



BOARD OF TRADE

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# Report on the Census of Production 1963

**46** Contractors' plant and quarrying machinery



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## 46 Contractors' plant and quarrying machinery

*Presented by the Board of Trade to Parliament in pursuance of the  
Statistics of Trade Act 1947 (10 & 11 Geo. 6 Cha. 39 Sec. 7)*



## Notes

These notes give the main information needed for interpreting the figures in the industry reports. (More detailed information about the Census is given in a separate booklet - 'Introductory Notes': Part 1 of the Report on the Census of Production for 1963.)

### GENERAL INFORMATION

#### Changes in the 1963 census

There were few changes resulting from amendments to the Standard Industrial Classification and only minor changes in the scope of certain industry reports compared with 1958. Any such changes are explained in the introductions to the industry reports concerned or by footnotes to the tables.

#### Industrial Classification

Establishments were classified to industries on the basis of major activity in conformity with the second edition of the Standard Industrial Classification (Consolidated Edition 1963, incorporating Amendment 1). Each industry was basically defined in terms of its principal products, these being of a similar nature or commonly associated in production. Normally, an establishment was classified to an industry if its sales of the principal products of that industry accounted for a greater proportion of its total sales than did its sales of the principal products of any other industry. However, where the application of this rule would have resulted in a change of classification between 1958 and 1963, the establishment was reclassified only if the sales of principal products of the newly predominant industry was more than one third greater than the sales of principal products of the previously predominant industry. This modification of the general rule was introduced for 1958 to avoid discontinuities which would result from marginal changes in sales between successive censuses.

The principle of classification by major output was also normally followed in compiling the analysis by sub-divisions of an industry.

In certain industries, classification was dealt with in a different way. Details of any non-standard treatment are given in the introductions to the relevant industry reports.

### TERMS USED IN THE CENSUS REPORT

#### Average number employed

Firms were required to state the number of persons on the payroll (i.e. whose National Insurance cards were held by them) on the average during the year of return, whether full-time or part-time employees. Separate figures were required for (a) administrative, technical and clerical employees and (b) operatives (see below). Averages could be calculated from figures relating to the last week of each calendar month; figures shown in respect of the average number employed relate to the sum of these averages. Firms were also required to state the number of working proprietors (see below) where appropriate and these are included in total employment figures. Outworkers are excluded.

The figures include persons engaged in merchanting or factoring and canteen workers where particulars in respect of these activities could not be excluded from the return.

#### Working Proprietors

These include all persons regarded as 'self-employed' for National Insurance purposes, and members of their families who worked in the business without receiving a fixed wage or salary; but persons who worked less than half the normal number of working hours are excluded. For Great Britain, directors working in the business but not in receipt of a definite wage, salary or commission are included under this heading for 1963, but are excluded for 1958. For Northern Ireland, directors of limited companies, other than those paid by fee only, are included for both years. (Directors paid by fee only are not included in any of the employment figures for either year.)

#### Employees

- (i) Administrative, technical and clerical employees include managers, superintendents and works foremen; research, experimental, development, technical and design employees (other than operatives); draughtsmen and tracers; editorial staff, staff reporters, canvassers, competition and advertising staff; travellers; and office (including works office) employees. For Great Britain, but not for Northern Ireland, they include also managing and other directors in receipt of a definite wage, salary or commission.
- (ii) Operatives include all other classes of employees, that is, broadly speaking, all manual wage earners. They include those employed in and about the factory or works; operatives employed in power houses, transport work, stores, warehouses, shops and canteens; inspectors, viewers and similar workers; maintenance workers; and cleaners. Operatives engaged in outside work of erection, fitting, etc. are also included, but outworkers (i.e. persons employed by the firm who worked in their own homes, etc. on materials supplied by the firm) are excluded. Information about the numbers of outworkers employed was collected only for the gloves industry.

#### Capital Expenditure

- (i) New building work.

This represents the cost incurred during the year of new building and other new constructional work (including office buildings, canteens and the like used in connection with the business covered by the return but not dwelling houses for employees). The value is that charged to capital account during the year of return; it includes expenditure on new buildings or on the extension or reconstruction of old buildings, the value of work of a capital nature carried out by firms' own staff, and the cost of any newly constructed buildings purchased. The figures shown include any legal charges, stamp duties, agents' commissions, etc.

# 46 Contractors' plant and quarrying machinery

This Report on the Contractors' Plant and Quarrying Machinery Industry relates to establishments engaged wholly or mainly in manufacturing excavating and earth-moving equipment such as excavators, crawler tractors, dozers, graders, scrapers, shovel loaders and dumpers; roadmaking and maintenance equipment such as asphalt mixing and laying machines and road rollers, concrete mixers; pile drivers, etc.; and quarry crushing and screening plant. Rope-hauled drag scrapers, cableway drag-line excavators, cranes, hoists and compressors are excluded.

This industry corresponds to minimum list heading 336 in the Standard Industrial Classification (Consolidated edition, 1963).

