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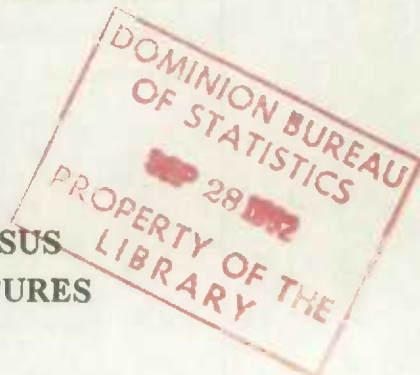
ANNUAL



ABRASIVES MANUFACTURERS 1960

Formerly The Artificial Abrasives Industry

ANNUAL CENSUS
OF MANUFACTURES



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SYMBOLS

The interpretation of the symbols used in the tables throughout this publication is as follows:

- .. figures not available.
- ... figures not appropriate or not applicable.
- nil or zero.

EXPLANATORY NOTES

This report is one in a series of about 140 publications which present the results of the 1960 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. Adoption of the revised Standard Industrial Classification for 1960 compilations has necessitated changes in titles of many reports in this annual series. The content of many industries has also been affected (see following note on Industrial Classification).

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 1960 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, ware-

housing 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 or 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.¹

Standard Industrial Classification

The revised Standard Industrial Classification which has been introduced with the 1960 Census of Manufactures provides for a breakdown of the universe into 140 industries arranged in 20 major groups compared with 135 industries in 17 major groups in the old classification which was used in the compilations for the years 1949 to 1959 inclusive. It incorporates changes considered desirable on the basis of experience in using the earlier classification as well as those which take account of changes in the structure of Canadian industries associated with the rapid developments of the past decade. Full details are contained in the Standard Industrial Classification Manual, Catalogue No. 12-501, which is available from either the Queen's Printer or the Dominion Bureau of Statistics. Reporting establishments are classified or allotted to specific industries on the basis of the value of principal products made or shipped.

Many industries remain unchanged in the new classification but in many instances there have been substantial changes in content because of the shifting of establishments from one industry to another or in re-grouping of establishments. Where

changes have occurred the principal statistics for 1957, 1958 and 1959 have been re-compiled to provide data on a basis comparable with those for 1960.

Short Forms

Between 1949 and 1957, in an effort to ease the reporting burden for smaller firms, a short form was used asking for the total value of shipments only or, in a few cases where losses of detail were significant, for quantities and values of principal products. For purposes of publication, missing data were estimated on the basis of appropriate ratios. In general the cut-off point for these short forms was set at \$50,000 value of shipments. About 40% of the total number of establishments reported on the short form and accounted for less than 3 per cent of the total value of shipments.

In 1958, in order to establish a new base year, the small firms were asked to report all items of principal statistics together with some detail on materials and products.

For the 1959 Census, the short form was used again, but further steps were taken to ease the respondents' burden. First, the general limit for short forms was raised to \$100,000 value of shipments. In addition, a new intermediate form was developed. This form is a shortened version of the long form in that most of the general questions were pared down and the detailed lists of materials and products were limited to the more important items. The general limits for firms in this category were set at between \$100,000-\$500,000 value of shipments, but in the case of both the short and intermediate forms there were lower cut-offs for a number of industries in which the smaller firms accounted for a larger share of total shipments. On the other hand, limits were raised where this could be done without a significant loss of coverage. On most of the short forms for 1959, in addition to total value of shipments, data on principal products were requested. In a few industries, where loss of employment and earnings data were considered too large because of higher cut-offs, a question on total payroll was placed on the short form. This practice was followed again in 1960.

