

45 Steel tubes

This Report on the Steel Tubes Industry relates to establishments engaged wholly or mainly in manufacturing all types of steel tube and pipe, and fittings therefor, including conduits, gas cylinders and flexible tubes. Production of pig iron at blast furnaces (including ore preparation plants) at integrated tube works is included.

This industry corresponds to minimum list heading 312 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 definition of this industry however is unchanged from the last detailed Census of Production for 1963 in which it was reported (Part 38).

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 two sub-divisions of this industry shown in Table 4; establishments which made plain straight tubing or gas cylinders or whose sales of these amounted to 10 per cent. or more of their total sales of the principal products of the industry, were allocated to the first group. The remaining establishments, mainly those primarily engaged in fabricating tubes or making tube fittings, were allocated to the second.

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).

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(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.	136	126
Number of establishments	"	198	188
Gross output	£'000	220,419	292,224
Net output	"	79,074	116,947
Net output per head	£	1,413	2,024
Sales and work done	£'000	209,491	278,344
	{ goods produced and work done (c)		
	{ merchanted goods and canteen takings	13,780	11,726
Purchases	"	119,213	156,236
	{ materials for use in production and packaging, and fuel		
	{ goods for merchenting and canteen purchases	13,672	10,561
Payments to other organisations	"	2,034	3,081
	{ for work done on materials given out for transport		
	{ by road		3,374
	{ by rail and other means excluding postal services	4,388	2,176
Stocks and work in progress	"	- 4,891	+ 2,304
Total stocks and work in progress	{ change during year	42,992	61,154
	{ at end of year		
Goods on hand for sale	"	- 384	- 79
	{ change during year	8,056	10,020
	{ at end of year		
Work in progress	"	- 2,469	+ 2,232
	{ change during year	12,833	23,228
	{ at end of year		
Materials, stores and fuel	"	- 2,038	+ 151
	{ change during year	22,103	27,905
	{ at end of year		
Number employed on average during the year	Th.	55.9	57.8
	{ total, including working proprietors		
	{ operatives	42.8	42.1
	{ other employees (d)	13.1	15.6
Wages and salaries	£'000	31,431	42,896
	{ of operatives	11,874	18,172
	{ of other employees (d)		
Capital expenditure (e)	"	8,263	13,647
Total	"	849	1,864
New building work	"	6	- 44
Land and existing buildings (f)	"	7,195	11,426
Plant and machinery (f)	"	213	401
Vehicles (f)	"		

(a) For 1968 estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for 2 per cent. of the total figures in which they were incorporated; of this unsatisfactory returns accounted for just under 1 per cent. A similar situation existed in 1963.

(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	71	62
Average number employed		
Working proprietors	91	56
Other persons employed	710	671

Footnotes continued on page 45/2

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	10	9	27	..	..	..
6-10	13	13	104	..	..	..
11-24	27	25	492	..	..	..
25-49	17	15	618	3,267	1,149	1,859
50-99	31	25	2,181	9,936	3,928	1,801
100-199	17	15	2,610	12,214	4,836	1,853
200-299	16	10	3,961	16,928	7,210	1,820
300-399	7	6	2,472	10,097	4,718	1,909
400-499	5	4	2,252	11,904	3,539	1,572
500-749	7	4	4,336	21,838	7,999	1,845
750 and over	18	9	38,214	200,335	81,238	2,126
Unsatisfactory returns	20	19	518	..	..	..
Total	188	126	57,785	292,224(c)	116,947(c)	2,024(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	
	Opera-tives	Others (d)	Opera-tives	Others (d)	Opera-tives	Others (d)
	Number	Number	£'000	£'000	£	£
1-5	..	..	..	..	..	..
6-10	..	..	..	..	..	..
11-24	..	..	..	..	..	..
25-49	481	133	438	167	911	1,259
50-99	1,759	399	1,534	483	872	1,211
100-199	1,969	641	1,866	736	948	1,148
200-299	2,903	1,053	2,836	1,207	977	1,147
300-399	1,738	734	1,824	816	1,049	1,112
400-499	1,685	567	1,584	619	940	1,092
500-749	3,191	1,145	3,140	1,339	984	1,169
750 and over	27,614	10,600	28,878	12,460	1,046	1,175
Unsatisfactory returns	..	..	..	..	..	..
Total	42,127(c)	15,570(c)	42,896(c)	18,172(c)	1,018(c)	1,167(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	3	1	4
18 and over	82	14	96
All ages	85	15	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 5 establishments in 1968 and 6 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 £6,000 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.