An additional table (Table 5 Supplement) which is derived from short period information and which supplements the broader figures for sales given in Table 5, is included in this report.

### TREATMENT OF PARTS

In reports for this and other mechanical engineering industries, a distinction is made between parts sold in association with the sale of complete machines, and other parts sold. The only parts shown in Table 5 are those included on returns (whether classified to this or to other industries) which also showed sales of contractors' plant and quarrying machinery; where the return was classified to another industry, these parts are also shown, together with the complete machines in Table 6.

Parts of contractors' plant and quarrying machinery included in returns which showed no sales of the complete machines are treated as principal products of the General Mechanical Engineering Industry (Part 52) whether made by general engineering firms or by specialist manufacturers of other types of machinery.

Sales of all parts of contractors' plant and quarrying machinery (i.e., whether or not sold in association with the sale of the complete machines) are brought together in Table 14 in this report.

### METHOD OF CLASSIFICATION

In classifying returns to this industry sales of parts of contractors' plant and quarrying machinery and work done (other than structural and installation work), including repair work, were not taken into account unless they exceeded 80 per cent. of the total output of the return (in which case the return was classified to General Mechanical Engineering (Part 52)). Exceptionally, however, parts of contractors' plant and quarrying machinery were taken into account where the return would otherwise have been classified outside the mechanical engineering group of industries. The standard classification procedure was further modified where a return would have been classified to one of the mechanical engineering industries relating to a specific class of machinery (viz. Parts 41 to 50 inclusive), but the sales of the principal products of the industry concerned accounted for less than 20 per cent. of the total output: in such cases the return was classified to the residual sub-division of the Miscellaneous (Non-electrical) Machinery Industry (Part 49).

For 1963, but not for earlier censuses, the amount charged for erecting and installing machinery and plant (other than air conditioning, heating and ventilating plant) was treated as part of the selling value of these items in determining the industrial classification of returns.

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



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TABLE 1 Industry summary: United Kingdom  
Estimates for all firms, 1958 and 1963 (a)

	Unit	1958	1963	
Number of enterprises	No.	129	134	
Number of establishments	"	160	159	
Gross output	£'000	74,232	144,427	
Net output	"	28,151	56,597	
Net output per head	£	1,021	1,549	
Sales and work done	{ goods produced and work done	£'000	69,064	133,676(b)
	{ merchanted goods and canteen takings	"	6,145	12,015
Purchases	{ materials for processing and packaging, and fuel	"	43,901	73,541
	{ goods for merchenting and canteen purchases	"		
Payments to other organisations	{ for work done on materials given out	"	1,035	1,874
	{ for transport	"	1,057	1,408
Stocks and work in progress				
Total stocks and work in progress	{ change during year	"	- 1,066	- 1,500
	{ at end of year	"	34,088	48,624
Goods on hand for sale	{ change during year	"	- 212	- 1,382
	{ at end of year	"	7,833	10,739
Work in progress	{ change during year	"	- 765	+ 118
	{ at end of year	"	12,260	15,696
Materials, stores and fuel	{ change during year	"	- 89	- 236
	{ at end of year	"	13,995	22,189
Average number employed	{ total, including working proprietors	Th.	27.6	36.5
	{ operatives	"	18.2	24.2
	{ other employees (c)	"	9.3	12.2
Wages and salaries	{ of operatives	£'000	10,738	18,336
	{ of other employees (c)	"	6,387	10,762
Employers' contributions to National Insurance and private pension schemes, etc. (d)	"		..	1,842
Capital expenditure (e)				
Total	"		..	4,770
New building work	"		2,454	856
Land and existing buildings (f)	"		..	309
Plant and machinery (f)	"		4,444	3,303
Vehicles (f)	"		194	303

(a) For 1963, estimates for small firms and for firms not making satisfactory returns accounted for about 3 per cent. of the total figures in which they were incorporated. (For 1958 the comparable figure was 4 per cent.) A summary of the detailed returns received is given in Table 2.

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

(c) Administrative, technical and clerical employees.

(d) Including pensions and gratuities paid other than from pension funds.

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

(f) Acquisitions less disposals.



TABLE 2 Summary of returns received from larger firms, 1958 and 1963  
Firms employing 25 or more persons: United Kingdom (a)

