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ALUMINUM ROLLING, CASTING AND EXTRUDING

1964



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DOMINION BUREAU OF STATISTICS

Industry Division

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ALUMINUM ROLLING, CASTING AND EXTRUDING

1964

For statistical purposes the industry titled Aluminum Rolling, Casting and Extruding in the revised Standard Industrial Classification covers the operations of establishments primarily engaged in manufacturing aluminum shapes, such as bars, rods, plates, sheets and castings. Pressure die casting of aluminum is included in the Metal Rolling, Casting and Extruding, n.e.s. industry and the extraction of aluminum from the ore is classified to the Smelting and Refining industry.

Value of shipments and other income for this industry totalled \$127 million, a decrease of \$3 million from 1963. This amount included shipments of aluminum products such as bars and rods, extruded shapes, pipe and tubing, roofing and siding, sheets and strip, castings and die castings and similar products valued at \$123.5, shipments of other products (secondary products) valued at \$3 million, and revenue of \$500,000.

Secondary products shipped by this industry in 1964 included brass and bronze and other castings, zinc base and other die castings, printed paper products, magnesium extrusions, and so on.

The cost of materials and supplies, etc. used in the production of goods of own manufacture increased by \$3 million. Cost of materials and supplies, etc. (inputs), in 1964 represented 83 per cent of the value of shipments of own manufacture (outputs), compared to 75.8 per cent in 1963.

It should be noted that Table 13 covers the shipments of the establishments classified to this industry, where as Table 14 presents the total value of shipments of the specified commodities of Canadian manufacture. And include, where applicable, shipments of those commodities reported by establishments classified to other industries.

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

TABLE 1. Principal Statistics, 1961-64

				Man	ufacturing	activity				T	otal activ	rity	
Year and	Estab-		oduction a ated work		Cost of	Cost of	Value of shipments	Value		owners artners	Emp	loyees	Value
province	ments	Number	Man- hours paid	Wages	elec- tricity	materials and supplies	of goods of own manu- facture	added	Number	With- drawals	Number	Salaries and wages	Value added
	No.		*000			\$'000				\$'000		\$'0	000
1961				×									
Totals	43	3,738	7, 921	16,324	2,090	76, 751	110,456	34.106	4	15	5,095	23, 403	34,052
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
1962		1											
Totals	42	3, 741	7,794	16,331	2, 215	93, 193	121,912	25,424	11	62	5,118	23,805	25, 354
1963													
Newfoundland		-	-	Seeds	_	_	_	_	_	_	_	_	
Prince Edward Island	-	_		_	_		_	_	_	_	_	_	_
Nova Scotia	_	_	1000	tom.	_	_		_		_	_	_	
New Brunswick	-	_	-	to dem	_	_	_	_	_	_	_	_	
Quebec	12	788	1, 789	3,422	610	37, 201	47, 211	9,412	3	9	i, 207	6,029	9, 349
Ontario	24	2,857	5,850	12,990	1, 769	55, 354	75, 179	20, 851	6	29	3,739	18, 123	20, 805
Manitoba	_	_	-	_	_	_	_	_	_	_		_	1000
Saskatchewan	-	-	-	-	-	_	_	_	_	_	_	_	-
Alberta	3	15	30	53	3	101	184	81		_	21	74	80
British Columbia	5	148	288	717	110	5, 050	6, 701	1,557		_	197	997	1,571
Yukon and Northwest Territories	_	deser	-	_	-		_			-	_		_
Totals	44	3,808	7, 957	17, 182	2, 491	97, 706	129, 275	31,901	9	38	5,164	25, 223	31, 806
1964													
Newfoundland	_	_	_	_	_	_		_		_	_	_	
Prince Edward Island		_	_		_		_	_	_	_	_	_	Pauli
Nova Scotia	_	***		1000	-	_	- Options	_	_	_	_	_	_
New Brunswick	896	-	_	-	dele	-		-	_	_	_		_
Quebec	12	x	х	x	x	x	х	x	x	x	х	х	х
Ontarlo	27	2, 497	5,240	12, 285	1,523	56, 681	71, 189	10, 791	7	32	3,373	17, 354	10, 394
Manitoba	_	_	_	_	_	_	_	_	_	_		_	- April -
Saskatchewan	_	_	_		_		_	_	_		***	_	_
Alberta	3	х	х	х	х	x	х	x	х	x	х	x	x
British Columbia	5	х	х	x	х	x	x	х	x	x	x	x	х
Yukon and Northwest Territories	_	-	0.000	and the same of th	_	_		_	_	_	_		-
Totals	47	3, 411	7,294	16,590	2,237	100, 807	126, 579	20,905	10	42	4,834	24,770	20, 426

