

BOARD OF TRADE

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*The Report on the  
Census of Production  
for 1954*

Volume 3: Industry G  
NON-FERROUS METALS (SMELTING, ROLLING, ETC.)



*Presented by the Board of Trade to Parliament in pursuance of the  
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# The Report on the Census of Production for 1954

VOLUME 3 INDUSTRY G

## NON-FERROUS METALS (SMELTING, ROLLING, ETC.)

THIS REPORT on the Non-Ferrous Metals (Smelting, Rolling, etc.) Industries relates to establishments engaged wholly or mainly in the manufacture of non-ferrous metals (other than precious metals) from the preliminary stage. Those whose chief business is the production of goods advanced beyond the semi-finished stage are dealt with in reports on other industries, e.g., Brass Manufactures; Wire and Wire Manufactures; Hardware, Hollow-ware, Metal Furniture and Sheet Metal.

These industries correspond to minimum list heading 49 in the Standard Industrial Classification.

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IMPORTANT NOTES and definitions appear on the next page. In interpreting the data in the tables, it is essential to bear these in mind.

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The following notes describe terms in general use in the tables of the report. More detailed explanations of the terms used and a description of the scope and method of taking the census are given in the separate booklet entitled 'The Report on the Census of Production for 1954 - Introductory Notes' (price 1s. 6d. net).

**Industrial Classification:** Establishments are classified to industries according to the nature of their output and, as far as possible, in conformity with the Standard Industrial Classification. Certain products are identified as the principal products of individual industries, the principal products for a given industry being of a similar nature or commonly associated in production. The principle of classification normally followed is that an establishment is classified to an industry if its output of the principal products of that industry accounted for a greater proportion of the value of its output than did its output of the principal products of any other industry.

**Specialist producers** normally comprise those establishments 50 per cent. or more of whose total output by value is accounted for by the characteristic products of the specialist group.

**Intermediate products:** For some industries figures are given showing the total quantities made during the year of intermediate products, i.e., products which may be further processed in the establishments in which they are produced.

**Larger establishments:** The information given in the report relates mainly to 'larger establishments', i.e., establishments of firms employing on the average more than 10 persons. In most cases an establishment comprises the whole of the premises under the same ownership or management at a particular address (e.g., a mine or factory). Offices, warehouses, laboratories and other ancillary places of business situated apart from the producing works are not regarded as separate establishments and are included in the return for the works.

**Small firms** are those employing on the average 10 or fewer persons.

The estimates for the industry as a whole given in Table 1 are normally obtained by increasing the other items shown in the same proportion as total employment.

**Gross output (production)** is the total value of goods made and other work done during the year; it is obtained by adjusting the value of sales and work done during the year for changes in the value of stocks of products on hand for sale and work in progress.

**Net output** is the amount left after deducting from the value of gross output the aggregate of the cost of materials and fuel used, the amount paid for work given out, and, for 1951 and 1954, any transport payments made. This represents the value added to materials by the process of production, and constitutes the fund from which wages, salaries, rents, rates and taxes, advertising and other selling expenses and all other similar charges have to be met, as well as depreciation and profits.

**Sales** means sales during the year of goods made in the establishment covered by the return or made on commission for it whether produced in the year or not. The value of sales is the net selling value, i.e., the amount charged to customers, whether on an ex-works or delivered basis, and net of any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc. For goods charged on a delivered basis to customers overseas, firms were required to give the f.o.b. value.

**Materials and fuel:** The total cost of materials and fuel purchased includes all purchases during the year of materials for use in production, and of fuel (includ-

ing oil, gas and electricity) for all purposes: packing materials, including the full cost of returnable cases when first purchased; workshop and office materials; water charges; materials for repairs to buildings, plant and vehicles when carried out by firms' own work-people included in their returns; consumable tools; and parts for machinery purchased as replacements. Purchases of goods for merchanting are excluded. The cost of materials and fuel used, given in Table 2, is obtained by adjusting purchases for changes during the year in the value of stocks.

**Stocks:** Firms were required to give stocks of materials and fuel, products on hand for sale, and work in progress, at income tax values.

**Customs and Excise Duty** paid on materials purchased is normally included in the cost of materials. Finished goods are similarly valued as they were sold, duty-paid or duty-free. The net amount of any duty paid is deducted in arriving at net output.

**Employment:** Total employment includes working proprietors, administrative, technical and clerical employees, and operatives, but excludes outworkers, canteen employees and persons engaged in merchanting or any other activity not covered by a firm's return, who are shown separately as excluded employees. Employees are persons on the pay-roll (i.e., persons whose National Insurance cards were held by employers), whether employed full-time or part-time.

**Working proprietors** are proprietors of businesses other than limited companies, together with members of their families who worked in the business without receiving fixed wages or salaries. Any persons working less than half the normal hours are excluded. For Northern Ireland directors of limited companies (other than those paid by fee only) are also included.

**Administrative, technical and clerical employees** include directors, other than those paid by fee only (except in Northern Ireland); managers, superintendents and works foremen; research, experimental, development, technical and design employees (other than operatives); draughtsmen and tracers; travellers; and office (including works office) employees.