	Unit	1958	1963	
Number of enterprises	No.	63	75	
Number of establishments	"	94	98	
Gross output	£'000	71,387	140,236	
Net output	"	27,072	54,954	
Net output per head	£	1,021	1,549	
Sales and work done	goods produced and work done	£'000	66,416	129,797(b)
	merchanted goods and canteen takings	"	5,910	11,666
Index of specialisation (c)	Per cent.	87	82	
Purchases	materials for processing and packaging, and fuel	£'000	42,218	71,407
	goods for merchandising and canteen purchases	"		10,459
Payments to other organisations	for work done on materials given out	"	995	1,820
	for transport	"	1,016	1,367
Stocks and work in progress				
Goods on hand for sale	change during year	"	- 204	- 1,342
	at end of year	"	7,533	10,428
Work in progress	change during year	"	- 735	+ 115
	at end of year	"	11,790	15,241
Materials, stores and fuel	change during year	"	- 86	- 229
	at end of year	"	13,458	21,545
Average number employed	total, including working proprietors	No.	26,506	35,469
	operatives	"	17,558	23,580
	other employees (d)	"	8,948	11,853
Wages and salaries	of operatives	£'000	10,338	17,844
	of other employees (d)	"	6,149	10,473
Wages and salaries per head	operatives	£	589	757
	other employees (d)	"	687	884
Employers' contributions to National Insurance (e)	£'000	..	1,060	
Employers' contributions to private pension schemes, etc. (f)	"	..	732	
Capital expenditure (g)				
New building work	"	2,360	831	
Land and existing buildings	acquisitions	"	..	326
	disposals	"	..	27
Plant and machinery	acquisitions	"	4,365	3,372
	disposals	"	92	165
Vehicles	acquisitions	"	296	465
	disposals	"	110	171

For notes to this table - see page 46/6

TABLE 3 Analysis of larger firms by size of enterprise within the industry, 1963  
(i) Output, employment, capital expenditure and stocks

Firms employing 25 or more persons: United Kingdom

Average number employed by the enterprise in the industry (a)	Enterprises	Establishments	Average number employed (a)	Gross output	Net output	Net output per head	Capital expenditure (b)	Total value of stocks and work in progress at end of year
25-49	14	14	520	1,928	917	1,764	104	565
50-99	18	19	1,317	4,413	1,837	1,395	200	1,105
100-199	8	10	1,143	3,809	1,699	1,487	52	1,058
200-299	6	6	1,408	6,457	2,551	1,812	216	1,359
300-399	4	4	1,434	4,630	1,553	1,083	57	2,358
400-499	5	6	2,238	12,233	4,789	2,140	364	2,259
500-749	8	15	4,641	22,402	9,634	2,076	340	7,033
750-999	3	6	2,640	12,402	5,507	2,086	89	4,363
1,000-1,999	3	6	4,167	12,499	5,698	1,367	481	4,001
2,000-2,499	3	7	7,013	20,630	9,467	1,350	524	7,457
2,500 and over	3	5	8,948	38,832	11,301	1,263	2,204	15,655
Total	75	98	35,469	140,236	54,954	1,549	4,632	47,213

(ii) Employees, wages and salaries, and employers' contributions

Firms employing 25 or more persons: United Kingdom

Average number employed by the enterprise in the industry (a)	Employees		Wages and salaries		Employers' contributions		Wages and salaries per head	
	Operatives	Others (c)	Operatives	Others (c)	National Insurance (d)	Private pension schemes, etc. (e)	Operatives	Others (c)
25-49	363	147	278	142	16	4	766	964
50-99	948	354	601	305	39	22	634	861
100-199	775	365	606	356	39	26	782	977
200-299	942	466	698	441	45	30	740	946
300-399	1,000	433	740	414	36	28	740	957
400-499	1,630	608	1,240	560	84	37	761	922
500-749	3,001	1,633	2,063	1,518	139	60	688	930
750-999	1,641	999	1,603	971	77	54	977	972
1,000-1,999	2,668	1,499	2,121	1,402	132	80	795	935
2,000-2,499	4,759	2,254	3,319	1,675	179	129	697	743
2,500 and over	5,853	3,095	4,576	2,688	273	264	782	869
Total	23,580	11,853	17,844	10,473	1,060	732	757	884

(a) Including working proprietors.

(b) Acquisitions less disposals.

(c) Administrative, technical and clerical employees.

(d) Including both flat rate and graduated contributions.

(e) Including pensions and gratuities paid other than from pension funds. These amounted in total to £62,000.



TABLE 4 Percentage analysis of employees, by age and sex, all firms, 1963: United Kingdom (a)

Ages	Males	Females	All employees
	Per cent.	Per cent.	Per cent.
Under 18	3	2	5
18 and over	85	10	95
All ages	88	12	100

Source: Ministry of Labour

(a) The percentages relate to the numbers employed (excluding working proprietors) at mid-June, 1963.

## Footnotes to Table 2.

(a) The following information relates to small firms (employing fewer than 25 persons) in this industry. It includes an estimate for small firms not making satisfactory returns which account for 3 per cent. of the employment shown for 1963 and 16 per cent. for 1958.

	1958	1963
Number of firms	60	59
Average number employed:		
Working proprietors	} 850	{ 82
Other persons employed		

- (b) Including services rendered to other organisations (amounts charged for hiring out plant, machinery and other goods, for providing transport, or for technical or other services rendered).
- (c) This is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.
- (d) Administrative, technical and clerical employees.
- (e) Including both flat rate and graduated contributions.
- (f) Including pensions and gratuities paid other than from pension funds.
- (g) Excluding expenditure for establishments not yet in production.

