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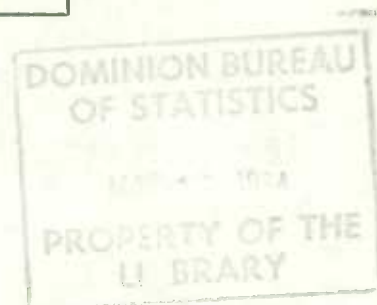
ANNUAL



COPPER AND ALLOY ROLLING, CASTING AND EXTRUDING 1961

The list of firms normally included in this report
has been omitted from this issue, along with
certain tables. See introductory text for details.

ANNUAL CENSUS OF MANUFACTURES



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SYMBOLS

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

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

EXPLANATORY NOTES

This report is one in a series of about 140 publications which present the results of the 1961 Census of Manufactures. Most reports in this series refer to specific industries, but there are summary reports for Canada and the provinces and for major industry groups. Implementation of the new definition of the establishment in the 1961 Census has resulted in certain changes and necessitated some adjustments to the statistics for previous years in order to maintain comparability of the data. (See following note on "Establishment".)

Industry statistics given in these reports refer to number of establishments, employees, salaries and wages, cost of materials, supplies, fuel and electricity, gross value of shipments, inventories and value added by manufacturing. Details of materials used and products shipped are also given. Descriptions of the principal industry statistics, with special reference to 1961, are as follows:

Period Covered

Firms are asked to submit figures for the calendar year, if at all possible, and most reports are on this basis. Financial year reports for periods differing from the calendar year are accepted in instances where the firms find it impossible to supply calendar year data from accounting records. However the data on employees, salaries and wages are requested on a calendar year basis in all cases.

Establishment

The reporting unit in the Census of Manufactures is the **establishment**. Beginning with the 1961 Census, the establishment is defined as follows:

The smallest unit which is a separate operating entity capable of reporting all the following:

- Materials and supplies used,
- Goods purchased for resale as such,
- Fuel and power consumed,
- Number of employees and their pay,
- Inventories,
- Shipments or sales.

The establishment is to be distinguished from smaller subdivisions or departments which do not have records which permit them to report all items required of an establishment. Prior to 1961, some establishments were required to submit two or more separate reports when they were engaged in operations which were classifiable to different industries. Beginning with 1961, separate reports for such operations will be required only in cases where accounting records can provide all the elements of principal statistics enumerated above. Special reporting arrangements were made with respondents when the acceptance of combined reports would have seriously affected the statistics for particular industries or areas. Where continuity of industry statistics was affected by this change in reporting procedures, adjustments to the data were made back to 1957 in order to maintain comparability of the series for recent years.

A manufacturing establishment is typically a factory, mill or plant principally engaged in manufacturing operations. Prior to 1961, the Census of Manufactures attempted to cover the manufacturing activities of all establishments, whether or not they were principally engaged in manufacturing operations. Beginning with the 1961 Census, establishments (accounting entities) which are not primarily engaged in manufacturing are no longer included as manufacturing establishments in the basic industry statistics. Again adjustments to the industry statistics were made to reflect the removal of such reporting units for the period 1957-1960. These reporting units are now listed as establishments in other Bureau industry surveys, such as Wholesale Trade, Construction, etc. In order, however, to maintain complete coverage of certain commodity items produced mainly in manufacturing establishments, many non-manufacturing establishments are now surveyed for commodity shipments only and the latter are included in those tables of industry reports showing shipments of certain commodities "from all industries".

Many firms have more than one manufacturing establishment. Such firms are requested to submit a separate Census of Manufactures report for each manufacturing establishment which can meet the reporting requirements described earlier.

Prior to 1961, the main emphasis in the Census of Manufactures was on manufacturing activity whereas, beginning with 1961, each establishment reports on the total operations carried out within its accounting boundaries (except income from investments such as rent, interest and dividends). However, data on different activities (manufacturing, selling, construction by own labour force etc.) are requested separately. The 1961 statistics in this report are confined to manufacturing activity in order to maintain comparability with previous years. In the 1962 reports it is planned to show both 1961 and 1962 data on the "total activity" basis in addition to the data on manufacturing operations.

Employees

Administrative and office employees include all executives and supervisory officials such as presidents, vice-presidents, secretaries, treasurers, etc., together with managers, professional and technical employees, superintendents and factory supervisors above the working foremen level, and clerical employees. Working owners and partners are also included in this category but will be shown separately in subsequent years.

