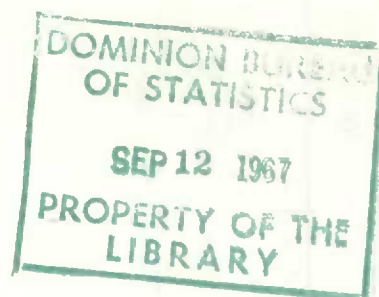


CATALOGUE No.

44-214

ANNUAL



REFRATORIES MANUFACTURERS

1965

ANNUAL CENSUS OF MANUFACTURES

Published by Authority of
The Minister of Trade and Commerce

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PUBLICATIONS

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REFRATORIES MANUFACTURERS

1965

For statistical purposes the industry titled Refractories Manufacturers in the revised Standard Industrial Classification covers the operations of establishments primarily engaged in the manufacture of firebrick, crucibles and other heat resisting clay products such as glasshouse tank blocks, stoppers, floaters and rings. This industry also includes establishments primarily engaged in the manufacture of non-clay refractories and crucibles.

Value of shipments and other revenue (manufacturing and non-manufacturing) reported by Refractories Manufacturers amounted to \$29,518,000 in 1965, compared with \$27,489,000 in 1964, an increase of \$2,029,000 or about 7 per cent. Shipments of manufactured products amounted to \$27,380,000 while other revenue (non-manufacturing) accounted for \$2,138,000.

The total cost of materials and supplies, fuel and electricity, etc. used in the production of goods of own manufacture increased by \$912,000. Cost of materials and supplies, fuel and electricity, etc. (total inputs) in 1965 represented about 48 per cent of value of shipments of own manufacture (total outputs), compared to 49 per cent in 1964.

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. Principal Statistics, 1961-65

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		Employees		Value added
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1961													
Totals.....	16	472	1,048	1,961	612	8,752	17,885	8,788	x	x	745	3,319	9,452
1962													
Totals.....	16	483	1,022	2,066	673	9,604	20,047	9,991	x	x	748	3,564	10,670
1963													
Totals.....	15	474	1,005	2,077	721	9,447	20,959	10,586	x	x	757	3,705	11,185
1964													
Newfoundland.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Prince Edward Island.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Nova Scotia.....	-	-	-	-	-	-	-	-	-	-	-	-	-
New Brunswick.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Quebec.....	3	489	1,030	2,246	695	11,642	24,715	12,428	x	x	766	3,833	12,985
Ontario.....	9												
Manitoba.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Saskatchewan.....	1	41	85	189	63	164	617	360	-	-	52	253	424
Alberta.....	-												
British Columbia.....	2	-	-	-	-	-	-	-	-	-	-	-	-
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals.....	15	530	1,115	2,435	758	11,806	25,332	12,788	x	x	818	4,086	13,319
1965													
Newfoundland.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Prince Edward Island.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Nova Scotia.....	-	-	-	-	-	-	-	-	-	-	-	-	-
New Brunswick.....	1	-	-	-	x	x	x	x	-	-	x	x	x
Quebec.....	5	301	631	1,312	205	7,183	15,057	7,862	-	-	399	1,877	8,110
Ontario.....	10	232	513	1,234	587	5,279	11,723	6,077	x	x	445	2,506	6,375
Manitoba.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Saskatchewan.....	1	x	x	x	x	x	x	x	-	-	x	x	x
Alberta.....	-	-	-	-	-	-	-	-	-	-	-	-	-
British Columbia.....	2	x	x	x	x	x	x	x	-	-	x	x	x
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals.....	19	577	1,237	2,757	861	12,125	27,380	14,324	x	x	899	4,658	14,929

TABLE 2. Principal Statistics classified by Size Group based on Value of Shipments of Goods of Own Manufacture, 1964 and 1965