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)				Total	
		Tubing and gas cylinders		Tubes manipulated, fabricated, etc, tube fittings and flexible metallic tubing		1963	1968
		01	02	01	02		
1963	1968	1963	1968	1963	1968		
Number of enterprises (c)	No.	23	30	52	39	72	65
Number of establishments	"	61	70	69	53	130	123
Gross output	£'000	186,556	246,519	29,624	40,268	216,180	286,787
Net output	"	63,791	95,891	13,762	18,881	77,553	114,772
Net output per head	£	1,410	2,048	1,427	1,908	1,413	2,024
Sales and work done	£'000	177,772	236,024	27,690	37,142	205,462	273,166
		goods produced and work done (d) (e)					
		merchanted goods and canteen takings					
Sales of characteristic products	"	143,045	184,472	25,460	33,601	(f)	(f)
Index of specialisation (g)	Per cent.	80	78	92	90	90	88
Purchases	£'000	105,111	135,663	11,809	17,666	116,920	153,330
		materials for use in production and packaging, and fuel					
		goods for merchanting and canteen purchases					
Payments to other organisations	"	1,688	2,441	307	583	1,995	3,024
		for work done on materials given out for transport					
		by road					
		by rail and other means excluding postal services					
		3,919	2,854	385	457	4,304	3,311
		2,054		82		2,135	
Stocks and work in progress							
Goods on hand for sale	"	- 200	+ 71	- 177	- 148	- 376	- 77
		change during year					
		at end of year					
Work in progress	"	- 617	+ 1,892	- 1,804	+ 298	- 2,421	+ 2,190
		change during year					
		at end of year					
Materials, stores and fuel	"	- 2,122	+ 551	+ 122	- 403	- 1,999	+ 148
		change during year					
		at end of year					
Number employed on average during the year	No.	45,228	46,815	9,643	9,895	54,871	56,710
		total, including working proprietors					
		operatives					
		other employees (h)					
Wages and salaries	£'000	25,990	35,252	4,876	6,887	30,866	42,138
		of operatives					
		of other employees (h)					
Wages and salaries per head	£	742	1,019	700	1,015	735	1,018
		operatives					
		other employees (h)					
Capital expenditure (i)	£'000	699	1,330	134	499	833	1,822
New building work	"	95	69	54	93	149	161
Land and existing buildings	"	128	192	14	13	143	205
		acquisitions					
		disposals					
Plant and machinery	"	6,840	10,536	552	1,075	7,392	11,611
		acquisitions					
		disposals					
Vehicles	"	196	465	108	131	303	596
		acquisitions					
		disposals					
		53	163	42	39	94	203

For notes to this table - see page 45/5.

