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ABRASIVES MANUFACTURERS

1963

Data presented in this report under the heading of Abrasives Manufacturers reflect implementation of the revised Standard Industrial Classification (S.I.C.) and the New Establishment Concept which are being used by the Dominion Bureau of Statistics in its industry statistics compilations—see items "Standard Industrial Classification" and "Establishment" 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.

SYMBOLS

The following standard symbols are used in Dominion Bureau of Statistics publications:

.. figures not available.

... figures not appropriate or not applicable.

— nil or zero.

— amount too small to be expressed.

p preliminary figures.

r revised figures.

x confidential to meet secrecy requirements of the Statistics Act.

TABLE 1 A. Principal Statistics classified by Province, 1962 and 1963

Year and province	Establishments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and electricity	Cost of materials and supplies	Value of shipments of goods of own manufacture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1961													
Totals	20	1,735	3,736	8,318	4,881	16,843	42,942	21,480	x	x	2,481	12,885	22,653
1962													
Newfoundland	—	—	—	—	—	—	—	—	—	—	—	—	—
Prince Edward Island	—	—	—	—	—	—	—	—	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—	—	—	—	—	—	—	—
New Brunswick	—	—	—	—	—	—	—	—	—	—	—	—	—
Quebec	5	287	627	1,460	1,458	2,613	7,655	3,511	x	x	325	1,712	3,495
Ontario	15	1,526	3,195	7,353	3,308	16,457	37,770	19,258	—	—	2,252	11,875	20,736
Manitoba													
Saskatchewan													
Alberta													
British Columbia													
Yukon and Northwest Territories	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	20	1,813	3,822	8,813	4,766	18,070	45,425	22,770	x	x	2,577	13,587	24,233
1963													
Newfoundland	—	—	—	—	—	—	—	—	—	—	—	—	—
Prince Edward Island	—	—	—	—	—	—	—	—	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—	—	—	—	—	—	—	—
New Brunswick	—	—	—	—	—	—	—	—	—	—	—	—	—
Quebec	4	x	x	x	x	x	x	x	x	x	x	x	x
Ontario	16	1,432	3,082	7,142	3,209	15,552	38,605	18,804	x	x	2,153	11,819	20,819
Manitoba	—	—	—	—	—	—	—	—	—	—	—	—	—
Saskatchewan	—	—	—	—	—	—	—	—	—	—	—	—	—
Alberta	—	—	—	—	—	—	—	—	—	—	—	—	—
British Columbia	1	x	x	x	x	x	x	x	x	x	x	x	x
Yukon and Northwest Territories	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	21	1,701	3,673	8,602	4,637	18,277	45,777	21,714	x	x	2,464	13,545	23,712

TABLE 1 B. Principal Statistics classified by Size Groups based on Shipments of Goods of Own Manufacture, 1962 and 1963

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and elec- tricity	Cost of materials and supplies	Value of shipments of goods of own manu- facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			'000				'000		'000	
1962													
Under \$10,000.....	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999.....	6	22	48	84	12	217	462	236	x	x	35	149	253
25,000 " 49,999.....		—	—	—	—	—	—	—	—	—	—	—	—
50,000 " 99,999.....		—	—	—	—	—	—	—	—	—	—	—	—
100,000 " 199,999.....		—	—	—	—	—	—	—	—	—	—	—	—
200,000 " 499,999.....	4	134	292	616	221	1,042	3,165	1,944	—	—	183	948	1,952
500,000 " 999,999.....		—	—	—	—	—	—	—	—	—	—	—	—
1,000,000 " 4,999,999.....		—	—	—	—	—	—	—	—	—	—	—	—
5,000,000 and over.....		10	1,657	3,482	8,112	4,532	17,810	41,795	20,590	—	2,359	12,490	22,029
Head offices, sales offices and auxiliary units.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	20	1,813	3,822	8,813	4,766	18,070	45,425	22,770	x	x	2,577	13,587	24,233
1963													
Under \$10,000.....	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999.....	7	35	69	115	16	365	787	409	x	x	50	196	415
25,000 " 49,999.....		—	—	—	—	—	—	—	—	—	—	—	—
50,000 " 99,999.....		—	—	—	—	—	—	—	—	—	—	—	—
100,000 " 199,999.....		—	—	—	—	—	—	—	—	—	—	—	—
200,000 " 499,999.....	3	85	175	423	193	714	2,366	1,473	—	—	125	740	1,516
500,000 " 999,999.....		8	717	1,575	3,493	1,873	8,033	20,577	10,480	—	1,053	5,534	11,171
1,000,000 " 4,999,999.....		3	864	1,855	4,570	2,555	9,165	22,047	9,352	—	1,236	7,075	10,610
5,000,000 and over.....		—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	21	1,701	3,673	8,602	4,637	18,277	45,777	21,714	x	x	2,464	13,545	23,712

TABLE 1 C. Principal Statistics classified by Size Groups based on Manufacturing Value Added, 1962 and 1963