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		Employees		Value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1964													
Under \$10,000	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999	—	—	—	—	—	—	—	—	—	—	—	—	—
25,000 " 49,999	3	15	29	68	12	64	204	124	x	x	20	93	175
50,000 " 99,999													
100,000 " 199,999													
200,000 " 499,999	6	79	166	348	96	810	1,891	970	—	—	108	510	1,014
500,000 " 999,999													
1,000,000 " 4,999,999	6	436	920	2,019	650	10,933	23,237	11,694	—	—	690	3,483	12,129
5,000,000 and over													
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	15	530	1,115	2,435	758	11,806	25,332	12,788	x	x	818	4,086	13,319
1965													
Under \$10,000	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999	—	—	—	—	—	—	—	—	—	—	—	—	—
25,000 " 49,999	4	6	12	27	3	31	92	58	x	x	10	40	58
50,000 " 99,999													
100,000 " 199,999		28	63	137	39	240	542	282	—	—	39	221	362
200,000 " 499,999	5	79	168	339	99	720	1,762	945	—	—	114	534	1,122
500,000 " 999,999													
1,000,000 " 4,999,999	6	464	994	2,255	720	1,162	24,984	13,040	—	—	736	3,864	13,387
5,000,000 and over													
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	19	577	1,237	2,757	861	12,615	27,380	14,324	x	x	899	4,658	14,929

TABLE 3. Principal Statistics classified by Size Group based on Manufacturing Value Added, 1964 and 1965

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		Employees		Value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1964													
Under \$10,000	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999	—	—	—	—	—	—	—	—	—	—	—	—	—
25,000 " 49,999	4	20	39	91	14	183	414	217	x	x	33	158	286
50,000 " 99,999													
100,000 " 199,999		47	102	215	66	231	742	414	—	—	58	275	424
200,000 " 499,999	3	41	84	184	40	1,611	2,460	821	—	—	83	426	1,175
500,000 " 999,999													
1,000,000 " 4,999,999	5	422	890	1,945	638	9,782	21,716	11,336	—	—	644	3,228	11,433
5,000,000 and over													
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	15	530	1,115	2,435	758	11,806	25,332	12,788	x	x	818	4,086	13,319
1965													
Under \$10,000	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999	—	—	—	—	—	—	—	—	—	—	—	—	—
25,000 " 49,999	4	20	44	85	15	187	389	202	x	x	5	18	30
50,000 " 99,999													
100,000 " 199,999		38	89	183	39	568	929	337	—	—	30	163	245
200,000 " 499,999	4	66	133	301	98	1,139	2,272	1,014	—	—	52	259	548
500,000 " 999,999											120	618	1,275
1,000,000 " 4,999,999	5	451	967	2,177	706	10,708	23,745	12,741	—	—	692	3,601	12,899
5,000,000 and over													
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	19	577	1,237	2,757	861	12,615	27,380	14,324	x	x	899	4,658	14,929

TABLE 4. Principal Statistics classified by Size Group based on Total Value Added, 1964 and 1965

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		Employees		Value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			'000				'000		'000	
1964													
Under \$10,000	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999	7	67	141	307	80	413	1,156	631	x	x	91	433	711
25,000 " 49,999													
50,000 " 99,999													
100,000 " 199,999													
200,000 " 499,999	3	41	84	184	40	1,611	2,480	821	—	—	83	426	1,175
500,000 " 999,999													
1,000,000 " 4,999,999	5	422	890	1,945	638	9,782	21,716	11,336	—	—	644	3,228	11,433
5,000,000 and over													
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	15	530	1,115	2,435	758	11,806	25,332	12,788	x	x	818	4,086	13,319
1965													
Under \$10,000	3	2	4	11	2	14	45	30	x	x	5	18	30
\$ 10,000 to \$ 24,999	3	15	30	63	13	69	195	115	—	—	19	90	138
25,000 " 49,999													
50,000 " 99,999	3	32	73	155	38	284	612	310	—	—	43	232	366
100,000 " 199,999	5	77	164	351	101	1,540	2,782	1,128	—	—	140	717	1,585
200,000 " 499,999													
500,000 " 999,999	5	451	967	2,177	706	10,708	23,745	12,741	—	—	692	3,601	12,831
1,000,000 " 4,999,999													
5,000,000 and over .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	19	577	1,237	2,757	861	12,615	27,380	14,324	x	x	899	4,658	14,929

TABLE 5. Principal Statistics classified by Size Group based on Total Employed, 1964 and 1965

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		Employees		Value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			'000				'000		'000	
1964													
Under 5 employed	5	32	67	155	39	270	641	329	x	x	47	233	411
5-14 employed													
15-49 "													
50-99 "													
100-199 "	5	422	890	1,945	638	9,782	21,716	11,336	—	—	644	3,228	11,433
200-499 "													
500 employed and over	—	—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	15	530	1,115	2,435	758	11,806	25,332	12,788	x	x	818	4,086	13,319
1965													
Under 5 employed	4	5	10	20	7	40	111	65	x	x	9	34	65
5-14 employed	4	29	65	143	35	232	523	275	—	—	40	227	355
15-49 "	6	92	195	416	112	1,636	3,000	1,243	—	—	158	797	1,678
50-99 "													
100-199 "	5	451	967	2,177	706	10,708	23,745	12,741	—	—	692	3,601	12,831
200-499 "													
500 employed and over	—	—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	19	577	1,237	2,757	861	12,615	27,380	14,324	x	x	899	4,658	14,929

