

## 47 Aluminium and aluminium alloys

This Report on the Aluminium and Aluminium Alloys Industry relates to establishments engaged wholly or mainly in manufacturing aluminium and its alloys in the form of ingots, bars, billets, sheets, strip, sections, pipes, tubes, castings, extrusions, drop forgings, etc, including all preliminary processes from smelting and refining onwards. The treatment of bauxite other than in aluminium works is excluded.

This industry corresponds to minimum list heading 321 in the Standard Industrial Classification (Revised 1968) which has been used for the first time as a basis of classification in the 1968 Census.

The industry formed part of the Non-ferrous Metals Industry (Part 40) in the Reports on the last detailed Census of Production for 1963 except that pressings in sheet metal of aluminium and aluminium alloys were shown in the report on Miscellaneous Metal Manufactures (Part 74). The remainder of the industry is now the subject of two other Reports for 1968, Copper, Brass and Other Copper Alloys (Part 48) and Miscellaneous Base Metals (Part 49).

Throughout this Report, the figures given for 1963 have been reclassified as far as possible according to the Standard Industrial Classification (Revised 1968) so that data for 1963 and 1968 are on the same industrial basis. However the reclassification of small firms which provided limited information only, has been arbitrary.

There were no larger establishments in this industry in Northern Ireland in 1963 and 1968.

### METHOD OF CLASSIFICATION

The classification of returns to this industry followed the standard procedure as outlined in the notes on page (i). A different procedure was used in classifying returns to the sub-divisions of the industry shown in Table 4. Returns in which combined sales of aluminium and aluminium alloy manufactures were less than one-tenth of their sales of such metals in unwrought or partly wrought form were classified as 'Smelters and refiners' and all other returns were classified as 'Fabricators' or 'Founders' according to their major output.

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which appear on pages (i) to (iv).

## LIST OF TABLES

Table No.	Title	Page
SECTION I - Estimates for all establishments in the industry		
1	Industry summary, 1963 and 1968	47/3
2	Analysis by size of establishment within the industry, 1968	47/4
3	Percentage analysis of employees, by age and sex, 1969	47/5
SECTION II - Analysis of returns received		
4	Analysis of larger establishments, 1963 and 1968	47/6
5	Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968	47/8
6	Sales of principal products of the industry by larger establishments classified to other industries, 1963 and 1968	47/10
7	Sales of other than principal products by larger establishments in the industry, 1963 and 1968	47/11
8	Production of certain principal products of the industry by larger establishments, 1963 and 1968	DOES NOT APPLY
9	Purchases by larger establishments of selected principal products of the industry, 1968	47/12
10	Purchases by larger establishments in the industry, 1963 and 1968	47/13
11	Transport costs and employment of larger establishments, 1963 and 1968	47/15
12	Payments for certain services, etc by larger establishments, 1963 and 1968	47/16
13	Percentage analysis of twelve-month periods covered by returns from larger establishments, 1968	47/16

Footnotes continued from page 47/3.

(c) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).

(d) Administrative, technical and clerical employees.

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

(f) Acquisitions less disposals.TABLE 1 Industry summary, 1963 and 1968  
United Kingdom (a) (b)

	Unit	All establishments		
		1963	1968	
Number of enterprises	No.	384	334	
Number of establishments	"	452	411	
Gross output	£'000	210,104	313,815	
Net output	"	77,565	103,972	
Net output per head	£	1,343	1,782	
Sales and work done	{ goods produced and work done (c)	£'000	202,892	299,242
	{ merchanted goods and canteen takings	"	6,440	7,808
Purchases	{ materials for use in production and packaging and fuel	"	122,245	200,093
	{ goods for merchenting and canteen purchases	"	5,961	6,954
Payments to other organisations	{ for work done on materials given out	"	1,641	2,627
	{ for transport	"	1,967	2,300
	{ by road	"		
	{ by rail and other means excluding postal services	"		388
Stocks and work in progress				
Total stocks and work in progress	{ change during year	"	+ 48	+ 9,284
	{ at end of year	"	37,172	61,448
Goods on hand for sale	{ change during year	"	+ 377	+ 1,579
	{ at end of year	"	6,965	12,520
Work in progress	{ change during year	"	+ 396	+ 5,185
	{ at end of year	"	12,055	25,996
Materials, stores and fuel	{ change during year	"	- 725	+ 2,519
	{ at end of year	"	18,152	22,932
Number employed on average during the year	{ total, including working proprietors	Th.	57.7	58.3
	{ operatives	"	44.9	44.9
	{ other employees (d)	"	12.4	13.1
Wages and salaries	{ of operatives	£'000	35,533	47,276
	{ of other employees (d)	"	11,645	16,647
Capital expenditure (e)				
Total	"	7,389	10,037	
New building work	"	1,325	1,192	
Land and existing buildings (f)	"	182	194	
Plant and machinery (f)	"	5,600	8,108	
Vehicles (f)	"	282	543	