TABLE 2. Principal Statistics classified by Size Group based on Value of Shipments of Goods of Own Manufacture, 1963 and 1964

				Mar	ufacturing	activity				T	otal activ	vity	
Size group	Estab- lish- ments		duction a ated work		Cost of	Cost of	Value of shipments of goods	Value	Working and pa		Empl	loyees	Value
		Number	Man- hours paid	Wages	elec- tricity	and supplies	of own manu- facture	added	Number	With- drawals	Number	Salaries and wages	added
	No.		*000			\$'000				\$,000		\$*0	000
1963										2			
Under \$10,000 \$ 10,000 to \$ 24,999	} 7	4	8	10	4	37	98	57	6	22	5	13	57
25,000 " 49,999	3685537	16 26 99 108 216 324 3, 015	31 52 204 216 502 552 6. 391	47 99 348 343 781 1, 193 14, 360	3 7 27 20 78 183 2, 170	26 233 600 649 1, 497 5, 094 89, 571	113 409 1, 334 1, 445 3, 141 8, 102 114, 634	90 167 718 674 1,583 2,873 25,738	2 1	10 6	19 37 121 149 261 403 4, 169	55 149 474 474 1.054 1.655 21,350	90 172 707 673 1, 571 2, 842 25, 694
auxiliary units	444			* * *							400		
Totals	44	3, 808	7, 957	17, 182	2, 491	97, 706	129, 275	31, 901	9	38	5, 164	25, 223	31, 806
1964													
Under \$10,000	355397456	5 15 20 89 169 147 391 2,575	10 30 40 182 350 384 828 5,469	14 52 73 338 652 708 1,840 12,914	3 5 3 23 48 62 272 1,820	8 34 77 86 725 807 1,181 9,343 88,545	20 87 191 236 1,492 2,122 2,664 13,386 106,381	11 51 108 146 747 1, 264 1, 455 3, 470 13, 652	2 4 3 3 - 1	18 13 7 -	1 6 19 26 114 198 188 580 3,702	3 177 61 98 487 821 977 2,659 19,647	11 54 108 146 751 1,307 1,436 3,428 13,186
adxinary dints	4 4 9				0.4.	4 + 4	* * *	4 4 4	* * *	* * *			
Totals	47	3.411	7, 294	16, 590	2, 237	100, 807	126, 579	20, 905	10	42	4.834	24, 770	20 4 /

TABLE 3. Principal Statistics classified by Size Group based on Manufacturing Value Added, 1963 and 1964

				Man	ufacturing	activity				T	otal activ	ity	
Size group	Estab- lish- ments		duction a		Cost of	Cost of	Value of shipments of goods	Value		owners artners	Empl	oyees	Value
		Number	Man- hours paid	Wages	elec- tricity	and supplies	of own manu- facture	added	Number	With- drawals	Number	Salaries and wages	added
	No.		*000			\$'000				\$'000		\$10	000
1963													
Under \$10,000	7 4 7 5 6 5	17 5 38 50 110 249	34 10 75 106 225 563	62 18 134 197 335 884	9 3 9 17 27 73	327 43 249 345 783 1, 295	492 101 517 770 1,623 3,037	51 55 262 409 837 1,675	3 5 1	10 22 6 —	44 5 49 63 134 297	115 18 175 272 458 1,180	56 55 260 395 837 1,667
5,00,000 ' 999,999 1,000,000 ' 4,999,999 5,000,000 and over Head offices, sales offices and auxiliary units	10	3,339	6,944	15,553	2,353	94,665	122,736	28,611	-	_	4,572	23,006	28,536
									9	38	5. 164	25, 223	31, 806
Totals	44	3, 808	7.957	17. 182	2, 491	97, 706	129, 275	31, 901	9	38	3, 104	23, 443	31, 800
Under \$10,000 \$ 10,000 to \$ 24,999 \$ 25,000 " 49,999 \$ 100,000 " 199,999 \$ 200,000 " 499,999 \$ 500,000 " 499,999 \$ 1,000,000 " 4,999,999 \$ 1,000,000 and over Head offices, sales offices and	4 7 6 5 7 10 8	10 29 33 120 474 2, 745	22 56 70 248 1.038 5,860	35 97 139 455 2.189	1 11 10 30 227 1.955	15 74 303 379 559 11.661 87,816	32 179 524 761 1, 488 15, 385	16 101 205 376 912 3,214 16,081	3 6 - 1	8 27 - 7	1 13 42 44 144 663 3.927	3 41 150 207 607 3.105	16 104 204 381 911 3, 211
auxiliary units						4			4 4 0			• • •	
Totals	47	3,411	7, 294	16, 590	2, 237	100, 807	126. 579	20, 905	10	42	4,834	24, 770	20, 42