**Operatives** include all other classes of employees, i.e., broadly speaking, all manual workers.

**Outworkers** are persons employed by the firm who work on materials supplied by the firm in their own homes.

**Wages and salaries** include all overtime payments, bonuses and commissions without any deductions for income tax, insurances, contributory pensions etc. They exclude payments to working proprietors.

**Capital expenditure** includes expenditure on new building work, and on plant, machinery and vehicles, charged to capital account during the year, including any transport and installation costs involved. It includes expenditure in respect of establishments in Great Britain which had not begun production before the end of the year (which has not previously been included in the Census of Production reports for individual industries).

**Symbols used:**

.. for not available

- for nil or negligible (less than half the final digit shown).

Where figures are rounded, e.g., given to the nearest £ thousand, there may be apparent slight discrepancies between the sums of constituent items and the totals shown. In some cases, figures have been combined with others of a similar nature where publication of separate details might disclose information relating to an individual undertaking.

Industry summary: Estimates for the industry as a whole

TABLE 1

	United Kingdom			Scotland	Wales
	1948	1951	1954	1954	1954
Gross output (production)	£ million 253.0	£ million 435.9	£ million 485.3	£ million 25.17	£ million 42.69
Net output	71.6	99.6	106.1	5.68	9.38
Total stocks and work in progress					
At beginning of year	41.1	62.5	67.4	3.83	9.26
Change during year	+ 5.1	+ 12.4	+ 11.7	+ 0.25	+ 0.09
Capital expenditure less disposals (a)	6.0	8.9	9.3	0.45	1.28
Wages and salaries	39.2	47.2	58.6	3.58	5.59
Total employment (including working proprietors)	Thousands 107.0	Thousands 109.4	Thousands 112.9	Thousands 6.93	Thousands 10.32

(a) Capital expenditure on new building work, plant, machinery and vehicles (including (except in 1948) that incurred in Great Britain for establishments not yet in production), less amounts received for plant, machinery and vehicles disposed of.

## Summary of returns received

TABLE 2

	Unit	Great Britain	United Kingdom	
		1948	1951	1954
<b>FIRMS EMPLOYING ON AVERAGE MORE THAN 10 PERSONS</b>				
Number of establishments	No.	475	493	478
Total value of sales and work done	£'000	245,220	420,556 (a)	463,648
Products on hand for sale	"	22,133	33,485	33,329
and work in progress	"	+ 3,217	+ 5,697	+ 8,534
Gross output (production) (b)	"	246,821	426,254 (a)	472,181
Purchases of materials and fuel	"	177,729	330,703	366,496
Stocks of materials and fuel	"	17,938	27,596	32,207
Change during year	"	+ 1,756	+ 6,397	+ 2,867
Cost of materials and fuel used	"	175,973	324,307	363,629
Payment for work done on materials given out	"	1,003	1,072	1,310
Payment for transport (c)	"	1,616	3,447	4,013
Net output	"	69,844	97,428 (a)	103,230
Average number of employees	No.	86,430	86,394	86,947
of operatives	"	17,915 (d)	20,506	22,897
Total employment (e)	"	104,395	106,949	109,874
Net output per person employed (e)	£	669	911 (a)	940
Wages and salaries	£'000	29,848	34,920	43,142
of operatives	"	8,346	11,209	13,886
of others	"			
Capital expenditure	"			
New building work (f)	"	1,033	1,395	1,592
Plant and machinery	"	4,938	5,920	6,809
disposals	"	285	148	358
Vehicles	"	339	629	620
disposals	"	171	90	170
<b>FIRMS EMPLOYING ON AVERAGE 10 OR FEWER PERSONS</b>				
Number of returns	No.	387	336 (g)	370
Total employment, including working proprietors	"	2,299	2,096 (g)	2,256

(a) Amended figure.

(b) For the year 1948 gross output excludes payments for transport services outwards on finished goods sold. For subsequent years gross output includes payments to other firms and undertakings and to firms' own separate transport organisations for transport services.

(c) Payments to other firms and undertakings and to firms' own separate transport organisations. For the year 1948 payments cover only transport outwards of finished goods sold. For subsequent years they cover payments for transport of both finished goods sold and materials and fuel purchased.

(d) Number in week ended September 25, 1948.

(e) Excluding outworkers and including working proprietors.

(f) Excluding expenditure for establishments not yet in production.

(g) Excluding Northern Ireland. No information about small firms was collected in Northern Ireland for 1951.

TABLE 3 Analysis by size, 1954: Larger establishments in the United Kingdom

Average number employed (a)	Estab-lish-ments	Gross output	Net output	Employees		Wages and salaries		Capital expenditure (b)	Net output per person employed (a)
				Operatives	Others	Operatives	Others		
	Number	£'000	£'000	Number	Number	£'000	£'000	£'000	£
11 - 24(c)	111	7,592	1,819	1,449	354	650	216	108	1,001
25 - 49	101	16,283	3,605	2,843	693	1,332	474	208	1,017
50 - 99	91	35,247	5,750	5,169	1,097	2,347	779	349	917
100 - 199	72	50,157	10,650	8,237	1,883	4,074	1,286	732	1,052
200 - 299	20	19,854	4,450	3,814	983	1,758	638	335	928
300 - 399	13	60,907	5,542	3,601	992	1,872	638	367	1,207
400 - 499	12	29,504	4,468	4,171	1,225	2,000	655	521	828
500 - 749	20	41,388	10,834	9,899	2,058	4,897	1,274	1,249	906
750 - 999	12	40,547	10,045	8,108	2,157	4,340	1,299	789	979
1,000 - 1,499	12	60,458	13,134	11,422	3,350	6,093	2,045	1,824	889
1,500 - 1,999	6	39,987	10,278	7,889	2,678	4,040	1,653	628	973
2,000 - 2,499	4	20,967	7,431	7,161	1,795	3,453	1,076	431	830
2,500 and over	4	49,291	15,225	13,184	3,632	6,287	1,853	1,480	905
Total	478	472,181	103,230	86,947	22,897	43,142	13,886	9,022	940

