

THE IRON AND STEEL TRADE (BLAST FURNACES)

INTRODUCTORY

This trade comprises firms that were engaged wholly or mainly in the production of pig iron and ferro-alloys.

In each year returns were received from all firms, each of whom employed more than ten persons on the average.

Table I.—General summary

Particulars	1935	1934	1933	1930	1924
	£'000	£'000	£'000	£'000	£'000
Value of products (Gross output) ...	21,047	18,540	12,686	23,820	36,572
Cost of materials, fuel and electricity used ...	16,964	14,949	9,921	19,872	31,315
Net output ...	4,083	3,591	2,765	3,948	5,257
Average number of persons employed ...	No. 15,815	No. 14,873	No. 11,434	No. 19,362	No. 26,970
Net output per person employed...	£ 258	£ 241	£ 242	£ 204	£ 195
Number of returns ...	48	*	*	68	92
Number of establishments...	48	*	*	69	*

* Not available.

Table II.—Size of establishments in 1935

Size of establishment (average number employed)	Number of establishments	Gross output	Net output	Number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
11-99 ...	10	675	197	604	326
100-199...	8	1,894	383	1,149	333
200-299...	7	1,887	378	1,695	223
300-399...	9	5,053	899	3,195	281
400-499...	6	3,375	564	2,809	201
500 and over ...	8	8,163	1,662	6,363	261
TOTAL ...	48	21,047	4,083	15,815	258

Table III.—Particulars of output, etc., in each of the principal areas of the United Kingdom

Area*	Number of establishments†	Gross output	Net output	Number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
2 ...	1935 4 1930 8	2,359 2,228	363 430	1,421 1,660	255 259
3 ...	1935 4 1930 5	581 1,208	111 258	386 1,216	287 212
4 ...	1935 8 1930 13	5,845 6,241	1,088 855	4,120 4,253	264 201
5 ...	1935 6 1930 8	1,298 1,377	308 244	978 1,383	315 176
6 ...	1935 10	3,995	835	3,509	238
1, 7, 10 and 11	1935 6	3,485	738	2,837	260
1 and 6-11 ...	1935 16 1930 21	7,480 8,526	1,573 1,075	6,346 7,504	248 223
12 and 13 ...	1935 5 1930 5	2,052 2,102	321 255	1,135 1,321	283 193
14 and 15 ...	1935 5 1930 8	1,432 2,138	319 231	1,429 2,025	223 114
TOTAL ...	1935 48 1930 68	21,047 23,820	4,083 3,948	15,815 19,362	258 204

* For particulars see page xviii.

† Number of returns for 1930.

Table IV.—No sub-divisions of this trade have been distinguished.

PRODUCTION

Table V A.—Output of principal products

Kind of goods	1935			1934	
	Quantity	Value	Entries	Quantity	Value
Pig iron :—	Th. tons	£'000	No.	Th. tons	£'000
Forge ...	115.4	345	19	122.4	339
Foundry* ...	1,336.2	4,166	34	1,342.2	4,005
Acid (hematite) ...	1,523.8	4,840	13	1,476.0	4,572
Basic ...	3,412.2	9,118	22	2,836.6	7,497
TOTAL—Pig iron ...	6,387.6	18,469	...	5,777.2	16,413
Ferro-alloys :—					
Ferro-manganese... ..	74.6	696	3	72.1	664
Spiegeleisen	20.9	100	3	9.1	52
Ferro-tungsten	2.2	552	3	15.4	743
Ferro-molybdenum	0.8	263	3		
Other†	2.5	300	5		
TOTAL—Ferro-alloys ...	101.0	1,911	...	96.6	1,459
TOTAL—PRINCIPAL PRODUCTS	6,488.6	20,380	...	5,873.8	17,872

* Including some refined pig iron.

† Including ferro-chromium, ferro-silicon, ferro-titanium and ferro-vanadium.

The figures shown in the preceding table include the following output recorded by firms whose returns were made on schedules for other trades and are not, therefore, included in Table I.

Kind of output	1935			1934	
	Quantity	Value	Entries	Quantity	Value
	Th. tons	£'000	No.	Th. tons	£'000
Ferro alloys :—					
Ferro-tungsten ...	2.2	552	3	1.2	298
Ferro-molybdenum ...	0.8	263	3	0.4	167
Other ...	0.8	286	4	0.5	207
TOTAL ...	3.8	1,101	...	2.1	672

