

CATALOGUE No.

44-202

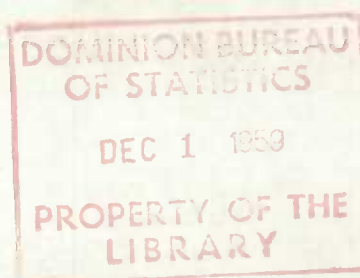
ANNUAL

Historical File Copy



CANADA

# THE ARTIFICIAL ABRASIVES INDUSTRY 1958



*Published by Authority of*  
The Honourable Gordon Churchill, Minister of Trade and Commerce

**DOMINION BUREAU OF STATISTICS**  
Industry and Merchandising Division

November, 1959  
6523-551

Price 50 cents

The Queen's Printer and Controller of Stationery, Ottawa, 1959

## PUBLICATIONS

The results of the annual Census of Industry are published by the Dominion Bureau of Statistics in a series of industry reports which are released each year as the compilations are completed. Reports for industries in the **Non-Metallic Mineral Products** Major Group are listed below, along with current and annual publications of related interest. Similar reports are issued for other industries. A complete catalogue of publications of the Bureau is available on request from the Information Services Division, Dominion Bureau of Statistics, Ottawa, or from the Queen's Printer, Ottawa.

**A — Annual**

**M — Monthly**

Catalogue number	Title	Price
44-201	Non-Metallic Mineral Products — General Review (A) .....	.50
44-202	The Artificial Abrasives Industry (A) .....	.50
44-203	The Asbestos Products Industry (A) .....	.25
44-204	The Cement Manufacturing Industry (A) .....	.50
44-205	The Concrete Products Industry (A) .....	.50
44-207	The Glass and Glass Products Industry (A) .....	.50
44-208	The Gypsum Industry (A) .....	.50
44-206	The Clay and Clay Products Industry (A) .....	.50
44-209	The Lime Industry (A) .....	.50
26-214	The Salt Industry (A) .....	.50
26-217	The Stone Industry (A) .....	.50
44-210	The Miscellaneous Non-Metallic Mineral Products Industry (A) .....	.25
<hr/>		
26-001	Asbestos (M) .....	per year 1.00
26-007	Canada's Leading Minerals (M) .....	per year 1.00
26-009	Salt (M) .....	per year 1.00
44-001	Cement (M) .....	per year 1.00
44-002	Concrete Products (M) .....	per year 1.00
44-003	Gypsum Products (M) .....	per year 1.00
44-004	Mineral Wool (M) .....	per year 1.00
44-005	Products Made from Canadian Clays (M) .....	per year 1.00
47-001	Asphalt and Vinyl-Asbestos Floor Tiles (M) .....	per year 1.00
31-201	General Review of the Manufacturing Industries (A) .....	2.00
31-001	Inventories, Shipments and Orders in Manufacturing Industries (M) .....	per year 4.00
65-004	Trade of Canada — Exports (M) .....	per year 7.50
65-007	Trade of Canada — Imports (M) .....	per year 7.50

*Remittances should be in the form of cheque or money order,  
made payable to the Receiver General of Canada and forwarded to  
the Information Services Division, Dominion Bureau of Statistics,  
or to the Queen's Printer, Ottawa, Canada.*

## EXPLANATORY NOTES

This report is one in a series of about 130 publications which present the results of the 1958 Census of Manufactures. Most reports in this series refer to specific industries, but there are summary reports for Canada and the provinces and for major industry groups. An annual Census of Manufactures has been carried out by the Dominion Bureau of Statistics since 1916.

Industry statistics given in these reports refer to number of establishments, employees, salaries and wages, cost of materials, supplies, fuel and electricity, gross value of shipments, inventories and value added by manufacturing. Details of materials used and products shipped are also given. Descriptions of the principal industry statistics, with special reference to 1958, are as follows:

### Period Covered

Firms are asked to submit figures for the calendar year, if at all possible, and most reports are on this basis. Financial year reports for periods differing from the calendar year are accepted in instances where the firms find it impossible to supply calendar year data from accounting records. However the data on employees, salaries and wages are requested on a calendar year basis in all cases.

