from various points in other parts of India.

If the recent development attains extensive proportions it will tend to centralize more largely than ever the commercial output of asbestos within the borders of the British Empire. Aside from the large deposits in the Ural Mountains of the U.S.S.R., Great Britain controls all the major production centers, namely, the world-famous chrysotile deposits of Quebec, Canada; the large chrysotile mines of Southern Rhodesia, and Swaziland, Africa; and the amosite and blue asbestos mines of the Union of South Africa. (United States Bureau of Mines)

United States (U.S. Bureau of Mines) - Sales (preliminary figures) of domestic asbestos attained an all-time high of 20,060 short tons in 1940, an increase of 30 per cent over 1939 which was a record year, according to the Bureau of Mines, United States Department of the Interior. Their value was 32 per cent greater than in 1939. Consumption was 3 per cent greater than in 1939, but 17 per cent less than in 1937. Sales from domestic mines amounted to only 8 per cent of domestic requirements and since asbestos produced in the United States is predominantly of the shorter grades, domestic production of the longer and more essential grades is considerably less than 8 per cent of requirements.

During recent years there has been a marked increase in imports of asbestos from Africa. Some of the African fibers are interchangeable with Canadian fibers, and compete with them on a price basis. Other kinds, particularly the amosite and blue asbestos, obtainable in quantity only in Africa, together with certain grades of Rhodesian chrysotile, are used for special products for which no other fibers are suitable. Consequently it is highly desirable that imports of such kinds and grades should continue. Although importers and users were concerned to some extent over possible delays, there was no evidence of interruptions to shipping because of war conditions; in fact importations from Africa in 1940 amounting to more than 17,000 tons were the highest on record, exceeding those of 1939 by 54 per cent.

The famous asbestos deposits of Quebec, Canada have for many years furnished the United States with a large part of its supplies of both long and short fibers. Imports from Canada were a little higher in 1940 than in 1939. As Canada has lost all of her continental European asbestos markets there is no shortage of supply available for United States needs.

During recent years domestic production has been centered chiefly in the extensive deposits of slip-fiber near Hyde Park, Vt. Amphibole asbestos, because of its resistance to chemicals and high temperatures, is well adapted for certain special products, such as acid filters and coatings for welding rods. Small quantities are shipped from various states. During 1940 there was a growing demand for information on new sources of supply of high-grade anthophyllite and tremolite.

Trends in United States Consumption  
(U. S. Bureau of Mines)

The following table shows domestic sales, imports, exports and apparent consumption for a series of years.

Table 13 -  
SALES, IMPORTS, EXPORTS AND APPARENT CONSUMPTION OF ASBESTOS (UNMANUFACTURED) IN THE UNITED STATES, 1931-40

Year	Sold or Used by producers		Imports 1/		Exports 1/		Apparent Consumption 2/	
	Short tons	Value	Short tons	Value	Short tons	Value	Short tons	Value
1931 .....	3,228	\$118,967	136,361	\$3,749,340	1,714	\$122,391	137,875	\$3,745,916
1932 .....	3,559	105,292	96,754	2,250,200	1,707	94,936	98,606	2,260,556
1933 .....	4,745	130,677	119,542	3,542,483	1,378	88,521	122,909	3,584,639
1934 .....	5,087	158,347	120,334	3,377,994	1,669	94,182	123,752	3,442,159
1935 .....	8,920	292,927	166,585	5,125,413	850	87,896	174,655	5,330,444
1936 .....	11,064	314,161	243,602	7,524,937	3,744	310,197	250,922	7,528,901
1937 .....	12,079	344,644	307,188	10,470,208	3,004	253,734	316,263	10,561,118
1938 .....	10,440	247,264	179,490	6,160,602	2,780	288,617	187,150	6,119,249
1939 .....	15,459	512,788	242,561	9,094,538	2,473	218,830	255,547	9,388,496
1940 .....	3/20,060	3/674,508	246,613	10,034,433	4,474	449,105	3/262,199	3/10,259,836

1/ Figures on imports and exports compiled by M. B. Price, of the Bureau of Mines, from records of the Bureau of Foreign and Domestic Commerce.