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and elec- tricity	Cost of materials and supplies	Value of shipments of goods of own manu- facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			'000				'000		'000	
1962													
Under \$10,000.....	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999.....	6	22	48	84	13	217	462	236	x	x	35	149	253
25,000 " 49,999.....		—	—	—	—	—	—	—	—	—	—	—	—
50,000 " 99,999.....		—	—	—	—	—	—	—	—	—	—	—	—
100,000 " 199,999.....		—	—	—	—	—	—	—	—	—	—	—	—
200,000 " 499,999.....	5	170	372	802	341	1,592	4,233	2,368	—	—	225	1,178	2,375
500,000 " 999,999.....		—	—	—	—	—	—	—	—	—	—	—	—
1,000,000 " 4,999,999.....		—	—	—	—	—	—	—	—	—	—	—	—
5,000,000 and over.....		9	1,621	3,401	7,927	4,413	17,261	40,729	20,166	—	2,317	12,260	21,606
Head offices, sales offices and auxiliary units.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	20	1,813	3,822	8,813	4,766	19,078	45,425	22,770	x	x	2,577	13,587	24,233
1963													
Under \$10,000.....	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999.....	3	8	16	29	2	123	199	74	x	x	9	33	74
25,000 " 49,999.....		—	—	—	—	—	—	—	—	—	—	—	—
50,000 " 99,999.....		—	—	—	—	—	—	—	—	—	—	—	—
100,000 " 199,999.....		4	27	53	86	241	568	335	—	—	41	163	341
200,000 " 499,999.....	3	91	192	451	301	1,068	2,643	1,255	—	—	115	630	1,255
500,000 " 999,999.....		3	179	383	927	535	1,374	3,990	2,116	—	224	1,241	2,145
1,000,000 " 4,999,999.....		—	—	—	—	—	—	—	—	—	—	—	—
5,000,000 and over.....		6	1,396	3,029	7,108	3,764	15,470	38,357	17,934	—	2,075	11,478	19,897
Head offices, sales offices and auxiliary units.....	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	21	1,701	3,673	8,602	4,637	18,277	45,777	21,714	x	x	2,464	13,545	23,712

TABLE 1 D. Principal Statistics classified by Size Groups based on Total Value Added, 1962 and 1963

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and elec- tricity	Cost of materials and supplies	Value of shipments of goods of own manu- facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000				\$'000			\$'000		\$'000	
1962													
Under \$10,000.....	6	22	48	84	13	217	461	236	x	x	35	150	253
\$ 10,000 to \$ 24,999.....													
25,000 " 49,999.....													
50,000 " 99,999.....													
100,000 " 199,999.....													
200,000 " 499,999.....	5	170	373	802	341	1,592	4,234	2,368	—	—	225	1,178	2,375
500,000 " 999,999.....													
1,000,000 " 4,999,999.....													
5,000,000 and over.....	9	1,621	3,402	7,927	4,412	17,261	40,730	20,166	—	—	2,317	12,260	21,606
Head offices, sales offices and auxiliary units.....													
Totals	20	1,813	3,822	8,813	4,766	19,070	45,425	22,770	x	x	2,577	13,587	24,233
1963													
Under \$10,000.....	3	8	16	29	2	123	199	74	x	x	9	33	74
\$ 10,000 to \$ 24,999.....													
25,000 " 49,999.....													
50,000 " 99,999.....													
100,000 " 199,999.....													
200,000 " 499,999.....	3	91	192	451	301	1,068	2,643	1,255	—	—	115	630	1,255
500,000 " 999,999.....		179	383	927	535	1,374	3,990	2,116	—	—	224	1,241	2,145
1,000,000 " 4,999,999.....													
5,000,000 and over.....	8	1,396	3,029	7,108	3,784	15,470	38,357	17,934	—	—	2,075	11,478	19,897
Head offices, sales offices and auxiliary units.....													
Totals	21	1,701	3,673	8,602	4,637	18,277	45,777	21,714	x	x	2,464	13,545	23,712

TABLE 1 E. Principal Statistics classified by Size Groups based on Total Employed, 1962 and 1963

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and elec- tricity	Cost of materials and supplies	Value of shipments of goods of own manu- facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000				\$'000			\$'000		\$'000	
1962													
Under 5 employed.....	3	6	14	24	2	84	153	82	x	x	7	29	82
5- 14 ".....		16	34	60	11	133	309	175	—	—	28	120	191
15- 49 ".....													
50- 99 ".....													
100-199 ".....													
200-499 ".....	5	170	373	802	341	1,592	4,234	2,368	—	—	225	1,178	2,375
500 employed and over.....													
Head offices, sales offices and auxiliary units.....													
Totals	20	1,813	3,822	8,813	4,766	19,070	45,425	22,770	x	x	2,577	13,587	24,233
1963													
Under 5 employed.....	7	35	69	115	16	365	787	409	x	x	50	196	415
5- 14 ".....													
15- 49 ".....													
50- 99 ".....													
100-199 ".....													
200-499 ".....	3	179	383	927	535	1,374	3,990	2,116	—	—	224	1,241	2,145
500 employed and over.....													
Head offices, sales offices and auxiliary units.....													
Totals	21	1,701	3,673	8,602	4,637	18,277	45,777	21,714	x	x	2,464	13,545	23,712