(a) Excluding outworkers and including working proprietors.

(b) Capital expenditure on new building work and on acquisition of plant, machinery and vehicles. Excluding expenditure for establishments not yet in production.

(c) Including a small number of establishments with fewer than 11 persons employed, particulars of which were included with those for larger establishments on a single return.

Analysis according to specialisation within the industry, 1954  
Larger establishments in the United Kingdom

TABLE 4

	Unit	Specialist producers of								Remain-der of the in-dustry	Total	
		Aluminium and alumin-ium alloys			Copper and brass		Lead and lead alloys	Tin and tin alloys	Zinc			
		Smel-ters and refin-ers	Fabri-cators	Makers of cast-ings, etc.	Smel-ters and refin-ers	Fabri-cators						
Number of establishments	No.	17	41	111	26	100	42	12	40	89	478	
Total value of sales and work done	£'000	11,775	76,074	30,159	47,280	158,825	24,254	27,758	17,172	70,353	463,648	
Sales of characteristic products	"	11,557	67,721	22,477	44,331	121,721	18,736	25,606	15,175			
Products on hand for sale and work in progress	{ at beginning of year change dur-ing year	"	378	6,041	1,421	1,254	13,824	862	1,780	557	7,212	33,329
Gross output (production)	"	11,863	76,916	30,442	47,969	163,107	24,687	29,080	17,429	70,688	472,181	
Purchases of materials and fuel	"	9,714	54,900	16,186	44,203	132,099	21,721	25,902	11,633	50,138	366,496	
Stocks of materials and fuel	{ at beginning of year change dur-ing year	"	1,012	5,367	2,614	1,988	8,501	971	1,283	2,203	8,268	32,207
Cost of materials and fuel used	"	9,666	55,148	16,350	44,209	129,339	21,378	26,024	11,362	50,153	363,629	
Payment for work done on materials given out	"	-	158	296	58	425	8	-	132	232	1,310	
Payment for transport	"	116	877	222	338	1,216	256	160	238	591	4,013	
Net output	"	2,081	20,733	13,574	3,365	32,126	3,045	2,896	5,697	19,713	103,230	
Average number of employees	{ operatives others	"	1,505	21,193	13,773	2,318	25,021	1,682	1,326	6,155	13,974	86,947
Total employment (a)	"	2,092	26,323	16,648	2,840	31,832	2,405	1,695	7,476	18,563	109,874	
Net output per person employed (a)	£	995	788	815	1,185	1,009	1,266	1,709	762	1,062	940	
Wages and salaries	{ of operatives of others	£'000	811	10,759	7,136	1,312	12,404	811	591	2,595	6,724	43,142
Capital expenditure	"	393	3,050	1,772	365	3,867	493	251	820	2,876	13,886	
New building work (b)	"	20	556	94	82	431	21	32	25	330	1,592	
Plant and machinery	{ acquis-itions (b) disposals	"	99	2,164	469	224	2,587	59	161	341	706	6,809
Vehicles	{ acquis-itions (b) disposals	"	1	196	11	3	73	-	3	10	59	358
	"	14	88	79	54	220	40	23	17	87	620	
	"	6	16	27	14	53	13	8	6	27	170	

(a) Excluding outworkers and including working proprietors.

(b) Excluding expenditure for establishments not yet in production.

Sales of the principal products of the industry, including sales of these products by establishments classified to other industries  
Larger establishments in the United Kingdom