2/ Quantity sold or used by producers plus imports minus exports.

3/ Subject to revision.

Prices (U.S.A.)

All prices for asbestos are quoted on a short-ton basis from Metal and Mineral Markets, published by the McGraw-Hill Publishing Co., Inc., New York City. Canadian prices are f.o.b. Quebec mines, tax and bags included; Rhodesian, South African, and Russian prices, c.i.f. New York; and Vermont prices, f.o.b. mines, Vermont.

Prices were constant throughout the year except for certain grades, where indicated the prices were advanced in August for the remainder of the year:

Canadian: Crude No. 1, \$700-\$750; Crude No. 2 and sundry crudes, \$150-\$350; spinning fibers, magnesite and compressed sheet fibers, \$110-\$200; shingle stock, \$57-\$78; paper stock, \$40-\$45. Cement stock, \$21-\$25 (advanced to \$22-\$26); floats, \$18-\$20 (advanced to \$19-\$21); and shorts, \$12-\$16.50 (advanced to \$13-\$17.50). Canadian quotations are in American dollars rather than Canadian dollars.

Rhodesian: Crude No. 1, \$300; and Crude No. 2, \$260.

South African: Amosite: Grade B1 (white), \$140 (advanced to \$150); Grade B3 (dark), \$120. Transvaal Blue: Grade B (long fiber), \$400; Grade S (short fiber), \$140 (advanced to \$150).

Russian Crude: "AA" \$750; Crude No. 1, \$275; Crude No. 2, \$240; and shingle stock, \$67.50 and up.

Vermont: Shingle stock, \$57; paper stock, \$40; cement stock, \$25; and shorts and floats, \$12-\$18 (advanced to \$13-\$18).

DIRECTORY OF FIRMS IN THE CANADIAN ASBESTOS MINING INDUSTRY, 1940

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Location of Plant</u>
<u>QUEBEC -</u>		
Asbestos Corporation Ltd.	Canada Cement Building, Montreal	Thetford Mines, Black Lake, Coleraine
Bell Asbestos Mines Ltd.	Thetford Mines	Thetford Tp.
Canadian Johns-Manville Co. Ltd.	Sun Life Building, Montreal	Asbestos
Jacobs, J. A. (a)	1410 Stanley St., Montreal	Thetford Mines
Johnson's Company	Thetford Mines	Thetford Mines; Coleraine
Nicolet Asbestos Mines Ltd.	820 Transportation Bldg., Montreal	Norbestos
Quebec Asbestos Corp. Ltd.	East Broughton Station	East Broughton Sta.
<u>ONTARIO -</u>		
Rahn Lake Mines Corp. Ltd.	19 Melinda Street, Toronto	Bannockburn Tp.; Matachewan Dist.

(a) Carried on exploration or development work only (Asbestos Crude & Fibre Mines Ltd.).

B - THE ASBESTOS PRODUCTS INDUSTRY, 1940

Thirteen factories in Canada were occupied in the manufacture of asbestos goods in 1940. Production by these works was valued at \$2,556,278, this output being 43 per cent above the 1939 total of \$1,783,993, and 67 per cent above 1938. Products included brake linings valued at \$883,911, boiler and pipe covering at \$250,701, clutch facings at \$166,406, asbestos packings at \$160,484 and such other lines as asbestos gaskets, paper, cloth, yarn, dryer felts, cements, etc.

The factories which operated in this industry in 1940 were distributed as follows: Quebec, 6; Ontario, 6; and in Nova Scotia, 1. Fixed and working capital as represented by these works totalled \$2,317,225; the number of employees averaged 476 for each month of the year, and payments in salaries and wages for the year amounted to \$591,982. Expenditures for fuel and electricity totalled \$126,352 and materials for manufacturing cost \$1,150,499.