TABLE 4. Principal Statistics classified by Size Group based on Total Value Added, 1963 and 1964

				Man	ufacturing	activity				T	otal acti	vity	
Size group	Estab- lish-		duction ated work		Cost of	Cost of	Value of shipments			owners artners	Empl	loyees	
	ments	Number	Man- hours paid	Wages	fuel and elec- tricity	materials and supplies	of goods of own manu- facture	Value added	Number	With- drawals	Number	Salaries and wages	V alue added
	No.		'000			\$*000				\$'000	0-0	\$'0	000
1963													
Under \$10,000 \$ 10,000 to \$ 24,999 25,000 " 49,999 50,000 " 99,999 100,000 " 199,999 200,000 " 499,999	6 5 8 4 6 5 3	15 7 42 46 110 249 293	30 14 83 98 225 563 619	56 24 149 182 335 884 1,489	8 3 12 14 27 73 106	274 95 309 285 783 1,295 25,452	430 164 635 651 1,623 3,037 28,111	42 65 317 354 837 1,675 2,583	3 5 1 -	10 22 6 -	41 8 56 56 134 297 364	102 31 209 237 458 1,180 2,015	40 71 302 353 837 1,667 2,558
1,000,000 " 4,999,999 5,000,000 and over Head offices, sales offices and auxiliary units	} 7	3,046	6, 325	14,063	2, 247	69, 213	94,625	26,029	-	_	4,208	20,991	25,979
Totals	44	3,808	7,957	17, 182	2, 491	97, 706	129,275	31, 901	9	38	5, 164	25, 223	31, 806
1964													
Under \$10,000	4 7 6 5 7 10	10 29 33 120 474	22 56 70 248 1,038	35 97 139 455 2,189	1 4 11 10 30 227	15 74 303 379 559 11,662 87,816	32 179 524 761 1,488 15,385	16 101 205 376 912 3,214 16,081	3 6 - 1 -	8 27 - 7 - -	1 13 42 44 144 663 3,927	3 41 150 207 607 3,105	16 104 204 381 911 3, 212
5,000,000 and over	}	1	0			= 0	* * 4			* * 4	* 4 *		
Totals	47	3,411	7, 294	16,598	2, 237	100, 807	126,519	30,905	10	42	1.834	24, 770	20,436

TABLE 5. Principal Statistics classified by Size Group based on Total Employed, 1963 and 1964

				Mar	nufacturing	activity				1	Cotal acti	vity	
Size group	Estab-		oduction ated work		Cost of	Cost of	Value of shipments of goods	Value		owners artners	Emp	loyees	Value
	ments	Number	Man- hours paid	Wages	elec- tricity	and supplies	of own manu- facture	added	Number	With- drawals	Number	Salaries and wages	added
	No.		*000			\$'000				\$'000		\$*0	000
1963				ļ									
Under 5 employed	9 11 10 5 3	9 65 178 263 367	18 129 393 583 741	28 236 647 939 1,871	5 19 55 76 192	100 515 1,322 2,687 28,745	203 1,000 2,799 4,799 32,088	100 469 1,339 2,054 3,190	6 3 - -	22 16 — —	12 85 238 321 460	40 317 877 1,304 2,533	1 06 453 1,334 2,038 3,191
200-499 "* 500 employed and over	} 6	2,926	6,093	13,461	2, 145	64,338	68, 385	24, 749	-	_	4,048	20, 152	24, 683
Totals	44	3, 808	7, 957	17,182	2, 491	97, 706	129, 275	31, 901	9	38	5, 164	25, 223	31, 806
1964													
Under 5 employed 5 - 14 employed 15 - 49 " 50 - 99 " 100 - 199 " 200 - 499 "	12 11 11 4 5	13 69 235 189 548 2, 357	28 140 501 473 1,165	50 262 963 838 2,717	6 21 77 68 349	104 715 2, 151 2, 425 36, 083 59, 329	254 1,392 4,226 4,223 42,147 74,337	143 657 2,030 1,725 5,568	9	357	18 94 291 237 798 3,396	62 389 1,275 1,154 4,411	146 661 2,008 1,754 5,512
Head offices, sales offices and mixiliary units				***	***							***	
Totals	47	3, 411	7,294	16, 590	2,237	100,807	126, 579	20,905	10	42	4,834	20,770	20, 426