(a) For 1968, estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for 5 per cent. of the total figures in which they were incorporated: of this, unsatisfactory returns accounted for 1 per cent. For 1963 the comparable figures were 6 per cent. and 1 per cent. respectively.

(b) The following information relates to small establishments (employing fewer than 25 persons) in this industry. It includes an estimate for small establishments not making satisfactory returns.

	1963	1968
Number of establishments	265	219
Average number employed:		
Working proprietors	325	225
Other persons employed	2,564	2,179

Footnotes continued on page 47/2.

TABLE 2 Analysis by size of establishment within the industry, 1968

## (i) Output and employment

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Estab-lish-ments	Enter-prises (b)	Total number employed on average during the year (a)	Gross output	Net output	Net output per head
	Number	Number	Number	£'000	£'000	£
1-5	49	48	182	..	..	..
6-10	55	55	418	..	..	..
11-24	96	95	1,637	..	..	..
25-49	36	31	1,263	6,885	2,508	1,985
50-99	41	37	2,916	13,961	5,266	1,806
100-199	32	30	4,457	23,683	8,248	1,850
200-299	24	20	5,783	26,012	9,654	1,669
300-399	8	7	2,841	16,640	5,203	1,831
400-499	8	8	3,456	17,843	5,563	1,610
500-749	10	8	6,299	34,897	12,646	2,008
750-999	9	7	7,978	42,148	13,047	1,635
1,000-1,499	5	3	6,357	25,773	10,882	1,712
1,500 and over	7	6	14,123	90,770	25,884	1,833
Unsatisfactory returns	31	29	632	..	..	..
Total	411	334	58,342	313,815(c)	103,972(c)	1,782(c)

## (ii) Employees, wages and salaries

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Employees		Wages and salaries		Wages and salaries per head	
	Oper-atives	Others (d)	Oper-atives	Others (d)	Oper-atives	Others (d)
	Number	Number	£'000	£'000	£	£
1-5	..	..	..	..	..	..
6-10	..	..	..	..	..	..
11-24	..	..	..	..	..	..
25-49	1,010	232	1,013	311	1,003	1,341
50-99	2,417	461	2,307	632	954	1,370
100-199	3,600	851	3,539	1,110	983	1,304
200-299	4,774	1,004	4,472	1,300	937	1,295
300-399	2,303	538	2,275	746	988	1,388
400-499	2,784	671	2,680	935	963	1,393
500-749	4,706	1,593	4,728	1,767	1,005	1,109
750-999	6,095	1,883	6,775	2,374	1,112	1,261
1,000-1,499	5,067	1,290	5,352	1,492	1,056	1,157
1,500 and over	10,109	4,015	12,005	5,201	1,188	1,295
Unsatisfactory returns	..	..	..	..	..	..
Total	44,901(c)	13,142(c)	47,276(c)	16,647(c)	1,053(c)	1,267(c)

(a) Including working proprietors.

(b) The sum of the figures for the size groups exceeds the total for the industry to the extent that enterprises made returns for establishments in more than one size group.

(c) Including estimates for establishments employing fewer than 25 persons and for establishments not making satisfactory returns.

(d) Administrative, technical and clerical employees.

TABLE 3 Percentage analysis of employees, by age and sex, 1969 (a)

All establishments: United Kingdom

Ages	Males	Females	All employees
	Per cent.	Per cent.	Per cent.
Under 18	2	1	3
18 and over	80	17	97
All ages	82	18	100

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) at June 1969, the earliest date for which the information is available on the basis of the Standard Industrial Classification, (Revised 1968).