### Establishment

Data for the annual census is collected on an establishment basis. A firm with more than one plant is required to file a report for each plant. In most cases an establishment is a complete factory. Sometimes, however, a plant is divided into two or more establishments when it carries out operations classifiable to different industries and when separate accounting records are available. Usually the statistics for an establishment relate only to the manufacturing activities. Other activities such as construction at the plant by its own employees, wholesale or retail activities carried on at the plant location, etc., are not included. Plants engaged solely in repair work (except in the case of furniture, shipbuilding, boat building, aircraft and railway rolling stock industries) are not included but plants occupied in assembling parts into complete units are included.

### Employees

Administrative and office employees include all executives and supervisory officials such as presidents, vice-presidents, secretaries, treasurers, etc., together with managers, professional and technical employees, superintendents and factory supervisors above the working foremen level and clerical employees. Working owners and partners are also included in this category.

Production and related workers include all other factory workmen whether paid on a monthly, weekly, hourly or piece-work basis. Working foremen doing work similar to that of the employees they supervise are included, as are maintenance, warehousing and delivery staffs. Employees on new construction work, in retail or wholesale operations, on outside piece work etc., are not included.

Production workers are reported by months, an average for the year being obtained by summing the monthly figures and dividing by twelve. This procedure is followed even though the plant did not operate in all months. Figures on employment refer to calendar years whether or not some establishments reported other data on a financial year basis.

### Salaries and Wages

Salaries and wages refer to gross earnings of the employees described above, including salaries, wages, commissions, bonuses, the value of room and board where provided, deductions for income tax and social services such as sickness and unemployment insurance, pensions, etc., as well as any other allowances forming part of the employees' wages. Payments for overtime are included.

Salaries refer to amounts paid to administrative and office employees. Withdrawals by working owners or partners for normal living expenses for self and family are included but not their withdrawals for income tax. Wages refer to the amounts paid to production and related workers as defined above. Data on earnings refer to the calendar year whether or not some establishments reported other data on a financial year basis.

### Cost of Fuel and Electricity

Figures for fuel refer to amounts actually used, (including fuel used in cars and trucks), not to purchases unless the quantities are the same. Values refer to the laid-down cost at the works, including freight, duty, etc.

### Materials and Supplies Used

Figures represent quantities and laid-down cost values, at the works, of materials and supplies actually used during the year whether purchased from others or received as transfers from other plants of the reporting company. Amounts paid to other manufacturers for work done on materials owned by the reporting company are included. Returnable containers or any other items charged to capital account are not included. Fuels are not included. Goods bought from others or received as transfers from other plants of reporting companies



for resale without further processing are not included. Maintenance and repair supplies not chargeable to capital account are included.

### Factory Shipments

Factory shipments refer to shipments of goods made from own materials either in the reporting plant or by other manufacturers on the basis of a charge to the reporting plant for work done. All products and by-products shipped from the establishment are included whether for domestic use, export, or for government departments. Transfer shipments to sales outlets, distributing warehouses or to other manufacturing units of the reporting firm are included. Goods bought or received as transfers and resold without further processing are not included. Values are computed on f.o.b. plant or plant warehouse basis, and do not include sales tax or excise duties. Values of containers not returnable are included. Amounts received in payment for work done on materials owned by others are included.

In a few industries such as shipbuilding, aircraft, etc., where work on principal products extend over a relatively long period, the value of production is recorded rather than the value of shipments. For those industries production is computed from the value of deliveries of complete units during the year plus the value of work done during the year on unfinished units less the value of work done in previous years on finished units delivered in the year under review.

### Inventories

Values represent the book values of manufacturing inventories owned and held at the reporting plant. Figures include inventories held in warehouses or selling outlets which have been included with plant operations for purposes of reporting shipments.

### Value Added by Manufacturing

Figures are computed from value of shipments plus or minus changes in inventories of finished

goods and goods in process less cost of materials, fuel and electricity. This figure is sometimes referred to as net production.<sup>1</sup>

### Standard Industrial Classification

The Standard Industrial Classification Manual, prepared by the Dominion Bureau of Statistics, provides for 135 three-digit industries in the manufacturing sector, arranged in 17 major groups. Reporting establishments are classified or allotted to specific industries on the basis of the value of principal products made or shipped.