The intermediate and long forms provide complete data for the compilation of all elements of principal industry statistics and the details of materials and products. The one-page short form, although containing data on principal products and total value of shipments, does not request information on other elements of principal statistics such as value of inventories, materials, fuel and electricity and, in most cases, employment and salaries and wages, nor does it contain detailed data on volume and value of materials used. For purposes of compiling aggregates of principal statistics by industry and by geographic location, the missing data for each establishment were estimated for 1959 by using, in general, ratios based on the change in the value of shipments between 1958 and 1959. The proportion of the estimated data was generally less than 5 per cent of the total in each category of principal statistics.

¹ 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*.

ABRASIVES MANUFACTURERS

1960

Data presented in this report under the heading of Abrasives Manufacturers reflect implementation of the revised Standard Industrial Classification (SIC) which is being used by the Dominion Bureau of Statistics in its compilation of 1960 industry statistics — see item "Standard Industrial Classification" in the Explanatory Notes section of this report. For statistical purposes the industry titled Abrasives Manufacturers in the revised Standard Industrial Classification covers the operations of establishments primarily engaged in manufacturing abrasive grinding wheels of emery, carborundum and other natural or artificial materials; abrasive sticks, stones, bricks, paper and cloths and buffing and polishing wheels. This industry includes the manufacture of primary abrasive materials such as fused alumina and silicon carbide.

In many instances, adoption of the revised Standard Industrial Classification effected a radical shifting of manufacturing establishments as between industry groupings. However, in the case of establishments engaged in manufacturing abrasives, changes brought about by the implementation of the revised Standard Industrial Classification were minimal as evidenced in the comparative series of statistics presented in Tables 1A and 1B. Table 1A shows data for these establishments according to

the "old" concept while Table 1B carries figures re-compiled on the "new" or revised Standard Industrial Classification basis.

There were 20 establishments classified as Abrasives Manufacturers in 1960; there being 5 in Quebec, 14 in Ontario and 1 in British Columbia. Employees in the industry numbered 2,519; salaries and wages totalled \$12,513,599; fuel and electricity cost \$5,784,240; materials used in manufacturing processes cost \$19,329,265; and factory shipments were valued at \$48,558,969.

Note: 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 plant warehouse.

TABLE 1 A. Principal Statistics of the Artificial Abrasives Industry, Significant Years 1929 - 59

Basis: Standard Industrial Classification in use prior to 1960

Year and province	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost at plant of materials used	Value added by manufacture ¹	Selling value of factory shipments
	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
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
1957	17	2,851	12,668,517	5,421,469	20,333,646	24,902,569	51,049,441
1958	18	2,314	10,702,296	4,355,238	14,550,336	18,573,824	37,211,006
1959	18	2,522	11,853,197	5,022,388	17,783,503	21,249,607	44,226,296

¹ See note to text.

TABLE 1 B. Principal Statistics: Abrasives Manufacturers, by Provinces, 1957 - 60

Basis: Standard Industrial Classification revised 1960

Year and province	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost at plant of materials used	Value added by manufacture ¹	Selling value of factory shipments
	number		dollars				
1957							
Quebec	5	391	1,793,268	1,758,584	3,142,244		8,923,822
Ontario	13	2,466	10,897,549	3,663,785	17,271,402	2	42,247,619
Canada	18	2,857	12,690,817	5,422,369	20,413,646		51,171,441
1958							
Quebec	5	406	1,769,540	1,902,719	2,855,249		9,379,738
Ontario and British Columbia	15	1,917	8,969,003	2,453,350	11,766,912	2	27,950,650
Canada	20	2,323	10,738,543	4,356,069	14,622,161		37,330,388
1959							
Quebec	5	428	2,082,366	1,944,516	3,422,460		9,466,877
Ontario and British Columbia	15	2,105	9,817,263	3,078,635	14,460,713	2	34,909,820
Canada	20	2,533	11,899,629	5,023,151	17,883,173		44,376,697
1960							
Quebec	5	428	2,181,267	1,958,215	3,180,755	3,911,496	9,054,362
Ontario and British Columbia	15	2,093	10,332,332	3,826,025	16,148,510	20,044,468	39,514,607
Canada	20	2,519	12,513,599	5,784,240	19,329,265	23,955,964	48,568,969

¹ See note to text.² The changeover to the new classification has delayed the recompilation of "Value added" figures for these years and same will not be available until the next issue of this report.

