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**PA276**

**1973**

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# Business Monitor

A publication of the Government Statistical Service

## Report on the Census of Production

### Synthetic resins and plastics materials and synthetic rubber



Department of Industry  
Business Statistics Office

# PA276

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A publication of the Government Statistical Service

## Report on the Census of Production 1973

## Synthetic resins and plastics materials and synthetic rubber

Presented by the Secretary of State for Industry  
to Parliament in pursuance of the Statistics of Trade Act 1947  
(10 & 11 Geo.6 Cha.39 sec 7)

Department of Industry  
Business Statistics Office

London: Her Majesty's Stationery Office

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PA342	Ordnance and small arms	PA482.2	Packaging products of paper and associated materials
PA349.1	Ball, roller, plain and other bearings	PA483	Manufactured stationery
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PA353	Surgical instruments and appliances	PA489	General printing and publishing
PA354	Scientific and industrial instruments and systems	PA491	Rubber
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PA362	Insulated wires and cables	PA493	Brushes and brooms
PA363	Telegraph and telephone apparatus and equipment	PA494.1	Toys, games and children's carriages
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## PA276 SYNTHETIC RESINS AND PLASTICS MATERIALS AND SYNTHETIC RUBBER

PA276 1

The information in this report relates to establishments classified to the Synthetic resins and plastics materials and synthetic rubber industry, minimum list heading 276 in the Standard Industrial Classification (revised 1968). The activities of the industry include:-

*Manufacturing synthetic resins and plastics materials in the form of solid and liquid resins, latices, solutions, dispersions and emulsions, moulding and extrusion compounds, foam, non-decorative sheet, laminated sheet (including decorative), film, rods and tubes and profile shapes. Glass fibre sheet and transparent regenerated cellulose film are included. Unformulated synthetic resin adhesives are included but formulated synthetic resin adhesives (i.e. containing additives such as solvents, plasticisers, etc.) are excluded. The production of textile fibres from plastics materials, plastics mouldings, castings or extrusions produced from these synthetic resins and plastics materials, articles cut from plastics sheet and plastics floor-coverings and decorative plastics sheet (other than laminated thermo-setting sheet) are also excluded.*

**In interpreting the data in the tables it is essential to bear in mind the notes and definitions which commence on page (iii).**

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TABLE 1

PA276 2

Output and costs, 1970, 1971, 1972 and 1973  
All United Kingdom establishments classified to the industry (a)

	Unit	1970	1971	1972	1973
Enterprises (b)	Number	251	246	263	328
Establishments (b)	"	276	286	297	359
Sales of goods produced, work done and industrial services rendered (c)	£'000				632,600
Capital goods produced for establishments' own use (d)	"	499,164	502,352	549,706	4,983
Non-industrial services rendered (e)	"				1,992
Goods merchanted or factored	"	13,497	27,424	40,139	33,974
<b>Total sales and work done (c) (e)</b>	"	<b>512,661</b>	<b>529,776</b>	<b>589,846</b>	<b>673,550</b>
Increase during the year, work in progress and goods on hand for sale	"	5,908	-7,177	1,115	-2,174
<b>Gross output (c) (e)</b>	"	<b>518,569</b>	<b>522,599</b>	<b>590,960</b>	<b>671,376</b>
Purchases of materials for use in production, and packaging and fuel (d)	"				341,782
Purchases of goods for merchenting or factoring (d)	"	285,364	297,204	336,215	28,451
Increase during the year, stocks of materials, stores and fuel	"	3,807	-4,387	2,263	10,097
Cost of industrial services received (f)	"	3,013	3,277	4,382	13,821
<b>Net output (g)</b>	"	<b>233,998</b>	<b>217,731</b>	<b>252,625</b>	<b>297,419</b>
Total employment (h)	Thousands	56.8	53.6	48.6	45.4
<b>Net output per head (g)</b>	£	<b>4,120</b>	<b>4,062</b>	<b>5,198</b>	<b>6,545</b>
Payments for non-industrial services (j)					
Rents, hire of plant, machinery and vehicles	£'000				3,154
Commercial insurance premiums	"				3,936
Bank charges	"				202
Other non-industrial services	"				21,687
Licensing of motor vehicles (k)	"				138
Rates, excluding water rates (k)	"				3,112
<b>Gross value added at factor cost</b>	"				<b>265,189</b>
<b>Gross value added at factor cost per head</b>	£				<b>5,836</b>