TABLE 5

	1951		1954		Entries
	Quantity	Value	Quantity	Value	
Light metal and light metal alloys	Th.tons	£'000	Th.tons	£'000	Number
Aluminium and aluminium alloys					
Virgin ingots and notch bars	135.6	18,174	14.1	2,247	..
Virgin and secondary based ingots, notch bars and sticks	40.6	5,591	98.4	16,000	40
Blocks, slabs, billets and wire bars			35.1	5,884	15
Sheets, plates and strip (flat or in coil), exceeding 0.006 inch in thickness					
Pure	69.3	14,291	69.9	16,646	16
Alloy					
Corrugated	10.9	2,363	8.9	1,944	6
Other	53.2	13,961	40.6	12,396	16
Discs, circles and slugs, exceeding 0.006 inch in thickness					
Pure	14.2	3,434	16.6	4,393	9
Alloy	1.1	280	1.2	327	9
Foil (strip, etc., not exceeding 0.006 inch in thickness)	Th.cwt.		Th.cwt.		
Pure	255.7	5,554	300.8	7,152	11
Alloy					
Bars (other than notch bars and wire bars), rods, angles, shapes and sections	Th.tons		Th.tons		
Pure	5.6	1,174	11.8	2,719	8
Alloy	28.1	7,512	29.0	9,267	11
Tubes					
Extruded					
Pure	0.7	236	0.4	206	8
Alloy	2.4	577	2.4	721	11
Drawn					
Pure	1.1	437	1.1	433	8
Alloy	3.5	1,687	4.6	2,253	12
Collapsible tubes of aluminium	Th.cwt.		Th.cwt.		
Pure	10.2	296	4.9	369	9
Alloy	..	433	..	1,111	..
Castings	Th.tons		Th.tons		
Pure	63.9	22,006	60.0	24,144	309
Alloy	4.9	3,299	5.3	4,999	18
Forgings and stampings	5.1	824	4.5	899	6
Powder, flake and granulated					
Other manufactures of aluminium and aluminium alloys, except wire and domestic ware	0.7	214	0.6	268	29
	..	1,135	..	535	..
Total aluminium and aluminium alloys and manufactures thereof		103,477		114,913	..
Magnesium and magnesium alloys	Th.cwt.		Th.cwt.		
Castings	76.4	2,081	75.5	3,608	8
Ingots, sticks, slabs and billets and other manufactures of magnesium and magnesium alloys	164.8	2,423	177.0	2,854	7
Total magnesium and magnesium alloys	241.2	4,504	252.5	6,462	..

TABLE 5 (contd.)

	1951		1954		
	Quantity	Value	Quantity	Value	Entries
		£'000	Th.cwt.	£'000	Number
Other non-ferrous metals and alloys					
Antimony					
Regulus and refined		(a)	78.0	783	5
Manufactures of antimony, other than antimonial lead	..		21.7	189	..
Th.lb.			Th.lb.		
Bismuth (metal) not including alloys of bismuth	652.4	848	1,070.0	845	..
Brass and other copper alloys, including nickel silver and cupro-nickel, but excluding all other nickel alloys					
Ingots, blocks, slabs, billets, bars (including wire bars) other refinery shapes and cast strip					
Brass including manganese bronze	134.7	32,911	54.8	10,997	59
Other			51.1	12,419	36
Plates, sheets, foil, strip, discs and circles	67.9	18,307	68.6	18,687	49
Round brass rods	59.6	14,955	94.3	21,329	24
Shapes and angles	13.5	3,678	19.0	5,159	19
Other rods and sections and wire not in coils	51.0	13,520	12.1	3,327	19
Tubes	Th.cwt.		Th.cwt.		
Solid drawn of circular section	301.4	5,609	380.1	7,991	38
Other	12.3	283	8.0	151	14
			..	36	
Other manufactures of brass and other copper alloys, except castings and wire in coils	74.3	1,252	119.5	1,687	24
	..	130	..	251	
Total brass etc. and manufactures thereof		90,646		82,033	..
Cadmium	Th.lb.		Th.lb.		
	524.9	491(b)	431.3	256	5
Copper					
Unwrought: ingots, blocks, slabs, bars, billets, cakes, cathodes and anodes, including rough copper of 94 per cent. copper content or over	Th. tons		Th. tons		
Fire refined	33.7	7,089	126.2	31,455	19
Other	6.9	1,488	44.8	11,220	17
High conductivity strip	12.0	3,485	15.8	4,931	10
Plates, sheets or strip (other than of high conductivity)					
3/8 inch thick and over	7.8	2,181	5.8	1,911	11
Other sheets, strip, foil, discs and circles	41.8	11,681	34.9	11,063	28
Strip not exceeding 6 inch in width (high conductivity and other), unclassified	11.2	3,179	13.9	4,669	8
Rods and sections, shapes and angles, and wire not in coils					
Wire rods					
High conductivity	55.5	12,802	90.4	24,415	8
Other	0.7	187	0.4	125	..
	..	95			

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TABLE 5 (contd.)

	1951		1954		Entries
	Quantity	Value	Quantity	Value	
	Th.tons	£'000	Th.tons	£'000	Number
Other non-ferrous metals and alloys (contd.)					
Copper (contd.)					
Rods and sections, shapes and angles, and wire not in coils (contd.)					
Shapes and angles	1.9	606	3.0	995	..
Other rods and sections and wire not in coils					
Rolled	2.1	548	1.6	501	..
Extruded	2.1	621	3.8	1,244	11
Unclassified	29.1	6,962	44.9	12,450	8
Tube shells	13.2	3,154	3.0	848	7
Tubes					
Solid drawn, of circular section	11.9	13,584	46.9	16,607	36
Other	0.7	331	0.4	223	10
	..	360	..	94	
Copper castings, other than engineers' and mechanics' goods	0.9	317	0.6	251	8
Other manufactures of copper, except wire in coils and engineers' and mechanics' goods	5.9	1,657	7.1	2,144	22
	..	174	..	299	
Total copper and manufactures thereof		70,499		125,445	..
Lead and lead alloys and laminated lead					
Lead unwrought in pigs, ingots, blocks, bars, slabs and cakes	75.8	11,055	92.2	9,122	50
	Th.cwt.		Th.cwt.		
Antimonial and tinny lead unwrought	1,036.6	9,192	757.8	4,126	28
	Th.tons		Th.tons		
Sheet	37.8	6,594	41.5	5,101	27
Pipes	23.6	4,364	25.0	3,296	32
Foil	1.2	249	1.3	213	5
	Th.cwt.		Th.cwt.		
Collapsible tubes	25.2	425	10.5	205	8
	..	282	..	449	
Lead shot	52.4(b)	484	34.5	248	..
Other manufactures of lead	116.5	1,509	62.8	666	39
	..	376	..	84	
Total lead and manufactures thereof		34,532		23,510	..
Manganese metal	19.5	198	26.4	306	..
	Th.tons		Th.tons		
Nickel and nickel alloys (other than nickel silver and cupro-nickel)					
Ingots, billets, cathodes, bars, rods, plates, sheets, strip, foil, etc.	28.3	14,012	33.3	19,410	17
	..	346			
Other manufactures, except wire of nickel alloys	5.2	2,981	5.6	4,191	23
	..	119	..	933	
Total nickel and nickel alloys, and manufactures thereof		17,458		24,535	..
Tin and tin alloys					
Tin in blocks, ingots, bars and slabs	28.4	28,036	28.9	20,917	18
Solder, soft	22.2	11,165	21.3	7,493	36