Note: Profits or losses cannot be calculated from above figures Tables 1 A and 1 B as data are not available for general expense items, such as interest, rent, depreciation, taxes, insurance, advertising, etc.

TABLE 2. Inventories,¹ by Provinces, 1960

	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
	dollars			
Opening:				
Quebec	890,918	61,095	301,980	1,253,993
Ontario and British Columbia	3,597,085	932,259	2,316,937	6,846,281
Canada	4,488,003	993,354	2,618,917	8,100,274
Closing:				
Quebec	998,782	52,610	306,569	1,357,961
Ontario and British Columbia	3,136,346	1,095,099	2,658,493	6,889,938
Canada	4,135,128	1,147,709	2,965,062	8,247,899

¹ Book value of all manufacturing inventories owned and held at plant and plant warehouses.

TABLE 3. Factory Shipments: Abrasives Manufacturers, 1960

Product	Quantity	Value of factory shipments
	tons	\$
Crude silicon carbide	84,611	13,026,009
Crude fused alumina	187,105	19,417,568
Silicon carbide firesand, etc.	3,306	290,253
Abrasive wheels and segments .....	..	6,425,394
Sharpening stones and files .....	..	264,477
Ferrosilicon	19,335	752,862
Other products ¹ .....	...	8,392,406
Total .....	...	48,568,969

¹ 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: Abrasives Manufacturers, 1960

Material	Quantity	Cost at plant
		\$
Alumina, pure	ton 6,895	760,156
Bauxite	" 206,925	5,975,899
Boric acid glass	" 4	1,778
Coal (not for fuel)	" 1,571	22,136
Coke (not for fuel):		
Petroleum coke	" 104,426	2,081,500
Pitch coke	" 3,822	127,152
Other coke	" 7,571	79,423
Electrodes	" 3,103	877,220
Iron borings	" 13,725	383,119
Salt	" 67	871
Sawdust	" 9,799	122,448
Silica sand	" 140,269	1,364,631
Artificial abrasive grains:		
For wheels, paper, etc.:		
Fused alumina	" 2,472	714,619
Silicon carbide	" 2,036	582,891
Natural abrasive grains:		
Garnet	lb. 468,965	64,449
Emery	" 84,950	5,301
Quartz or flint	" 210,845	6,797
Other	" 2,280	545
Bonding and bushing materials:		
Clay bonds	" 876,247	60,906
Bakelite and synthetic resins	" 480,720	201,070
Lead for bushings	" 33,988	4,748
Glue, animal and hide	" 688,168	201,738
Other .....	..	37,737
Cotton cloth .....	..	399,010
Kraft paper and other paper .....	..	384,338
Containers and packing material .....	...	295,444
All other materials ¹ .....	...	4,573,339
Total .....	...	19,329,265

¹ No detailed information on materials used was collected from firms generally reporting value of shipments of less than \$500,000. The total estimated value of materials used by these firms was \$230,523 and this amount is included in "All other materials".