## Footnotes to Table 4.

(a) Some establishments employing fewer than 25 persons were included in returns for larger establishments. These amounted to 13 establishments in 1968 and 15 in 1963.

(b) The method of classifying returns to sub-divisions of the industry is explained in the notes; the characteristic products of each sub-division are identified in Table 5.

(c) The sum of the figures for the sub-divisions exceeds the total for the industry to the extent that enterprises made returns for more than one sub-division.

(d) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).

(e) Direct sales of goods (excluding canteen takings) made to, and work done for, the general public by larger establishments are included. These amounted to £25,000 in 1968. Similar information is not available for 1963.

(f) Characteristic products relate only to sub-divisions of the industry.

(g) For sub-divisions of the industry, this is the ratio of sales of characteristic products to total sales of goods produced and work done. For the industry as a whole, this is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.

(h) Administrative, technical and clerical employees.

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

(j) Acquisitions less disposals.

TABLE 4 Analysis of larger establishments, 1963 and 1968

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom (a)

	Unit	Sub-divisions of the industry (b)		Sub-divisions of the industry (b)				Total	
		Smelters and refiners 01		Fabricators 02		Founders 03		Total	
		1963	1968	1963	1968	1963	1968	1963	1968
Number of enterprises (c)	No.	8	8	35	38	90	90	125	125
Number of establishments	"	13	11	63	62	115	120	191	193
Gross output	£'000	11,111	25,459	145,819	205,749	41,415	68,047	198,346	299,254
Net output	"	1,937	4,777	50,393	61,425	20,894	32,946	73,224	99,148
Net output per head	£	1,634	2,664	1,399	1,852	1,207	1,593	1,343	1,782
Sales and work done	£'000	10,441	25,237	140,984	196,016	40,112	67,413	191,537	285,358
	"	589		4,205	4,137	1,285		6,079	7,446
Sales of characteristic products	"	9,496	23,121	119,480	174,005	31,795	53,009	(f)	(f)
Index of specialisation (g)	Per cent.	91	96	85	89	79	81	92	93
Purchases	£'000	8,590	20,645	88,402	138,862	18,411	33,730	115,404	190,809
	"	588		3,851	4,202	1,188		5,627	6,631
Payments to other organisations	"	83	29	633	1,108	833	1,368	1,549	2,505
	"	128	53	1,499	1,595	230	374	1,857	2,193
	"								
Stocks and work in progress	"								
Goods on hand for sale	"	+ 84	+ 224	+ 296	+ 1,149	- 25	+ 133	+ 355	+ 1,506
	"	530	1,160	5,433	9,794	612	985	6,575	11,940
Work in progress	"	- 2	- 2	+ 334	+ 4,447	+ 42	+ 500	+ 374	+ 4,945
	"	23	10	10,077	21,639	1,282	3,140	11,381	24,789
Materials, stores and fuel	"	+ 214	+ 269	- 1,041	+ 1,716	+ 143	+ 417	- 684	+ 2,402
	"	1,067	2,142	14,232	16,751	1,837	2,975	17,136	21,868
Number employed on average during the year	No.	1,185	1,793	36,022	33,159	17,310	20,683	54,517	55,635
	"	937	1,382	27,192	24,568	14,517	17,032	42,646	42,982
	"	245	406	8,818	8,578	2,747	3,596	11,810	12,580
Wages and salaries	£'000	723	1,364	22,103	26,929	10,895	16,963	33,721	45,256
	"	227	572	8,296	10,741	2,529	4,621	11,052	15,935
Wages and salaries per head	£	772	987	813	1,096	750	996	791	1,053
	"	927	1,409	941	1,252	920	1,285	936	1,267
Capital expenditure (i)	£'000	30	19	1,069	510	153	607	1,251	1,137
New building work	"								
Land and existing buildings	"	+ 5(j)	15(j)	156	16(j)	67	409	228	447
	"			24		32	223	56	262
Plant and machinery	"	73	359	4,226	5,584	1,246	2,183	5,545	8,126
	"	1	6	224	306	34	82	259	394
Vehicles	"	40	70	259	438	108	224	408	732
	"	9	12	91	115	41	87	141	214

For notes to this table - see page 47/5.