- (a) For 1973, estimates for establishments not making satisfactory return and for establishments employing less than 20 persons accounted for 8 per cent of the total figures in which they were incorporated: of this unsatisfactory returns accounted for 4 per cent.
- (b) Increase from 1972 to 1973 largely attributable to improved estimates of the number of establishments with less than 20 employees - see note on page (iii).
- (c) The figures for 1970-1972 do not include receipts for repairs and maintenance.
- (d) Not recorded separately for 1970-1972.
- (e) The figures for 1970-1972 do not include revenue from rents for industrial buildings.
- (f) The figures for 1970-1972 exclude the amounts payable for repairs and maintenance.
- (g) The definition of net output used in previous census reports provided for the deduction of amounts payable to other organisations for transport of goods within the United Kingdom. The net output and net output per head figures on that basis were:-
- | Year | Net output<br>£'000 | Net output per head<br>£ |
|------|---------------------|--------------------------|
| 1970 | 223,092             | 3,926                    |
| 1971 | 206,501             | 3,852                    |
| 1972 | 239,226             | 4,927                    |

Additionally, the figures for 1970-1972 do not reflect revenue from rents or amounts payable for repairs and maintenance (see footnotes e and f).

- (h) Average number employed (full and part-time; see table 7) during the year (including working proprietors) by the establishment.
- (j) Not collected for 1970-1972 except for amounts payable to other organisations for transport of goods within the United Kingdom.
- (k) Not collected for 1970-1972.

TABLE 2

PA276 3

Capital expenditure, 1970, 1971, 1972 and 1973  
All United Kingdom establishments classified to the industry (a)(b)

	£'000			
	1970	1971	1972	1973
Land and buildings				
New building work	6,571	3,411	3,787	2,421
Land and existing buildings				
Acquisitions	180	481	349	774
Disposals	126	278	375	226
Vehicles				
Acquisitions				
Motor cars (c)				943
Other vehicles (c)	1,272	1,290	1,319	523
Disposals				
Motor cars (c)				340
Other vehicles (c)	329	377	468	49
Plant and machinery				
Acquisitions	56,379	53,684	46,289	29,738
Disposals	607	618	764	1,318
<b>Total net capital expenditure (d)</b>	<b>63,341</b>	<b>57,593</b>	<b>50,137</b>	<b>32,465</b>

- (a) Including estimates for establishments not making satisfactory returns and for establishments exempted by virtue of size.
- (b) Capital expenditure in respect of manufacturing establishments where production had not commenced before the end of the year, is included.
- (c) Not recorded separately for 1970-1972.
- (d) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery.

TABLE 3

Stocks and work in progress, 1970, 1971, 1972 and 1973  
All United Kingdom establishments classified to the industry (a)

	£'000				
	1970	1971	1972	1973	
	Increase				Value at end of year
Materials, stores and fuel	3,807	-4,387	2,263	10,097	36,309
Work in progress	148	561	-86	481	6,339
Goods on hand for sale	5,760	-7,738	1,200	-2,655	41,464
<b>Total</b>	<b>9,715</b>	<b>-11,564</b>	<b>3,377</b>	<b>7,923</b>	<b>84,113</b>

- (a) Including estimates for establishments not making satisfactory returns and for establishments exempted by virtue of size.

TABLE 4

PA276 4

Analysis of establishments by size, 1973  
All United Kingdom establishments classified to the industry (a)

Size group (b)	Estab-lish-ments	Enter-prises (c)	Employment			Wages and salaries (e)			
			Total (b)	Opera-tives	Others (d)	Operatives		Others (d)	
						Total	per head	Total	per head
Number	Number	Number	Number	Number	£'000	£	£'000	£	
1 - 10	167	165	870	3,591	1,449	6,250	1,740	3,293	2,273
11 - 19	57	54	821						
20 - 49	48	46	1,432						
50 - 99	29	29	2,081						
100 - 199	17	17	2,632	1,727	904	3,274	1,896	1,934	2,139
200 - 299	12	12	2,907	2,035	872	3,993	1,962	1,995	2,288
300 - 399	3	3	945	612	333	1,423	2,325	833	2,502
400 - 499	7	7	3,166	1,800	1,366	3,737	2,076	3,014	2,206
500 - 749	6	6	3,801	2,284	1,517	4,853	2,125	4,143	2,731
750 - 999	3	3	2,412	1,368	1,044	2,413	1,764	2,678	2,565
1,000 - 1,499	4	4	5,240	3,374	1,866	7,885	2,337	4,139	2,218
1,500 - 1,999	3	3	5,003	3,097	1,906	5,787	1,869	5,027	2,638
2,000 and over	3	3	14,134	8,887	5,247	19,876	2,237	15,131	2,884
<b>Total</b>	<b>359</b>	<b>328</b>	<b>45,444</b>	<b>28,775</b>	<b>16,504</b>	<b>59,491</b>	<b>2,067</b>	<b>42,187</b>	<b>2,556</b>