TABLE 5 Sales of principal products of the industry by larger firms, including sales by establishments classified to other industries, 1958 and 1963

Firms employing 25 or more persons: United Kingdom

	1958		1963			
	Quantity	Value	Quantity	Value	Enter-prises	Entries
		£'000		£'000	Number	Number
<b>CONTRACTORS' PLANT AND QUARRYING MACHINERY</b>						
<b>COMPLETE MACHINES</b>						
Civil engineering, contracting and quarrying machinery and plant such as excavators, dozers (i.e. equipment without tractors), graders, scrapers, shovel loaders, dumpers, asphalt mixing and laying machines, road rollers, concrete mixers, pile drivers and quarry crushing and screening plant but excluding cableway dragline excavators and rope-hauled drag scrapers, cranes, hoists, compressors and tractors (a)	..	45,158	..	84,011	141	155
Well drilling machinery						
Petroleum	}	2,042	}	835	6	6
Other				335	6	6
	Number		Number			
Track-laying tractors (including three-wheel tractors but excluding works tractors)	4,219	6,618	4,503	8,844	} 10	} 10
			7,222			
PARTS sold in association with the sale of complete machines characteristic of this industry (b)	..	15,112	..	21,948	131	127
<b>OTHER PRODUCTS</b>						
<b>WASTE PRODUCTS</b>						
Scrap metals	Th.tons		Th.tons			
Iron and steel	}	20.9	40.0	294	} 56	} 63
		..	82	29		
Brass	}	..	..	39	} 20	} 18
Copper		..	26	..		
Other scrap metals		4	..	17	14	15
Other waste products		2	..	1	*	*
<b>WORK DONE</b>						
Machinery and plant (other than marine machinery and air-conditioning, heating and ventilating plant), erected and installed and other installation work						
Contractors' plant and quarrying machinery	}	92	}	1,545	11	11
Other				86	7	7
Research and development work done for customers (including Government Departments)		34		..	..	..
Total		69,586		125,287	..	..
Sales in other industries (see Table 6)		11,593		18,932	..	..
Principal products of this industry sold by establishments in the industry		57,994		106,356	75	84(c)

- (a) Including reconditioned civil engineering contracting and quarrying machinery and plant valued at £880,000 for 1958. Similar information was not collected for 1963.
- (b) For details of these parts see Table 14. Parts of track-laying tractors are included except those made by firms classified to the Motor Vehicle Manufacturing Industry.
- (c) This figure represents the total number of returns made by larger firms in this industry, which is less than the total number of establishments in Table 2 on account of combined returns covering more than one establishment.



TABLE 5 SUPPLEMENT Manufacturers' deliveries of contractors' plant and quarrying machinery, 1958 and 1963 (a)

All firms in the United Kingdom

	1958	1963
	£'000	£'000
Excavators, trenchers, ditchers and similar digging machinery including buckets and grabs, excluding cableway drag-line excavators and rope-hauled drag scrapers		
Complete		
Single bucket excavators of the crawler-mounted friction-driven type, 6 cu.yd. capacity and under		15,691
Trench excavators (i.e. continuous bucket machines with either excavating wheel, vertical boom or ladder boom)	14,228	727
Other		13,198
Parts	5,929	6,306
Other earth-moving, earth-levelling and land-clearing equipment, including dozers, graders, levellers, scrapers (other than rope-hauled drag scrapers) loaders and loading shovels, rippers and rooters, dumpers, dump trucks and powered barrows		
Complete		
Wheeled loading shovels		14,838
Motor graders		1,911
Dumpers and dump trucks		
Under 5 cu.yds. capacity	23,432	3,623
5 cu.yds. capacity and over		6,843
Other		8,402
Parts		6,296
Concrete mixing and placing machinery, complete and parts		
Concrete mixers - all types		6,340
Concrete truck mixers and agitators	6,604	1,689
Other		2,387
Asphalt, bitumen tar and tarmacadam boilers, distributors, sprayers, finishers and paddle-mixers, complete and parts	3,152	6,506
Crushing, pulverising and screening plant, complete and parts	5,958	8,176
Rollers		
Complete		
Dead weight		2,258
Other	2,578	1,436
Parts		716
Crawler tractors, including agricultural crawler tractors (full track), except market garden types (b)		
Complete		
10 belt h.p. and under 50 belt h.p.	4,248	3,675
50 belt h.p. and under 100 belt h.p.	2,100	3,728
100 belt h.p. and over		6,941
Parts, excluding engines	8,927	11,273
<b>Total</b>	<b>77,156</b>	<b>132,960</b>

(a) This table, which is derived from short period information, supplements the information collected in the 1963 Census and should be read in conjunction with Table 5. It refers to the calendar years 1958 and 1963. Goods merchanted or factored (sold without being subjected to any further manufacturing process) are excluded.

(b) Crawler tractors delivered with major equipment mounted are shown as separate items and the value of the equipment included at the appropriate heading.