Table V B.—Output of certain principal products, 1924-1935

Kind of goods	1924	1930	1933	1934	1935
Pig iron :—					
Forge ...	285.9	114.1	122.4	115.4	...
Foundry ...	10,979	1,560.5	965.4	1,342.2	1,336.2
Acid (hematite) ...	2,090.1	1,826.2	1,076.9	1,476.0	1,523.8
Basic ...	2,651.5	2,448.4	1,862.6	2,836.6	3,412.2
Total—Pig iron	7,159.2	6,121.0	4,019.0	5,777.2	6,387.6
Ferro-alloys :—					
Ferro-manganese and spiegeleisen	196.6	125.7	63.3	81.2	95.5
Other ...	4.8	4.9	5.2	15.4	5.5
Total — Ferro-alloys...	201.4	130.6	68.5	96.6	101.0
TOTAL — PRINCIPAL PRODUCTS	7,360.6	6,251.6	4,087.5	5,873.8	6,488.6

Table VI.—Average values of goods produced, exported and imported

Kind of goods	Production (at factory)		1935 as a percentage of 1934	Exports (f.o.b.)		Imports (c.i.f.)	
	Average value	Average value		Average value	Average value		
	1935	1934	1935	1934	1935	1934	
Pig iron :—	£ per ton	£ per ton	Per cent.	£ per ton	£ per ton	£ per ton	£ per ton
Forge ...	2.99	2.77	107.8	4.35	4.16	...	...
Foundry ...	3.12	2.98	104.5	3.46	3.41	4.05	3.88
Acid (hematite) ...	3.18	3.10	102.5	3.26	3.16	...	...
Basic ...	2.67	2.64	101.1	3.20	3.32	2.95	2.79
Ferro-alloys :—							
Ferro-manganese ...	9.35	9.21	101.4	*	*	*	*
Spiegeleisen ...	4.76	5.68	83.9				
Ferro-manganese and spiegeleisen ...	8.34	8.82	94.6	8.28	8.21	21.28	18.92

* Not recorded separately.

Table VII.—Volume of Production, 1924-1935

Kind of output	Total production			Production index (1935 = 100)			
	1935 as returned	1934		1924	1930	1933	1934
		As returned	At 1935 average values				
Pig iron :—	£'000	£'000	£'000	Per cent.	Per cent.	Per cent.	Per cent.
Forge ...	345	339	366	169	247	99	106
Foundry ...	4,166	4,005	4,184	116	72	100	100
Acid (hematite) ...	4,840	4,572	4,688	137	120	71	97
Basic ...	9,118	7,497	7,579	77	72	54	83
Total—Pig iron	18,469	16,413	16,817	115	98	63	91
Ferro-alloys :—							
Ferro-manganese and spiegeleisen	796	716	718	201	129	64	90
Other ...	1,115	743	715	43	44	52	64
Total — Ferro-alloys ...	1,911	1,459	1,433	109	79	57	75
TOTAL ...	20,380	17,872	18,250	115	96	63	90

Table VIII.—Production in relation to Exports and Imports

Kind of goods	Production	Exports	Proportion of production exported	Retained imports	Avail-	Share
					able for use in the United Kingdom	of home market held by British goods
	Th. tons	Th. tons	Per cent.	Th. tons	Th. tons	Per cent.
Pig iron :—						
Forge ...	1935 115.4 1934 122.4	2.2 1.3	1.9 1.1	0.0 —	113.2 121.1	100.0 100.0
Foundry ...	1935 1,336.2 1934 1,342.2	90.5 73.2	6.8 5.5	46.3* 46.1*	1,292.0 1,315.1	96.4 96.5
Acid (hematite)	1935 1,523.8 1934 1,476.0	48.8 47.9	3.2 3.2	— —	1,475.0 1,428.1	100.0 100.0
Basic ...	1935 3,412.2 1934 2,836.6	0.8 0.8	... ...	37.5 79.4	3,448.9 2,915.2	98.9 97.3
Total — Pig iron	1935 6,387.6 1934 5,777.2	142.3 123.2	2.2 2.1	83.8 125.5	6,329.1 5,779.5	98.7 97.8
Ferro-alloys :—						
Ferro-manganese and spiegeleisen...	1935 95.5 1934 81.2	11.7 9.0	12.2 11.0	2.8 2.4	86.6 74.6	96.8 96.8
Other ...	1935 5.5 1934 15.4	2.9 0.9	52.3 6.2	40.8 34.5	43.5 49.0	6.1 29.5

* Including "Pig iron smelted wholly with charcoal" (11,900 tons in 1935; 12,000 tons in 1934), and "Vanadium-titanium pig iron produced in an electric furnace" (4,800 tons in 1935; 3,400 tons in 1934).

Table IX.—Other output of the Iron and Steel Trade (Blast Furnaces)

The value of the gross output of the firms whose returns were made on schedules for the Iron and Steel Trade (Blast Furnaces) was £21,047,000 in 1935 and £18,540,000 in 1934, of which £19,279,000 in 1935 and £17,200,000 in 1934 consisted of products included in Table V A. Particulars of the remaining items are shown below.