- (a) Including estimates for establishments not making satisfactory returns and for establishments exempted by virtue of size.  
 (b) Average number employed (full and part-time; see table 7) during the year (including working proprietors) by the establishment.  
 (c) Some enterprises control establishments in more than one size group: the sum of the figures for the size groups therefore exceeds the total for the industry.  
 (d) Administrative, technical and clerical employees.

PA276 5

Total sales and work done (f)	Gross output	Net output		Gross value added at factor cost		Net capital expenditure (g)	Total stocks and work in progress at end of year				
		Total	per head	Total	per head						
								£'000	£	£'000	£
								£'000	£	£'000	£
72,444	72,536	25,772	4,952	(h)	(h)	3,823	8,661				
38,314	38,320	15,540	5,904	35,510(h)	4,532(h)	2,366	4,557				
54,597	53,943	25,834	8,887	23,344	8,030	1,676	7,269				
24,275	24,097	8,221	8,699	7,483	7,919	918	2,795				
55,373	55,057	24,146	7,627	21,873	6,909	2,381	5,378				
74,480	73,890	29,940	7,877	26,341	6,930	2,579	10,928				
31,253	31,429	12,365	5,126	11,171	4,631	1,438	2,368				
45,997	46,346	21,536	4,110	18,863	3,600	2,653	6,969				
73,855	71,510	27,322	5,461	23,546	4,706	6,575	13,533				
202,961	204,246	106,743	7,552	97,059	6,867	8,056	21,653				
<b>673,550</b>	<b>671,376</b>	<b>297,419</b>	<b>6,545</b>	<b>265,189</b>	<b>5,836</b>	<b>32,465</b>	<b>84,113</b>				

- (e) Another important component of labour costs, employers' national insurance contributions, graduated pensions, contributions to other pensions and welfare schemes and the running costs of canteens, is estimated for the industry at £12,850 thousand.  
 (f) Comprises sales of goods produced (including capital goods manufactured, buildings constructed by establishments for their own use), work done, industrial and non-industrial services rendered, goods merchanted or factored.  
 (g) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery.  
 (h) Gross value added data relates to establishments employing 1 - 199 persons.

TABLE 5

PA276 6

Regional distribution of employment, net capital expenditure and net output, 1973  
All United Kingdom establishments classified to the industry (a)

Area	Employment (b)		Net capital expenditure (c)				Net output and employment in the region of establishments with more than 80 per cent of their employment in the region (e)		
	Thousands	per cent of United Kingdom	£'000	per cent of United Kingdom	£'000	Other (d)	Estimated net output	Average number employed as a percentage of total average number employed in the industry in the region	Net output as a percentage of total of the industry in the United Kingdom
Standard regions of England									
North	5.2	11.5	4,831	14.9	1	4,830	10,305	37.6	3.5
Yorkshire and Humberside	0.7	1.5	*	*	*	*	*	*	*
East Midlands	1.2	2.7	792	2.4	3	790	3,110	51.9	1.1
East Anglia	1.1	2.3	682	2.1	-	681	*	*	*
South East	11.2	24.6	5,807	17.9	103	5,705	46,871	53.2	15.8
South West	3.7	8.2	*	*	*	*	*	*	*
West Midlands	4.7	10.3	2,212	6.8	*	*	7,494	55.1	2.5
North West	10.6	23.4	9,595	29.6	57	9,538	33,213	60.1	11.2
England	38.4	84.5	25,610	78.9	108	25,502	130,664	58.6	43.9
Wales	3.3	7.3	2,546	7.8	434	2,111	18,006	95.6	6.1
Scotland	*	*	*	*	*	*	*	*	*
Great Britain	*	*	*	*	*	*	*	*	*
Northern Ireland	*	*	*	*	*	*	*	*	*
Unallocated (a) (f)	-	-	-	-	-	-	123,471	-	41.5
United Kingdom	45.4	100.0	32,465	100.0	548	31,918	297,419		100.0

- (a) Including estimates for establishments not making satisfactory returns and for establishments exempted by virtue of size.  
 (b) Average number employed (full and part-time; see table 7) during the year (including working proprietors).  
 (c) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery.  
 (d) Acquisitions less disposals.  
 (e) Where a census return covered addresses in two or more regions an estimate was made of the net output attributable to the region only where more than 80 per cent of the establishment's employees were located in the region. The estimate was made by assuming that net output at each address covered by a return was proportionate to employment at the address. The establishment's residual net output was included in unallocated net output.  
 (f) Includes unallocated net output of establishments covering addresses in two or more regions.