(88169)

TABLE 5 (contd.)

	1951		1954		
	Quantity	Value	Quantity	Value	Entries
	Th. tons	£'000	Th. tons	£'000	Number
Other non-ferrous metals and alloys (contd.)					
Tin and tin alloys (contd.)					
Foil	0.6	568	0.3	272	..
Collapsible tubes	Th.cwt. 2.5	175	Th.cwt. 0.7	51	} 7
Other manufactures of tin	..	243	..	508	
Total tin and manufactures thereof	6.3	482	3.0	198	12
		40,669		29,440	..
Tungsten, in all forms except ferro-tungsten	Th.lb. 576.2	1,239	Th.lb. 635.3	974	} 6
			..	154	
Zinc or spelter	Th. tons		Th. tons		
Unwrought, in ingots, blocks, bars, slabs and cakes	71.8	11,734	86.3	6,931	17
Sheets, strip, plates, foil, discs and circles	14.2	3,184	16.2	2,152	8
Zinc aust	Th.cwt. 212.4	2,153	Th.cwt. 179.9	909	7
Zinc alloy ingots (for die-casting)	667.8	6,194	811.1	4,203	6
Zinc alloy pressure die-casting except coffin furniture	408.4	6,995	379.0	5,565	62
Other manufactures of zinc	21.6	289	23.4	136	} 11
Total zinc and manufactures thereof	..	87	..	23	
		30,636		19,917	..
White metal alloys (c)	Th. tons		Th. tons		
Unwrought or partly wrought					
Anti-friction metal	5.1	4,054	3.1	1,645	26
Type-metal	9.8	2,239	12.6	1,836	13
Other sorts	Th.cwt. 74.4	1,886	Th.cwt. 18.1	359	14
Wrought or manufactured					
Printing type	11.2	338	13.3	465	6
Other manufactures	..	125	..	..	..
Total white metal alloys and manufactures thereof	1.5	43	0.2	6	..
		8,685		4,311	..
Hard metal powders (including tungsten carbide powder and matrix)	Th.lb. 430.8	1,095(d)	Th.lb. 40.3	85	} ..
	..	149	..	54	
Metallic packings (d)	Th. tons 0.3	141	Th. tons 0.2	91	} 6
	..	173	..	180	
Flexible metallic tubing of non-ferrous metal (d)	..	3,756	0.6	769	..
Metals and alloys of metals and manufactures thereof not elsewhere specified	..	..	..	1,973	20
Concentrates, metallic residues, wastes, etc. not elsewhere specified	147.3	3,800	241.4	2,464	} 168
			..	548	

TABLE 5 (contd.)

	1951		1954		
	Quantity	Value	Quantity	Value	Entries
	Th. tons	£'000	Th. tons	£'000	Number
Work done for the trade or on commission (e)					
Casting of ingots, billets, etc. of brass and other copper alloys		582		95	18
Rolling of copper, brass and other copper alloys (including nickel silver and cupro-nickel, but excluding all other nickel alloys)		95		159	18
Other work		1,836		2,835	89
Repair work (e)		138		75	12
Total		415,647(b)		443,400	..
Sales in other industries (see Table 6)		33,606		31,319	..
Principal products of this industry sold by establishments in the industry		382,041(b)		412,081	415

(a) Not recorded separately.

(b) Amended figure.

(c) Alloys of tin, lead, zinc, antimony, etc., not elsewhere specified.

(d) So far as recorded separately.

(e) Amount charged.