Kind of output	1935		1934	
	Quantity	Value	Quantity	Value
	Th. tons	£'000	Th. tons	£'000
Iron castings in the rough ...	5.0	22	3.3	13
Ground slag ...	428.8	112	522.1	131
Tarred macadam ...	180.7	98	281.6	158
Electricity sold ...	378	607	210	324
Gas sold ...	...	740	...	624
Other output, including work done ...	...	189	...	90
TOTAL ...	...	1,768	...	1,340

MATERIALS AND FUEL

Table X A.—Materials, fuel and electricity purchased and used

Kind of materials, etc.	1935		1934
	Quantity	Cost	Cost
	Th. tons	£'000	£'000
Iron ore ...	14,982	7,415	14,949
Limestone ...	1,746	492	
Cinder and scale ...	474.4	330	
Purple ore ...	252.9	198	
Scrap ...	276.0	462	
Fuel and electricity used for all purposes :—			
Coal ...	344.0	220	14,949
Coke ...	7,170.3	6,368	
Purchased electricity*	128,821	185	
All other purchased materials and fuel	...	1,294	
TOTAL ...	...	16,964	14,949

* Including electricity generated in other works under the same ownership.

Table X B.—Consumption of coal, coke and electricity—
(see page 44)

EMPLOYMENT

Table XI A.—Average numbers employed in 1935 and 1934

Persons employed	Males		Females		Total	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
Operatives (average for the year) ...	371	14,530	2	21	373	14,551
Administrative, technical and clerical staff* ...	261	13,698	—	18	261	13,716
	89	1,082	17	182	106	1,264
	75	1,015	17	142	92	1,157
TOTAL ...	460	15,612	19	203	479	15,815
	336	14,713	17	160	353	14,873

* As at 12th October, 1935, and 13th October, 1934.

Table XI B.—Operatives employed in one week in each month of 1934 and 1935 by firms furnishing returns in respect of the twelve months ended December

Mid week of*	Operatives employed		Monthly index†		
	1934	1935	1933	1934	1935
January	7,695	8,744	62.3	86.6	97.2
February	7,993	8,846	62.7	89.9	98.3
March	8,122	8,854	68.7	91.4	98.4
April	8,237	9,001	69.4	92.7	100.1
May	8,335	9,034	70.9	93.8	100.4
June	8,559	8,825	70.6	96.3	98.1
July	8,480	8,826	70.8	95.4	98.1
August	8,687	8,894	72.3	97.7	98.9
September	8,613	9,072	74.8	96.9	100.8
October	8,645	9,171	73.9	97.3	101.9
November	8,606	9,132	76.5	96.8	101.5
December	8,568	9,549	77.1	96.4	106.1
Average for the twelve months	8,378	8,996	70.8	94.3	100.0
Proportion of total operatives represented	61.08	61.82	...	...	...

* For the ending date of each week see page xiv.

† Based on the estimated average for the year 1935.

Table XI C.—Average numbers employed, 1924-1935

Year	Operatives	Administrative, technical and clerical staff	Total
1924	25,325	1,645	26,970
1930	18,083	1,279	19,362
1933	10,306	1,128	11,434
1934	13,716	1,157	14,873
1935	14,551	1,264	15,815

WAGES

Table XII.—Wages paid by firms furnishing returns of wages in 1935 and 1930

The aggregate amount of wages paid by firms furnishing returns of wages was £1,347,000 in 1935 representing 57.7 per cent. of the net output of these firms, the corresponding figures for 1930 being £1,187,000* and 80.9 per cent. The figures for these firms given below indicate the size of the sample and the extent to which it is representative.

Firms furnishing returns of wages	1935		1930*	
	Aggregate	Proportion of trade	Aggregate	Proportion of trade
	£'000	Per cent.	£'000	Per cent.
Gross output... ..	12,782	60.7	8,874	37.3
Net output	2,336	57.2	1,467	37.2
Operative staff employed :—	No.		No.	
During mid-week of October :—				
Males	8,467	58.0	†	†
Females	12	57.1		
Total	8,479	58.0	5,985	39.4
Average for the year	8,397	57.7	7,114	39.3
Administrative, technical and clerical staff	584	46.4	†	†
Number of establishments	31	64.6	...	...

* Corrected figures.

† Not recorded separately.

COUNTRY TABLES (1935)

Note.—The figures given in the following tables relate only to firms whose returns were made on schedules for the Iron and Steel Trade (Blast Furnaces).

No production was recorded for Northern Ireland.