### Short Forms

Prior to 1949 all manufacturing firms, regardless of size, were required to complete a standard form annually covering all census details, but for later years an effort was made to ease the reporting burden for smaller firms which usually do not maintain regular records in the required detail. A modified or short form was introduced in 1949 asking for the total value of shipments only, or in industries with a large number of small firms, for total value of shipments and quantities and values of a few principal products. Using the ratio of value of shipments in the current year to value of shipments in the base year, 1948, estimates of other census data were made for each plant for inclusion in the regular compilations. In general, the cut-off point for short forms was set at \$50,000 gross value of shipments annually, but there were lower cut-offs for a number of industries in which the small firms accounted for a larger share of total shipments. About 40 per cent of the total number of establishments reported on the modified or short form. They accounted for less than 3 per cent of the total value. In 1958, to establish a new base year, the small firms were again asked to report data on employees, salaries and wages, and other principal statistics together with some detail on material and products.

<sup>1</sup> To arrive at the National Accounts concept of "gross domestic product at factor cost", it would be necessary to subtract also the cost of office supplies used, advertising, insurance and other goods and services obtained from other businesses. Data on these inputs are not collected on the annual Census of Manufactures. Value added figures for "The primary industries and construction" are published in D.B.S. publication 61-202, *Survey of Production*.

# THE ARTIFICIAL ABRASIVES INDUSTRY

## 1958

Factory shipments of all products made by the manufacturers in Canada of artificial abrasives and abrasive products were valued at \$37,211,006 in 1958, a decrease of 27.1 per cent from the \$51,049,441 reported in the previous year.

There were 18 firms engaged in manufacturing abrasives and other products during the year and of these, 13 were located in Ontario and 5 in Quebec.

The number of employees in the industry was 2,314 and payments in salaries and wages totalled \$10,702,296. Expenditures for manufacturing materials amounted to \$14,550,336 and \$4,355,238 were paid out for fuel and electricity.

Artificial abrasives were made by 4 plants in Ontario and 4 plants in Quebec. Shipments by these

8 works were valued at \$27,370,311 and included 109,507 tons of crude fused alumina at \$10,994,270; 77,528 tons of crude silicon carbide at \$11,676,630 and other products and by-products such as ferro-silicon, firesand, abrasive wheels, etc. A total of 1,685 people were employed and salaries and wages paid amounted to \$8,125,826.

Ten other plants were occupied chiefly in making abrasive products such as wheels, paper, pulpstone and sharpening stones. Factory shipments of all products made in these establishments were valued at \$9,840,695. The number of employees was 629 and payments for salaries and wages amounted to \$2,576,470. The total value of Canada's output of abrasive wheels and segments was \$6,013,543.

**TABLE 1. Principal Statistics of the Artificial Abrasives Industry, Significant Years 1929-1958 and by Provinces, 1957 and 1958**

Year and province	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost of fuel and electricity at works	Cost at plant of materials used	Value added by manufacture <sup>1</sup>	Gross selling value of products <sup>1</sup>
	number				dollars		
1929 .....	12	828	1,270,898	873,068	2,905,928	5,182,955	8,961,951
1932 .....	14	386	519,013	480,601	449,624	559,330	1,489,555
1937 .....	16	1,289	1,995,589	1,222,529	4,351,854	8,599,968	14,174,351
1939 .....	16	1,099	1,630,889	777,654	2,971,056	5,526,433	9,275,143
1943 .....	15	3,336	6,453,769	2,988,814	11,581,923	22,039,191	36,609,928
1946 .....	15	2,409	4,929,448	2,106,329	8,425,629	14,912,438	25,444,396
1949 .....	18	2,543	6,830,763	2,182,097	10,649,694	14,868,217	27,700,008
1954 .....	17	2,639	9,990,100	3,952,382	15,443,744	20,020,949	38,653,517
1955 .....	17	2,695	10,567,048	4,422,194	15,293,264	21,933,836	42,519,695
1956 .....	17	2,816	11,746,942	4,921,814	18,371,516	23,287,988	46,023,192
<b>1957</b>							
Quebec .....	5	391	1,793,268	1,758,584	3,142,244	3,964,838	8,923,822
Ontario .....	12	2,460	10,875,249	3,662,885	17,191,402	20,937,731	42,125,619
<b>Canada .....</b>	<b>17</b>	<b>2,851</b>	<b>12,668,517</b>	<b>5,421,469</b>	<b>20,333,646</b>	<b>24,902,569</b>	<b>51,049,441</b>
<b>1958</b>							
Quebec .....	5	406	1,769,540	1,902,719	2,855,249	4,575,255	9,379,738
Ontario .....	13	1,908	8,932,756	2,452,519	11,695,087	13,998,569	27,831,268
<b>Canada .....</b>	<b>18</b>	<b>2,314</b>	<b>10,702,296</b>	<b>4,355,238</b>	<b>14,550,336</b>	<b>18,573,824</b>	<b>37,211,006</b>