## Sales of principal products of the industry by establishments classified to other industries

## Larger establishments in the United Kingdom

TABLE 6

	1954			Principal industries in which produced (a)
	Quantity	Value	Entries	
	Th.cwt.	£'000	Number	
Light metal and light metal alloys				
Aluminium and aluminium alloys				
Foil (strip, etc. not exceeding 0.006 inch in thickness)	4.6	155	} ..	4L, 5K, 10F
	..	243		
Castings	Th. tons 5.8	2,495	} 175	3B, 3C, 4B, 5F
	..	448		
Forgings and stampings	0.4	333	13	4I, 5C, 5E, 5F
Ingots, notch bars and sticks, including secondary pure, and other manufactures of aluminium and aluminium alloys, except wire and domestic ware	10.9	1,988	} 25	3D, 4L, 5D, 5E
	..	324		
Total aluminium and aluminium alloys and manufactures thereof		5,986	..	
Other non-ferrous metals and alloys	Th.cwt.			
Regulus and refined antimony	48.5	477	..	2E
Brass and other copper alloys, including nickel silver and cupro-nickel, but excluding all other nickel alloys	Th. tons			
Ingots, blocks, slabs, billets, bars (including wire bars) other refinery shapes and cast strip				
Brass, including manganese bronze	10.8	2,538	8	4N, 5D, 5F, 5K
Other				
Plates, sheets, foil, strip, discs and circles	0.5	181	..	5D, 5E

TABLE 6 (contd.)

	1954			Principal industries in which produced (a)
	Quantity	Value	Entries	
	Th. tons	£'000	Number	
Other non-ferrous metals and alloys (contd.)				
Brass and other copper alloys, including nickel silver and cupro-nickel, but excluding all other nickel alloys (contd.)				
Round brass rods	3.6	902	7	5D, 5E, 5F
Shapes and angles				
Other rods and sections and wire not in coils				
Tubes	Th.cwt.			
Solid drawn of circular section	0.9	21	6	3F, 4B, 5D, 5F
Other				
Other manufactures of brass and other copper alloys, except castings and wire in coils	0.1	2	..	4L, 5K
	..	113		
Total brass etc. and manufactures thereof		4.148	..	
Copper	Th. tons			
Unwrought: ingots, blocks, slabs, bars, billets, cakes, cathodes and anodes, including rough copper of 94 per cent. copper content or over	11.0	2,840	5	4L, 5D, 5K
Plates, sheets or strip (including high conductivity strip)	3.9	1,210	..	4L, 5K
Rods and sections, shapes and angles, and wire not in coils	34.0	9,196	8	4K, 4L, 5D
Other manufactures of copper, except wire in coils and engineers' and mechanics' goods	11.4	3,690	10	2E, 4B, 4L, 5D
	..	370		
Total copper and manufactures thereof		17,307	..	
Lead unwrought in pigs, ingots, blocks, bars, slabs and cakes, and manufactures thereof	Th.cwt.			
	15.0	132	14	2E, 4F, 4I, 5E
	..	167		
Nickel and nickel alloys (other than nickel silver and cupro-nickel), and manufactures thereof, except wire of nickel alloys	Th. tons			
	0.3	241	12	2E, 4B, 4L, 5D
	..	773		
Tin in blocks, ingots, bars and slabs, and manufactures thereof	0.2	118	..	3E, 5E, 5K
	..	37		
Zinc or spelter				
Sheets, strip, plates, foil, discs and circles, and zinc dust	3.2	372	6	2E, 4N, 5E
Zinc alloy pressure die-casting except coffin furniture	Th.cwt.			
	5.5	128	13	4B, 4I, 5F, 5G
	..	252		
Other manufactures of zinc	0.2	6	..	
	..	3		
Total zinc and manufactures thereof		761	..	
White metal alloys				
Unwrought or partly wrought, other than type-metal	0.4	17	5	4I, 5F
	..	4		
Wrought or manufactured	0.2	5	..	10K
	..	7		
Total white metal alloys and manufactures thereof		32	..	
Bismuth; cadmium; manganese metal; and tungsten in all forms except ferro-tungsten	Th.lb.			
	349.2	235	..	3B, 5K

TABLE 6 (contd.)

	1954			Principal industries in which produced (a)
	Quantity	Value	Entries	
	Th. tons	£'000	Number	
Other non-ferrous metals and alloys (contd.)				
Metals and alloys of metals and manufactures thereof not elsewhere specified	0.5	261	12	2E, 3B, 4C, 5K
	..	224		
Miscellaneous manufactures, etc., other than concentrates, metallic residues, wastes, etc. not elsewhere specified	..	393	11	2E, 4C, 4I, 7A
Work done for the trade or on commission (b)		25	..	
Total		31,319	..	

(a) The volume number and industry references given are to the industries shown in the list at the back of this report.

(b) Amount charged.

## Sales in the industry of other than principal products

## Larger establishments in the United Kingdom

TABLE 7

	1954	
	Quantity	Value
	Th.cwt.	£'000
Aluminium and aluminium alloys		
Wire		
Pure	5.6	81
Alloy	11.8	256
Domestic hollow-ware and other manufactures	..	148
Brass and other copper alloys, including nickel silver and cupro-nickel, but excluding all other nickel alloys		
Wire in coils		
Circular section, thinner than No.20 gauge (Imperial standard wire gauge)	Th. tons	
Of brass	0.2	91
Of other alloys of copper	0.1	61
Circular section, No.20 gauge (Imperial standard wire gauge) and thicker, of brass, and of other alloys of copper	7.1	1,906
Other descriptions (including stranded wire)		
Rough castings	2.5	1,145
Engineers' and mechanics' goods (including fittings for water supply)	1.9	1,517
Other manufactures	..	2,342
Copper wire in coils (including uninsulated electric wire) and other manufactures	14.4	4,328
Wire of non-ferrous metals other than aluminium, and copper and alloys	Th.cwt.	
	43.0	1,926
Iron and steel	Th. tons	
Iron castings	1.6	163
	..	35
Other manufactures	10.3	4,140
	..	493
Paper coated or faced on one or both sides with metal in sheet, strip, foil or leaf form	47.0	705
	..	667
Engineers' small tools and parts thereof	..	1,188
Machinery and other engineering products	..	2,859
Chemical manufactures	..	6,838
Paints, varnishes and enamels	..	839

TABLE 7 (contd.)