TABLE 6. Principal Statistics classified by Type of Organization, 1963 and 1964

				Man	ufacturing	activity					Cotal acti	ivity	
Type of organization	Estab-		duction ated work		Cost of	Cost of	Value of shipments			owners	Empl	oyees	
	ments	Number	Man- hours paid	Wages	fuel and elec- tricity	materials and supplies	of goods of own manu- facture	Value added	Number	With- drawals	Number	Salaries and wages	Value added
	No.		'000			\$'000				\$'000		\$'0	000
1963													
Individual ownerships	} 8	18	36	65	7	131	291	152	9	38	19	68	152
Incorporated companies	36	3,790	7, 921	17, 117	2,484	97, 576	128, 985	31,748			5. 145	25, 155	31,654
Co-operatives	-	-	_	_		_	-	_			_	_	_
Head offices, sales offices and auxiliary units	***	4 - 4				* * *	* 1 *						4.4.4
Totals	44	3,808	7, 957	17, 182	2, 491	97, 706	129, 275	31,901	9	38	5, 164	25, 223	31, 806
1964													
ndividual ownerships	1												
Partnerships	} 9	17	34	61	8	148	318	163	10	42	18	66	163
ncorporated companies	38	3,394	7, 259	16,529	2,229	100,659	126, 261	20,742	* = =		4,816	24,704	20, 263
Co-operatives	_	-	map	_	-	_		-			_	_	_
lead offices, sales offices and auxiliary units								4 * 2					
Totals	47	3,411	7, 204	16,500	2,227	100,807	126, 579	30, 205	44)	4.2	1,831	94, 770	20, 426

TABLE 7. Calculation of Output, Input and Value Added, 1963 and 1964

	Manufact activi		Non-manufa activiti		Tota activi	
	1963	1964	1963	1964	1963	1964
			\$100)		
Output	1			1		
1. Shipments and other revenue	129, 275	126,579	527	426	129,802	127,005
Inventories - Goods of own manufacture:						
Add closing - Goods in process	5, 595	4,953	4 4 4		5,595	4,953
Finished goods	7,633	5,574		4 4 8	7,633	5, 574
Deduct opening-Goods in process	4, 322	5, 636	0.00	100	4,322	5,636
Finished goods	6,084	7,520			6, 084	7,520
2. Net inventory change	2,822	(2,629)			2,822	(2,629
3. Gross output (1+2)	132,097	123, 950	527	426	132, 624	124,376
Input						
Purchases of goods not of own manufacture		* * *	463	504	463	504
Inventories - Goods not of own manufacture:						
Add opening			58	172	58	172
Deduct closing	4 8 8	0 4 4	193	37	193	37
. Cost of goods sold (not of own manufacture)			328	639	328	639
. Materials, supplies, etc.	97, 706	100,807	293	265	97,999	101,079
. Fuel and electricity	2, 491	2, 237	* * *		2,491	2,237
Gross input (5+6+7)	100, 197	103,044	621	904	100,818	103,940
Value added (3 - 8)	31,901	20, 905	(94)	(479)	31,806	20,426