TABLE 1 F. Principal Statistics classified by Type of Organization, 1962 and 1963

Type of organization	Establishments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and electricity	Cost of materials and supplies	Value of shipments of goods of own manufacture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1962													
Individual ownerships	20	1,813	3,822	8,813	4,766	19,070	45,425	22,770	x	x	2,577	13,587	24,233
Partnerships													
Incorporated companies													
Cooperatives	—	—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	20	1,813	3,822	8,813	4,766	19,070	45,425	22,770	x	x	2,577	13,587	24,233
1963													
Individual ownerships	21	1,701	3,673	8,602	4,637	18,277	45,777	21,714	x	x	2,464	13,545	23,712
Partnerships													
Incorporated companies													
Cooperatives	—	—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	21	1,701	3,673	8,602	4,637	18,277	45,777	21,714	x	x	2,464	13,545	23,712

TABLE 2. Industry Output, Input and Value Added, 1962 and 1963

	Manufacturing activity		Non-manufacturing activities		Total activity	
	1962	1963	1962	1963	1962	1963
\$'000						
Output						
1. Shipments and other revenue	45,425	45,777	5,090	5,621	50,515	51,398
Inventories—Goods of own manufacture:						
Add closing—Goods in process	1,378	1,273	...	...	1,378	1,273
Finished goods	4,031	3,110	...	...	4,031	3,110
Less opening—Goods in process	1,206	1,373	...	...	1,206	1,373
Finished goods	3,023	4,158	...	...	3,023	4,158
2. Net inventory change	1,180	(1,148)	...	...	1,180	(1,148)
3. Gross output (1 + 2)	46,605	44,629	5,090	5,621	51,695	50,250
Input						
4. Purchases of goods not of own manufacture .....	...	...	3,428	3,413	3,428	3,413
Inventories—Goods not of own manufacture:						
Add opening .....	...	...	815	889	815	889
Less closing .....	...	...	889	896	889	896
5. Cost of goods sold (not of own manufacture) .....	...	...	3,354	3,406	3,354	3,406
6. Materials, supplies, components and semi-processed goods	19,070	18,277	273	217	19,343	18,494
7. Fuel and electricity	4,766	4,637	...	...	4,766	4,637
8. Gross input (5 + 6 + 7)	23,836	22,914	3,627	3,623	27,463	26,537
Census value added (3-8)	22,770	21,714	1,463	1,898	24,233	23,712

TABLE 3. Employment and Payroll, 1962 and 1963

Year and province	Employees										Salaries and wages				
	Production and related workers				Adminis- trative and office		Sales and distribution		Total employees		Production and related workers		Admin- istra- tive and office	Sales and distrib- ution	Total salaries and wages
	Manufacturing		Other								Manufacturing	Other			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female					
	number										\$'000				
1962															
Newfoundland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Prince Edward Island	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
New Brunswick	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Quebec	287	—	—	—	32	6	—	—	319	6	1,460	—	252	—	1,712
Ontario	1,415	111	1	1	403	132	117	72	1,936	316	7,353	10	3,294	1,218	11,875
Manitoba															
Saskatchewan															
Alberta															
British Columbia															
Yukon and Northwest Territories	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	1,702	111	1	1	435	138	117	72	2,255	322	8,813	10	3,546	1,218	13,587
1963															
Newfoundland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Prince Edward Island	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
New Brunswick	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Quebec	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Ontario	1,322	110	—	1	380	133	167	40	1,869	284	7,142	3	3,355	1,319	11,819
Manitoba	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saskatchewan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alberta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
British Columbia	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Yukon and Northwest Territories	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	1,591	110	—	1	416	139	167	40	2,174	290	8,602	3	3,622	1,319	13,545

TABLE 3 A. Production and Related Workers,—Manufacturing Activity, by Months, 1962 and 1963

Month	Establishments reporting monthly detail			
	1962		1963	
	Male	Female	Male	Female
	number			
January	1,588	91	1,596	110
February	1,575	96	1,560	103
March	1,559	94	1,544	102
April	1,532	84	1,539	102
May	1,539	88	1,617	108
June	1,624	87	1,626	124
July	1,704	92	1,615	119
August	1,757	99	1,589	111
September	1,746	98	1,584	106
October	1,749	95	1,581	108
November	1,633	96	1,618	105
December	1,701	100	1,623	105
Average for establishments reporting monthly detail (collected only for large establishments)	1,702*	111*	1,591	110
Average for small establishments (only annual averages collected) .....	...	...	...	...
Average for all establishments	1,702*	111*	1,591	110