	1954	
	Quantity	Value
Other goods	..	£'000 10,563
Scrap metals sold	Th. tons	
Aluminium and aluminium alloys	18.0	1,667
Copper	13.3	3,121
Brass and other copper alloys, including nickel silver and cupro-nickel but excluding all other nickel alloys	13.7	2,227
Lead	1.4	125
Zinc	..	37
Iron and steel	1.1	75
Other metals	104.5	693
Work done for the trade or on commission (a)	3.7	1,161
		170
<b>Total</b>		<b>51,567</b>

(a) Amount charged.

**Total make of intermediate products  
Larger establishments in the United Kingdom**

TABLE 8

	Returned in this industry			Returned in all industries		
	1951	1954		1951	1954	
	Quantity	Quantity	Entries	Quantity	Quantity	Entries
	Th. tons	Th. tons	Number	Th. tons	Th. tons	Number
Light metal and light metal alloys						
Aluminium and aluminium alloys						
Virgin ingots and notch bars	(a)	14.2	..	14.2	14.2	..
Virgin and secondary based ingots, notch bars and sticks	(a)	(a)	..	153.1	124.3	44
Blocks, slabs, billets and wire bars (b)	(a)	300.8	19	340.5	300.8	19
Sheets, plates and strip (flat or in coils), exceeding 0.006 inch in thickness						
Pure	(a)	(a)	..	93.2	103.0	15
Alloy						
Corrugated	10.6	(a)	..	10.6	9.6	6
Other	(a)	(a)	..	58.0	41.7	16
Discs, circles and slugs, exceeding 0.006 inch in thickness						
Pure	(a)	17.1	9	14.2	17.1	9
Alloy	(a)	1.2	9	1.1	1.2	9
Tubes						
Extruded						
Pure	1.0	0.8	..	1.0	0.8	8
Alloy	(a)	4.6	..	4.2	4.6	11
Drawn						
Pure	1.1	0.9	..	1.1	0.9	7
Alloy	3.5	4.6	..	3.5	4.6	12
Powder, flake and granulated	(a)	5.1	6	5.1	5.1	6

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TABLE 8 (contd.)

	Returned in this industry			Returned in all industries		
	1951	1954		1951	1954	
	Quantity	Quantity	Entries	Quantity	Quantity	Entries
	Th. tons	Th. tons	Number	Th. tons	Th. tons	Number
Other non-ferrous metals and alloys						
Brass and other copper alloys, including nickel silver and cupro-nickel, but excluding all other nickel alloys						
Ingots, blocks, slabs, billets, bars (including wire bars) other refinery shapes and cast strip (b)						
Brass, including manganese bronze	330.2	278.3	58	343.5	284.7	63
Other	(a)	(a)	..	71.8	71.8	42
Direct castings not included above						
Brass, including manganese bronze	1.8	2.8	10	1.8	2.8	10
Other	(a)	0.5	..	0.5	0.5	..
Plates, sheets, foil, strip, discs and circles	73.6	80.6	..	75.3	81.1	47
Round brass rods	(a)	(a)	..	60.9	93.8	20
Shapes and angles	(a)	18.7	..	13.6	18.7	15
Other rods and sections and wire not in coils	50.9	13.0	..	52.1	13.0	17
Unclassified rods, sections, shapes, angles, and wire not in coils	-	-	-	3.3	3.8	6
Copper						
Unwrought: ingots, blocks, slabs, bars, billets, cakes, cathodes and anodes, including rough copper of 94 per cent. copper content or over (b)						
Fire refined	119.7	246.9	..	135.2	247.5	25
Other	(a)	(a)	..	30.9	85.4	22
High conductivity strip	(a)	(a)	..	12.6	16.5	11
Plates, sheets or strip (other than of high conductivity)						
3/8 inch thick and over	(a)	(a)	..	8.4	5.7	10
Other sheets, strip foil, discs and circles	(a)	(a)	..	41.7	36.2	28
Strip not exceeding 6 inch in width (high conductivity and other) unclassified	-	(a)	..	11.2	12.2	..
Rods and sections, shapes and angles, and wire not in coils						
Wire rods						
High conductivity	59.8	93.2	6	59.8	93.2	6
Other	(a)	(a)	..	1.0	0.3	..
Shapes and angles	1.9	3.2	..	1.9	3.2	..
Other rods and sections and wire not in coils						
Rolled	2.7	(a)	..	2.7	1.7	..
Extruded	(a)	3.9	11	2.1	3.9	11
Unclassified rods and sections, shapes and angles, wire not in coils and strip	-	23.6	..	90.1	95.0	9
Tube shells	53.4	60.1	11	53.4	60.1	11
Lead unwrought in pigs, ingots, blocks, bars, slabs and cakes	(a)	(a)	..	115.8	129.2	51

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TABLE 8 (contd.)