TABLE 6. Principal Statistics classified by Type of Organization, 1964 and 1965

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		Employees		Value added
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1964													
Individual ownerships	-	-	-	-	-	-	-	-	-	-	-	-	-
Partnerships	15	530	1,115	2,435	758	11,806	25,332	12,788	x	x	818	4,086	13,319
Incorporated companies													
Co-operatives	-	-	-	-	-	-	-	-	-	-	-	-	-
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	15	530	1,115	2,435	758	11,806	25,332	12,788	x	x	818	4,086	13,319
1965													
Individual ownerships	19	577	1,237	2,757	861	12,615	27,380	14,324	x	x	899	4,658	14,929
Partnerships													
Incorporated companies	-	-	-	-	-	-	-	-	-	-	-	-	-
Co-operatives	-	-	-	-	-	-	-	-	-	-	-	-	-
Head offices, sales offices and auxiliary units .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	19	577	1,237	2,757	861	12,615	27,380	14,324	x	x	899	4,658	14,929

TABLE 7. Calculation of Output, Input and Value Added, 1964 and 1965

	Manufacturing activity		Non-manufacturing activities		Total activity	
	1964	1965	1964	1965	1964	1965
	\$'000					
Output						
1. Shipments and other revenue	25,332	27,380	2,157	2,138	27,489	29,518
Inventories—Goods of own manufacture:						
Add closing—Goods in process	280	298	...	...	280	298
Finished goods	1,438	1,817	...	...	1,438	1,817
Deduct opening—Goods in process	230	289	...	...	230	289
Finished goods	1,468	1,405	...	...	1,468	1,405
2. Net inventory change	20	421	...	...	20	421
3. Gross output (1 + 2)	25,352	27,801	2,157	2,138	27,509	29,939
Input						
4. Purchases of goods not of own manufacture .....	...	...	1,582	1,631	1,582	1,631
Inventories—Goods not of own manufacture:						
Add opening .....	...	...	159	148	159	148
Deduct closing .....	...	...	167	306	167	306
5. Cost of goods sold (not of own manufacture) .....	...	...	1,574	1,473	1,574	1,473
6. Materials, supplies, etc.	11,806	12,615	52	60	11,858	12,675
7. Fuel and electricity	758	861	...	...	758	861
8. Gross input (5 + 6 + 7)	12,564	13,476	1,626	1,533	14,190	15,009
Value added (3 - 8)	12,788	14,324	531	605	13,319	14,929

TABLE 8. Employment and Payroll, 1964 and 1965

Year and province	Employees										Salaries and wages				
	Production and related workers				Adminis- trative and office		Sales and distribution		Total		Production and related workers		Adminis- trative and office	Sales and distribution	Total
	Manufacturing		Other								Manufacturing	Other			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female						Manufacturing	Other
	number										\$'000				
1964															
Newfoundland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prince Edward Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nova Scotia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Brunswick	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quebec	489	-	16	-	155	43	53	10	713	53	2,246	69	1,237	281	3,833
Ontario															
Manitoba	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saskatchewan	41	-	-	-	9	-	2	-	52	-	189	-	52	12	253
Alberta															
British Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yukon and Northwest Terri- tories	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	530	-	16	-	164	43	55	10	765	53	2,435	69	1,289	293	4,086
1965															
Newfoundland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prince Edward Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nova Scotia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Brunswick	-	-	-	-	x	-	-	-	x	-	-	-	x	-	x
Quebec	301	-	10	-	72	11	5	-	388	11	1,312	50	492	23	1,877
Ontario	232	-	4	-	99	33	64	13	399	46	1,234	19	869	383	2,506
Manitoba	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saskatchewan	x	-	-	-	x	-	x	-	x	-	x	-	x	x	x
Alberta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
British Columbia	x	-	-	-	x	-	x	-	x	-	x	-	x	x	x
Yukon and Northwest Terri- tories	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	577	-	14	-	181	44	70	13	842	57	2,757	70	1,416	416	4,658

