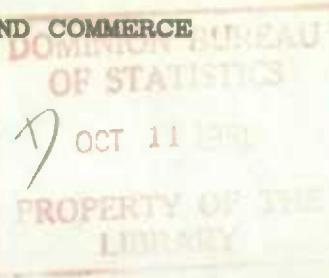


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THE ARTIFICIAL ABRASIVES INDUSTRY

1950

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NOTICE

The Industry and Merchandising Division of the Bureau of Statistics collects and compiles figures on (a) the primary industries in Canada—mining, forestry and fishing; (b) manufacturing; (c) construction, and (d) merchandising and services.

For the purpose of annual compilation and publication, the manufacturing industries have been classified into major groups, prefaced by two reports of a general nature, as follows:

- I Summary Report on Manufacturing Industries
- II Manufacturing Industries by Geographical Distribution
- III Foods and Beverages
- IV Tobacco and Tobacco Products
- V Rubber Products
- VI Leather Products
- VII Miscellaneous Manufactures
- VIII Textiles
- IX Wood and Paper Products
- X Printing Trades
- XI Operations in the Woods
- XII Iron and Steel Products
- XIII Transportation Equipment
- XIV Non-ferrous Metal Products
- XV Electrical Apparatus and Supplies
- XVI Non-metallic Mineral Products
- XVII Products of Petroleum and Coal
- XVIII Chemicals and Allied Products

The present report belongs to Group XVI, Non-metallic Mineral Products. It is punched to permit of filing in a ring binder along with others of the group. The reports in this group are:

- A General Review, 25¢.
- B The Artificial Abrasives Industry, 25¢.
- C The Asbestos Products Industry, 25¢.
- P The Cement Manufacturing Industry (also in Mining), 25¢.
- D The Cement Products Industry, 25¢.
- E The Glass and Glass Products Industry, 25¢.
- K The Gypsum Industry (also in Mining), 15¢.
- Q The Clay and Clay Products Industry (also in Mining), 25¢.
- R The Lime Industry (also in Mining), 25¢.
- M The Salt Industry (also in Mining), 25¢.
- T The Stone Industry, 35¢.
- G The Miscellaneous Non-metallic Mineral Products Industry, 25¢.

THE ARTIFICIAL ABRASIVES INDUSTRY

1950

The factory selling value of all products made during 1950 by the manufacturers in Canada of artificial abrasives and artificial abrasive products amounted to \$32,836,573. This value represented a gain of 18.5 per cent over the total of \$27,700,008 for 1949.

There were 19 firms engaged in manufacturing artificial abrasives and their products during the year, and of these, 14 were located in Ontario, 4 in Quebec and 1 in British Columbia.

The number of employees in the industry was 2,603 and payments in salaries and wages totalled \$7,359,351. Expenditures for manufacturing materials amounted to \$12,541,899, and \$2,329,029 were paid out for fuel and electricity.

Artificial abrasives were made by 4 plants in Ontario and 3 in Quebec. The output of these 7 works was valued at \$21,364,475 and included 126,923 tons of crude fused alumina at \$12,197,308; 44,761 tons of crude silicon carbide at \$6,316,299 and other products and by-products, such as ferrosilicon, firesand, abrasive wheels, etc. A total of 1,649 people was employed and salaries and wages paid out amounted to \$4,823,053.

Twelve other plants were occupied chiefly in making abrasive products, such as wheels, paper, pulpstones, and sharpening stones. The value of all products made in these establishments was \$11,472,098. The number of employees was 954 and payments for salaries and wages amounted to \$2,536,298. The total value of Canada's output of abrasive wheels and segments was \$4,683,163.

TABLE 1. Principal Statistics for the Artificial Abrasives Industry, 1946-1950

Year	Number of plants	Number of employees	Salaries and wages for year	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
1946	15	2,409	\$ 4,929,448	\$ 2,106,329	\$ 8,425,629	\$ 25,444,396
1947	16	2,675	6,467,320	2,382,798	10,736,224	31,809,897
1948	16	2,657	7,062,202	2,420,298	11,565,326	33,512,349
1949	18	2,543	6,830,763	2,182,097	10,649,694	27,700,008
1950	19	2,603	7,359,351	2,329,029	12,541,899	32,836,573
Per cent change, 1950 from 1949	—	+2.4	+7.7	+6.7	+17.8	+18.5

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. Principal Statistics for the Artificial Abrasives Industry, by Provinces, 1949 and 1950