<sup>1</sup> Due to lack of inventory data, figures for "Value added by manufacture" prior to 1954 were obtained by subtracting the cost of materials used, including fuel and electricity, from the total value of factory shipments. In 1954 and 1955 the "Value added" adjustment incorporated the increase or decrease to shipments values resulting from changes in the value of inventories over the period. For these two years, the adjustments that were made used only the change in finished product inventory owned by manufacturers. Beginning with 1956 the calculation of the "Value added" figure was further adjusted to take into account the "Goods in process" as well as the finished goods held at plant or warehouse.

**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 2. Inventories,<sup>1</sup> by Provinces, 1958

	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
	dollars			
Opening:				
Quebec .....	923,868	61,839	329,135	1,314,842
Ontario .....	4,187,175	845,521	2,343,219	7,375,915
Canada .....	5,111,043	907,360	2,672,354	8,690,757
Closing:				
Quebec .....	905,247	57,857	286,602	1,249,706
Ontario .....	3,290,187	823,024	2,680,623	6,793,834
Canada .....	4,195,434	880,881	2,967,225	8,043,540

<sup>1</sup> (a) Book value of all manufacturing inventories owned and held at plant and plant warehouses.

(b) Beginning with 1954, information on the value of year-end inventory holdings at plant and plant warehouses is being collected as part of the annual Census of Industry. These data were formerly collected by a separate survey. The summarized results for the Artificial Abrasives Industry for the year under review are shown in the above table.

(c) The opening inventory for 1958 does not agree with the closing inventory for 1957 because of minor adjustments reported on the 1958 returns. However, the value added figures for the previous year have not been recalculated to allow for the changes mentioned above.

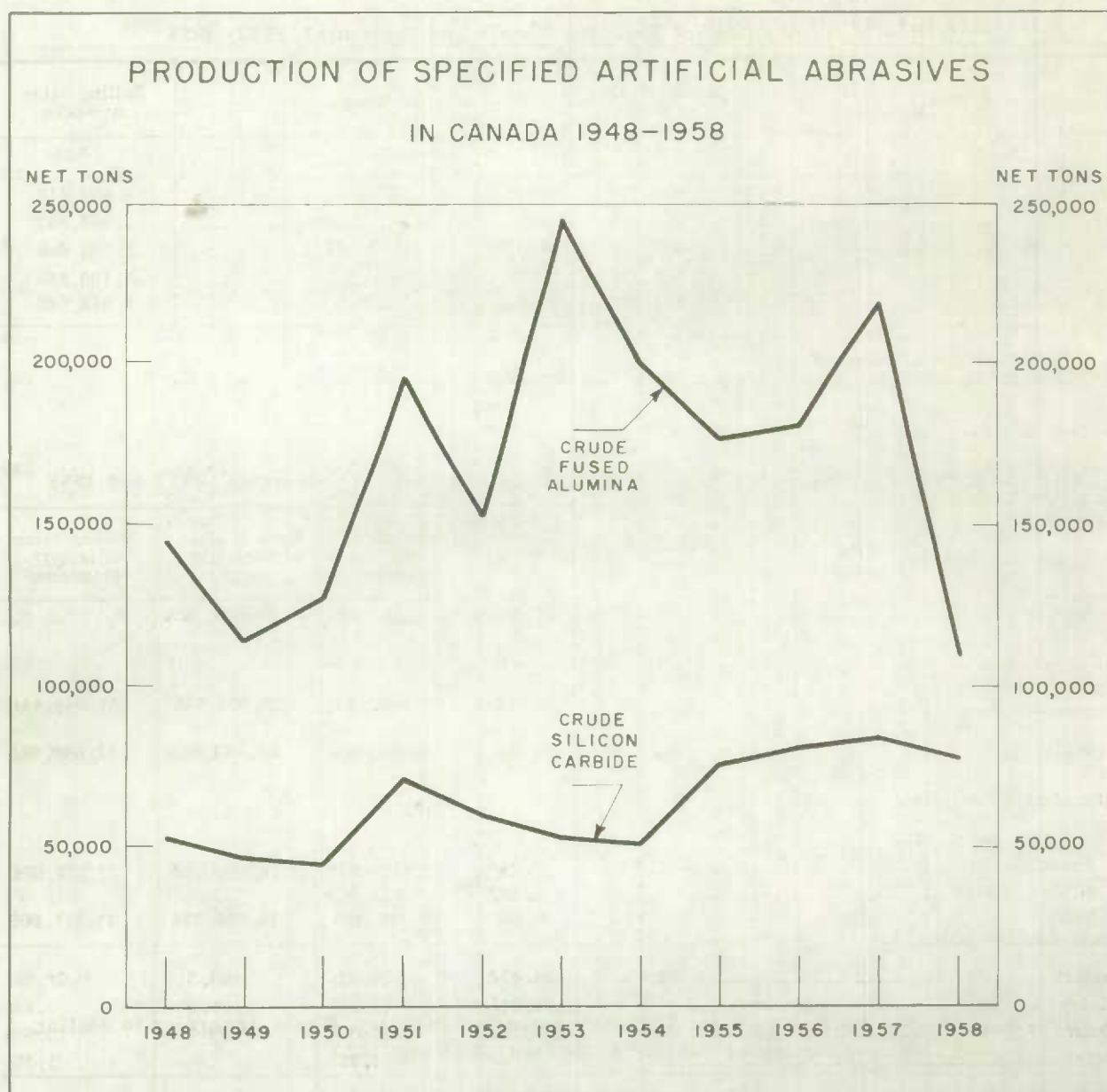
TABLE 3. Products of the Artificial Abrasives Industry, 1957 and 1958