FACTORY SHIPMENTS OF SPECIFIED ARTIFICIAL ABRASIVES IN CANADA 1952-1960

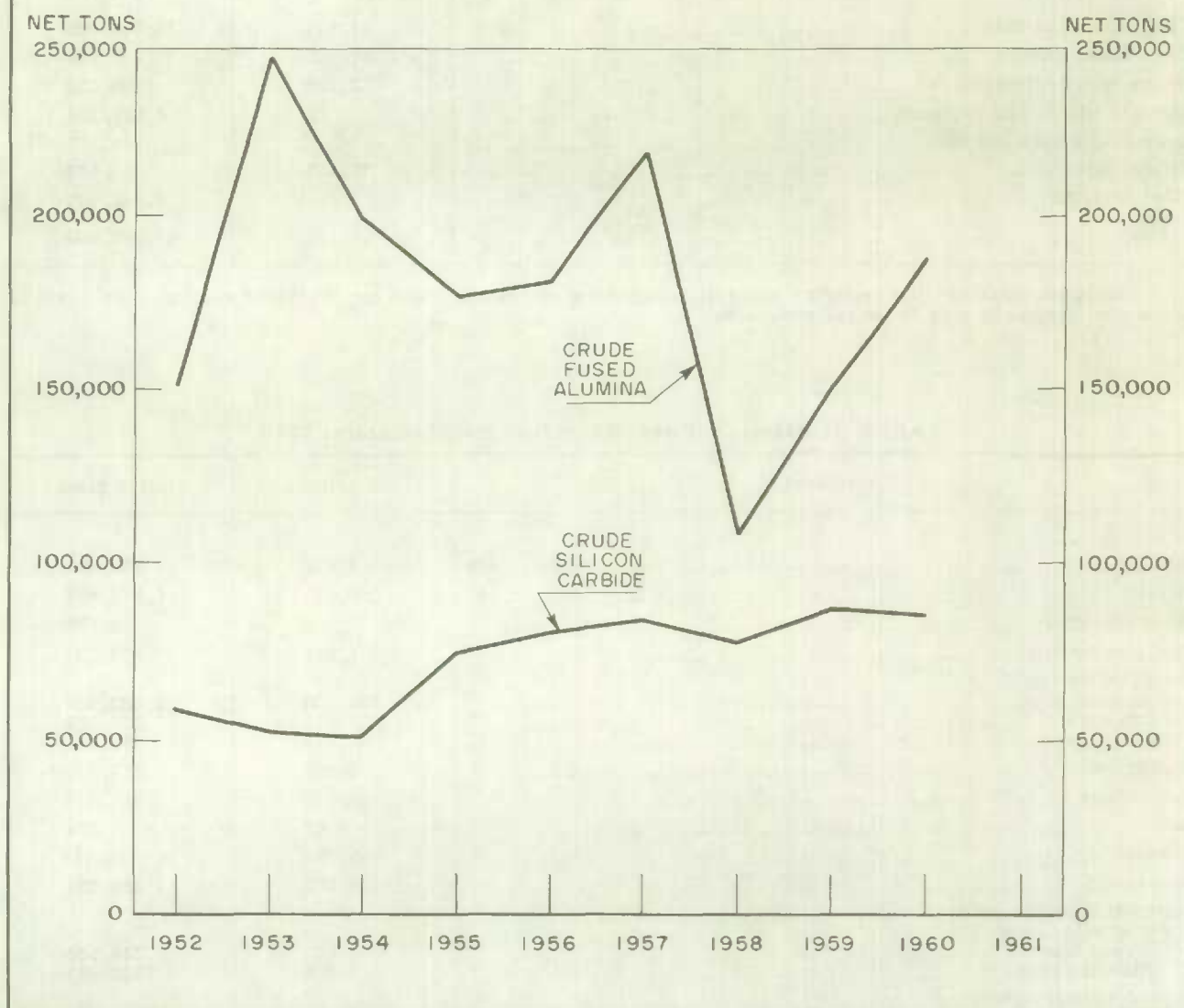


TABLE 5. Factory Shipments of Specified Abrasives, 1952 - 60

Year	Crude silicon carbide		Crude fused alumina		Total	
	Quantity	Selling value at plant	Quantity	Selling value at plant	Quantity	Selling value at plant
	tons	\$	tons	\$	tons	\$
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
1959	86,248	12,660,211	152,319	15,414,241	238,567	28,074,452
1960	84,611	13,026,009	187,105	19,417,568	271,716	32,443,577

TABLE 6. Factory Shipments of Abrasive Wheels and Segments,¹ 1952 - 60

Year	Selling value at plant	Year	Selling value at plant
	\$		\$
1952	5,501,377	1957	7,100,348
1953	5,694,066	1958	6,013,543
1954	4,422,413	1959	7,550,473
1955	5,666,352	1960	6,425,394
1956	7,206,636		

¹ Does not include artificial pulpstones or sharpening stones.