Production and related workers include all other factory workmen whether paid on a monthly, weekly, hourly or piece-work basis. Working foremen doing work similar to that of the employees they supervise are included, as are maintenance, handling, warehousing and delivery staff. Employees on new construction work, in retail or wholesale operations, on outside piece work, etc., are not included.

Production workers are reported by months, an average for the year being obtained by summing the monthly figures and dividing by twelve. This procedure is followed even though the plant did not operate in all months. Figures on employment refer to the calendar year whether or not some establishments reported other data on a financial year basis.

Salaries and Wages

Salaries and wages refer to gross earnings of the employees described above, including salaries, wages, commissions, bonuses, the value of room and board where provided, deductions for income tax and social services such as sickness and unemployment insurance, pensions, etc., as well as any other allowances forming part of the employees' wages. Payments for overtime are included.

Salaries refer to amounts paid to administrative and office employees. Withdrawals by working owners or partners for normal living expenses for self and family are included with salaries, but will be shown separately in subsequent years. Wages refer to the amounts paid to production and related workers as defined above. Data on earnings refer to the calendar year whether or not some establishments reported other data on a financial year basis.

Cost of Fuel and Electricity

Figures for fuel refer to amounts actually used (including fuel used in cars and trucks), not to purchases unless the quantities are the same. Values refer to the laid-down cost at the establishment including freight, duty, etc.

Materials and Supplies Used

Figures represent quantities and laid-down cost values, at the establishment, of materials, supplies and components actually used during the year whether purchased from others or received as transfers from other plants of the reporting company. Amounts paid to other manufacturers for work done on materials owned by the reporting company are included. Returnable containers or any other items charged to capital account are not included. Fuels are not included. Goods bought from others or received as transfers from other plants or reporting companies for resale without further processing are not included. Maintenance and repair supplies not chargeable to capital account are included.

Factory Shipments

Factory shipments generally refer to 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 establishment for work done. All products and by-products shipped from the establishment are included whether for domestic use, export, or for government departments. Transfer shipments to sales outlets, distributing warehouses or to other manufacturing units of the reporting firm which are treated as separate establishments are included. Goods bought or received as transfers and resold without further processing are not included. Values are requested

on f.o.o. establishment basis, and do not include sales tax or excise duties. Values of containers not returnable are included. Amounts received in payment for work done on materials owned by others are included.

In a few industries such as shipbuilding, aircraft, etc., where work on principal products extend over a relatively long period, the value of production is recorded rather than the value of shipments. For those industries production is computed from the value of deliveries of complete units during the year plus the value of work done during the year on unfinished units less the value of work done in previous years on finished units delivered in the year under review.

Inventories

Values represent the book value of manufacturing inventory. Figures consist of inventory at the plant and at warehouses or selling outlets which are treated as extensions of the plants for the purpose of reporting shipments.

Value added by Manufacturing

Value added is compiled by deducting the cost of materials, fuel and electricity consumed from the value of production (value of shipments adjusted for changes in the value of inventories of finished goods and goods in process). Value added is sometimes referred to as net production.¹

Standard Industrial Classification

The revised Standard Industrial Classification which was introduced with the 1960 Census of Manufactures provides for a breakdown of the universe into 140 industries arranged in 20 major groups compared with 135 industries in 17 major groups in the old classification which was used in the compilations for the years 1949 to 1959 inclusive. Full details are contained in the Standard Industrial Classification Manual, Catalogue No. 12-501, which is available from either the Queen's Printer or the Dominion Bureau of Statistics. Reporting establishments are classified or allotted to specific industries on the basis of the value of principal products made or shipped.

Establishments engaged solely in repair work are not included in manufacturing industries (except in the case of furniture, shipbuilding, boat building, aircraft and railroad rolling stock industries) but establishments principally engaged in assembling parts into complete units are included.

¹ To arrive at the National Accounts concept of "gross domestic product at factor cost", it would be necessary to subtract also the cost of advertising, insurance and other business costs which are not collected in the annual Census of Manufactures. Value added figures for the primary industries, manufacturing and construction are published in D.B.S. publication 61-202, Survey of Production.

Short Forms

Since 1949, in order to ease the reporting burden for smaller firms, a one-page short form has been used asking only for certain principal items of shipments. For purposes of publication, missing data were estimated on the basis of appropriate ratios. For the 1959 and 1960 censuses the general limit for short forms was raised from \$50,000 to \$100,000 value of shipments and a new intermediate form was used. This form is a shortened version of the long form in that some of the general questions were pared down and the detailed lists of materials and products were limited to the more important items. The general limits for firms in this category were set at between \$100,000-\$500,000 value of shipments, but in the case of both the short and inter-

mediate forms there are lower cut-offs for a number of industries in which the smaller firms account for a larger share of total shipments.