TABLE 4. Industry Inventories, 1963

Province	Manufacturing				Non-manufacturing	Total inventories
	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total manufacturing	Products or materials purchased for resale	
book value \$'000						
Opening:						
Newfoundland	—	—	—	—	—	—
Prince Edward Island	—	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—
New Brunswick	—	—	—	—	—	—
Quebec	x	x	x	x	x	x
Ontario	3,299	1,318	3,634	8,251	889	9,140
Manitoba	—	—	—	—	—	—
Saskatchewan	—	—	—	—	—	—
Alberta	—	—	—	—	—	—
British Columbia	x	x	x	x	x	x
Yukon and Northwest Territories	—	—	—	—	—	—
Totals	4,223	1,373	4,158	9,754	889	10,644
Closing:						
Newfoundland	—	—	—	—	—	—
Prince Edward Island	—	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—
New Brunswick	—	—	—	—	—	—
Quebec	x	x	x	x	x	x
Ontario	3,225	1,221	2,690	7,136	896	8,032
Manitoba	—	—	—	—	—	—
Saskatchewan	—	—	—	—	—	—
Alberta	—	—	—	—	—	—
British Columbia	x	x	x	x	x	x
Yukon and Northwest Territories	—	—	—	—	—	—
Totals	4,076	1,273	3,110	8,458	896	9,354

TABLE 5. Purchased Fuel and Electricity Used in Manufacturing Activity, 1962 and 1963

Description		1962		1963	
		Quantity	Cost	Quantity	Cost
			\$'000		\$'000
1. Large establishments which reported commodity detail:					
Bituminous coal:					
(a) From Canadian mines	ton	251	3	63	1
(b) Imported	"	7,831	101	6,809	87
Sub-bituminous coal (from Alberta mines only)	"	—	—	—	—
Anthracite coal	"	90	2	36	1
Lignite coal	"	—	—	—	—
Coke	"	309	3	365	5
Gasoline (including gasoline used in cars and trucks) ..	Imp. gal.	32,963	12	34,804	14
Fuel oil including kerosene or coal oil	"	712,282	73	771,992	76
Wood	cord	—	—	—	—
Gas:					
(a) Liquefied petroleum gases	Imp. gal.	19,326	6	17,638	6
(b) Other manufactured gas	M cu. ft.	—	—	—	—
(c) Natural gas	"	56,516	56	66,872	66
Other fuel .....	...	—	—	—	—
Electricity purchased	kwh.	970,524,660	4,492	939,223,880	4,372
Steam purchased .....	...	—	—	—	—
2. Estimate for small establishments:					
Fuel and electricity .....	...	...	17	...	11
3. All establishments:					
Total fuel and electricity used .....	...	...	4,766	...	4,637

TABLE 6. Materials and Supplies - Manufacturing Activity, 1962 and 1963

Description	1962		1963	
	Quantity	Cost	Quantity	Cost
		\$'000		\$'000
1. Materials used:				
Alumina, pure	ton 10,438	1,101	6,869	662
Bauxite	" 186,726	5,582	165,236	4,923
Coal (not for fuel)	" 7,292	90	3,026	39
Coke (not for fuel):				
Petroleum coke	" 70,453	1,322	87,102	1,712
Pitch coke	" 4,067	155	2,181	83
Other coke	" 10,396	133	3,333	39
Electrodes	" 3,035	913	2,992	810
Iron borings	" 15,412	383	12,026	284
Sawdust	" 16,193	126	19,770	159
Silica sand	" 105,731	1,030	111,646	1,090
Artificial abrasive grains:				
For wheels, paper, etc:				
Fused alumina	" 2,811	887	2,843	928
Silicon carbide	" 2,435	678	2,588	712
Natural abrasive grains:				
Garnet	lb. 450,901	65	475,830	68
Emery	" 94,772	11	106,458	12
Quartz or flint	" 220,584	7	250,949	8
Other	" 13,439	1	13,885	1
Bonding and bushing materials:				
Clay bonds	" 1,083,534	93	1,244,337	138
Bakelite and synthetic resins	" 575,213	253	552,829	212
Lead for bushings	" 52,968	7	51,716	7
Glue, animal and hide	" 696,814	203	733,820	211
Other	"	46	...	58
Cotton cloth	"	405	...	388
Kraft paper and other paper	"	373	...	356
All other materials and components used ¹	"	2,685	...	2,817
2. Containers and other packaging materials and supplies used .....	...	388	...	397
3. Operating, maintenance and repair supplies used (excluding fuel) .....	...	2,133	...	2,162
4. Amount paid out to others for work done on materials owned by establishments	-	-	-	-
Totals .....	...	19,070	...	18,277

¹ No detailed information on materials used was collected from small establishments, the estimated costs for which are included here. These estimated costs were \$384,000 in 1962 and \$548,877 in 1963.

TABLE 7. Shipments of Goods of Own Manufacture, 1962 and 1963

Description	1962		1963	
	Quantity	Value	Quantity	Value
	tons	\$'000	tons	\$'000
1. Products:				
Crude silicon carbide	65,853	10,233	78,370	11,040
Crude fused alumina	161,849	17,081	148,116	15,600
Abrasive wheels and segments .....	..	7,812	..	8,684
Sharpening stones and files .....	..	302	..	275
Ferrosilicon	20,574	836	13,263	710
All other products .....	...	9,269	...	9,591
2. Amount received in payment for done on materials and products owned by others	-	-	-	-
Less adjustment for value of sales taxes, excise duties and outward transportation charges which could not be deducted from individual commodity items described above .....	...	(108)	...	(122)
Net adjustment for establishments receiving progress payments	-	-	-	-
Total adjusted value of shipments and work done .....	...	45,424	...	45,777