TABLE 6

PA276 7

Percentage analysis of twelve-month periods covered by returns received from United Kingdom establishments employing 20 or more persons, 1973

Accounting year ended	Percentage of total returns received	Percentage of total number employed
	per cent	per cent
1973 April (a)	0.0	0.0
May	3.8	0.7
June	1.0	1.0
July	1.9	0.2
August	1.9	0.3
September	1.0	0.1
October	3.8	0.9
November	1.0	1.5
December	66.7	77.4
1974 January	0.9	0.2
February	0.9	0.2
March (b)	17.1	17.5
	<b>100.0</b>	<b>100.0</b>

(a) From 6th April.

(b) Including returns made for twelve-month period ended 1st to 5th April 1974.

TABLE 7

Percentage analysis of employees, by full and part-time employment and sex, 1973 (a)

Sex	Full-time	Part-time	All employees
	per cent	per cent	per cent
Male	83	1	84
Female	12	4	16
	<b>95</b>	<b>5</b>	<b>100</b>

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) in the United Kingdom at mid-June, 1973.

TABLE 8

PA276 8

Sales of principal products of the industry by establishments employing 25 or more persons, including sales by establishments classified to other industries, 1973 (a)(b)

	Quantity	Value
	Tonnes	£'000
Products of condensation, polycondensation and polyaddition:		
Alkyds (including styrenated alkyds) and unsaturated polyesters:		
Alkyd resins, solid and liquid, including solutions, emulsions and dispersions (net resin content including oil but excluding solvent)	64,562	12,909
Polyester resins, unsaturated, including reactive monomer but excluding filler	67,987	15,859
Aminoplastics:		
Alkylated resin solutions (actual weight including solvent)	11,717	2,088
Solid resins and other liquid resins and solutions (actual weight including solvent)	89,459	7,690
Phenolics:		
Straight liquid resins including aqueous solutions and dispersions (actual weight including water)	31,288	3,238
Straight resins, solid or inorganic solution (net resin content)	15,249	3,388
Modified resins including those in solution (net resin content)	7,262	2,269
Epoxide resins (net resin content excluding added non-reactive solvent and/or filler)	27,618	10,419
Polyurethanes:		
Flexible and rigid foams (weight of material in two pack systems which when mixed or otherwise treated, produces foam insitu)	2,547	1,134
Urethane surface coatings	4,793	927
Urethane elastomers and other polyurethanes	7,643	5,028
Other products of condensation, polycondensation and polyaddition (including polyamides (c) and silicones)	114,013	43,228
Products of polymerisation and copolymerisation:		
Acrylics:		
Latices, dispersions and solutions (d)	19,903	6,921
Moulding and extrusion compounds, cast sheet, cast rod and cast tube (based on methyl methacrylic monomer)	31,051	15,311
Polyethylene granules, compounds and powders	537,051	73,395
Polypropylene granules and compounds	156,834	28,661
Polyvinyl chloride resins (and copolymers containing over 50% vinyl chloride monomer), and the resin content of latices, solutions and dispersions	352,027	42,884
Polyvinyl acetate resins (and copolymers containing over 50% vinyl acetate monomer), and the resin content, excluding plasticiser, of solutions and dispersions	57,163	17,528
Vinyl resins, based on vinyl ethers, alcohols, ketones, acetals, carbazoles, pyrrolidene, propionate, and copolymers thereof, polymers and copolymers of vinylidene chloride (net resin content)	2,903	1,177

TABLE 8 (continued)