Table 14 - PRINCIPAL STATISTICS OF THE ASBESTOS PRODUCTS INDUSTRY, 1929 - 1940

Year	Number of plants	Capital employed	Average number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
		\$		\$	\$	\$	\$
1929 .....	12	2,949,712	351	359,433	80,902	1,348,460	2,236,638
1930 .....	11	2,316,645	306	401,490	77,082	1,327,325	2,301,924
1931 .....	13	1,112,141	240	302,638	57,339	729,771	1,308,183
1932 .....	13	2,682,882	279	280,953	67,732	559,673	1,067,801
1933 .....	11	1,777,975	222	208,580	55,031	331,062	757,626
1934 .....	11	1,391,873	228	233,379	46,488	387,074	910,963
1935 .....	13	1,703,301	327	323,854	66,793	518,994	1,130,282
1936 .....	13	1,955,676	372	376,574	79,290	622,530	1,293,909
1937 .....	13	2,003,659	451	464,882	91,252	812,639	1,896,677
1938 .....	13	1,701,202	403	433,964	107,436	614,207	1,531,118
1939 .....	14	2,003,516	415	497,324	99,711	724,424	1,783,993
1940 .....	13	2,317,225	476	591,982	126,352	1,150,499	2,556,278
Per cent change 1940 from 1939	..	+15.6	+14.6	+19.0	+26.7	+53.8	+43.2

NOTE: Profits or losses cannot be calculated from above figures as data are not available for general expense items, such as, interest, rent, depreciation, taxes, insurance, advertising, etc.



Table 15 - PRINCIPAL STATISTICS, BY PROVINCES, 1939 and 1940

Province	Number of plants	Capital employed \$	Average number of employees	Salaries and wages \$	Cost of fuel and electricity at works \$	Cost of materials at works \$	Gross selling value of products at works \$
<u>1939</u>							
Quebec .....	7	1,262,489	288	333,952	77,020	422,501	995,193
Nova Scotia .....	1)	741,027	127	163,472	22,691	301,923	788,800
Ontario .....	6)						
CANADA ....	14	2,003,516	415	497,324	99,711	724,424	1,783,993
<u>1940</u>							
Quebec .....	6	1,477,043	327	376,361	99,783	680,730	1,378,977
Nova Scotia .....	1)	840,182	149	215,621	26,569	469,769	1,177,301
Ontario .....	6)						
CANADA ....	13	2,317,225	476	591,982	126,352	1,150,499	2,556,278

Table 16 - CAPITAL EMPLOYED, BY PROVINCES, 1939 and 1940

Province	Present value of land, buildings, fixtures, machinery and tools \$	Inventory value of materials on hand, finished products and stocks in process \$	Cash, bills and accounts receivable, prepaid expenses, etc. \$	TOTAL CAPITAL EMPLOYED \$
<u>1939</u>				
Quebec .....	598,910	336,223	327,456	1,262,489
Other provinces .....	322,643	208,353	210,031	741,027
CANADA .....	921,453	544,576	537,487	2,003,516
<u>1940</u>				
Quebec .....	627,550	440,553	408,940	1,477,043
Other provinces .....	328,617	244,230	267,335	840,182
CANADA .....	956,167	684,783	676,275	2,317,225

Table 17 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1939 and 1940

Province	Average number of employees					Salaries	Wages	TOTAL SALARIES and WAGES
	On salaries		On wages		TOTAL			
	Male	Female	Male	Female				
	No.	No.	No.	No.				
<u>1939</u>								
Quebec .....	50	5	206	27	288	99,300	234,552	333,952
Other provinces ....	22	10	95	...	127	70,744	92,728	163,472
CANADA .....	72	15	301	27	415	170,044	327,280	497,324
<u>1940</u>								
Quebec .....	50	8	225	44	327	103,079	273,282	376,361
Other provinces ....	22	11	116	...	149	85,105	130,516	215,621
CANADA .....	72	19	341	44	476	188,184	403,798	591,982