TABLE 8. Shipments of Selected Goods of Own Manufacture - All Industries, 1954 to 1963
(Includes shipments from other industries which manufacture, as a secondary activity, the commodities listed)

A. Specified Abrasives

Year	Crude silicon carbide		Crude fused alumina		Total	
	Quantity	Selling value at plant	Quantity	Selling value at plant	Quantity	Selling value at plant
	tons	\$'000	tons	\$'000	tons	\$'000
1954.....	50,321	6,944	199,857	18,883	250,178	25,828
1955.....	74,947	9,681	177,162	16,676	252,109	26,358
1956.....	80,467	10,430	181,830	17,636	262,297	28,066
1957.....	83,321	11,828	218,187	21,902	301,508	33,731
1958.....	77,528	11,676	109,507	10,994	187,035	22,670
1959.....	86,248	12,660	152,319	15,414	238,567	28,074
1960.....	84,611	13,026	187,105	19,417	271,716	32,443
1961.....	79,188	12,478	128,661	13,597	207,849	26,076
1962.....	65,853	10,233	161,849	17,081	227,702	27,314
1963.....	78,370	11,040	148,116	15,600	226,486	26,640

B. Abrasive Wheels and Segments¹

Year	Selling value at plant	Year	Selling value at plant
	\$'000		\$'000
1954.....	4,422	1959.....	7,550
1955.....	5,666	1960.....	6,425
1956.....	7,206	1961.....	6,863
1957.....	7,100	1962.....	7,812
1958.....	6,013	1963.....	8,684

¹ Does not include wheels of oil stones or diamond stones. Excludes all vitrified impregnated wheels.

List of Establishments classified to This Industry, 1963

(Does not include establishments classified to other industries which, as a secondary activity, manufacture products typical of this industry)

Name	Location
Quebec:	
Canadian Carborundum Co. Ltd.	Transmission Ave., Shawinigan
Electro Refractories and Abrasives Canada Ltd.....	60 Notre-Dame St., Cap-de-la-Madeleine
Norton Company.....	De Grandmont St., Cap-de-la-Madeleine
Simonds Canada Abrasives Co. Ltd.	Simonds and LaSalle St., Arvida
Ontario:	
Bay State Abrasive Products Company (Canada) Limited.....	188 Pearl St., Brantford
Behr-Manning (Canada) Ltd.	Greenwich St., Brantford
Buller Buff Co.	35 Water St., Galt
Canada Sand Papers Ltd.....	Albert St., Plattsville
Canadian Carborundum Co. Ltd.....	P.O. Box 1007, Niagara Falls
Canadian Grinding Wheel Co. Ltd.	790 Rennie St., Hamilton
Dominion Abrasives Wheel Co. Ltd.....	73 Jadson St., Mimico
Exolon Co., The	Thorold
Lea Mfg. Co. of Canada Ltd.....	1236 Birchmount Rd., Scarborough
Lionite Abrasives Ltd.....	193 Stanley Ave. N., Niagara Falls
McAleer Mfg. Co. Ltd.	123 Towns Rd., Etobicoke
Mid-West Abrasive Co. of Canada Ltd.	620 Albert St., Strathroy
Norton Company of Canada Limited	3 Beach Rd., Hamilton
Norton Company.....	100 Daly St., Chippawa
Simonds Canada Saw Co. Ltd. (Grinding Wheel Division).....	192 Pearl St., Brockville
Wright Abrasives Ltd., The	2 Adams St., Hamilton
British Columbia:	
Diamond Abrasive Wheels Ltd.	1291 Parker St., Vancouver

CONCEPTS AND DEFINITIONS

Census of Manufactures

General

The Census of Manufactures is an annual mail survey covering Canada's Manufacturing Industries. It is based on the Standard Classification of Industries and full details concerning the system may be found in the Standard Industrial Classification manual, Catalogue No. 12-501 which is available from the Queen's Printer or the Dominion Bureau of Statistics. In summary, the Classification as it relates to the manufacturing industries provides for a breakdown into 140 industries arranged in 20 major industry groups. Of the 140 (3 digit) industries, 18 are further broken down into 58 (4 digit) sub classes. At the Canada level, principal statistics are collected and compiled for 178 separate industries. They cannot all be published separately by province, however, because of the confidential nature of the data in certain provinces.

The reporting unit for the Census is designated as the **establishment** (see definition of "Establishment" in following section) and a return is requested from every establishment classified to a manufacturing industry. Although respondents are required to submit reports covering the calendar year, financial year reports other than the calendar year are accepted in instances where respondents find it impossible to supply calendar year data from accounting records. When an establishment is operated for only part of a year a report is required covering the period of operation.