Province	Number of plants	Number of employees	Salaries and wages for year	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
1949			\$	\$	\$	\$
Quebec	3	280	833,784	598,934	1,547,842	3,820,621
Ontario	15	2,263	5,996,999	1,583,163	9,101,852	23,879,387
Canada	18	2,543	6,830,763	2,182,097	10,649,694	27,700,008
1950						
Quebec	4	244	768,768	572,216	1,405,356	4,247,382
British Columbia	1	{ } 244				
Ontario	14	2,359	6,590,583	1,756,813	11,136,543	28,589,191
Canada	19	2,603	7,359,351	2,329,029	12,541,899	32,836,573

TABLE 3. Products of The Artificial Abrasives Industry, 1949 and 1950

Product	1949		1950	
	Short tons	Selling value at works	Short tons	Selling value at works
Crude silicon carbide	46,398	\$ 6,008,384	44,761	\$ 6,316,299
Crude fused alumina	113,199	10,230,521	126,923	12,197,308
Silicon carbide firesand, etc.	374	19,470	328	16,103
Abrasive wheels and segments	—	3,826,726	—	4,683,163
Sharpening stones and files	—	202,869	—	296,904
Ferrosilicon	7,780	177,276	9,681	281,597
Other products	—	7,234,762	—	9,045,199
Total	—	27,700,008	—	32,836,573

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 in The Artificial Abrasives Industry, 1949 and 1950

Material	Unit of measure	1949		1950	
		Quantity	Cost at works	Quantity	Cost at works
Alumina, pure	ton	548	\$ 42,931	7,699	\$ 548,080
Bauxite	ton	127,371	3,456,241	137,197	3,804,875
Boric acid glass	ton.	36	10,436	47	12,022
Coal (not for fuel):					
For fused alumina	ton	176	1,496	203	2,137
For silicon carbide	ton	9,721	109,297	1,787	16,436
Coke (not for fuel):					
For fused alumina:					
Petroleum coke	ton	611	16,849	714	15,710
Other coke	ton	7,033	52,367	6,191	45,452
For silicon carbide:					
Petroleum coke	ton	30,976	796,528	37,895	749,962
Other coke	ton	17,468	539,062	14,426	439,885
For other uses:					
Other coke	ton	20	641	19	585
Electrodes	ton	2,583	471,125	2,590	520,311
Feldspar	ton	15	331	9	200
Iron borings	ton	8,469	172,318	10,542	238,027
Salt	ton	412	5,849	209	3,467
Sawdust	—	—	53,152	—	59,682
Silica sand	ton	82,820	586,008	72,336	517,721
Artificial abrasive grains:					
For re-treatment only:					
Fused alumina	ton	5,206	138,004	3,040	80,460
Silicon carbide	ton	—	—	—	—
For wheels, paper, etc.:					
Fused alumina	ton	2,375	552,525	2,752	711,706
Silicon carbide	ton	1,077	354,791	1,254	419,388
Natural abrasive grains:					
Garnet	lb.	655,993	65,470	577,036	65,611
Emery	lb.	225,534	16,358	223,509	17,746
Quartz or flint	lb.	564,903	8,528	823,735	15,168
Other	lb.	—	3,911	—	3,079
Bonding and bushing materials:					
Clay bonds	lb.	751,189	43,546	817,692	48,785
Silicate (quantity in equivalent solid form)	lb.	—	653	—	483
Elastic mixture	lb.	—	1,445	—	5,975
Bakelite and synthetic resins	lb.	—	60,341	233,430	85,965
Lead for bushings	lb.	68,356	12,236	89,136	14,600
Glue, animal and hide	lb.	1,099,707	320,552	1,200,223	339,208
Cotton cloth	—	—	631,103	—	771,612
Kraft paper and other paper	—	—	279,701	—	321,839
Containers and packing material	—	—	287,286	—	447,668
All other materials	—	—	1,558,613	—	2,218,054
Total	—	—	10,649,694	—	12,541,899