Table 18 - WAGE-EARNERS, BY MONTHS, 1939 and 1940 (On the last day of each month)

Month	1 9 3 9			1 9 4 0		
	Male No.	Female No.	TOTAL No.	Male No.	Female No.	TOTAL No.
January .....	290	24	314	297	32	329
February .....	288	24	312	296	31	327
March .....	290	25	315	292	30	322
April .....	295	26	321	299	34	333
May .....	288	26	314	311	37	348
June .....	281	24	305	308	37	345
July .....	273	23	296	335	46	381
August .....	284	23	307	362	51	413
September .....	310	26	336	374	55	429
October .....	335	32	367	395	57	452
November .....	346	32	378	433	56	489
December .....	326	32	358	399	54	453
AVERAGE .....	301	27	328	341	44	385

Table 19 - HOURS WORKED PER WEEK BY WAGE-EARNERS, 1940 (In one week of month of highest employment)

Hours worked per week	Number of wage-earners	Per cent of total	Hours worked per week	Number of wage-earners	Per cent of total
30 hours or less ....	17	3.6	55 hours .....	6	1.3
31 - 43 hours .....	81	17.1	56 - 64 hours .....	101	21.3
44 hours .....	12	2.5	65 hours and over ...	85	17.9
45 - 47 hours .....	6	1.3	TOTAL .....	474	100.0
48 hours .....	74	15.6	Total wages paid in selected week .....	\$9,797	
49 - 50 hours .....	53	11.2			
51 - 54 hours .....	39	8.2			

Table 20 - FUEL AND ELECTRICITY USED, 1939 and 1940

Kind	Unit of measure	1 9 3 9		1 9 4 0	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Anthracite coal .....	ton	9	102	70	783
Bituminous coal - Canadian ...	ton	4,198	24,607	5,239	35,654
Imported ...	ton	31	190	44	312
Coke .....	ton	4	39	1	12
Gasoline .....	Imp. gal.	908	259	5,946	1,280
Fuel oil .....	Imp. gal.	465,001	28,640	531,549	36,322
Kerosene .....	Imp. gal.	2,745	439	4,365	787
Gas - Manufactured .....	M cu. ft.	14	14	42	38
Other fuel .....	...	...	2	...	198
Electricity purchased .....	K. W. H.	3,015,618	45,419	3,699,429	50,966
TOTAL .....	...	...	99,711	...	126,352

Table 21 - POWER EQUIPMENT, 1939 and 1940

	1 9 3 9		1 9 4 0	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Electric motors - Ordinarily in use .....	373	3,726	392	3,972
In reserve or idle .....	1	5	...	...
Total .....	374	3,731	392	3,972
Boilers .....	6	521	6	556
In reserve or idle .....	...	...	...	...
Total .....	6	521	6	556

Table 22 - MATERIALS USED IN THE ASBESTOS PRODUCTS INDUSTRY, 1939 and 1940

	Unit of measure	1939		1940	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Asbestos fibre .....	lb.	6,895,578	144,864	12,454,356	229,824
Asbestos cloth .....	lb.	102,351	35,848	82,878	32,402
Asbestos paper, corrugated and plain	lb.	232,992	10,576	532,115	19,316
Asbestos sheets and strips .....	lb.	19,509	8,769	24,640	13,136
Asbestos yarn .....	lb.	427,445	121,227	401,313	133,006
Cotton cloth and yarn .....	\$	...	56,607	...	113,761
Rubber and rubber sheets .....	lb.	109,174	21,463	123,263	27,001
Containers and packing material ....	\$	...	32,721	...	44,740
All other materials .....	\$	...	292,349	...	537,313
TOTAL .....	\$	...	724,424	...	1,150,499