There are four different questionnaires used in the Census of Manufactures; (a) short form (b) long form (c) head office questionnaire and (d) commodity questionnaire. The short and long forms are used to obtain principal statistics and commodities shipped from establishments classified to manufacturing industries and differ only in the amount of detail requested. The short form is a single-sheet questionnaire sent to small manufacturers generally reporting shipments of less than \$100,000; this cut-off, however, varies somewhat between industries. The head office questionnaire is generally used for company head offices and/or auxiliary units separately located from the manufacturing establishment(s), (see following notes on Head offices and auxiliary units). The Commodity questionnaire is used to survey certain establishments which are coded (on the basis of their principal activity) to industries other than manufacturing in the Standard Industrial Classification system, but which undertake some manufacturing as a subsidiary activity. This single-sheet questionnaire is designed to collect information on the quantity and value of goods of own manufacture shipped by such establishments in order to achieve full coverage of domestically manufactured commodities (see the following note under Shipments).

The results of the Census are presented in some 140 publications. In addition to these annual industry publications there are annual summary reports for Canada and the provinces and special reports giving principal statistics by detailed geographic areas, by type of ownership and size of establishment. A special annual report covering the shipments of all manufactured commodities arranged in alphabetical order is also published.

Since 1960 the following major changes have been implemented in the Census of Manufactures: (a) a revised Standard Industrial Classification (b) a new establishment definition and (c) an extension of the establishment definition to cover the non-manufacturing activities of manufacturing establishments. The statistics presented in the various 1963 reports reflect the complete implementation of these changes and enable comparisons to be made with the years 1961 and 1962. For a complete description of the procedures followed in establishing the revised series, reference should be made to the Explanatory Notes included in the 1960, 1961 and 1962 industry publications. The statistical framework within which the Census of Manufactures is now carried out is based on the following concepts and definitions which have been developed as part of a general programme to achieve a fully integrated system of economic statistics.

Establishment

A manufacturing establishment is typically a factory, mill or plant principally engaged in manufacturing activities. The majority of such establishments are firms but many firms have more than one establishment. Such firms are requested to submit a separate Census of Manufactures report for each manufacturing establishment which can meet the reporting requirements embodied in the following definition of the "establishment":

"The smallest unit which is a separate operating entity capable of reporting the following principal statistics:

- Materials and supplies used
- Goods purchased for resale as such
- Fuel and power consumed
- Number of employees and salaries and wages
- Man-hours worked and paid
- Inventories
- Shipments or sales."

Each establishment is required to report on all the activities carried out within its accounting boundaries (except income from investments such as rent, interest and dividends) and data on the different activities (manufacturing, trading in goods not of own manufacture, construction by own labour

force, revenue from services, etc.) are requested to be reported separately. It should be noted that the statistics for separate activities are not completely consistent since some respondents cannot distinguish, in their records, materials, shipments and inventories relating solely to their own manufacturing activities. For example, inventory of goods purchased for re-sale may not be distinguishable from inventory of own manufactured goods. Complete consistency, therefore, can be obtained only at the "all operations" (total activity) level and for studies or statistical measures requiring accurate coordinated data, the "total" statistics should be used.

The number of establishments represents the number of operating units that are principally engaged in the activities of the manufacturing industries to which they have been classified. These units do not necessarily represent the total number engaged in the production of a commodity mainly produced in a certain industry. Some commodities are produced as secondary products in other manufacturing and non-manufacturing industries. It should be noted that head offices and auxiliary units which are surveyed separately are not included in the establishment count, (see following notes on head offices and auxiliary units).

Head Offices and Auxiliary Units

All head offices and auxiliary units of companies classified to the manufacturing industries such as sales offices, administrative offices, warehouses, laboratories, etc. are now surveyed as part of the Census of Manufactures.

These head offices and auxiliary units are either included in an establishment report or are surveyed by means of the head office questionnaire. The former is the most common case where a single establishment firm has its executive personnel, sales office, etc. located at the site of the manufacturing plant (establishment). The special head office questionnaire is generally used where a firm, regardless of the number of establishments, has separately located offices or auxiliary units. Such offices or units do not constitute establishments within the Census of Manufactures as they do not normally generate operational revenues, but give rise only to costs of operations (mainly salaries and wages) which are automatically included in the value of shipments or sales. Although not considered as establishments, and hence, not included in the "establishment" count for an industry, the operational costs are reflected in either the "Industry" statistics (3 or 4 digit level) or the "Major group" statistics (2 digit level) according to the following rules:

(a) In the case of single establishment firms, statistics for separately located offices and units are classified to the same industry (3 or 4 digit) as the establishment;

(b) In the case of multi-establishment firms, the statistics for such offices and units are coded to the same industry as the establishments of the

firm, when all establishments are in the same industry (3 or 4 digit). When establishments of such firms are coded (1) to different industries within a major group, (2) to industries in different major groups or (3) to industries in different divisions of the Standard Industrial Classification, then the statistics are included in the major group totals (2 digit level) in which the major part of the company's operations are classified. Although this may result in some distortion of major group statistics in the case of (2) and (3) the statistics at the industry (3 or 4 digit) level in all cases will be left free of these company-wide data.