TABLE 6 Sales of principal products of the industry by establishments classified to other industries, 1958 and 1963

Firms employing 25 or more persons: United Kingdom

	1958	1963		Principal industries in which produced (a)
	Value	Value	Entries	
	£'000	£'000	Number	
Contractors' plant and quarrying machinery				
Civil engineering, contracting and quarrying machinery and plant such as excavators, dozers (i.e. equipment without tractors), graders, scrapers, shovel loaders, dumpers, asphalt mixing and laying machines, road rollers, concrete mixers, pile drivers and quarry crushing and screening plant but excluding cableway dragline excavators and rope-hauled drag scrapers, cranes, hoists, compressors and tractors				
Complete machines	6,640	7,921	79	41, 47, 49, 52
Parts	1,411	2,008	59	49, 50, 52
Well drilling machinery				
Petroleum				
Complete machines and parts		284	*	47, 52
Other	66			
Complete machines and parts		8,450	*	41, 49, 52, 62
Track-laying tractors (including three-wheel tractors but excluding works tractors) complete machines and parts	3,476			
Installation work done	-	268	7	50, 126
<b>Total</b>	<b>11,593</b>	<b>18,932</b>	<b>..</b>	

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



TABLE 7 Sales of other than principal products by larger firms in the industry, 1958 and 1963

Firms employing 25 or more persons: United Kingdom

	1958	1963
	Value	Value
	£'000	£'000
Agricultural machinery, other than tractors		
Complete	245	1,757
Parts		214
Metal-working machine tools, new		
Complete	400(a)	632
Parts	34	122
Mechanical handling equipment		
Complete	2,077	5,034
Parts	233	517
Brick, tile and cement blockmaking machinery, other than kilns		
Complete	39	124
Parts	28	57
Mining machinery, other than portable power tools		
Complete		345
Parts		291
Pumps, valves and compressors		
Complete and parts	1,694	1,396
Other machinery		
Complete		1,202
Parts		162
Industrial plant		
Complete and parts	164	2,825
Fabricated iron and steelwork		1,356
Motor vehicles and parts	338	2,261
Parts sold other than in association with the sale of complete machines	656	435
Iron castings, and wood and metal patterns	809	1,032
Other products		1,467
Work done		
Structural work carried out in Great Britain, excluding the erection of industrial machinery and plant (b)		
As main contractors	344	15
As sub-contractors	192	
Repair and jobbing work	1,169	1,252
Other work done		259
Services rendered to other organisations (c)	..	683
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	5,784	11,379
Canteen takings	126	288
<b>Total</b>	<b>14,332(d)</b>	<b>35,105</b>

(a) Including reconditioned metal working machine tools.

(b) Less the estimated value of goods made and used in this work.

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

(d) Excluding amounts charged for services rendered to other organisations.

TABLE 8 Production of certain principal products of the industry by larger firms, including production by establishments classified to other industries, 1958 and 1963

This table is not applicable to this industry.

TABLE 9 Purchases of selected principal products of the industry by larger firms, 1963

This table is not applicable to this industry.



TABLE 10 Purchases by larger firms in the industry, 1954 and 1963

Firms employing 25 or more persons: United Kingdom

	1954		1963	
	Quantity	Cost	Quantity	Cost
	Th.tons	£'000	Th.tons	£'000
Materials for processing				
Iron				
Pig iron, including refined pig iron and other irons for re-melting (a)	3.9	69	11.9	288
Castings	17.1 ..	1,138 147	25.9	2,528
Steel				
Ingots, blooms, billets, slabs, and sheet and tinplate bars	2.7	150	7.4	342
Bars and rods (including wire rods), angles, shapes and sections, girders, beams, joists and pillars rolled (not fabricated), including tube rounds and squares (b)	45.5	1,740	68.0	3,779
Plates, 3mm. thick and over	33.2	1,204	74.5	3,686
Hoop and strip (including tape of all thicknesses)			4.1	199
Sheets under 3mm. thick (including electrical sheets)	4.1	190	6.5 ..	367 41
Forgings (except drop forgings)	1.7 ..	235 320	4.1	520
Castings	26.6 ..	3,434 605	35.3	6,262
Tyres, wheels and axles (rail type)	..	22	..	587
Drop forgings (c)	..	162	9.0	1,362
Iron and steel not elsewhere specified except finished parts, wire and scrap				
Wrought tubes and fittings for wrought tubes (including welded, seamless, conduits, etc.)	1.1 ..	76 30	3.4	320
Other (d)			1.8	142
Precision chain (e.g. transmission and timing)	..	386	..	553
Springs, laminated and other types	..	67	..	265
Steel wire and wire manufactures (excluding insulated wires and cables (e))	..	159	..	214
Ferro-alloys	..	20	..	223
Iron and steel scrap	..	65	..	234
Light metals and non-ferrous metals in all forms except finished parts, wire and scrap				
Aluminium and aluminium alloys	0.1	52	0.4	134
Brass and other copper alloys (including nickel silver and cupro-nickel, but excluding all other nickel alloys)	1.2	467	1.1	403
Heavy chemicals (acids, alkalis, alcohols, other inorganic and organic chemicals, compressed gases, etc.)	..	(f)	..	161
Paint and varnish (including lacquers and stains)	..	200	Th.gal. 232 ..	365 42
Synthetic resins and plastics materials (excluding leathercloth and reinforced plastics)	..	(f)	..	12
Refractory materials	..	13	..	44