TABLE 5 Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

Industry sub-division (a)	1963		1968				
	Quantity	Value	Quantity	Value	Enterprises	Entries	
	Th. tons	£'000	Th. tons	£'000	Number	Number	
01	Aluminium and aluminium alloys						
	Virgin aluminium ingots and notch bars	14.0	2,595	21.1	4,799	8	11
01	Virgin based aluminium alloy ingots, notch bars and sticks	10.2	1,875	25.3	5,567	6	7
01	Secondary based aluminium and aluminium alloy ingots, notch bars and sticks	122	17,997	142	27,526	19	22
02	Blocks, slabs and billets	27.7	5,378	33.7	7,787	6	13
02	Wire bars	3.6	720	3.5	862	*	*
02	Plates, sheet and strip (flat or in coil) exceeding 0.008 inch in thickness (b)						
	Pure						
	Corrugated	5.6	1,469	2.5	830	*	*
	Other	94.6	27,160	100	33,147	12	16
	Alloy						
	Corrugated	54.0	21,083	1.6	646	*	*
	Other			72.8	30,874	10	14
02	Blanks, circles, discs and slugs exceeding 0.008 inch in thickness (b)						
	Pure	20.4	6,637	..	7,812	9	13
	Alloy	..	761	4.5	2,088	7	10
02	Foil (rolled material not exceeding 0.008 inch in thickness) (b)	21.8	12,001	29.1	17,371	11	13
02	Angles, shapes and sections, rods and bars (other than notch bars and wire bars)						
	Pure	..	4,826	25.1	6,941	11	16
	Alloy	42.1	15,637	67.3	30,556	13	16
02	Tubes						
	Extruded						
	Pure	1.7	727	1.2	671	10	11
	Alloy	2.9	1,140	3.7	1,941	13	14
	Drawn						
	Pure	..	1,932	0.8	540	8	9
	Alloy	4.0	2,180	6.1	3,861	10	10
	Welded from strip	..	(c)	..	2,003	*	*
02	Collapsible tubes of aluminium	227,520	1,922,911	469,883	4,522	6	9
	Castings, forgings, stampings and pressings not elsewhere specified						
03	Castings	Th. tons		Th. tons			
	Sand	10.4	6,515	12.6	9,815	129	138
		..	1,253	..	2,930		
	Gravity die	48.4	17,974	58.6	27,091	69	76
	Pressure die	22.9	11,017	31.2	15,471	57	63
				..	2,623		
	Unclassified castings	1.3	625	0.1	80	12	12
		..	133	..	257		

TABLE 5 (continued)

Industry sub-division (a)	1963		1968				
	Quantity	Value	Quantity	Value	Enterprises	Entries	
	Th. tons	£'000	Th. tons	£'000	Number	Number	
	Aluminium and aluminium alloys (continued)						
	Castings, forgings, stampings and pressings not elsewhere specified (continued)						
02	Forgings and stampings	4.2	4,677	..	7,664	18	21
02	Pressings in sheet metal	2.6	869	0.5	390	127	129
		..	1,689	..	2,997		
02	Powder						
	Flake	2.2	579	3.1	854	*	*
	Granulated and other powder			..	781	5	5
02	Paste	2.8	685	2.7	701	*	*
				Metal content			
				Th. tons			
02	Foil laminated with paper, film, etc incorporating aluminium foil	8.0	9,236	10.9	11,690	14	16
				Th. tons			
02	Other manufactures of aluminium and aluminium alloys not elsewhere specified	4.2	2,774	5.3	5,779	48	54
		..	2,556	..	2,888		
	Other products	..	812	..	941	15	19
	Waste products						
	Scrap metals						
	Aluminium and aluminium alloys	25.2	3,580	30.7	5,269	63	86
	Copper			..	17	6	7
	Brass and other copper alloys (including silver and cupro-nickel, but excluding all other nickel alloys)			0.4	74	15	15
	Zinc	..	135	0.2	8	9	10
	Iron and steel			3.1	17	16	20
	Other scrap metals			..	58	9	13
	Concentrates, metallic residues, wastes, etc, not elsewhere specified			..	389	23	27
	Other waste products	..	281	..	147	9	13
	Work done including repair work (d)	..	545	..	677	25	35
	Total		192,887		289,952	..	..
	Sales in other industries (see Table 6)		16,713		24,831	..	..
	Principal products of this industry sold by establishments in the industry		176,174		265,121	125	165(e)

(a) The number given is that of the sub-division of which the item is a characteristic product. The sales shown are total sales by larger establishments, not merely sales by establishments classified to the sub-division.