TABLE 8. Employment and Payroll, 1963 and 1964

					Emplo	yees						Salari	es and wa	ges	
Your and		Product related			Adm:	inis•		les nd	To	tal	Producti		Admin-	Sales	
province	Manufa	cturing	01	ther		office	distri		10	C d A	related v	vorkers	istra- tive and	and distri-	Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Manufac- turing	Other	office	bution	
	-				numb	er				-			\$'000		
1963		1							1						
Newfoundland	-	_	=-	_	_	_		_	_	-	_	-	_		_
Prince Edward Island	_	_	-	-	_	_	_	_	_	-	_	_	_	_	_
Nova Scotla	_	_	_	-		_	_	-	_	-	_	_	_	_	_
New Brunswick	-	-	-	_	_	-	-	-	-	-	_	_	-	_	-
Quebec	757	31	-	_	264	63	60	32	1,081	126	3,422	-	2,063	544	6,029
Ontario	2,694	163		_	632	200	33	17	3,359	380	12,990	_	4,910	224	18,123
Manitoba	_	-	_	_	-	-	_	_	_	_	_		_	_	-
Saskatchewan	-	_	_	_	_	_	_	_	_	_	_	_	-	_	_
Alberta	15	_	_	_	4	2	_	_	19	2	53	_	21	_	74
British Columbia	147	1	_	_	37	12	_	_	184	13	717	_	280	_	997
Yukon and Northwest Terri-	_	_	_	_	_	_	_	-	_	_	_	_	_	_	_
Totals	3,613	195	-	-	937	277	93	49	4,643	521	17, 182	-	7,273	768	25, 223
1964												l			
Newfoundland	_	_	_	_	_	_	_	_	-	_	_	_	_	-	_
Prince Edward Island	_	_	_	-	_	_	-	-	-	_	_	_	-	_	_
Nova Scotla	_	_	_	_	_	_	_	_	_	_	_	_		_	_
New Brunswick						_	_	_	_	_	-	_	-		_
Quebec	x	x	_	_	x	x	х	x	x	х	x	_	х	x	x
Ostario	2,389	108	_	_	643	192	31	10	3,063		12, 285	_	4,803	265	17,354
Manitoba	2,005	-	_	_	-	_	_	_	_	_	-		_	_	_
Saskatchewan					_	_	_	_	_	_	_	-	_	_	_
Atherta	x			_	x	x	_		x	x	x	_	x	_	x
British Columbia	X	x		_	X	X	_	_	x	X	X	_	x	anto.	X
Yukon and Northwest Terri-	A	^			^	^					n				**
tories	-	_	_	-	-	-	_	_	-	-	_	_	_	_	-
Totals	3,271	140	_	_	1,003	297	79	44	4,353	481	16,590	-	7,358	822	24,770

TABLE 9. Production and Related Workers, - Manufacturing Activity, 1963 and 1964

	196	33	t96	4
Month	Male	Female	Male	Female
		numbe	er	
Stablishments reporting monthly detail (large establishments only):	1	1		
January	3, 233	192	3,326	14
February	3, 289	189	3,346	14
March	3,244	198	3,296	15
April	3,307	177	3,353	16
May	3,421	164	3,374	15
June	3,543	173	3,169	12
July	3,595	173	3,161	11
August	3,639	166	3, 179	11
September	3,622	176	3, 106	11
October	3,505	173	2,650	10
November	3,427	168	2,890	11
December	3,373	172	2,786	8
Averages	3,434	177	3,133	12
Mablishments reporting annual averages (small establishments only)	179	18	138	1
erage for all establishments	3,613	195	3,271	14

TABLE 10. Inventories, 1964

		Manufa	cturing		Non- manufacturing	
Province	Materials, supplies, etc.	Goods in process	Finished goods of own manufacture	Total	Products or materials purchased for resale	Total inventories
Opening:			book value	\$'000		
Newfoundland		_	-	-	-	-
Prince Edward Island	_	_	-	_	-	_
Nova Scotia	_	_	-	_	-	_
New Brunswick	-	460-	_	_	-	_
Quebec	x	x	x	x	_	х
Ontario	7,932	3, 484	5, 370	16,786	172	16, 95
Manitoba	_	_	-	-	_	_
Saskatchewan		_	_	_	_	_
Alberta	x	_	x	x	_	x
British Columbia	x	x	x	x	_	X
Yukon and Northwest Territories	-	_	-	-	_	_
Totals	10,547	5,636	7, 520	23, 704	172	23, 870
Closing:			}			
Newfoundland	_	_	_	rima	_	_
Prince Edward Island	_	_		_	_	
Nova Scotia	_	-	_	-	_	
New Brunswick	_	_	_	_	_	
Quebec	x	x	x	x	_	x
Ontario	10, 871	2,472	4. 188	17,530	37	17, 567
Manitoba	_	_	_		_	21,001
Saskatchewan	_			_	_	
Alberta	x		x	x		
British Columbia	x	x	x	x	_	, , , , , , , , , , , , , , , , , , ,
Yukon and Northwest Territories	_	_	_	_	etin.	
Totals	13,836	4, 953	5, 574	24, 362	37	24, 399