TABLE 10 (continued)

	1954		1963	
	Quantity	Cost	Quantity	Cost
		£'000		£'000
Materials for processing (continued)				
Rubber, including hard rubber, balata, gutta-percha and synthetic rubber in all forms, including finished parts	..	838	..	1,622
Timber				
Softwood, sawn or planed, but not further prepared or manufactured	..	48	Th.stds. 1.5 ..	161 34
Hardwood, sawn or planed, but not further prepared or manufactured			Th.cu.ft. 11.6 ..	14 2
Insulated wires, cables, strips and strands (g)	..	30	..	91
Bolts, rivets, nuts and washers, screws, nails, tacks, etc.	..	353	..	875
Machinery bought for installation	..	(f)	..	1,849
Purchased components for incorporation in firms' own products				
Ball and roller bearings and parts thereof	..	415	..	1,044
Electric motors				
Of less than 1 h.p.	..	476	..	163
Of 1 h.p. and over			..	930
Internal combustion engines	Number 26,400 ..	3,355 1,219	Number 39,411 ..	7,576 1,192
Industrial valves	..	73	..	1,095
Gear and gear wheels of metal	..	324	..	1,076
Pumps	..	102	..	759
Measuring instruments and gauges and parts				
Industrial process measuring and control instruments and equipment	..	29	..	241
Other			..	948
Plastic goods moulded and fabricated	..	3,378	..	116
Other components not elsewhere specified except those of rubber and asbestos (h)			..	19,027
Purchased second-hand machinery for reconditioning	..	(f)	..	538
Lubricating oils and greases (including cutting oils and emulsions)	Th.gal. 112 ..	28 25	Th.gal. 531 ..	154 38
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement	..	666	..	1,546
All other materials for processing	..	4,865	..	4,645
Packaging materials				
Timber				
Containers wholly or mainly of wood, including plywood boxes and drums, baskets and wickerwork crates	..	205	..	61
Timber (sawn or planed) for manufacture into packing cases, etc.			Th.cu.ft. 287 ..	142 21
All other packaging materials	..	41	..	98

Continued on next page



TABLE 10 (continued)

	1954		1963	
	Quantity	Cost	Quantity	Cost
Fuel and electricity	Th.tons	£'000	Th.tons	£'000
Coal	29.3	112	17.9	110
Coke (including screenings) and manufactured fuel	12.3	80	15.8	170
Derv fuel and motor spirit for use in road vehicles	Th.gal.	89	Th.gal.	172
Other liquid fuels (including creosote/pitch mixtures, etc., and liquefied petroleum gases)	454	30	8,826	35
Gas	619	8	2,844	188
Electricity	Th.therms	106	Th.therms	39
	1,797	16	221,950	902
	Th.kWh	160		
	31,299	86		
Total cost of materials and fuel		28,108		71,407
Goods purchased for merchanting		..		10,183
Canteen purchases		..		276
Total cost of purchases		..		81,866

- (a) Described in 1954 as 'Pig iron except refined pig-iron'.
- (b) 'Pillars rolled (not fabricated) including tube rounds and squares' were not included in 1954.
- (c) Described in 1954 as 'Drop forgings of iron and steel'.
- (d) Heading in 1954 covered 'iron' only.
- (e) Described as covering iron and steel in 1954.
- (f) Not recorded separately in 1954.
- (g) 'Strips and strands' were not included in 1954.
- (h) Components of rubber and asbestos were not excluded in 1954.

TABLE 11 Transport costs and employment of larger firms, 1963

Firms employing 25 or more persons: United Kingdom

	Unit	1963
Average number employed mainly on transport	No.	309
Transport costs		
Wages and salaries	£'000	253
Derv fuel and motor spirit	"	207
Payments to other organisations for transport	"	1,367
Costs of operating road goods vehicles		
Insurance	"	25
Vehicle licences	"	24
Depreciation	"	127
Payments to other organisations for repairs and maintenance	"	77
Total	"	2,080

TABLE 12 Payments for certain services, etc. by larger firms, 1963 (a)

Firms employing 25 or more persons: United Kingdom

	Amounts payable
Repairs and maintenance to	£'000
Buildings	202
Road goods vehicles	77
Plant, machinery, and other capital equipment	205
Insurance, licensing and depreciation of road goods vehicles (b)	176
Rates, excluding water rates	593
Hire of plant and machinery	131
Postage, telephone, telegrams and cables	529
Total	1,913

- (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.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger firms, 1963

Firms employing 25 or more persons: United Kingdom

Year ended	Percentage of total number employed	Year ended	Percentage of total number employed
1963	Per cent.	1963 (contd.)	Per cent.
April (a)	0.1	November	0.4
May	0.1	December	53.9
June	11.5		
July	0.1	1964	
August	1.6	January	0.4
September	16.4	February	0.0
October	0.5	March	14.9
		Total	100

- (a) Including returns made for twelve-month periods ended 1st to 5th April, 1964.