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	Tube hollows and shells			76.7	9,730	7	12
01	Gas containers, solid drawn, (cylinders, bottles, etc)	50.0	8,622	12.7	4,047	5	6
				..	1,065		
01	Wrought tubes, plain straight tubing						
	Electric conduit tubes (including close joint tubes)	39.3	3,917	29.8	3,096	9	11
	Other	..	1,625				
	Welded						
	Made from plate						
	Exceeding 16 inches outer diameter			209	18,670	6	10
	Not exceeding 16 inches outer diameter	{ 807	{ 58,974				
		{ ..	{ 451	867	64,600	18	28
	Other than made from plate						
	Seamless						
	Other than cold drawn	559	47,600	606	53,738	9	20
	Cold drawn	76.6	21,070	84.7	28,821	15	25
02	Wrought tubes (including purchased plain straight tubing) manipulated, fabricated, etc	85.6	22,887	92.4	23,991	36	54
		..	3,579	..	11,446		
02	Fittings for tubes						
	Wrought	30.5	5,877	19.4	4,998	22	25
		..	2,362	..	4,032		
	Malleable cast	3.2	881	3.5	1,126	14	14
		..	1,579	..	829		
02	Purchased tube fittings machined or otherwise fabricated	11.4	2,987	11.9	3,960	11	17
				..	1,334		
02	Flexible metallic tubing	1.8	678	1.5	928	14	16
		..	835	..	2,575		
	Other products	..	971	..	672	5	8
	Waste products						
	Scrap iron and steel	208	2,212	245	3,000	51	86
	Other waste products	..	842	..	1,398	8	13
	Work done		267		1,052	8	25
	Total		188,216		245,107	..	..
	Sales in other industries (see Table 6)		3,951		5,642	..	..
	Principal products of this industry sold by establishments in the industry		184,265		239,465	65	103(b)

(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) 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			Principal industries in which produced (a)
	Quantity	Value	Quantity	Value	Entries	
	Th. tons	£'000	Th. tons	£'000	Number	
Wrought tubes, plain straight tubing	8.8	878	28.4	2,949	*	44,48,80,130
	..	1,172				
Tube hollows and shells			2.1	261	*	65,97,130
Gas containers, solid drawn, (cylinders, bottles, etc)	1.5	296	..	1,065	*	63,64,70,97
Wrought tubes (including purchased plain straight tubing) manipulated, fabricated, etc	..	373	..	336	*	46,82,97,144
Fittings for tubes	..	921				
Flexible metallic tubing	..	311	..	1,031	7	67,78,97,144
Total		3,951		5,642	..	

(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
Manufactures of non-ferrous metals	2,001	2,368
Iron and steel manufactures and other products	16,514(a)	22,375
Iron and steel structural work (b)	1,469	7,220
Services rendered to other organisations (c)	1,214	1,738
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	13,369	11,262
Canteen takings	146	246
Total	34,713	45,209

(a) Including electricity and gas for 1963.

(b) The data shown for 1963 is not comparable with that for 1968. Because of a change in the method of collection, the data for 1968 includes goods made by firms and incorporated in their building and civil engineering work whereas the data for 1963 excludes such goods. For 1963 the value of goods made and used in building and civil engineering work amounting to £64,000 has been deducted from the gross figure for building and civil engineering (£1,533,000) in order to avoid duplication which arises because they have been included against the appropriate sales headings elsewhere in the Report. For 1968 duplication does not arise since goods made and used in building and civil engineering work were not shown additionally as sales elsewhere in the Report; it is estimated that these goods amounted to £364,000.

(c) 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

This table is not applicable to this industry.

The main purchasing industries of steel tubes are listed in Table 9 of the report on Iron and Steel (General) (Part 44) together with the details of the quantity and value purchased by each industry.