(b) For 1963 described as 'exceeding 0.006 inch in thickness'.

(c) Not separately recorded for 1963.

(d) No repair work was recorded for 1963.

(e) This figure represents the total number of returns made for larger establishments in this industry which is less than the total number of establishments shown in Table 4 on account of combined returns covering more than one establishment.

TABLE 6 Sales of principal products of the industry by larger establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	1963		1968			
	Quantity	Value	Quantity	Value	Entries	Principal industries in which produced (a)
	Th.tons	£'000	Th.tons	£'000	Number	
Aluminium and aluminium alloys						
Virgin aluminium, virgin based and secondary based aluminium and aluminium alloy ingots, notch bars and sticks, including blocks, slabs and billets	..	1,867	18.1	3,730	9	48,49,72
Foil (rolled material not exceeding 0.008 inch in thickness)	..	29	0.6	361	5	77,97,141,149
Angles, shapes and sections, rods and bars (other than notch bars and wire bars)	3.7	1,099	12.5	3,717	5	48,72,91
Tubes, extruded, drawn, welded from strip and collapsible	..	555	..	1,241	6	45,48,49,72
Castings, sand, gravity and pressure die, including unclassified castings	..	3,479	..	4,826	107	48,49,71,82
Forgings and stampings	0.4	359	0.5	816	16	90,95,97
Pressings in sheet metal	{ 2.5 ..	{ 858 1,426	{ 0.5 ..	{ 379 2,557	{ 124	{ 92,93,96,97
	Metal content Th.tons		Metal content Th.tons			
Foil laminated with paper, film, etc, incorporating aluminium foil	{ 2.2 ..	{ 4,123 246	{ 2.2	4,186	10	137,139
Other manufactures of aluminium and aluminium alloys not elsewhere specified	..	2,671	..	3,020	44	44,48,66,97
Total		16,713		24,831	..	

(a) The references given are to the list of industries at the front of this report.

TABLE 7 Sales of other than principal products by larger establishments in the industry, 1963 and 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	1963	1968
	Value	Value
	£'000	£'000
Iron castings in the rough or machined	304	829
Wood, metal and plastic patterns	626	783
Manufactures of copper and brass	1,310	3,327
Manufactures of other base metals		
Zinc alloy pressure die castings except coffin furniture	2,115	3,736
Other manufactures	7,648	6,574
Mechanical and other engineering products	683	780
Engineers' small tools and gauges	540	755
Aluminium wire	510	1,059
Miscellaneous metal manufactures	673	1,092
Other products	680	871
Services rendered to other organisations (a)	273	430
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	5,427	6,772
Canteen takings	652	674
Total	21,442	27,683

(a) Amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered to other organisations.

TABLE 8 Production of certain principal products of the industry by larger establishments, 1963 and 1968

This table is not applicable to this industry.

TABLE 9 Purchases by larger establishments of selected principal products of the industry, 1968 (a)

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

Standard Industrial Classification Minimum List Heading	Purchasing industry (b)	Aluminium and aluminium alloys	
		Quantity	Cost
		Th. tons	£'000
321	Aluminium and aluminium alloys	545	123,291
322	Copper, brass and other copper alloys	11.7	3,016
339/9	Miscellaneous (non-electrical) machinery	19.4 ..	3,580 415
341	Industrial (including process) plant and steelwork	8.6	3,778
349	General mechanical engineering	8.7 ..	3,433 1,810
354	Scientific and industrial instruments and systems	5.7 ..	2,193 1,128
361	Electrical machinery	10.6	3,888
362	Insulated wires and cables	31.7	8,266
364	Radio and electronic components	6.0 ..	3,340 819
368	Electric appliances primarily for domestic use	21.9	7,403
369	Miscellaneous electrical goods	8.8 ..	2,856 965
381	Motor vehicle manufacturing	114	40,074
383	Aerospace equipment manufacturing and repairing	16.0	11,618
394	Wire and wire manufactures	..	(c)
399/6	Metal hollow-ware	14.7	6,006
399/8	Miscellaneous metal goods	35.8 ..	13,741 1,866
	Other industries	96.0 ..	34,651 7,779
	Total	954.5 ..	271,134 14,781

(a) The figures include purchases of imported as well as of home produced goods.