TABLE 14 Sales of all parts of contractors' plant and quarrying machinery by larger firms, including sales of establishments classified to other industries, 1958 and 1963

Firms employing 25 or more persons: United Kingdom

	1958		1963	
	(i)	(ii)	(i)	(ii)
(i) Parts sold in association with the sale of complete machines characteristic of this industry (a)	£'000	£'000	£'000	£'000
(ii) Other parts sold (b)				
<b>PARTS of civil engineering, contracting and quarrying machinery and plant</b>				
For excavators, dozers (i.e. equipment without tractors), graders, scrapers, shovel loaders, dumpers, asphalt mixing and laying machines, road rollers, concrete mixers, pile drivers and quarry crushing and screening plant, etc. but excluding cableway dragline excavators and rope-hauled drag scrapers, cranes, hoists, compressors and tractors	11,813	1,597	19,050	3,884
For well drilling machinery				
For petroleum	1,555	2,926	896	365
For other			325	
For track-laying tractors (including three-wheel tractors but excluding works tractors) (c)	1,744	883	1,676	1,251
<b>Total</b>	<b>15,112</b>	<b>5,406</b>	<b>21,948</b>	<b>5,500</b>

(a) Principal products of this industry.

(b) Principal products of General Mechanical Engineering.

(c) Excluding parts of track-laying tractors made by firms classified to the Motor Vehicle Manufacturing Industry.

Notes - continued from page ii

*Capital Expenditure (continued)*

(ii) Land and existing buildings.

The items shown are the capital cost of freeholds purchased and the capital cost or premium payable for leaseholds acquired (excluding the value of any assets acquired in taking over an existing business), and the amounts receivable for any freeholds or leaseholds disposed of. The value is that charged to capital account during the year of return.

(iii) Plant, machinery and vehicles.

The items shown are the value of plant and machinery and of vehicles acquired, both new and second-hand, and the amount received for items disposed of during the year. The value of plant and machinery acquired includes plant, etc. which firms produced for their own use in connection with the business covered by the return. The value of plant, etc. acquired is the expenditure charged to capital account during the year of return less any discounts received, but including the cost of transport and installation. No deduction is made for depreciation, amortisation or obsolescence. The proceeds of items disposed of during the year exclude amounts written off for items scrapped.

Capital expenditure during the year in respect of manufacturing establishments where production had not started before the end of the year is excluded in this report for both 1958 and 1963.

*Characteristic Products*

The characteristic products of a sub-division are those in terms of which the sub-division is defined. They are products commonly associated in production and are usually similar in nature or manner of production. In most cases the characteristic products of each sub-division are indicated in Table 5 of the industry reports. For those industries for which an analysis by sub-divisions has been made, Table 2 shows the total sales of such characteristic products for each sub-division. The totals include, besides the products which define the sub-division, other items of output assumed to be closely related to them, e.g. waste products and work done.

*Enterprise*

The term enterprise is used in this report to mean one or more firms under common ownership or control. An enterprise normally consists either of a single firm, or of a parent company together with its subsidiary companies.

*Entries*

The number of entries shown in Tables 5, 6 and 8 against a particular output or production heading is the number of returns on which figures were recorded for that item.

*Establishment*

The census was based on the establishment, comprising in most cases the whole of the premises under the same ownership or management at a particular address (e.g. a factory or mine); but firms were asked to exclude from all sections of their returns particulars relating to any department not engaged in production for which they kept a separate set of accounts. Where separate accounts were not kept, they were asked to include merchanting or factoring, canteens operated by them and other

ancillary activities such as bottling, packing and the manufacture of containers for packing their own products, whether or not these activities are carried on at the same address as the works. Building and engineering maintenance departments and selling and transport departments were treated similarly.

*Gross Output*

The gross output of an industry is the aggregate value of goods made and other work done during the year by the establishments classified to the industry. It is derived by subtracting from the value of sales and work done, the value of stocks of goods on hand for sale and work in progress at the beginning of the year and adding the value at the end of the year.

*Larger Firms*

These are firms in which twenty-five or more persons were employed on the average during the year.

*Net Output*

The net output of an industry represents the value added to materials by the process of production. It includes the gross margin on any merchanted or factored goods sold; it constitutes the fund from which wages, salaries, insurance, pensions, hire of plant and machinery, payments for repairs and maintenance, costs of operating road vehicles, rents, rates and taxes, advertising and other selling expenses and all other similar charges have to be met, as well as depreciation and profits. There is no appreciable duplication in net output. Net output has been obtained by deducting from the gross output the cost of purchases adjusted for stock changes, payments for work given out to other firms, and payments for transport.

Normally any customs or excise duty on materials purchased is included in the cost of materials. Similarly, finished goods sold have been valued as they were sold, duty paid or duty free. The amounts of duty, subsidies, allowances and levies receivable or payable, where of substantial importance in the industry, were required to be stated separately, and these items were taken into account when calculating net output.