Table 23 - PRODUCTS MANUFACTURED IN THE ASBESTOS PRODUCTS INDUSTRY, 1939 and 1940

Product	Unit of measure	1939		1940	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Asbestos brake linings - Moulded .....	ft.	2,245,559	489,305	3,333,085	735,305
Other .....	ft.	1,096,577	150,579	1,190,153	148,606
Asbestos boiler and pipe covering .....	ft.	1,769,435	156,878	2,671,445	250,701
Asbestos clutch facings .....	No.	638,498	147,249	611,529	166,406
Asbestos gaskets .....	lb.	38,185	19,669	43,087	23,904
Asbestos packings of all kinds .....	lb.	283,358	112,649	422,118	160,484
All other products (x) .....	...	...	707,664	...	1,070,872
TOTAL .....	...	...	1,783,993	...	2,556,278

(x) Includes products made by 1 or 2 firms, such as, asbestos dryer felt, hydraulic brake hose, asbestos shingles, asbestos yarn, packings of rubber, duck and flax, asbestos paper, asbestos cloth, etc.

Table 24 - PRODUCTION OF ASBESTOS BRAKE LININGS, PIPE COVERINGS AND PACKINGS, 1925 - 1940

Year	Asbestos brake linings \$	Asbestos boiler and pipe coverings \$	Asbestos packings \$
1925 .....	272,217	179,717	187,916
1926 .....	275,783	232,963	184,515
1927 .....	326,072	277,339	204,376
1928 .....	439,431	376,399	218,904
1929 .....	555,739	406,395	234,595
1930 .....	459,616	283,312	197,601
1931 .....	321,664	178,611	144,983
1932 .....	309,942	83,964	87,682
1933 .....	316,938	65,725	91,597
1934 .....	458,147	99,948	78,860
1935 .....	439,904	136,917	107,324
1936 .....	392,309	162,216	113,821
1937 .....	580,487	212,341	131,213
1938 .....	478,834	145,621	93,689
1939 .....	639,884	156,878	112,649
1940 .....	883,911	250,701	160,484



DIRECTORY OF FIRMS IN THE ASBESTOS PRODUCTS INDUSTRY, 1940Names of Firms and Location of PlantsMain Products, 1940

Guildfords Limited, June St., Halifax, N.S.	Asbestos boiler and pipe coverings, packings, cements and gaskets; eel grass house insulation; jute packings; felt and asbestos mattresses.
Asbestonos Corporation, Limited, St. Lambert, Montreal, P.Q.	Asbestos brake linings, clutch facings, packings and brake blocks.
Asten-Hill Ltd., Valleyfield, P.Q.	Asbestos dryer felts.
Atlas Asbestos Company Limited, 110 McGill St., Montreal, P.Q.	Asbestos boiler and pipe coverings; gaskets and cloth.
Autobestos Manufacturing Co. Ltd., Sherbrooke, P.Q.	Asbestos brake linings.
Canadian Johns-Manville Co. Ltd., Asbestos, P.Q.	Asbestos brake linings, boiler and pipe covering, dryer felts, millboard, gaskets, clutch facings, packings, paper, cloth, shingles, refractory cements, yarn, etc.
Philip Carey Company Limited, Lennoxville, P.Q.	Asbestos boiler and pipe covering, paper and millboard; asphalt bridge planking.
Asbestos Covering Supply Co., 613A Brock Ave., Toronto, Ont.	Asbestos boiler and pipe covering.
Beldam Asbestos Packing Ltd., 57 Britain St., Toronto, Ont.	Asbestos gaskets.
Canadian Raybestos Co. Ltd., 280 Perry St., Peterboro, Ont.	Asbestos brake linings, clutch facings and packings; brass rivets; rubber hose; etc.
Garlock Packing Company, 200 Queen St. N., Hamilton, Ont.	Asbestos packings and gaskets; rubber, duck and flax packings.
Hamilton Engine Packing Co., 56 Alanson St., Hamilton, Ont.	Asbestos gaskets; boiler and pipe covering.
Wild, A. C., & Co., 142 Vine Ave., Toronto, Ont.	Asbestos boiler and pipe covering; felt pipe covering, etc.

- - - - -







STATISTICS CANADA LIBRARY  
BIBLIOTHÈQUE STATISTIQUE CANADA



1010646567