In the 1961 Census, in addition to the question on shipments of goods of own manufacture, questions on employment and payroll and on total revenue were added on all short forms. The other elements of principal statistics, viz. value of materials, fuel and electricity, and inventories, are generally estimated by using ratios based on the change in the value of shipments from year to year. This is to permit the complete compilation of basic industry statistics by industry and by geographic location. The proportion of the estimated data is generally less than 5 per cent of the total in each category of principal statistics.

COPPER AND ALLOY ROLLING, CASTING AND EXTRUDING

1961

Data presented in this report under the heading of Copper and Alloy Rolling, Casting and Extruding reflect implementation of the revised Standard Industrial Classification (S.I.C.) and the new Establishment Concept which are being used by the Dominion Bureau of Statistics in its compilation of 1961 industry statistics—see items "Standard Industrial Classification" and "Establishment" in the Explanatory Notes section of this report. For statistical purposes the industry titled Copper and Alloy Rolling, Casting and Extruding in the revised Standard Industrial Classification covers the operations of establishments primarily engaged in manufacturing copper and copper alloy shapes such as bars, rods, plates, sheets and castings. Pressure die casting of copper alloys is included in the Metal Rolling, Casting and Extruding, N.E.S. industry, and the extraction of copper from the ore is classified in the Smelting and Refining industry.

In many instances, adoption of the new Standard Industrial Classification effected a radical shifting of manufacturing establishments as between industry groupings and the formation of new industries as in the case of Copper and Alloy Rolling, Casting and Extruding. This new industry is comprised of those establishments previously forming a major component of the old S.I.C. industry "The Brass and Copper Products Industry".

The introduction of the new definition of establishment (reporting unit) in the 1961 Census of Manufactures has resulted in certain changes and necessitated some adjustments to the statistics. For the industry under review such changes were of a minor nature. Table 1 reflects the adjustments resulting from the new concept changes, for the years 1957 to 1961.

As a result of increased work loads and staff shortages it has been necessary to suspend publication of certain tables normally contained in the reports issued in the Census of Manufactures. It is planned to resume publication of some of these in the 1962 reports. In general, the tables affected are the following: Directory of Firms, Imports, Exports and Capital and Repair Expenditures.

**TABLE 1. Principal Statistics: Copper and Alloy Rolling, Casting and Extruding,
By Province, 1957-61**

Basis: Revised Standard Industrial Classification and New Establishment Concept

Year and province	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost at plant of materials used	Value added by manufacture	Selling value of factory shipments
	number				dollars		
1957							
Quebec	21	1,120	4,634,180	528,742	38,189,131		48,755,063
Ontario	40	1,916	8,383,414	712,878	41,415,957		56,941,567
Manitoba	1	127	438,353	35,696	560,322	1	1,219,495
Alberta	1						
British Columbia	11						
Canada	74	3,163	13,455,947	1,277,316	80,165,450		106,916,125
1958							
Quebec	22	1,636	7,080,198	644,770	37,026,111	14,588,645	52,242,959
Ontario	36	2,016	9,077,731	846,130	39,793,055	15,339,457	55,443,801
Manitoba	1	119	424,159	34,796	367,433	497,713	940,930
Alberta	1						
British Columbia	8						
Canada	68	3,771	16,582,088	1,525,696	77,186,599	30,425,815	108,627,690
1959							
Quebec	19	1,142	5,101,241	559,364	38,497,776	11,626,124	50,310,228
Ontario	37	2,118	10,161,402	962,774	47,763,647	17,746,296	66,072,580
Manitoba	1	362	1,593,666	163,735	3,857,960	2,482,980	4,768,878
Alberta	1						
British Columbia	9						
Canada	67	3,619	16,844,507	1,683,577	90,102,298	31,855,400	121,151,686
1960							
Quebec	21	1,090	4,788,289	458,525	35,832,761	9,297,994	46,641,704
Ontario	36	2,068	10,229,277	892,438	46,239,542	16,112,216	63,088,822
Manitoba	1	325	1,439,712	167,992	4,439,287	3,601,818	8,039,870
Alberta	1						
British Columbia	10						
Canada	69	3,483	16,457,278	1,518,955	86,511,590	29,012,028	117,770,395
1961							
Quebec	22	1,066	4,789,799	492,280	42,927,134	10,016,443	52,712,550
Ontario	34	2,024	10,141,928	887,911	44,317,229	17,429,022	62,713,429
Manitoba	1	351	1,541,989	181,487	4,893,689	2,064,908	6,881,957
Alberta	1						
British Columbia	11						
Canada	69	3,441	16,473,716	1,561,678	92,138,052	29,510,373	122,307,936

¹ Because of lack of inventory data, "Value added" is not available for 1957.