Product	1957		1958	
	Quantity	Value of factory shipments	Quantity	Value of factory shipments
	tons	\$	tons	\$
Crude silicon carbide .....	83,321	11,828,856	77,528	11,676,630
Crude fused alumina .....	218,187	21,902,425	109,507	10,994,270
Silicon carbide firesand, etc. ....	343	29,916	336	39,218
Abrasive wheels and segments .....	—	7,100,348	—	6,013,543
Sharpening stones and files .....	—	308,067	—	256,585
Ferrosilicon .....	23,789	1,337,232	12,488	690,356
Other products <sup>1</sup> .....	—	8,542,597	—	7,540,404
Total .....	—	51,049,441	—	37,211,006

<sup>1</sup> Includes abrasive cloth, abrasive paper, tiles, artificial pulpstones, boron carbide, fused magnesia, etc., each of which was reported by only one or two companies.

TABLE 4. Materials Used in the Artificial Abrasives Industry, 1957 and 1958

Material	1957		1958	
	Quantity	Cost at works	Quantity	Cost at works
		\$		\$
Alumina, pure ..... ton	10,766	1,013,621	2,999	283,573
Bauxite ..... "	232,528	7,031,789	135,517	4,084,683
Boric acid glass ..... "	165	61,539	42	15,731
Coal (not for fuel) ..... "	3,030	35,447	5,893	76,007
Coke (not for fuel) :				
Petroleum coke ..... "	92,337	2,100,606	79,453	1,663,429
Pitch coke ..... "	12,253	217,900	4,880	151,352
Other coke ..... "	6,025	62,728	5,097	55,331
Electrodes ..... "	4,118	1,195,777	2,124	684,903
Iron borings ..... "	16,654	563,851	11,000	322,766
Salt ..... "	115	2,000	17	306
Sawdust ..... —	—	97,901	—	94,105
Silica sand ..... ton	125,534	1,134,566	116,948	1,107,347
Artificial abrasive grains:				
For wheels, paper, etc.:				
Fused alumina ..... "	2,748	798,644	1,656	440,657
Silicon carbide ..... "	2,182	621,083	3,237	761,568
Natural abrasive grains:				
Garnet ..... lb.	434,474	59,276	504,519	78,781
Emery ..... "	121,015	10,946	86,905	8,938
Quartz of flint ..... "	296,161	10,065	289,779	10,004
Other ..... —	—	1,800	—	1,306
Bonding and bushing materials:				
Clay bonds ..... lb.	885,921	63,828	870,586	54,452
Bakelite and synthetic resins ..... "	428,944	161,488	503,043	170,946
Lead for bushings ..... "	70,924	11,135	65,587	9,343
Glue, animal and hide ..... "	709,766	196,201	730,054	217,911
Other ..... —	—	39,878	—	39,023
Cotton cloth ..... —	—	160,072	—	382,661
Kraft paper and other paper ..... —	—	303,735	—	366,211
Containers and packing material ..... —	—	248,927	—	239,708
All other materials ..... —	—	4,128,843	—	3,229,294
Total ..... —	—	20,333,646	—	14,550,336