Employees

(a) Production and related workers – Manufacturing activity

In addition to those engaged in production and assembling activities, they include those employed in storing, inspecting, handling, packing, warehousing, etc. They also include employees engaged in maintenance, repair, janitorial and watchman services and line supervisors (working foremen) engaged in similar work to that of the employees they supervise. Production and related workers engaged in manufacturing activity are reported as those receiving pay during the last pay period of each month, an average for the year being obtained by summing the monthly figures and dividing by 12. This procedure is followed even though the establishment did not operate in all months in order to arrive at equivalent annual full-time employment. The numbers are somewhat affected by turnover, in that employment is overstated when an employee changes employment during a pay period. The man-hours of production and related workers in manufacturing activity represent total man-hours paid (total hours at work during the calendar year plus hours not worked but nevertheless paid for, such as paid vacations, sick leave, statutory holidays, etc.). In reporting overtime hours, respondents are requested to report only hours actually at work. It should be noted that the division of hours paid into production and related workers payrolls results in average hourly earnings and does not represent hourly wage rates which are collected and published by the Department of Labour and which are based on selected occupations.

(b) Production and related workers – Non-manufacturing activities

Such employees include those on manufacturing establishments' payrolls engaged in activities such as construction undertaken for the use of these establishments, some outside piece-workers employed in certain industries, logging employees who are reported as part of a sawmilling establishment and any other production workers who are not engaged in manufacturing-type operations.

(c) Administrative and office employees

This category includes all executive and supervisory officials such as presidents, vice-presidents, comptrollers, secretaries, treasurers,

etc., together with managers, professional, technical and research employees, superintendents and factory supervisors above the line supervisor or working foreman level, and clerical staffs. Also included are employees in activities such as advertising, credit collections, purchasing, personnel, legal, medical, etc. It should be noted that prior to 1961 this category also included working owners and partners. Also included in this category are employees located at head offices or auxiliary units separately located from the establishment; these are generally included in the figures for the province in which they are located according to the rules outlined under "Head offices and auxiliary units" above.

(d) Sales and distribution workers

This category includes office personnel whose salaries are charged to selling expense, travelling salesmen, driver salesmen, truckdrivers and their helpers, etc. It may also include some sales employees who are reported as part of a manufacturing establishment but are not working at the establishment's location. These are generally broken down by province in cases where more than 15 employees are involved in any one province. The figures exclude persons working on a commission basis who are not considered regular employees of the establishment.

(e) Total Employees

This total comprises the foregoing categories including employees located at separately located head offices and auxiliary units. The numbers of employees included under categories (b), (c) and (d) are reported in the form of annual averages and represent as closely as possible full time employment; adjustments are made when reported figures indicate the existence of part time or seasonal employment. In all the above categories, figures on employment refer to the calendar year whether or not other establishment statistics can only be reported on a fiscal year other than the calendar year.

Working Owners or Partners

These are not now included in the statistics of employees and salaries and wages. There is some duplication in numbers when a person owns more than one establishment and is reported as a working owner on each Census return. Withdrawals of working owners defined as amounts withdrawn by owners or partners for normal living expenses excluding withdrawals for payment of income tax.

Salaries and Wages

Salaries and wages refer to gross earnings of employees **before** deductions for income tax and employees contributions to social services such as sickness, accident and unemployment insurance, pensions, etc. They include all salaries, wages, bonuses, profits shared with employees, the value of room and board where provided, commissions (paid to regular employees only) as well as any

other allowance forming part of the worker's earnings. Payments for over-time are included. Figures on salaries and wages refer to the calendar year.

Fuel and Electricity

Figures for fuel refer to amounts actually used (including fuel used in cars, trucks, locomotives, etc.), not to purchases unless the quantities are substantially the same. **Any fuel and electricity produced by establishments for internal consumption are not included in the total cost.** Values represent laid down cost at the establishment including freight, duty, etc. Although fuel and electricity used is considered part of manufacturing activity it should be noted that it also includes relatively small amounts used in non-manufacturing activities since these cannot be reported separately.

Materials and Supplies

(a) Manufacturing activities

Figures represent quantities and laid down cost values, at the establishment, of materials, supplies and purchased components owned and used during the year in manufacturing activities and related processes. These statistics represent only commodity items or physical goods (cost of services or overhead charges such as advertising, insurance, depreciation, etc. are not included) whether purchased from others or received as transfers (in the form of materials, components or semi-processed goods) from other establishments of the reporting company. Included are maintenance and repair supplies not chargeable to fixed assets accounts and any amounts charged by other establishments for work done on materials owned by the reporting establishment. Cost of repairs or maintenance done by outside contractors and cost of returnable containers are not included.

(b) Non-manufacturing activities

1. Purchases for re-sale as such

Figures represent cost of materials or products purchased from others by the reporting establishment (or received as transfers from other establishments of the reporting company) for re-sale as such in the same condition as purchased. Included are any finished products received on consignment from other countries.

2. Other materials and supplies used

Figures represent the cost of materials and supplies, if any, used in new construction and in the production of machinery and equipment (for the use of the reporting establishment) by the establishment's own employees. Included are materials used for any capital repairs and alterations carried out by the establishment's employees. Amounts paid to outside contractors for construction and repair work are not included nor is the cost of purchased machinery and equipment. Also included is the cost of office supplies not chargeable to

fixed assets accounts and the cost of such other items of materials and supplies used as food, beverages and supplies for establishment-operated cafeterias and lunch counters, first aid and medical supplies, laboratory supplies, etc.