**TABLE 7. Principal Statistics, classified according to Type of Ownership:
Abrasive Manufacturers, 1957 and 1960**

Type	Estab- lish- ments	Employees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number		dollars		
1957					
Individual ownership	1	2,857	12,690,817	20,413,646	51,171,441
Incorporated companies	17				
Totals	18	2,857	12,690,817	20,413,646	51,171,441
1960					
Individual ownership	1	2,519	12,513,599	19,329,265	48,568,969
Incorporated companies	19				
Totals	20	2,519	12,513,599	19,329,265	48,568,969

**TABLE 8. Principal Statistics grouped according to Selling Value of Factory Shipments:
Abrasive Manufacturers, 1957 and 1960**

Establishments reporting value of factory shipments	Estab- lish- ments	Employees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number		dollars		
1957					
Under \$500,000	5	45	148,410	179,571	562,842
\$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
Totals	18	2,857	12,690,817	20,413,646	51,171,441
1960					
Under \$500,000	7	54	239,451	230,523	703,992
\$500,000 - \$999,999	4	182	892,645	1,127,920	3,388,909
1,000,000 and over	9	2,283	11,381,503	17,970,822	44,476,068
Totals	20	2,519	12,513,599	19,329,265	48,568,969

TABLE 9. Employees and their Earnings: Abrasives Manufacturers, 1959 and 1960

	Employees					Earnings		
	Supervisory and office		Workmen		Total	Supervisory and office	Workmen	Total
	Male	Female	Male	Female				
	number					dollars		
1959								
Quebec	33	8	387	—	428	231,605	1,850,761	2,082,366
Ontario and British Columbia	428	181	1,402	94	2,105	3,266,901	6,550,362	9,817,263
Canada	461	189	1,789	94	2,533	3,498,506	8,401,123	11,899,629
1960								
Quebec	34	7	385	—	426	244,492	1,936,775	2,181,267
Ontario and British Columbia	378	160	1,453	102	2,093	3,265,511	7,066,821	10,332,332
Canada	412	167	1,838	102	2,519	3,510,003	9,003,596	12,513,599

TABLE 10. Production Workers, by Months: Abrasives Manufacturers, 1960

Month	Establishments reporting monthly detail ¹	
	Male	Female
January	1,757	93
February	1,832	95
March	1,884	98
April	1,914	99
May	1,931	101
June	1,873	103
July	1,786	107
August	1,774	110
September	1,748	114
October	1,733	107
November	1,693	101
December	1,669	97
Average for establishments reporting monthly detail	1,798	102
Average estimated for small establishments ²	40	—
Average for all establishments	1,838	102

¹ The number of production workers, by months, was collected only for establishments generally reporting value of shipments of \$500,000 and over.

² For establishments generally reporting value of shipments of less than \$500,000, no data on number of workers were collected. Average was estimated by using change in value of shipments to arrive at value of payroll which was then used in conjunction with estimated average earnings to arrive at number of workers.

TABLE 11. Fuel and Electricity Used : Abrasives Manufacturers, 1960

Kind	Quantity	Cost at plant
		\$
1. Establishments reporting commodity detail: ¹		
Bituminous coal:		
From Canadian mines ton	565	7,703
Imported "	8,225	103,494
Anthracite coal "	134	2,681
Coke "	120	3,120
Gasoline (including gasoline used in cars and trucks) Imp. gal.	44,642	15,841
Fuel oil including kerosene or coal oil "	740,436	82,622
Gas:		
Liquefied petroleum gases "	33,463	11,764
Natural gas M cu. ft.	48,946	46,186
Electricity purchased kwh.	1,162,801,264	5,493,522
Steam purchased "	—	—
2. Estimate for establishments for which no data were collected: ²		
Cost of fuel and electricity "	...	17,307
3. All establishments:		
Total cost of fuel and electricity "	...	5,784,240

¹ Establishments generally reporting value of shipments of \$500,000 and over.