(b) Specified Census industries for which purchases are one per cent. or more of the total.

(c) Owing to the risk of disclosure of information relating to individual firms separate figures cannot be given and are included in the total for 'Other industries'.

TABLE 10 Purchases by larger establishments in the industry, 1963 and 1968

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production	Th. tons	£'000	Th. tons	£'000
Bauxite and alumina	59.6	2,016	74.2	2,729
Aluminium and aluminium alloys				
Ingots and notch bars - virgin	172	31,446	182	41,030
Ingots, notch bars and sticks - secondary	71.2	10,616	99.3	18,233
Blocks, slabs, billets and wire bars	96.4	17,409	176	41,249
Sheets, plates, strip, blanks, discs, circles, slugs and foil	34.3	9,521	50.5	16,234
Bars (other than notch bars and wire bars), rods, angles, shapes, sections and tubes	..	471	13.5	3,014
All other descriptions except finished parts, wire and scrap	2.0 ..	425 321	23.8	3,531
Brass and other copper alloys (including nickel silver and cupro-nickel, but excluding all other nickel alloys and cadmium copper) (a)				
Ingots, blocks, slabs, billets, bars (including wire bars), rods and cast strip (b)	0.3 ..	52 307	2.4	1,154
Plates, sheets, strip (other than broken down strip), discs, circles and foil	..	49	0.8	363
Other descriptions including broken down strip and tube shells but excluding finished parts, wire and scrap	..	6	0.6	300
Copper unwrought (including cadmium copper), ingots, blocks, slabs, bars, billets, cakes, cathodes and anodes (including rough copper of 94 per cent. copper content or over) (c)	..	38	..	592
Copper plates, sheets, strip, discs and circles (other than of high conductivity) and other descriptions of copper including broken down copper cake and tube shells, but excluding finished parts, wire and scrap	..	30	..	39
Lead and lead alloys				
English refined lead including lead refined from imported bullion and re-melted lead	1.9	133	..	285
Other descriptions except finished parts, wire and scrap (d)	..	20	..	24
Magnesium ore and magnesia, magnesium and magnesium alloys (excluding finished parts, wire and scrap)	4.2	1,227	..	1,411
Nickel and nickel alloys (excluding nickel silver and cupro-nickel), in all forms except finished parts, wire and scrap	..	86	0.1	135
	Th.cwt.		Th.cwt.	
Tin in all forms except finished parts, wire and scrap	..	46	5.4	352
Titanium	..	(e)	3.0	478
Zinc and zinc alloys	Th. tons		Th. tons	
Zinc of not less than 99.99 per cent. purity	0.4 ..	41 356	4.7	607
Other electrolytic and refined zinc, and low grade prime western, debased and G.O.B. zinc	..	95	1.1	14.9
Other descriptions except finished parts, wire and scrap	..	(e)	7.9	960
Alloying materials not elsewhere specified (eg silicon, cadmium, chrome, manganese, cobalt)	..	2,479	17.8	3,480

Continued on next page.