PA276 9

	Quantity	Value
	Tonnes	£'000
Products of polymerisation and copolymerisation: (continued)		
Styrene polymers and copolymers:		
Polystyrene, non-toughened straight resins, moulding and extrusion compounds	58,523	7,660
Polystyrene, toughened grades of resins, moulding and extrusion compounds	125,480	23,121
Polystyrene containing a low boiling point organic blowing agent	44,184	9,558
Polystyrene solutions, emulsions and dispersions and copolymers containing over 50% styrene monomer but excluding styrene-butadiene copolymers, (net resin content)	11,877	2,087
Copolymer resins and non-toughened copolymer moulding and extrusion compounds (these copolymers must contain at least 50% net weight of styrene) - total weight	3,770	1,369
ABS polymers, moulding and extrusion compounds	46,486	12,780
Other products of polymerisation and copolymerisation	35,903	13,530
Cellulosics and other plastics and modified natural resins:		
Regenerated cellulose film	85,416	48,321
Laminates of regenerated cellulose film	1,358	2,902
Other cellulosics and other plastics and modified natural resins (including casein, alginates and resin ester gums)	38,061	21,011
Intermediate forms between the resin and semi-fabricated stages:		
Alkyds and unsaturated polyesters:		
Moulding and extrusion compounds (including polyester sheet and dough moulding compounds)	6,160	2,190
Aminoplastics:		
Moulding and extrusion compounds (e)	..	..
Phenolics:		
Moulding and extrusion compounds	28,518	6,000
Polyvinyl chloride:		
Plasticised and unplasticised compounds	175,084	32,193
Semi-finished products:		
Laminated thermosetting sheet:		
Decorative	27,856	14,496
Industrial:		
Copper clad:		
Paper based	3,814	4,619
Glass based	1,569	3,891

	Quantity	Value
		£'000
Products of polymerisation and copolymerisation: (continued)		
Intermediate forms between the resin and semi-fabricated stages: (continued)		
Semi-finished products: (continued)		
Laminated thermosetting sheet: (continued)		
Industrial:		
Unclad:		
Paper based	4,346	2,990
Cotton fabric based	872	1,180
Other	758	792
Polyethylene film sold in unconverted form solely as sheet film and layflat tubing:		
Low and medium density	109,572	26,493
High density	4,444	1,751
Polypropylene film, unconverted	23,880	17,752
Polyvinyl chloride:		
Flexible plasticised film, unconverted, not printed and/or embossed (under 250 micron):		
Extruded	1,633(f)	2,777(f)
Calendered	12,250	3,617
Flexible plasticised unsupported sheet, unconverted, not printed and/or embossed (250 micron and over):		
Extruded (e)	..	..
Calendered	13,833	4,422
Rigid sheet and unplasticised film, unconverted, not printed and/or embossed	16,766	8,051
Rigid rod, tube and profile shapes	6,653	3,297
Other plastics film and sheet, unconverted, not elsewhere specified	46,751	35,761
Unclassified sales and work done	..	30,013
Waste products, residues etc. sold	..	865
Total sales of principal products of the Synthetic resins and plastics materials industry (MLH 276.1) and work done		639,543

Source: Business Monitor (PQ 276.1). Quarterly Statistics

- (a) Sales are deliveries on sale for home or abroad; forward sales are excluded. Values are net selling values, value added tax (or purchase tax where previously applicable) trade discounts and commissions are excluded.
- (b) Sales of synthetic rubber (MLH276.2) are published in the Business Monitor series of Monthly Statistics (PM491) and for 1973 total sales amounted to £65,164 thousand.
- (c) Including material for fibre spinning and monomer cast forms.
- (d) Including copolymers containing over 50% of acrylic or methacrylic esters.
- (e) Included in unclassified sales.
- (f) Estimates which are subject to possible major revisions.



## Notes

These notes give the main information needed for interpreting the figures in the industry Business Monitors: more detailed information about the census is given in a separate Business Monitor — PA1001 (Introductory Notes) of the Report on the Census of Production, 1973.

### GENERAL INFORMATION

#### *Changes made for 1973*

The Census for 1973 was the first to be modified to bring it into line with similar inquiries being conducted in other member countries of the European Economic Communities. One modification has made possible the publication for the first time in the Annual Censuses of data on a number of additional items. These include:

- Capital goods purchased for establishments' own use (previously included with sales of goods produced etc.)
- Purchases of goods for merchanting or factoring (previously included with purchases of materials etc.)
- Payments for non-industrial services
- Licensing of motor vehicles
- Rates, excluding water rates
- Gross value added
- Amounts paid to outworkers (where applicable)
- Employers' national insurance contributions etc.