² Establishments generally reporting value of shipments of less than \$500,000.

TABLE 12. Imports of Specified Abrasives and Abrasive Products, 1959 and 1960

	1959	1960
Artificial abrasive grains, crushed or ground, for use in Canadian manufactures \$	2,373,079	2,046,966
Diamond dust or bort and black diamonds for bores \$	6,298,061	4,339,852
Diatomaceous earth or infusorial earth (Kieselguhr), ground or unground cwt.	545,198	579,798
..... \$	1,157,976	1,245,518
Emery in bulk, crushed or ground..... \$	240,845	202,157
Grinding wheels, manufactured by the bonding together of either natural or artificial abrasives \$	2,172,854	1,948,297
Grinding stones or blocks, manufactured by the bonding together of either natural or artificial abrasives \$	357,681	376,439
Manufactures of emery or of artificial abrasives, n.o.p. \$	692,680	585,366
Grindstones, n.o.p. No.	708	529
..... \$	20,434	16,441
Pumice and pumice stone, lava and calcareous tufa, not further manufactured than ground \$	236,190	195,340
Sandpaper, glass, flint and emery paper or emery cloth \$	833,371	1,142,682



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TABLE 13. Exports of Specified Abrasives and Abrasive Products, 1959 and 1960

		1959	1960
Abrasives, artificial, crude	cwt.	4,857,864	1
	\$	27,736,800	
Fused alumina, crude and grains	cwt.	1	3,835,410
	\$		19,756,589
Silicon carbide, crude and grains	cwt.	1	1,651,155
	\$		11,928,750
Abrasives, artificial, crude	cwt.	1	215
	\$		50,440
Abrasives, artificial, manufactured	\$	210,368	71,050
Sandpaper and emery cloth	\$	669,040	743,723
Grindstones, manufactured	\$	64,875	46,317

¹ In 1959 "Fused alumina, crude" and "Silicon carbide, crude" were classed as "Abrasives, artificial, crude".

Directory of Firms: Abrasives Manufacturers, 1960

Name of firm	Location of plant
Quebec:	
Canadian Carborundum Co. Ltd.	Transmission Ave., Shawinigan Falls
Electro Refractories and Abrasives Canada Ltd.	60 Notre Dame St., Cap-de-la-Madeleine
Norton Company	Cap-de-la-Madeleine
Plasticraft Company	2027 St. Timothee St., Montreal
Simonds Canada Abrasives Co. Ltd.	Arvida
Ontario:	
Bay State Abrasive Products Company (Canada) Limited	188 Pearl St., Brantford
Behr-Manning (Canada) Ltd.	Brantford
Canada Sand Papers Limited	Plattsville
Canadian Carborundum Co. Ltd.	Stanley St., Niagara Falls
Canadian Grinding Wheel Co. Ltd.	790 Rennie St., Hamilton
Dominion Abrasive Wheel Co. Ltd.	49 Main St., Mimico
Exolon Company, The	Thorold
Lea Manufacturing Co. of Canada Ltd.	1236 Birchmount Rd., Scarborough
Lionite Abrasives Ltd.	Stanley St., Niagara Falls
Norton Company	Chippawa
Norton Company of Canada Limited	3 Beach Road, Hamilton
Macklin of Canada Ltd.	Harrow
Simonds Canada Saw Co. Ltd.	192 Pearl St., Brockville
Wright Abrasives, The	2 Adams St., Hamilton
British Columbia:	
Diamond Abrasive Wheels Ltd.	1291 Parker St., Vancouver