**TABLE 5. Production<sup>1</sup> of Specified Artificial Abrasives, 1949-1958**

Year	Crude silicon carbide		Crude fused alumina		Total	
	Quantity	Selling value at works	Quantity	Selling value at works	Quantity	Selling value at works
	tons	\$	tons	\$	tons	\$
1949 .....	46,398	6,008,384	113,199	10,230,521	159,597	16,238,905
1950 .....	44,761	6,316,299	126,923	12,197,308	171,684	18,513,607
1951 .....	70,282	9,913,060	195,374	20,835,165	265,656	30,748,225
1952 .....	59,277	8,275,099	152,086	16,643,519	211,363	24,918,618
1953 .....	52,903	7,438,243	245,627	25,499,674	298,530	32,937,917
1954 .....	50,321	6,944,862	199,857	18,883,589	250,178	25,828,451
1955 .....	74,947	9,681,788	177,162	16,676,424	252,109	26,358,212
1956 .....	80,467	10,430,549	181,830	17,636,382	262,297	28,066,931
1957 .....	83,321	11,828,856	218,187	21,902,425	301,508	33,731,281
1958 .....	77,528	11,676,630	109,507	10,994,270	187,035	22,670,900

<sup>1</sup> Factory shipments since 1952.



TABLE 6. Production<sup>1</sup> of Abrasive Wheels and Segments,<sup>2</sup> 1949 - 1958

Year	Selling value at works	Year	Selling value at works
	\$		\$
1949.....	3,826,726	1954.....	4,422,413
1950.....	4,683,163	1955.....	5,666,352
1951.....	5,655,676	1956.....	7,206,636
1952.....	5,501,377	1957.....	7,100,348
1953.....	5,694,066	1958.....	6,013,543

<sup>1</sup> Factory shipments since 1952.<sup>2</sup> Does not include artificial pulpstones or sharpening stones.

TABLE 7. Principal Statistics, Classified According to Type of Ownership, 1957 and 1958

Type	Establish- ments	Employees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number			dollars	
<b>1957</b>					
Individual ownership .....	17	2,851	12,668,517	20,333,646	51,049,441
Incorporated companies .....					
<b>Total.....</b>	<b>17</b>	<b>2,851</b>	<b>12,668,517</b>	<b>20,333,646</b>	<b>51,049,441</b>
<b>1958</b>					
Individual ownership .....	1	2,314	10,702,296	14,550,336	37,211,006
Incorporated companies .....	17				
<b>Total.....</b>	<b>18</b>	<b>2,314</b>	<b>10,702,296</b>	<b>14,550,336</b>	<b>37,211,006</b>

TABLE 8. Principal Statistics of the Artificial Abrasives Industry, Group According to Selling Value of Factory Shipments, 1957 and 1958

Establishments reporting factory shipments of	Establish- ments	Employees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number			dollars	
<b>1957</b>					
Under \$500,000 .....	4	39	126,110	99,571	440,842
\$500,000 - \$999,999 .....	3	153	658,968	562,958	2,232,152
\$1,000,000 and over .....	10	2,659	11,883,439	19,671,117	48,376,447
<b>Total.....</b>	<b>17</b>	<b>2,851</b>	<b>12,668,517</b>	<b>20,333,646</b>	<b>51,049,441</b>
<b>1958</b>					
Under \$500,000 .....	5	35	151,107	82,607	385,881
\$500,000 - \$999,999 .....	4	178	750,907	838,203	2,626,823
\$1,000,000 and over .....	9	2,101	9,800,282	13,629,526	34,198,302
<b>Total.....</b>	<b>18</b>	<b>2,314</b>	<b>10,702,296</b>	<b>14,550,336</b>	<b>37,211,006</b>

TABLE 9. Capital and Repair Expenditures in the Artificial Abrasives Industry, 1954-1958

Year	Capital expenditures		Sub-total	Repair and maintenance expenditures		Sub-total	Total capital and repair expenditures
	Construction	Machinery and equipment		Construction	Machinery and equipment		
	thousands of dollars						
1954 .....	411	958	1,369	93	1,582	1,675	3,044
1955 .....	225	757	982	83	1,599	1,682	2,664
1956 .....	331	742	1,073	114	2,140	2,254	3,327
1957 .....	1,274	1,947	3,221	108	2,472	2,580	5,801
1958 <sup>1</sup> .....	278	606	884	120	1,669	1,789	2,673

<sup>1</sup> Preliminary.