Table I.—General summary

Particulars	Unit	England and Wales	Scotland	Great Britain
Value of products (Gross output) ...	£'000	19,615	1,432	21,047
Cost of materials, fuel and electricity used ...	"	15,851	1,113	16,964
Net output ...	"	3,764	319	4,083
Average number of persons employed...	No.	14,386	1,429	15,815
Net output per person employed ...	£	262	223	258
Number of returns ...	No.	43	5	48
Number of establishments ...	"	43	5	48

Table II.—Output

Kind of output	Unit	England and Wales	Scotland	Great Britain
Pig iron :—				
Forge ...	Th. tons	*	*	115.4
	£'000			345
Foundry ...	Th. tons	1,183.1	153.1	1,336.2
	£'000	3,663	503	4,166
Acid (hematite) ...	Th. tons	1,388.7	135.1	1,523.8
	£'000	4,371	469	4,840
Basic ...	Th. tons	*	*	3,412.2
	£'000			9,118
Total—Pig iron ...	Th. tons	5,978.7	408.9	6,387.6
	£'000	17,122	1,347	18,469
Ferro-alloys :—				
Ferro-manganese ...	Th. tons	74.6	—	74.6
	£'000	696	—	696
Spiegeleisen ...	Th. tons	20.9	—	20.9
	£'000	100	—	100
Other ...	Th. tons	1.7	—	1.7
	£'000	14	—	14
Total—Ferro-alloys ...	Th. tons	97.2	—	97.2
	£'000	810	—	810
Iron castings, in the rough ...	Th. tons	4.6	0.4	5.0
	£'000	18	4	22
Ground slag ...	Th. tons	340.3	88.5	428.8
	£'000	97	15	112
Tarred macadam ...	Th. tons	180.7	—	180.7
	£'000	98	—	98
Electricity sold ...	Mill. B.T.U. (Kw.-hrs.)	351	27	378
	£'000	546	61	607
Gas sold ...	£'000	739	1	740
Other output and work done ...	£'000	185	4	189
TOTAL ...	£'000	19,615	1,432	21,047

* Owing to the possible disclosure of information relating to individual firms, separate particulars cannot be given.

Table III A.—Materials, fuel and electricity purchased and used

Kind of materials, etc.	Unit	England and Wales	Scotland	Great Britain
Iron ore ...	Th. tons	14,342	640	14,982
	£'000	6,880	535	7,415
Limestone ...	Th. tons	1,614	132	1,746
	£'000	442	50	492
Cinder and scale...	Th. tons	421.2	53.2	474.4
	£'000	296	34	330
Purple ore ...	Th. tons	238.0	14.9	252.9
	£'000	184	14	198
Scrap ...	Th. tons	265.2	10.8	276.0
	£'000	443	19	462
Fuel and electricity used for all purposes :—				
Coal ...	Th. tons	215.2	128.8	344.0
	£'000	144	76	220
Coke...	Th. tons	6,796.2	374.1	7,170.3
	£'000	6,051	317	6,368
Purchased electricity*	Th. B.T.U. (Kw.-hrs.)	128,811	10	128,821
	£'000	185	†	185
All other purchased materials and fuel...	£'000	1,226	68	1,294
TOTAL ...	£'000	15,851	1,113	16,964

* Including electricity generated in other works under the same ownership.
† Less than £500.

Table III B.—Consumption of electricity

Electricity consumed	England and Wales	Scotland	Great Britain
	Th. B.T.U. (Kw.-hrs.)	Th. B.T.U. (Kw.-hrs.)	Th. B.T.U. (Kw.-hrs.)
Generated in same works ...	183,076	7,043	190,119
Generated in other works under same ownership ...	71,349	—	71,349
Purchased ...	57,462	10	57,472
Total ...	311,887	7,053	318,940

Table IV A.—Numbers employed in week ended 12th October, 1935

Persons employed	Males		Females		Total	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
England and Wales :—						
Operatives	310	13,158	2	16	312	13,174
Administrative, etc.*... ..	77	1,014	17	173	94	1,187
Total	387	14,172	19	189	406	14,361
Scotland :—						
Operatives	63	1,436	—	5	63	1,441
Administrative, etc.*... ..	12	68	—	9	12	77
Total	75	1,504	—	14	75	1,518
Great Britain :—						
Operatives	373	14,594	2	21	375	14,615
Administrative, etc.*... ..	89	1,082	17	182	106	1,264
TOTAL	462	15,676	19	203	481	15,879

* Administrative, technical and clerical staff.

Table IV B.—Operatives employed in one week in each month of 1935

Week ended	Males and females		
	England and	Scotland	Great Britain
January 19	13,071	1,256	14,327
February 16... ..	13,289	1,261	14,550
March 16	13,244	1,264	14,508
April 13	13,223	1,277	14,500
May 18	13,381	1,337	14,718
June 15	12,980	1,363	14,343
July 13	12,869	1,366	14,235
August 17	12,991	1,382	14,373
September 14	13,131	1,417	14,548
October 12	13,174	1,441	14,615
November 16	13,250	1,433	14,683
December 14	13,784	1,423	15,207
Average for the twelve months	13,199	1,352	14,551