TABLE 9. Production and Related Workers, - Manufacturing Activity, 1964 and 1965

Month	1964		1965	
	Male	Female	Male	Female
	number			
Establishments reporting monthly detail (large establishments only):				
January	476	-	551	-
February	475	-	563	-
March	508	-	568	-
April	514	-	560	-
May	517	-	550	-
June	548	-	579	-
July	549	-	595	-
August	547	-	609	-
September	577	-	588	-
October	557	-	591	-
November	554	-	588	-
December	532	-	582	-
Averages	530	-	577	-
Establishments reporting annual averages (small establishments only)	-	-	-	-
Average for all establishments	530	-	577	-

TABLE 10. Inventories, 1965

Province	Manufacturing				Non-manufacturing	Total inventories
	Materials, supplies, etc.	Goods in process	Finished goods of own manufacture	Total	Products or materials purchased for resale	
book value \$'000						
Opening:						
Newfoundland	—	—	—	—	—	—
Prince Edward Island	—	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—
New Brunswick	x	—	—	x	—	x
Quebec	2,202	196	737	3,135	9	3,144
Ontario	893	73	577	1,543	133	1,675
Manitoba	—	—	—	—	—	—
Saskatchewan	x	x	x	x	x	x
Alberta	—	—	—	—	—	—
British Columbia	x	x	x	x	x	x
Yukon and Northwest Territories	—	—	—	—	—	—
Totals	3,130	289	1,405	4,825	148	4,972
Closing:						
Newfoundland	—	—	—	—	—	—
Prince Edward Island	—	—	—	—	—	—
Nova Scotia	—	—	—	—	—	—
New Brunswick	x	—	—	x	—	x
Quebec	2,499	229	897	3,626	168	3,794
Ontario	1,065	50	820	1,935	131	2,066
Manitoba	—	—	—	—	—	—
Saskatchewan	x	x	x	x	x	x
Alberta	—	—	—	—	—	—
British Columbia	x	x	x	x	x	x
Yukon and Northwest Territories	—	—	—	—	—	—
Totals	3,608	298	1,817	5,723	306	6,029

TABLE 11. Purchased Fuel and Electricity Used, 1964 and 1965

Description	1964		1965	
	Quantity	Cost	Quantity	Cost
		\$'000		\$'000
1. Large establishments reporting commodity detail:				
Bituminous coal:				
(a) From Canadian mines	ton 75	1	337	4
(b) Imported	" 14,530	186	22,714	292
Sub-bituminous coal (from Alberta mines only)	" —	—	—	—
Anthracite coal	" —	—	—	—
Lignite coal	" 692	4	1,177	7
Coke	" 3,348	77	4,094	96
Gasoline (including gasoline used in cars and trucks)	Imp. gal. 50,066	20	58,233	22
Fuel oil including kerosene or coal oil	" 2,461,651	208	1,847,125	167
Wood	cord —	—	—	—
Gas:				
(a) Liquefied petroleum gases	Imp. gal. 24,169	5	14,668	4
(b) Other manufactured gas	M cu. ft. —	—	—	—
(c) Natural gas	" 119,890	67	175,420	93
Other fuel	—	—	—	—
Electricity purchased	kwh. 13,870,296	132	15,105,394	140
Steam purchased	—	—	—	—
2. Small establishments not reporting commodity detail:				
Estimate for fuel and electricity .....	...	58	...	...
3. All establishments:				
Total fuel and electricity used .....	...	758	...	861

TABLE 12. Materials and Supplies - Manufacturing Activity, 1964 and 1965

Description	1964		1965	
	Quantity	Cost	Quantity	Cost
	tons	\$'000	tons	\$'000
1. Materials used:				
Cement:				
Portland	1,017	27	1,505	42
Ciment fondu	2,703	216	2,859	226
Chrome ore	44,378	1,764	50,837	2,121
Clays, imported:				
Ball clay	1,613	59	941	40
Fireclay	4,445	133	5,324	156
Sagger clay	526	19	502	20
Other imported clays	11,871	610	11,912	607
Firebrick, ground or broken (grog), including scrap brick	5,015	304	5,103	212
Graphite	243	31	282	37
Kyanite	1,963	138	2,177	161
Magnesite	28,831	2,595	43,463	3,170
Silica sand and ground quartz	1,291	24	1,259	22
Sodium silicate	2,709	100	6,126	221
All other materials and components used .....	...	4,051 ¹	...	3,636
2. Containers and other packaging materials and supplies used .....	...	579	...	729
3. Operating, maintenance and repair supplies used (excluding fuel) .....	...	977	...	1,076
4. Amount paid out to others for work done on materials owned by establishments .....	...	178	...	140
Totals .....	...	11,806	...	12,615

¹ No detailed information on materials used was collected from small establishments, the estimated costs for which are included here. These estimated costs were \$700,866 in 1964 and \$244,830 in 1965.