TABLE 2. Inventories:¹ Copper and Alloy Rolling, Casting and Extruding, 1961

	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
	dollars			
Opening:				
Quebec	552,216	1,751,969	1,595,273	3,899,458
Ontario	6,555,091	667,998	1,703,821	8,926,910
Manitoba, Alberta and British Columbia	522,120	500,403	1,129,743	2,152,266
Canada	7,629,427	2,920,370	4,428,837	14,978,634
Closing:				
Quebec	1,489,920	2,164,614	1,905,935	5,560,469
Ontario	7,915,016	772,396	1,520,156	10,207,588
Manitoba, Alberta and British Columbia	230,645	642,167	1,246,106	2,118,918
Canada	9,635,581	3,579,177	4,672,197	17,886,955

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

(b) The opening inventory for 1961 differs from the closing inventory for 1960 because of the receipt of revised data, the inclusion of new establishments, the removal of figures for establishments which did not operate in 1961, changes in classification and the implementation of the New Establishment Concept.

TABLE 3. Factory Shipments: Copper and Alloy Rolling, Casting and Extruding, 1960 and 1961

Product	1960		1961	
	Quantity	Selling value of factory shipments	Quantity	Selling value of factory shipments
		\$		\$
Aluminum:				
Castings	1,000,112	859,922	924,440	801,369
Other forms (powder, etc.) .....	...	1,111,632	...	1,334,667
Copper and copper alloy (brass, bronze, etc.):				
Pipe and tubing	65,608,305	35,705,479	73,355,474	37,181,439
Plates, sheets, strip and flat products	41,769,325	19,995,691	42,931,798	20,248,635
Other forms (wire rods, castings, powder, etc.)	159,279,021	57,723,561	171,679,308	60,399,597
All other products .....	...	3,503,293	...	3,422,571
Less adjustments for value of sales taxes, excise duties and outward transportation charges which were not deducted from individual commodity items detailed above .....	...	—	...	1,080,342
Total, all products .....	...	118,899,578	...	122,307,936

Note: Data for 1960 presented in above table are based on the revised 1960 Standard Industrial Classification without revisions for the New Establishment Concept. While not exactly comparable with 1961 figures, actual differences are minimal.

TABLE 4. Materials used: Copper and Alloy Rolling, Casting and Extruding, 1960 and 1961

Material	1960		1961	
	Quantity	Cost at plant	Quantity	Cost at plant
		\$		\$
Aluminum:				
Ingots	115,383	34,262	182,205	53,948
Scrap	646,876	135,295	663,474	140,670
Other forms	1,748,541	527,812	2,646,436	793,136
Antimony	14,102	3,454	11,096	2,703
Brass and bronze:				
Ingots	1,747,192	547,601	1,770,645	625,104
Scrap	12,674,796	2,809,723	10,718,805	2,172,654
Bars and rods	93,896	43,676	88,369	40,035
Pipe and tubing	48,812	44,596	60,651	70,817
Other forms	2,746	1,732	21,109	27,862
Copper:				
Ingots, slabs, wire bars, etc.	207,613,366	63,542,325	239,622,067	70,914,506
Scrap	29,327,140	8,426,167	27,891,766	7,556,890
Plates, sheets and strip	20,808	11,546	1,149	690
Wire	80,734	27,310	71,379	22,031
Other forms	366,806	117,168	95,947	28,310
Lead, all forms	374,895	42,226	452,920	45,818
Manganese metal	61,466	16,871	51,815	16,263
Monel metal	146,646	192,026	198,547	267,934
Nickel	453,934	333,246	554,767	422,030
Nickel-copper shot	14,656	10,646	4,716	3,161
Nickel-silver, all forms	909,535	266,379	856,135	243,781
Tin all forms:				
Phosphor tin	256,540	263,900	327,847	367,725
Other tin	19,293	19,873	17,987	20,159
Zinc:				
Ingots and slabs	9,905,179	1,380,496	13,239,513	1,703,027
Other forms	—	—	5,109	1,964
Other non-ferrous metals .....	...	183,263	...	146,406
Lumber	M.bd.ft. 3,980	75,316	895	98,443
Silica sand	ton 64	1,615	105	2,370
Foundry sands	991	9,575	874	10,662
Graphite	lb. 49,577	8,174	58,711	7,961
Refractories .....	...	47,135	...	40,807
Other materials ¹ .....	...	6,657,746	...	5,581,633
Containers and packing materials .....	..	747,951	..	708,551
Total, all materials .....	...	86,529,105	...	92,138,052