**PRODUCTION OF SPECIFIED ARTIFICIAL ABRASIVES
IN CANADA, 1941 - 1950**

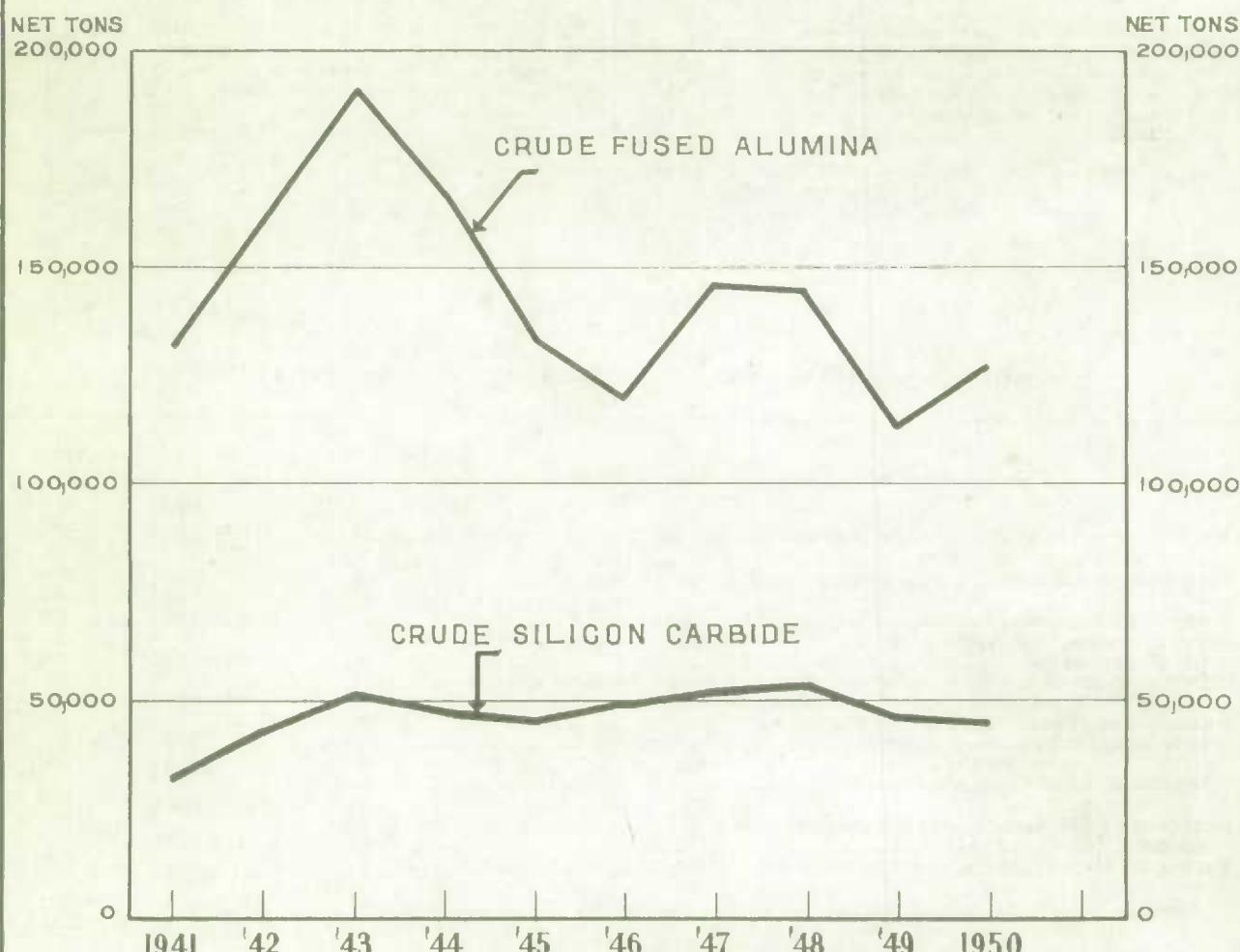


TABLE 5. Production of Specified Artificial Abrasives, 1941-1950

Year	Crude Silicon carbide		Crude fused alumina		Total	
	Quantity	Selling value at works	Quantity	Selling value at works	Quantity	Selling value at works
1941	32,258	\$ 3,661,868	130,881	\$ 13,665,811	163,139	\$ 17,327,679
1942	44,410	5,494,257	160,935	17,750,623	205,345	23,244,880
1943	51,281	6,846,087	190,727	20,543,657	242,008	27,389,744
1944	47,100	5,499,628	166,098	17,768,484	213,198	23,268,112
1945	45,419	5,361,279	133,192	13,573,311	178,611	18,934,590
1946	49,953	5,961,490	119,223	12,310,247	169,176	18,271,737
1947	51,704	6,359,937	146,433	15,253,482	198,137	21,613,419
1948	52,896	6,921,197	144,838	15,309,651	197,734	22,230,484
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

NON-METALLIC MINERAL PRODUCTS

TABLE 6. Production of Artificial Abrasive Wheels and Segments¹, 1941-1950

Year	Selling value at works	Year	Selling value at works
	\$		\$
1941	3,713,303	1946	2,922,089
1942	5,075,258	1947	3,574,477
1943	5,114,962	1948	3,703,470
1944	3,321,873	1949	3,826,726
1945	3,131,289	1950	4,683,163