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
Iron ore and manganese ore	2,540	2,535	2,553	2,162
Iron				
Pig iron, including refined pig iron, and other irons for re-melting	119	2,417	127	2,269
Castings (including malleable cast iron tube fittings)	5.9	910	1.4	274
	..	228	..	643
Steel				
Ingots, blooms, billets, slabs, and sheet and tin-plate bars	425	18,918	397	16,122
Bars and rods (including wire rods), angles, shapes and sections, girders, beams, joists and pillars rolled (not fabricated), including tube rounds and squares	153	8,956	298	16,036
Hoop and strip (including tape of all thicknesses)	156	8,903	274	15,972
Hot rolled coil from wide continuous mills	39.0	1,818	76.7	4,435
Plates, 3 mm. thick and over	114	4,973	218	11,594
Tube hollows and tube shells	89.6	10,119	116	13,926
Wrought tubes purchased for further fabrication	250	14,803	257	15,229
			..	2,452
Fittings for wrought tubes (including flanges)	12.9	1,811	10.3	1,660
	..	425	..	654
Iron and steel not elsewhere specified except finished parts, wire and scrap	5.6	597	8.5	696
	..	251		
Iron and steel scrap	137	1,377	188	2,046
Zinc and alloys of zinc in all forms except finished parts, wire and scrap	12.2	920	9.3	1,049
Other alloying and finishing materials not elsewhere specified	1.8	338	2.8	827
	..	226	..	211
			Mn.cu.ft.	
Oxygen	..	(a)	3,001	824
Water	..	(a)	..	293
	Th.gal.		Th.gal.	
Lubricating oils and greases	1,174	261	1,261	372
	Th.cwt.		Th.cwt.	
	47.0	98	26.4	96
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	..	6,267	..	87
Other			..	9,878
All other materials for use in production	..	12,504	..	14,040
Packaging materials	Th.cu.ft.		Th.cu.ft.	
Timber (sawn or planed) for manufacture into packing cases, etc	105	69	221	78
	..	26	..	41
Jute and hessian piece goods, sacks and bags	..	108	..	141
All other packaging materials	..	496	..	522

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Fuel and electricity (b)	Th.tons	£'000	Th.tons	£'000
Coal	232	1,335	46.9	312
Coke (including screenings) and manufactured fuel	869	7,321	762	7,057
	Th.gal.		Th.gal.	
Derv fuel and motor spirit for use in road vehicles	666	153	678	176
Other liquid fuels (including creosote/pitch mixtures, etc, and liquefied petroleum gases)	47,813	2,117	81,406	3,456
Gas	Th.therms		Th.therms	
Blast furnace gas	1,059	20	-	-
Coke oven gas	33,744	722	36,421	805
Other (including town gas)	21,348	1,325	23,347	1,605
	Th.kWh		Th.kWh	
Electricity	746,843	3,574	836,872	5,030
All other fuels	..	(c)	..	260
Total cost of materials and fuel		116,920		153,330
Goods purchased for merchanting		13,225		10,089
Canteen purchases		184		275
Total cost of purchases		130,329		163,694

(a) Included with 'All other materials for use in production'.

(b) The total quantity of electricity generated in establishments employing 25 or more persons in this industry was 24,429 Th.kWh in 1968 and 34,245 Th.kWh in 1963.

(c) Not recorded separately for 1963.

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.	468	498
Transport costs			
Wages and salaries	£'000	383	529
Derv fuel and motor spirit	"	153	176
Tyres and other spare parts for road goods vehicles	"	..	87
Payments to other organisations for transport	"	4,304	3,311
	{ by road by rail and other means excluding postal services		2,135
Costs of operating road goods vehicles			
Insurance	"	17	22
Vehicle licences	"	19	46
Depreciation	"	102	134
Payments to other organisations for repairs and maintenance	"	40	70
Total	"	5,018(a)	6,510

(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	358	531
Road goods vehicles	40	70
Plant, machinery and other capital equipment	847	1,810
Insurance, licensing and depreciation of road goods vehicles (b)	139	202
Rates, excluding water rates	1,238	2,255
Hire of plant and machinery	204	426
Postage, telephone, telegrams, cables and telex (c)	444	682
Total	3,270	5,976

(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)	0.0	0.0
May	0.0	0.0
June	3.9	0.7
July	19.4	29.2
August	1.0	0.2
September	18.4	49.0
October	1.9	2.0
November	0.0	0.0
December	35.9	11.8
1969		
January	4.9	1.5
February	0.0	0.0
March	12.6	5.4
April (b)	1.9	0.2
	100	100

(a) From 6 April

(b) To 5 April