TABLE 13. Shipments of Goods of Own Manufacture, 1964 and 1965

Description	1964		1965	
	Quantity	Value	Quantity	Value
	tons	\$'000	tons	\$'000
1. Products:				
Firebrick and similar shapes, all types	103,179	14,629	105,207	16,021
Refractory cements, mortars, castables, plastics, etc.	66,079	7,677	54,732	7,493
All other products .....	...	3,026	...	3,597
2. Amount received in payment for work done on materials and products owned by others	-	-	...	271
Less adjustment for value of sales taxes, excise duties and outward transportation charges which could not be deducted from individual commodity items described above	-	(-)	...	(3)
Net adjustment for establishments receiving progress payments	-	-	-	-
Total adjusted value of shipments and work done .....	...	25,332	...	27,380

TABLE 14. Shipments of Selected Goods of Own Manufacture - All Industries, 1958-65
(Includes shipments from other industries which manufacture, as a secondary activity, the commodities listed)

Year	Refractories			
	Firebrick and similar shapes ¹		Cements, mortars, castables, etc.	
	tons	\$'000	tons	\$'000
1958	75,900	8,103	21,825	2,456
1959	100,200	12,660	28,867	3,295
1960	106,000	13,625	31,721	3,676
1961	95,300	12,407	38,248	4,427
1962	96,300	12,535	50,743	5,628
1963	101,100	12,941	55,582	6,257
1964	118,701	15,450	70,178	7,992
1965	122,756	16,963	56,756	7,627

¹ Includes fireclay blocks and shapes, firebrick, etc. made from domestic clays, and rigid firebrick, stove linings and other shapes made from imported clays, chrome ore, magnesite, etc. Silicabrick not included.

List of Establishments classified to this Industry, 1965

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

Name	Location
New Brunswick:	
Moncton Refractories Ltd.	St. Armand
Quebec:	
Canadian Refractories Ltd.	Kilmer
Combustion Products Mfg. Co. Ltd.	2110 Bennett St., Montreal
Quebec General Industries Ltd.	7473-18ième Ave., Ville St-Michel
Quigley Co. of Canada Ltd.	565-20th Ave., Lachine
Walker-Hind-Sutherland Refractories Ltd.	St-Pierre
Ontario:	
Allord Mfg. and Supply Co. Ltd.	Kitchener
General Refractories Co. of Canada Ltd.	Smithville
Green, A.P. Firebrick Co. Ltd.	Acton
Green, A.P. Firebrick Co. Ltd.	234 Rosemount Ave., Weston
Kaiser Refractories Co.	Oakville
National Refractories Ltd.	Port Robinson
Plibrico (Canada) Ltd.	215 Horner Ave., Etobicoke
R and I Ramtite (Canada) Ltd.	Welland
Rowland Fire Brick Co.	1347 Dufferin St., Toronto
Steeley of Canada Ltd.	Dundas
Saskatchewan:	
Dominion Fire Brick and Clay Products (1954) Ltd.	Claybank
British Columbia:	
Fairey and Company Ltd.	661 Taylor St., Vancouver
Richmix Clay Products Ltd.	2890 Kent 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 55 (4 digit) sub classes. At the Canada level, principal statistics are collected and compiled for 176 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 135 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 reports reflect the complete implementation of these changes and enable comparisons to be made back to and including 1961. 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 activities

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. For those establishments reporting on the "long" form, 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. In the case of those establishments reporting on the "short" form, respondents are requested to report average annual figures. 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.). Data on man-hours are not collected from establishments reporting on the short form. Man-hours for these establishments are estimated on the basis of ratios derived from the 1958 census. During this census all establishments reported on the long form. 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 are 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 manufacturing materials, supplies, etc. and fuel and electricity consumed from the (value of shipments of goods of own manufacture 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 pur-

chased for re-sale) and the cost of non-manufacturing 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 output or 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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