1. Does not include artificial pulpstones or sharpening stones.

TABLE 7. Imports of Abrasives and Abrasive Products, 1949 and 1950

		1949	1950
Artificial abrasive grains, crushed or ground, for use in Canadian manufactures ..	\$ 1,492,272	1,895,024	
Diamond dust or bort and black diamonds for borers	\$ 3,757,886	5,888,861	
Diatomaceous earth or infusorial earth (Kieselguhr) ground or unground	cwt. 338,284	364,948	
Emery in bulk, crushed or ground	\$ 551,954	599,216	
Grinding wheels, manufactured by the bonding together of either natural or artificial abrasives	\$ 116,335	106,890	
Grinding stones or blocks, manufactured by the bonding together of either natural or artificial abrasives	\$ 624,640	944,713	
Manufactures of emery or of artificial abrasives, n.o.p.	\$ 141,077	104,939	
Grindstones, not mounted, and not less than 36 inches in diameter	No. 120,172	124,957	
Grindstones, n.o.p.	No. 376	333	
Pumice and pumice stone, lava and calcareous tufa, not further manufactured than ground	\$ 32,818	30,150	
Sandpaper, glass, flint and emery paper or emery cloth	No. 784	1,343	
Total	\$ 4,430	5,949	
Total	\$ 7,019,572	9,876,135	

TABLE 8. Exports and Re-Exports of Abrasives and Abrasive Products, 1949 and 1950

		1949	1950
Abrasives, natural, n.o.p. in ore or bulk, crushed or ground, including infusorial earth, rotten stone, tripoli, etc.	cwt. 1,171	276	
	\$ 5,623	5,649	
Abrasives, artificial, crude, including carborundum	cwt. 3,158,375	3,741,005	
	\$ 11,466,249	14,768,268	
Abrasives, artificial, made up into wheels and stones.....	\$ 106,844	73,329	
Diamonds, industrial, and diamond dust or bort	\$ 2,195,923	3,016,856	
Sandpaper, glass, flint and emery paper, and emery cloth	\$ 963,116	972,358	
Grindstones, manufactured	\$ 21,242	55,290	
Total	\$ 14,758,997	18,891,750	

1. All re-exports.

TABLE 9. Employees and Their Earnings in the Artificial Abrasives Industry, 1949 and 1950

	Number of employees						Earnings		
	Supervisory and office		Workmen		Total	Supervisory and office	Workmen	Total	
	Male	Female	Male	Female					
1949						\$	\$	\$	
Quebec	19	6	252	3	280	100,243	733,521	833,764	
Ontario	309	187	1,626	141	2,263	1,490,785	4,506,214	5,996,999	
Canada	328	193	1,878	144	2,543	1,591,028	5,239,735	6,830,763	
1950									
Quebec	23	4	217	—	244	124,306	644,462	768,768	
British Columbia									
Ontario	344	210	1,666	139	2,359	1,730,756	4,859,827	6,590,583	
Canada	367	214	1,883	139	2,603	1,855,062	5,504,289	7,359,351	

List of Firms in the Artificial Abrasives Industry, 1950

Name of Firm	Address
(a) ARTIFICIAL ABRASIVES	
Canadian Carborundum Company, Limited ¹	P.O. Box 337, Niagara Falls, New York, U.S.A. Plants at Shawinigan Falls, Quebec, and Niagara Falls, Ontario
Electro Refractories & Alloys 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. Plant at Chippawa, Ontario
Simonds Canada Abrasive Company Limited.....	Arvida, Quebec
(b) ABRASIVE PRODUCTS	
Bay State Abrasive Products Co. (Canada) Ltd.	188 Pearl St., Brantford, Ontario
Canadian Durex Abrasives Limited	Brantford, Ontario
Canadian Grinding Wheel Co.	245 Kenilworth Ave. S., Hamilton, Ontario
Canada Sand Papers Limited	King and Argyle Sts., Preston, Ontario Plant at Plattsbridge, Ontario
Craig Products	2,668 East Pender St., Vancouver, British Columbia
Dominion Abrasive Wheel Co. Limited	49 Main St., Mimico, Ontario
Lion Grinding Wheels Ltd.	192 Pearl St. E., Brockville, Ontario
Micromatic Hone Limited.....	55 George St., Brantford, Ontario
Norton Company of Canada Limited.....	3 Beach Road, Hamilton, Ontario
Plasticraft Co.	2,027 St. Timothee St., Montreal, Quebec
Wells, W.W., Limited	370 Victoria St., Toronto, Ontario
Wright Abrasives	2 Adam St., Hamilton, Ontario

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

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