TABLE 11. Purchased Fuel and Electricity Used in Manufacturing Activity, 1963 and 1964

Description		1963		1964	
Description		Quantity	Cost	Quantity	Cost
1. Large establishments reporting commodity detail:			\$1000		\$'000
Bituminous coal:					
(a) From Canadian mines	ton	10		_	_
(b) Imported	44	_	_	_	_
Sub-bituminous coal (from Alberta mines only)	4.6	_	_	_	_
Anthracite coal	6.6	_	_	ann.	_
Lignite coal	8.6	-	_	_	_
Coke	4.6		_	_	_
Gasoline (including gasoline used in cars and trucks) Imp	p. gal.	101,147	30	110,027	36
Fuel oil including kerosene or coal oil	4.6	7,090,435	821	5, 468, 824	537
Wood	cord	_	_	-	_
Gas:					
(a) Liquefied petroleum gases Imp	o. gal.	299, 446	42	366,716	47
(b) Other manufactured gas	cu. ft.	-	_	_	_
(c) Natural gas	4.4	302,416	304	477, 267	321
Other fuel		-	_	4799	_
Electricity purchased	kwh.	177, 402, 276	1,258	171, 328, 657	1,263
Steam purchased		_	_	_	_
2. Small establishments not reporting commodity detail:					
Estimate for fuel and electricity			36		3.2
3. All establishments:					
Total fuel and electricity used			2,491		2,237

TABLE 12. Materials and Supplies - Manufacturing Activity, 1963 and 1964

Description	1963		1964	
Description	Quantity	Cost	Quantity	Cost
	lbs.	\$'000	lbs.	\$'000
1. Materials used:				
Aluminum: Ingots (includes wire bar and re-roll sheet stock) Scrap Sheets and strip Other	321, 105, 340 17, 837, 218 3, 400, 127 2, 480, 197	81,047 3,405 1,695 930	274, 358, 965 19, 125, 965 6, 974, 669	68, 325 3, 713 2, 210 15, 468
Brass and bronze	42, 100	17	134, 645	60
Copper	413,968	131	373, 031	125
Magneslum	1,131,262	370	1,048,571	374
Zinc	59, 234	8	173,790	29
Other non-ferrous metals		902		820
Stainless steel		8		20
Steel (except alloy steel): Plates, sheets and strip Other forms		6 154		5 229
All other materials and components used ¹	4 * *	3,474		3,689
2. Containers and other packaging materials and supplies used		1,220	* * *	1,050
3. Operating, maintenance and repair supplies used (excluding fuel)		3,797		4,058
4. Amount paid out to others for work done on materials owned by establishments		540	4 4 9	631
Totals	***	97, 706	***	100,807

¹ No detailed information on materials used was collected from small establishments, the estimated costs for which are included here. These estimated cost were \$901,023 in 1963 and \$905,615 in 1964.

TABLE 13, Shipments of Goods of Own Manufacture, 1963 and 1964

Description	1963		1964	
	Quantity	Value	Quantity	Value
	lbs.	\$'000	lbs.	\$'000
. Products:				
Castings, aluminum (except die castings)	7, 502, 597	5,140	5, 959, 200	4, 463
Castings, other (brass, bronze magnesium, etc.) (except die castings)	818, 224	1,070		1,472
Extruded shapes, aluminum	54, 387, 493	25, 578	59, 487, 855	27, 497
Foil, aluminum	31,470,048	16,423	1	1
All other products		80,808		93, 145
. Amount received in payment for work done on materials and products owned by others		275		433
Less adjustment for value of sales taxes, excise duties and outward transportation charges which could not be deducted from individual commodity items described above	* * *	(19)	2 . 4	(431)
Net adjustment for establishments receiving progress payments				
Total adjusted value of shipments and work done	6 0 0	129,276	* * *	126, 579