	Returned in this industry			Returned in all industries		
	1951	1954		1951	1954	
	Quantity	Quantity	Entries	Quantity	Quantity	Entries
	Th. tons	Th. tons	Number	Th. tons	Th. tons	Number
Other non-ferrous metals and alloys (contd.)						
Tin and tin alloys						
Tin in blocks, ingots, bars and slabs	27.9	30.3	..	27.9	30.3	90
Soldier, soft	(a)	21.6	36	22.4	21.6	36
Zinc or spelter, unwrought, in ingots, blocks, bars, slabs and cakes	(a)	86.0	20	72.4	86.0	20
White metal alloys						
Unwrought or partly wrought						
Anti-friction metal	4.7	3.3	..	5.2	3.3	26
Type-metal	10.0	13.1	13	10.0	13.1	13

(a) Owing to the risk of disclosure of information relating to individual firms, separate particulars cannot be given.

(b) Some duplication may be involved owing to inclusion of the same products at different stages of manufacture.

Purchases of materials and fuel, 1954  
Larger establishments in the United Kingdom

TABLE 9

Materials	Quantity	Cost
	Th. tons	£'000
Light metals and light metal alloys		
Aluminium and aluminium alloys		
Ingots and notch bars, virgin	175.0	27,779
Ingots, notch bars and sticks, secondary	45.5	7,402
Blocks, slabs, billets and wire bars	65.7	10,893
Sheets, plates, strip, discs, circles, slugs and foil	24.7	5,205
All other descriptions except finished parts and scrap	2.5	631
Magnesium ore and magnesia	..	417
Magnesium and magnesium alloys	12.0	2,781
Other non-ferrous metals and alloys		
Antimony ore and concentrates	4.1	354
Brass and other copper alloys including nickel silver and cupro-nickel, but excluding all other nickel alloys		
Ingots, blocks, slabs, billets, bars (including wire bars) and cast-strip	25.2	5,172
Plates, sheets, strip (other than broken down strip), discs, circles and foil	1.9	504
Other descriptions including broken down strip and tube shells but excluding finished parts and scrap	5.8	1,533
Copper blister	126.2	30,206
Copper unwrought: ingots, blocks, slabs, bars, billets, cakes, cathodes and anodes including rough copper of 94% copper content or over		
Fire refined	95.7	22,808
Other	179.2	45,996
High conductivity copper rods and strip	4.9	1,266
Copper plates, sheets, strip, discs and circles (other than of high conductivity)	0.4	154
Other descriptions of copper including broken down copper cake and tube shells but excluding finished parts and scrap	6.2	1,776

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TABLE 9 (contd.)

Materials (contd.)	Quantity	Cost
	Th. tons	£'000
Other non-ferrous metals and alloys (contd.)		
Lead and lead alloys		
Lead unwrought in pigs, ingots, blocks, bars, slabs and cakes		
Imported virgin lead	49.6	4,812
Re-melted lead	4.0	387
English refined lead including lead refined from imported base bullion	17.7	1,769
Other descriptions except finished parts and scrap	44.1	5,929
Nickel and nickel alloys, other than nickel silver and cupro-nickel, in all forms except finished parts and scrap	17.5	9,501
Tin ore and concentrates	66.9	22,900
Tin in all forms except finished parts and scrap		
Zinc and zinc alloys		
Zinc of not less than 99.99% purity	63.6	5,757
Other electrolytic and refined zinc, and low grade prime western, debased and G.O.B. zinc	53.0	4,710
Re-melted	1.5	123
Other descriptions except finished parts and scrap	5.1	447
Alloying materials not elsewhere specified, e.g. silicon, titanium chrome	10.6	2,117
Scrap (including all forms of scrap material and secondary material purchased, not elsewhere specified)		
Aluminium and aluminium alloys (including secondary ingots and notch bars)	101.2	10,773
Brass and other copper alloys, including nickel silver and cupro-nickel, but excluding all other nickel alloys	172.0	27,337
Copper	..	3,428
Lead	148.0	26,439
Tin	..	268
Zinc	140.0	12,057
Zinc base alloys	13.1	2,240
Other	7.2	313
Iron and steel in all forms except finished parts and scrap	3.6	227
Packing materials	124.2	4,698
Paper including paper sacks	10.0	777
Packing cases (wood or mainly of wood)	Th.cwt.	
Jute (including hessian) piece goods and jute sacks and bags	41.2	240
Other packing materials including iron and steel drums and boxes	..	43
Replacement parts for firms' own machinery, plant and vehicles	Th. cu. ft.	
Consumable tools bought as replacement including engineers' small tools, jigs, fixtures and measuring instruments	629.0	393
All other purchased materials	..	348
Fuel and electricity	..	131
Coal	..	611
Coke	..	4,261
Liquid fuel (including creosote/pitch mixtures)	..	1,343
For use in internal combustion engines	..	33,591
Motor spirit (petrol) for use in road vehicles and deriv. fuel	Th. tons	
Other	638.8	2,589
For burning in furnaces, boilers, kilns, etc.	223.6	1,302

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