#### *Suppression of information relating to individual undertakings.*

The Statistics of Trade Act 1947 provides that — "No individual estimates or returns, and no information relating to an individual undertaking obtained under the foregoing provisions of this Act, shall, without the previous consent in writing of the person carrying on the undertaking which is the subject of the estimates, returns or information, be disclosed except —

- (a) in accordance with directions given by the Minister in charge of the government department in possession of the estimates, returns or information to a government department or to the Import Duties Advisory Committee for the purposes of the exercise by that department or committee of any of their functions; or
- (b) for the purposes of any proceedings for an offence under this Act or any report of these proceedings."

If a figure involved disclosure the contributor concerned was sometimes asked to give permission for its publication. In the majority of cases this permission was given but when it was refused and in cases where the contributors were not approached the figure has been suppressed, sometimes by combining it in some way with other figures, but sometimes — as in the regional tables by omitting the figure altogether.

#### *Symbols used*

The following symbols are used throughout the P A series of Business Monitors:

- .. not available
- nil or less than half the final digit shown
- \* figures cannot be shown owing to the risk of disclosing information about individual enterprises
- R revised

#### *Rounding of figures*

Figures in the tables have, where necessary, been rounded to the nearest final digit. There may, therefore, be an apparent slight discrepancy between a sum of constituent items and a total shown.

#### *Industrial classification*

The United Kingdom Standard Industrial Classification (SIC) was first issued in 1948 and was subsequently revised in 1958 and 1968. It exists to promote uniformity and comparability in the official statistics of the United Kingdom. The general principles followed are those of the International Standard Industrial Classification of all Economic Activities of the United Nations Statistical Office but the United Kingdom SIC reflects the organisation and structure of industry and trade as it exists in the United Kingdom. The SIC is a classification by activity and is not a commodity classification. However, an index of all commodity headings for which sales data are provided in the Quarterly Business Monitors is published as PQ1000 in the Business Monitor Series.

The SIC is revised every 10 years or so and is to be revised to bring it more closely into line with the General Industrial Classification of Economic Activities within the European Communities (NACE).

#### *Statistical units*

The statistical unit for the purpose of the Census is the establishment which is defined in the SIC as the smallest unit which can provide the information normally required for an economic census, for example, employment, expenses, turnover, capital formation. Usually the principal activities carried on in an establishment fall within a single heading of the classification (e.g. steel making or sugar refining). Typically the establishment embraces all the activities carried on at a single address e.g. a farm, a mine, or a factory, including those which are ancillary to the principal activities. Frequently distinct activities characteristic of different industries are carried on at one address, but normally these are not classified separately and the whole establishment is classified according to the main activity. If, however, the required range of data can be provided for each activity, each is taken to constitute a separate establishment. Sometimes activities which are conducted as a single business are carried on at a number of addresses. Where this is so, businesses are asked to provide the full range of separate information in respect of each address, whether or not the activities are different. Their activities may, however, be integrated to such an extent that they constitute a single establishment. In that case the establishment is defined to cover the combined activities at these addresses (termed local units). Separate figures are obtained, however, of employment and net capital expenditure at each unit.

Efforts are made by the Business Statistics Office to ensure, by negotiating with respondents, that the return from an establishment does not cover local units on addresses in more than one of the countries of the United Kingdom.

Further information about the statistical unit appeared in an article "The statistical unit in business inquiries" in Statistical News No. 13 May 1971.

Establishments are asked to exclude from their returns particulars relating to any department not engaged in production e.g. merchanting, transport, warehousing, for which they keep a separate set of accounts. Transfers of goods produced to such departments are treated as sales and respondents are asked to value them as far as possible as if sold to an independent purchaser. Where separate accounts are not kept they are asked to include details of all these activities in their return.

Particulars relating to head offices, which were mainly engaged in the administration of the production units within the scope of the census were included. Where more than one return was made the information in respect of the head office was apportioned among them.

For certain purposes in the annual censuses of production (especially the enterprise analyses of Business Monitor PA 1002) related establishments are combined. For these purposes an enterprise group is defined as a business consisting of either a single establishment, or of two or more establishments under common ownership or control. The bringing together of establishments into enterprise groups is also necessary for the purpose of ensuring that there will be no disclosure of the activities of any one enterprise group. Information about the relationship of establishments, the changing structure of groups of companies and about common ownership links is obtained from many sources, including the Stock Exchange Year Book, company reports, press reports and information supplied by individual establishments.

#### THE REGISTER

The register permits a questionnaire to be sent direct to the reporting establishment on which the latter can include information relating to all the manufacturing (or local) units which it comprises.