¹ Confidential included in "Ail other products",

TABLE 14. Shipments of Selected Goods of Own Manufacture - All Industries, 1960-1964 (Includes shipments from other industries which manufacture, as a secondary activity, the commodities listed)

A. Aluminum Castings and Aluminum Die Castings

Year	Aluminum castlngs ¹		Aluminum die castings ¹	
1.521	Quantity	Value	Quantity	Value
	lbs.	\$'000	lbs.	\$'000
960	9,349,000	7,086	3,918,000	2,699
961	8,762,000	7,063	3,737,000	2, 651
962	9,111,000	7,974	8,096,000	5,302
063	10,674,000	7,996	10, 128, 000	6,086
964	9,704,000	7,797	10, 146, 000	6, 491

¹ Reported for sale as such, does not include castings produced for own use or castings reported under other commodity headings such as hardware, parts, etc.

TABLE 14. Shipments of Selected Goods of Own Manufacture - All Industries, 1960-1964 - Concluded B. Specified Aluminum Products

	Extruded s	Aluminum foil		
	Year	Quantity	Value	Value
		lbs.	\$'00	00
1960		35, 668, 877	18,847	13,226
1961	***************************************	43,003,769	21,958	13,392
1962	***************************************	51,578.329	25, 156	15,010
1963		58, 795, 741	27,108	16,423
1964		81,427,389	28, 388	17, 244

List of Establishments classified to This Industry, 1964

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

Name		Locatio	Location			
uebec:						
Aluminum Co. of Canada Cenal Foundry Ltd. Cercast Inc. Custom-Aire Aluminum L Decelles, Georges Fonderie Laliberté, Enr. Giard, Léonard Modern Aluminum Produc Precision Mastercrafts L Reynolds Aluminum Co. (Reynolds Extrusion Sales	Limited s Co. d. of Canada Ltd. Co. Ltd. gs Ltd. (1963)	St-Rémi 3905 Industrial Blvd., Montreal N. 114 Labrosse Blvd., Pointe-Claire 3545 53rd Ave., Pointe-aux-Trembles 742, rue Fleurie, Québec 775 Eastern St., Waterloo 1520 Notre-Dame St., Montreal 10206 Armand Lavergne St., Montreal N. Cap-de-la-Madeleine Ste-Thérèse-de-Blainville				
Ontario:						
Aluminum Co. of Canada Aluminum Star Products Canada Foils Limited	nesium Ltd. ed Limited	483 Eastern Ave., Toronto Kingston 175 College St. W., Belleville 1891 Eglinton Ave. E., Toronto				
Chrysler Canada Ltd		Windsor				
City Foundry Co	ndry	Howard ave, Windsor				
Custom-Aire Aluminum L	mited	61 Arrow Rd., Weston				
Custom Aluminum Founda	yroducts Ltd.	54 Guelph St., Hespeler 1952 Mattawa Ave., Cooksville				
	v Ltd.	315 Breithaupt St., Kitchener				
	ndry Ltd					
Kaminecky John	Ltd					
Kern's Foundry		1668 Langlois Ave., Windsor				
	Castings					
Queen East Foundry		96 Gould St., Toronto				
Ramsden Manufacturing I	.td	130 Oakland Ave., London				
Reynolds Extrusion Co. 1	:d					
Robertson, Joseph, Foun	dries Ltd	32 Milford Ave., Toronto				
Supreme Castings and Mf	g. Cotrusions Ltd	14 Racine Rd., Rexdale 905 James St., Wallaceburg				
Woodstock Foundry Ltd.						
Alberta:						
Athronze Foundry Ltd		5325 - 1A St. S.W., Calgary 12520 - 123 St., Edmonton				
	ilnum Foundry Ltd	- 1				
Casson tine requirement	PM # P472277786794462746677766777447744744747474747474747					
British Columbia:						
	Limited	Richmond				
Bird Aluminum Foundry I	.td	396 East 1st Avenue, Vancouver				
Globe Foundry Ltd	**************************************	7647 Willard St., New Westminster				
	stems Ltdy Ltd.					

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 56 (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 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 domesfically 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 it's 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

(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, vicepresidents, 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

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 companyoperated 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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