¹ No detailed information on materials used was collected from small establishments. The estimated value of materials used by these establishments was \$1,870,334 in 1960 and \$1,681,285 in 1961 and these amounts are included in "Other materials".

Note: Data for 1960 presented in above table are based on the revised 1960 Standard Industrial Classification without revisions for the New Establishment Concept. While not exactly comparable with the 1961 figures, actual differences are minimal.

**TABLE 5. Principal Statistics classified according to Type of Ownership:
Copper and Alloy Rolling, Casting and Extruding, 1961**

Type	Estab- lish- ments	Em- ployees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number		dollars		
Individual ownerships	16	74	219,756	302,790	678,513
Partnerships	9	54	168,391	207,858	451,321
Incorporated companies	44	3,313	16,085,569	91,627,404	121,178,102
Totals	69	3,441	16,473,716	92,138,052	122,307,936

**TABLE 6. Principal Statistics grouped according to Selling Value of Factory Shipments:
Copper and Alloy Rolling, Casting and Extruding, 1961**

Type	Estab- lish- ments	Em- ployees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number		dollars		
Under \$10,000	5	8	8,577	6,635	26,208
\$ 10,000 to \$ 24,999	13	31	88,756	131,884	232,806
25,000 " 49,999	7	28	81,387	111,200	261,157
50,000 " 99,999	13	102	371,272	428,196	919,550
100,000 " 199,999	12	190	681,779	637,687	1,674,371
200,000 " 499,999	7	168	709,676	1,148,018	2,390,072
500,000 " 999,999	5	244	995,364	1,455,298	3,447,255
1,000,000 " 4,999,999	1	2,659	13,438,064	88,219,134	113,356,517
5,000,000 and over	6				
Head offices	—	11	98,841	—	—
Totals	69	3,441	16,473,716	92,138,052	122,307,936

TABLE 7. Employees and their Earnings: Copper and Alloy Rolling, Casting and Extruding, 1961

Province	Employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory and office	Production workers	Total
	Male	Female	Male	Female				
	number					dollars		
Quebec	207	44	806	9	1,066	1,163,403	3,626,396	4,789,799
Ontario	286	85	1,647	6	2,024	2,338,646	7,803,282	10,141,938
Manitoba, Alberta and British Columbia	91	18	242	—	351	478,903	1,063,086	1,541,989
Canada	584	147	2,695	15	3,441	3,980,952	12,492,764	16,473,716

TABLE 8. Production Workers, By Months: Copper and Alloy Rolling, Casting and Extruding, 1961

Month	Establishments reporting monthly detail ¹	
	Male	Female
January	2,352	12
February	2,344	12
March	2,344	13
April	2,367	13
May	2,352	12
June	2,414	12
July	2,418	12
August	2,444	12
September	2,438	12
October	2,435	10
November	2,403	9
December	2,348	19
Average for establishments reporting monthly detail	2,390	13
Average estimated for small establishments ²	305	2
Average for all establishments	2,695	15

¹ The number of production workers by months was collected for large establishments only.

² The monthly detail of production workers was not collected from small establishments. Annual averages only were collected from these establishments.

TABLE 9. Fuel and Electricity Used: Copper and Alloy Rolling, Casting and Extruding, 1961

Kind	Quantity	Cost at plant
		\$
1. Establishments reporting commodity detail: ¹		
Bituminous coal — Canadian	ton	—
Imported	"	7,312
Anthracite coal	"	8
Gasoline (including gasoline used in cars and trucks)	Imp. gal.	76,059
Fuel oil	"	2,421,067
Liquefied petroleum gases	"	95,871
Natural gas	M. cu. ft.	348,793
Electricity purchased	kwh.	93,750,210
Other fuel .....	...	955
Steam purchased .....	...	21,461
2. Estimate for establishments for which no data were collected: ²		
Cost of fuel and electricity .....	...	121,343
3. All establishments:		
Total cost of fuel and electricity	1,561,678

¹ Large establishments.

² Small establishments.

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