The inquiries provide a major source of information for keeping the register continuously up-to-date and act as a check on its detail and structure. For the establishments on the register which make returns to the quarterly inquiries, the industrial classification is derived from an analysis of their sales of commodities and is reviewed annually. Employment data is entered on the register from returns to the annual census of production. In cases where an establishment does not make a return to these inquiries the employment data is based on information provided by the Department of Employment from the annual censuses of employment.

Establishments with 20 or more employees are included in the censuses each year and the information they supply to the

census is supplemented by the returns that those of them with 25 or more employees provide to the quarterly inquiries. Information about establishments with less than 20 employees in most industries is less securely based, but increasing use has been made of data on these small establishments supplied by the Department of Employment. One benefit of using this information is an improvement in the estimates of the number of smaller establishments and enterprises, but there is little effect on other aggregates (e.g. employment, output, net capital expenditure).

#### Coverage

A return was required in the 1973 Census from each establishment with 20 or more employees. Each establishment is classified to an industry, as defined in the SIC, whose principal products form the major part of the establishment's sales.

#### Regions

The regions defined in Table 5 do not take account of the boundary changes arising out of the Local Government Act 1972 and the Local Government Act (Scotland) 1973. As these boundary changes did not come into effect until April 1974 in England and Wales and in May 1975 in Scotland, the regions defined for these analyses are consistent with boundaries which existed in 1973.

#### TERMS USED IN THE CENSUS REPORT

##### Average number employed

Establishments 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
- (b) all other employees (operatives)

Averages could be calculated from the figures relating to the last week of each calendar month. Establishments were also required to state the number of working proprietors where appropriate and these are included in total employment figures. Outworkers (i.e. persons employed by establishments who worked in their own homes etc. on materials supplied by the establishment) are excluded. The figures include persons engaged on 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 wage or salary; but such persons who worked less than half the normal number of working hours are excluded. Directors working in the business but not in receipt of a definite wage, salary or commission are included under this heading; directors paid by fee only are not included.

##### Employees

Administrative, technical and clerical employees include directors in receipt of a definite wage, salary or commission, managers, superintendents and works foremen; research, design employees (other than operatives); draughtsmen, editorial staff, advertising staff, travellers and all office employees.

Operatives include all other classes of employees, that is, broadly speaking, all manual wage earners. They include operatives employed in power stations, transport (including roundsmen), warehouses, stores, shops and canteens, inspectors, maintenance workers and cleaners. Operatives engaged in outside work of erecting, fitting etc. are also included, but outworkers are excluded.

##### Capital expenditure

Capital expenditure during the year in respect of manufacturing units where production had not started before the end of the year is included in the figures for 1970 to 1973. Establishments were asked not to deduct from the value of capital expenditure amounts received or expected to be received in grants or allowances from the Government or any statutory body or local authority. Establishments with 100 or more employees were also asked to include a total net capital expenditure figure for the calendar year 1973.

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##### (a) New building work

This represents the cost incurred during the year of new building and other constructional work to be used in connection with the business covered by the return. 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 works of a capital nature carried out by the establishment's own staff and the cost of any newly constructed buildings purchased. Figures shown include any legal charges, stamp duties, agents' commissions, etc.

##### (b) Land and existing buildings

The items shown are the capital cost of freeholds purchased and the capital cost of 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.

##### (c) 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. Deductible value added tax is excluded but non-deductible value added tax on motor cars acquired is included. No deduction is made for depreciation, amortization or obsolescence. The proceeds of items disposed of during the year exclude amounts written-off for items scrapped.

##### Gross output

In the calculation of gross output the value of total sales and work done is increased by the rise (or reduced by the fall) during the year in the value of work in progress and goods on hand for sale.

##### Net output

Net output, a customary census measure, is calculated by deducting from gross output the cost of purchases (reduced by the rise, or increased by the fall, during the year of stocks of materials etc.) and the cost of industrial services received, and — where applicable — duties etc.

##### Net output per head

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

##### Gross value added at factor cost

Gross value added at factor cost is calculated by deducting from net output the cost of non-industrial services (rent of buildings and capital equipment, commercial insurance premiums, bank charges and amounts paid for professional services, postal etc. services, transport, advertising etc.). This estimate of gross value added approaches more closely than census net output to the definition of net output or value added in national accounts statistics.

##### Gross value added at factor cost per head

The figures of gross value added at factor cost per head are derived by dividing the gross value added by the average number of persons employed (full and part-time) on all activities covered by the returns, including operatives, administrative, technical and clerical employees and working proprietors, but excluding outworkers.