TABLE 10. Employees and their Earnings in the Artificial Abrasives Industry, 1957 and 1958

	Employees					Earnings		
	Supervisory and office		Workmen		Total	Supervisory and office	Workmen	Total
	Male	Female	Male	Female				
	number					dollars		
1957								
Quebec .....	34	10	347	—	391	251,525	1,541,743	1,793,268
Ontario .....	431	174	1,765	90	2,460	3,479,765	7,395,484	10,875,249
Canada .....	465	184	2,112	90	2,851	3,731,290	8,937,227	12,668,517
1958								
Quebec .....	32	8	366	—	406	232,814	1,536,726	1,769,540
Ontario .....	413	137	1,270	88	1,908	3,356,671	5,576,085	8,932,756
Canada .....	445	145	1,636	88	2,314	3,589,485	7,112,811	10,702,296

TABLE 11. Production Workers by Months, 1957 and 1958

Month	1957			1958		
	Male	Female	Total	Male	Female	Total
number						
January .....	2,152	96	2,248	1,802	74	1,876
February .....	2,137	88	2,225	1,762	85	1,847
March .....	2,151	100	2,251	1,721	95	1,816
April .....	2,157	97	2,254	1,682	93	1,775
May .....	2,194	95	2,289	1,608	88	1,696
June .....	2,196	94	2,290	1,588	90	1,678
July .....	2,174	94	2,268	1,512	93	1,605
August .....	2,179	94	2,273	1,547	96	1,643
September .....	2,116	80	2,196	1,566	88	1,654
October .....	1,988	83	2,071	1,528	94	1,622
November .....	1,961	80	2,041	1,614	83	1,697
December .....	1,927	78	2,005	1,708	83	1,791
Average .....	2,112	90	2,202	1,636	88	1,724

TABLE 12. Imports of Abrasives and Abrasive Products, 1957 and 1958

		1957	1958
Artificial abrasive grains, crushed or ground, for use in Canadian manufactures .....	\$	2, 199, 990	1, 921, 437
Diamond dust or bort and black diamonds for borers .....	\$	10, 825, 940	5, 460, 487
Diatomaceous earth or infusorial earth (Kieselguhr), ground or unground..	cwt.	505, 767	545, 153
	\$	1, 077, 657	1, 184, 427
Emery in bulk, crushed or ground .....	\$	248, 887	235, 041
Grinding wheels, manufactured by the bonding together of either natural or artificial abrasives .....	\$	1, 947, 311	1, 808, 523
Grinding stones or blocks, manufactured by the bonding together of either natural or artificial abrasives .....	\$	407, 882	292, 516
Manufactures of emery or of artificial abrasives, n.o.p. ....	\$	625, 769	580, 604
Grindstones, not mounted, and not less than 36 inches in diameter .....	No.	141	150
	\$	12, 982	9, 171
Grindstones, n.o.p. ....	No.	1, 575	860
	\$	6, 748	5, 508
Pumice and pumice stone, lava and calcareous tufa, not further manufactured than ground .....	\$	254, 427	297, 964
Sandpaper, glass, flint and emery paper or emery cloth .....	\$	725, 652	799, 906
<b>Total</b> .....	\$	<b>18, 333, 245</b>	<b>12, 595, 584</b>

TABLE 13. Exports and Re-exports of Abrasives and Abrasive Products, 1957 and 1958

		1957	1958
Abrasives, natural, n.o.p., in ore or bulk, crushed or ground, including infusorial earth, rotten stone, tripoli, etc. ....	cwt.	3, 100	968
	\$	25, 238	10, 111
Abrasives, artificial, crude .....	cwt.	6, 131, 379	3, 772, 511
	\$	33, 920, 445	22, 723, 369
Abrasives, artificial, made up into wheels and stones .....	\$	50, 944	65, 127
Diamonds, industrial, and diamond dust or bort <sup>1</sup> .....	\$	7, 134, 669	5, 045, 474
Sandpaper, glass, flint and emery paper, and emery cloth .....	\$	670, 980	739, 018
Grindstones, manufactured .....	\$	45, 822	71, 643
<b>Total</b> .....	\$	<b>41, 848, 098</b>	<b>28, 654, 742</b>

<sup>1</sup> All re-exports.