Shipments

(a) General

The figures represent revenue from all production, sales, services and related activities of reporting establishments with shipments valued in Canadian dollars at the point at which the establishment relinquishes control. The unsold portion at year end of consignment shipments in Canada is treated as inventory and not as shipments but all shipments to foreign countries for which the form B13 "Customs Canada Export Entry" has been completed, are treated as shipments.

In those industries where work on principal products extends over a relatively long period, (Fabricated Structural Metal Industry, Aircraft and Parts Manufacturers, Railroad Rolling Stock Industry and Shipbuilding and Repair Industry) the value of production rather than the value of shipments is recorded. There are certain establishments in other industries which also operate on a basis of progress payments. For these establishments, shipments are also adjusted to work put in place on the basis of the net change in progress payments over the year.

(b) Shipments of goods of own manufacture

These figures represent shipments of goods made from own materials either in the reporting establishments or by other manufacturers on the basis of a charge to the reporting establishments for work done. Included are revenue from repair and custom work, amounts received in payment for work done on materials owned by other establishments and the cost (book value) of any goods shipped on a rental basis.

All products and by-products of own manufacture shipped from the establishment are covered, including transfer shipments to sales outlets, distributing warehouses or to other manufacturing plants of the reporting firm, when such units are treated as separate establishments. The value of shipments are net of returned goods, discounts, returns, allowances, sales tax and excise taxes and duties, returnable containers and charges for outward transportation by common or contract carriers. Transportation or delivery expense incurred by the reporting establishment's own carriers are included.

Shipments of goods of own manufacture of establishments which are coded to some other division of the Standard Industrial Classification (on the basis of principal activity) but which are engaged in manufacturing as a subsidiary activity are collected by means of the Commodity questionnaire referred to earlier. Such shipments together

with shipments of goods of own manufacture of establishments forming the universe of manufacturing industries are compiled and recorded in the various industry publications.

(c) Shipments of goods not of own manufacture

These figures represent the net selling value at establishment (net of discounts, returns, allowances, sales taxes and excise duties and taxes and transportation charges by common or contract carriers) of all products or materials (including products transferred from other establishments of the reporting firm) sold as such in the same condition as purchased or received as transfers. For those industries which ship such goods on a rental basis, the value of shipments represents the book value of these goods. All sales of consignment goods from other countries are included.

(d) Other revenue

Figures represent the book value of fixed assets, if any, (new construction and machinery and equipment including major repairs, alterations, additions, modifications, installation and assembly work) produced during the year for the use of reporting establishments by the establishment's own employees and for which depreciation accounts are maintained. Included also are any revenues from the sale of electricity and from any operations performed by the establishment's own employees, such as revenue from goods produced or purchased for rental (the book value of such goods are included as part of shipments of goods of own manufacture or shipments of goods not of own manufacture), servicing revenues, commissions on sales (when not included in value of sales), revenue for company-operated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishment's own products, sale of used materials (excluding sale of used fixed assets) research and development work, etc. As mentioned previously the figures do not include non-operating revenue such as rent, dividends, interest, etc.

Inventories

(a) Manufacturing activities

Values represent the book values of manufacturing inventory owned in Canada. Inventories held for which progress payments have been received are not included. Where progress payment accounts are maintained, the change in these accounts is treated as a net adjustment to shipments. Figures consist of inventory owned at the plant and at warehouses or selling outlets which are treated as extensions of establishments for the purpose of reporting shipments. Inventory owned in transit in Canada or on consignment in Canada is included. Goods shipped abroad and held in inventory are included in shipments. Opening inventories may differ from the closing inventories of the previous year because of changes in classification, the

receipt of revised data, the inclusion of new establishments and the removal of establishments which did not operate during the survey year.

(b) Non-manufacturing activities

Figures represent the book value of inventory of goods purchased for re-sale as such without further processing, owned by the reporting establishments and held at plants and at any warehouses or selling outlets which are treated as extensions of establishments. Other characteristics are the same as in (a) above.

Value Added

(a) By manufacturing activities

Figures are compiled by deducting the cost of materials and fuel and electricity consumed from the value of production (value of shipments adjusted for changes in the value of inventories of finished goods and goods in process).

(b) By non-manufacturing activities

The figures are compiled by deducting the cost of goods purchased for re-sale (adjusted for changes in the value of inventories of goods

purchased for re-sale) and the cost of other materials and supplies used from the value of shipments of goods not of own manufacture, plus other revenue.

(c) By Total activities

The figures consist of value added by manufacturing activities plus value added by non-manufacturing activities. This total value added figure may, in some cases, be less than value added by manufacturing activities as a result of expenditures associated with non-manufacturing exceeding revenues from such activities or because of a decrease in inventory of goods not of own manufacture exceeding the mark-up on the sale of such goods. "Value added" is sometimes referred to as net production. However, to arrive at the National Accounts concept of net production, or Gross Domestic Product at "Factor cost" it would be necessary to subtract also the cost of advertising, insurance and other business expenses which are not collected as part of the annual Census of Manufactures. "Value added" figures for the primary industries, manufacturing and construction are published in DBS publication Catalogue No. 61-202, "Survey of Production".

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