##### Purchases

Purchases include the cost of materials and components bought for use in production; of fuel and electricity for all purposes; of packaging materials including the cost of returnable cases and containers when first purchased; of workshop materials; office materials and materials for repairs to establishment's own buildings, plant and vehicles when carried out by their own work people included in the returns; of consumable tools; and of parts for machinery purchased during the year as replacements. Water charges are also

included. Purchases of goods for merchanting or factoring were collected separately for 1973. Materials supplied by customers for processing are excluded, as are all purchases charged to capital account. The values shown exclude value added tax but include any duty paid (less rebate etc.), values 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 an establishment's own separate transport organisations for delivery of materials and fuel are, therefore, excluded. Materials purchased overseas are included at the c.i.f. cost plus any duty payable if the cost of transport from the docks are not included in the invoiced price, but at their full delivery cost if invoiced "carriage paid home". Materials and fuel transferred from another department of the establishment not covered by the same return are included at the estimated selling value recorded by the other department.

##### Sales of goods produced, work done and industrial services rendered

Sales for the purposes of the annual censuses means deliveries on sale of goods made by establishments in the United Kingdom covered by the inquiry. Sales of goods made for these establishments by outworkers or by establishments from materials given out to them are included; as also are sales of waste products. Any new building work and machinery or other capital items produced by establishments for hiring out or leasing are regarded as sales, the value included in the return being that adopted in the establishments' capital asset accounts. Forward sales and canteen takings are excluded. All sales in the period of the inquiry are included irrespective of when the goods were manufactured. Goods produced in one establishment and transferred either to ancillary departments not engaged in production and for which there are separate accounts, or to another establishment of the same firm not covered by the return, are treated as sales by the producing establishment 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 are kept are valued on the same basis.

The value shown for sales is the "net selling value" defined as the amount (excluding value added tax) charged to customers whether on an ex-works or delivered basis, after any trade discounts and agents' commissions have been deducted. The cost of packing materials less allowance for returnable cases is included. In industries where products attract Excise Duty the value stated is usually inclusive of duty if sold duty-paid and exclusive of duty if sold in bond or exported.

Figures for work done represent the amount charged for work carried out on materials supplied by a customer and include repair work. Within certain industries this heading covers a wide variety of activities. For example, within the food sector — butter packed on commission; within the textile industries — making up of garments, fur dressing and textile finishing; within printing and publishing — preparatory work on type-setting, block making and binding. Work done is also significant in the electrical machinery and heavy engineering industries, covering erection, installation and repair and jobbing work. Other activities within this heading include exploration work, research and development, glass cutting and dressing and planing of timber. Industrial services rendered includes repairs and maintenance, installation work, and technical research and studies rendered to other organisations.

##### Capital goods produced for establishments' own use

This includes all work carried out during the year by the establishments' own staff for their own use, which was of a capital nature.

##### Non-industrial services rendered

Includes rents received for commercial and industrial buildings, amounts charged for hiring out plant, machinery and other goods and amounts charged to other organisations for the provision of transport. Also includes amounts received for the right to use patents, trademarks, copyrights etc., manufacturing and quarrying rights and technical "know-how"; revenue from such staff facilities as canteens are also included.

##### Goods merchanted or factored

Merchant goods are those (excluding canteen sales) sold without having been subjected to any manufacturing process by the seller.

##### Stocks and work in progress

Values are given of stocks of goods on hand for sale and of materials, stores and fuel, at the end of the year of return and of the change during the year, including any stocks of goods held for merchanting or factoring. Work in progress is defined as materials which have been partially processed by the establishment but which are not usually sold or transferred to another establishment without further processing. The values include the cost of materials consumed and labour used, together with a margin of overhead costs, and profits. Progress payments made to sub-contractors are excluded and progress payments received from other organisations are not deducted.

##### Wages and salaries

These are 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. 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 insurances and pension schemes are excluded.

##### Remuneration paid to outworkers

The remuneration paid to outworkers (i.e. persons employed by the establishment who do their work in their own homes) is generally on a piece-work basis. Only amounts paid to outworkers whose names appear on the establishment's payroll are included. Amounts paid to outworkers by sub-contractors are excluded.

##### Employers' insurance and welfare contributions

This item includes employers' contributions to national insurance and graduated pensions as well as commercial insurance premiums to provide pensions, superannuation or other retirement benefits, sickness benefits, personal accident benefits, disability or death benefits for employees or former employees or their dependants. Contributions to the running costs of canteens, social centres, children's holiday homes, etc. for employees, former employees, and their dependants are also included.

(v)

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