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production (continued)	Th. tons	£'000	Th. tons	£'000
Scrap (including all forms of scrap material purchased, not elsewhere specified)				
Aluminium and aluminium alloys	120	12,537	151	21,063
Brass and other copper alloys (including nickel silver and cupro-nickel, but excluding all other nickel alloys and cadmium copper) (a)			..	421
Copper (including cadmium copper) (c)			2.0	883
Magnesium and magnesium alloys	..	2,793	0.2	50
Nickel alloys (other than nickel silver and cupro-nickel)			..	24
Zinc base alloys			2.9	378
Other			..	156
Iron and steel in all forms except finished parts, wire and scrap	1.9 ..	124 51	5.3 ..	460 105
	Th. gal.		Th. gal.	
	1,385	293	1,436	475
Lubricating oils and greases	Th. cwt.		Th. cwt.	
	2.8 ..	25 61	6.8	50
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement				
Tyres and other spare parts for firms' own road goods vehicles	..	2,583	..	148
Other			..	4,660
All other materials for use in production	..	9,613	..	11,578
Packaging materials				
Wrapping and packing paper (including paper coated with plastics and any laminates incorporating paper but not metal)			..	266
Other packaging materials of paper and paperboard (including moulded pulp units and labels, but excluding boxes, cartons, packing cases, drums, canisters, bags and multiwall paper sacks and paper and board for converting into packaging materials)	..	556	..	200
			Thousands	
Metal barrels, kegs and drums			90	55
Containers wholly or mainly of wood (including plywood boxes and drums), baskets and wickerwork crates	..	935	..	891
All other packaging materials			..	1,015
Fuel and electricity (f)	Th. tons		Th. tons	
Coal	42.6	290	11.1	85
Coke (including screenings) and manufactured fuel	19.3	170	30.1	382
	Th. gal.		Th. gal.	
Derv fuel and motor spirit for use in road vehicles	1,351	242	1,384	355
Other liquid fuels (including creosote/pitch mixtures, etc, and liquefied petroleum gases)	44,416	1,901	58,357	2,801
	Th. therms		Th. therms	
Gas	20,605 ..	1,282 147	32,639	2,093

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Fuel and electricity (f) (continued)	Th. kWh	£'000	Th. kWh	£'000
Electricity	687,010 ..	3,604 1,004	921,183	5,808
All other fuels	..	(e)	..	59
Total cost of materials and fuel		115,404		190,809
Goods purchased for merchanting		5,020		5,953
Canteen purchases		607		678
Total cost of purchases		121,031		197,440

(a) For 1963 cadmium copper was not specifically excluded.

(b) For 1963 rods were not specifically included.

(c) For 1963 cadmium copper was not specifically included.

(d) Includes lead bullion for 1963.

(e) Not recorded separately for 1963.

(f) Owing to the risk of disclosure of information relating to individual firms the total quantities of electricity generated in firms' own establishments in 1963 and 1968 cannot be given.

TABLE 11 Transport costs and employment of larger establishments, 1963 and 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	Unit	1963	1968
Average number mainly employed on transport	No.	534	699
Transport costs			
Wages and salaries	£'000	517	841
Derv fuel and motor spirit	"	242	355
Tyres and other spare parts for road goods vehicles	"	..	148
Payments to other organisations for transport	"	1,857	2,193
	{ by road by rail and other means excluding postal services		370
Costs of operating road goods vehicles			
Insurance	"	26	37
Vehicle licences	"	24	75
Depreciation	"	176	293
Payments to other organisations for repairs and maintenance	"	85	223
Total	"	2,927 (a)	4,535

(a) Excluding tyres and other spare parts for road goods vehicles, not collected separately for 1963.



TABLE 12 Payments for certain services, etc by larger establishments, 1963 and 1968 (a)

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	Amounts payable	
	1963	1968
Repairs and maintenance to	£'000	£'000
Buildings	426	562
Road goods vehicles	85	223
Plant, machinery and other capital equipment	748	1,559
Insurance, licensing and depreciation of road goods vehicles (b)	225	405
Rates, excluding water rates	1,216	1,974
Hire of plant and machinery	153	321
Postage, telephone, telegrams, cables and telex (c)	352	635
<b>Total</b>	<b>3,205</b>	<b>5,679</b>

(a) No deduction is made for these payments to arrive at the figures of net output given in this report.

(b) For details see Table 11.

(c) Excluding telex for 1963.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger establishments, 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

Year ended	Percentage of total returns received	Percentage of total number employed
1968	Per cent.	Per cent.
April (a)	0.6	0.1
May	4.2	1.3
June	4.2	2.3
July	8.5	21.4
August	3.0	0.6
September	7.9	6.0
October	5.6	2.5
November	1.8	0.4
December	38.2	54.4
1969		
January	3.0	2.4
February	1.8	0.3
March	18.2	7.8
April (b)	3.0	0.5
	100	100

(a) From 6 April.

(b) To 5 April.