1010646733

**TABLE 14. Fuel and Electricity Used in the Artificial Abrasives and Abrasives Products Industry, 1957 and 1958**

Kind	1957		1958	
	Quantity	Cost at works	Quantity	Cost at works
		\$		\$
Bituminous coal:				
Canadian .....	ton	2,546	350	4,400
Imported .....	"	4,991	6,111	82,116
Anthracite coal .....	"	283	130	2,565
Coke (for fuel only) .....	"	354	200	2,600
Gasoline (including gasoline used in cars and trucks) .....	Imp. gal.	73,939	62,582	23,067
Kerosene or coal oil .....	"	9,308	2,249	
Fuel oil .....	"	729,553	683,271	85,110
Gas: (a) Liquefied petroleum gases .....	"	5,885	5,182	2,040
(b) Other manufactured gas .....	M cu. ft.	10,784	430	961
(c) Natural gas .....	"	31,109	42,241	43,325
Electricity purchased .....	kwh.	1,162,881,191	902,249,335	4,084,117
Steam purchased .....	—	Not collected	—	24,753
Other fuel .....	—	1,180	—	184
<b>Total</b> .....	—	<b>5,421,469</b>	—	<b>4,355,238</b>

**TABLE 15. Power Equipment in Use or Available for Use in the Artificial Abrasives and Abrasive Products Industry at the end of 1958**

Type of equipment	Driving generators	Not driving generators
	horsepower	
A. Prime movers:		
Steam engines .....	—	—
Steam turbines .....	—	—
Diesel engines .....	—	—
Gasoline, gas and oil engines, other than diesel engines .....	—	1,433
Hydraulic turbines or water wheels .....	—	—
<b>Total</b> .....	—	<b>1,433</b>
B. Electric motors (one quarter horsepower and over) .....	xxxx	20,874

**List of Firms in the Artificial Abrasives Industry, 1958**

Name of firm	Address
<b>(a) Artificial Abrasives</b>	
Canadian Carborundum Company, Limited <sup>1</sup> .....	P.O. Box 337, Niagara Falls, New York, U.S.A. Plants at Shawinigan Falls, Quebec, and Niagara Falls, Ontario
Electro Refractories & Abrasives Canada Ltd. ....	Cap-de-la-Madeleine, Quebec
The Exolon Company .....	East Niagara St., Tonawanda, New York, U.S.A. Plant at Thorold, Ontario
Lionite Abrasives Ltd. ....	Niagara Falls, Ontario
Norton Company .....	1 New Bond St., Worcester, Massachusetts, U.S.A. Plants at Chippawa, Ontario, and Cap-de-la-Madeleine, Quebec
Simonds Canada Abrasive Company Limited .....	Arvida, Quebec
<b>(b) Abrasive Products</b>	
Bay State Abrasive Products Co. (Canada) Ltd. ....	188 Pearl St., Brantford, Ontario
Behr-Manning (Canada) Limited .....	Brantford, Ontario
Canadian Grinding Wheel Co. Ltd. ....	700 Rennie St., Hamilton, Ontario
Canada Sand Papers Limited .....	King and Argyle Sts., Preston, Ontario Plant at Plattsville, Ontario
Dominion Abrasive Wheel Co. Limited .....	49 Main St., Mimico, Ontario
Macklin of Canada .....	Harrow, Ontario
Norton Company of Canada Limited .....	3 Beach Road, Hamilton, Ontario
Plasticraft Co. ....	2027 St. Timothee St., Montreal, Quebec
Simonds Canada Saw Co., Ltd. ....	192 Pearl St. E., Brockville, Ontario
Wright Abrasives Ltd. ....	2 Adam St., Hamilton, Ontario

<sup>1</sup> This company also makes abrasive wheels, etc., at its Niagara Falls works and all operations at that point are covered by the one report.