*Net output per person employed*

The figures for net output per person employed are derived by dividing the net output by the average number of persons employed (full-time and part-time) on all activities covered by the returns, including operatives, administrative, technical and clerical employees and working proprietors, but excluding outworkers.

*Principal Products*

The principal products of an industry are those in terms of which the industry is defined. They are products commonly associated in production, and are usually similar in nature or manner of production.

*Production*

This means the total quantity of a product made during the year, whether sold in the year, added to stock, transferred to another department of the same firm, or used in the manufacture of other products within the business covered by the return. It includes goods produced from materials supplied by other firms.



### Purchases

Purchases include the cost of materials and components bought for use in production; of fuel and electricity for all purposes; of packing materials, including the full cost of returnable cases and containers when first purchased; of workshop materials, office materials and materials for repairs to firms' own buildings, plant and vehicles when carried out by their own workpeople included in the return; of consumable tools; and of parts for machinery purchased during the year as replacements. Water charges are also included. In general purchases of goods for merchanting or factoring and canteen supplies are included. Materials supplied by customers for processing are excluded.

The values shown include any duty paid (less rebate, etc.) but exclude trade discounts allowed. The cost of transport is included only if included in the cost of materials as invoiced; amounts paid to transport organisations, including firms' own separate transport organisations, for delivery of materials and fuel are, therefore, excluded. Materials purchased overseas are included at their c.i.f. cost plus any duty payable if the cost of transport from the docks was not included in the invoiced price, but at their full delivered cost if invoiced 'carriage paid home'. Materials and fuel transferred from another department of the firm not covered by the same return are included at the estimated selling value recorded by the other department.

### Sales

Sales are in respect of goods made by the business covered by the return, goods made for it by outworkers or by other firms from materials given out to them (sometimes described as goods made on commission) and waste products. Any machinery or other capital items produced for use in the business covered by the return are included, the value being that adopted in the firm's capital asset account. Goods sold without being subjected to any manufacturing process (merchanting or factored) and canteen takings are included as in 1958.

The value shown for sales is the net selling value, defined as the amount charged to customers whether on an ex-works or delivered basis, net of any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc.; the net amount charged for packing materials is included. Goods charged on a delivered basis to customers overseas are included at the f.o.b. value. For work done on commission or for the trade the value shown is the net amount charged.

Where goods produced in one department were transferred to another department of the same firm not covered by the return, these transfers were treated as sales by the producing department and valued as far as possible as if they had been sold to an independent purchaser. Goods transferred to wholesale or retail selling organisations for which separate accounts were kept were valued on the same basis. Estimations of a similar kind were also sometimes necessary in valuing transfers between different firms belonging to the same enterprise. To the extent that the sales of finished products of one establishment may constitute the materials purchased by another, total figures of the value of sales (and of materials and fuel purchased) include an element of duplication.

### Services rendered

This represents the amounts charged for hiring out plant, machinery and other goods, providing transport, or for any technical or other

services rendered to other organisations. It includes amounts credited for similar services rendered to other departments of the same firm not covered by the return.

### Small Firms

These are firms in which fewer than twenty-five persons were employed on the average during the year.

### Stocks and Work in Progress

Values are given of stocks of goods on hand for sale, and of materials and fuel, at the beginning and end of the year of return, including any stocks of goods held for merchanting or factoring. The values include duty in the case of dutiable goods held out of bond. The value of work in progress at the two dates is also usually shown. This excludes any progress payments made to sub-contractors, and no deduction is made on account of progress payments received.

### Transport Payments

These represent the total amount paid or credited during the year for both outwards transport of finished goods sold and inwards transport of materials and fuel purchased. They include payments to other firms, and to any separate transport organisation of the same firm, not covered by the return, but exclude the value of transport services provided by the business covered by the return. The items included are payments for hired cartage and for inwards and outwards carriage by all forms of inland transport, i.e. railways, road haulage, canals, coast-wise shipping, air, etc. Payments made for sea freight on goods sold to customers overseas and on materials and fuel purchased from overseas suppliers are excluded.

### Wages and Salaries

These are the amounts paid during the year to operatives and to administrative, technical and clerical employees. Payments to working proprietors, whether called salaries or not, are excluded; in Northern Ireland this exclusion extends also to payments to directors of limited companies. The values shown include all overtime payments, bonuses and commissions, whether paid regularly or not, and no deduction is made for income tax, insurances, contributory pensions, etc. The value of any payments in kind, travelling expenses, lodging allowances, etc. and employers' contributions to National Insurance and pension schemes is excluded.

### Work given out

The figures shown represent the total amount paid for work done by other firms on materials supplied to them, and also by firms' own establishments for which separate returns were made. They do not include payments to individual outworkers or payments for business and other services.

### Symbols used

The following symbols are used throughout the report:

- .. Not available
- Nil or negligible (less than half the final digit shown)
- \* Figures cannot be shown owing to the risk of disclosing information about individual enterprises.

### Rounding of Figures

The figures in the tables have, where necessary, been rounded to the nearest final digit. There may, therefore, be apparent slight discrepancies between the sums of the constituent items and the totals shown.

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