

38 Formulated adhesives, gelatine, etc.

This Report on the Formulated Adhesives, Gelatine, etc Industry relates to establishments engaged wholly or mainly in manufacturing formulated synthetic resin adhesives (ie containing solvents, plasticisers etc) and gelatine, glue, size, gum, paste etc including preliminary processes such as scraping and crushing of bones and grinding gums and natural resins. Rubber adhesives are also included but unformulated synthetic resin adhesives are excluded.

This industry corresponds to minimum list heading 279(2) in the Standard Industrial Classification (Revised 1968) which has been used for the first time as a basis of classification in the 1968 Census.

The industry corresponds to the Gelatine, Adhesives, etc Industry (Part 36) in the Reports on the last detailed Census of Production for 1963 except that formulated rubber adhesives were shown in the Report on Rubber (Part 119).

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

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.	89	97	
Number of establishments		108	117	
Gross output	£'000	28,408	52,963	
Net output		11,559	20,229	
Net output per head	£	1,812	2,772	
Sales and work done	£'000	goods produced and work done (c)	26,755	46,761
		merchanted goods and canteen takings	1,685	5,433
Purchases	"	materials for use in production and packaging and fuel	14,636	26,748
		goods for merchandising and canteen purchases	1,205	4,365
Payments to other organisations	"	for work done on materials given out	42	11
		for transport	851	1,144
		by road		
	"	by rail and other means excluding postal services		179
Stocks and work in progress				
Total stocks and work in progress	"	change during year	- 148	+ 481
		at end of year	4,690	8,119
Goods on hand for sale	"	change during year	- 54	+ 751
		at end of year	2,201	3,929
Work in progress	"	change during year	+ 23	+ 17
		at end of year	635	918
Materials, stores and fuel	"	change during year	- 117	- 287
		at end of year	1,854	3,272
Number employed on average during the year	Th.	total, including working proprietors	6.4	7.3
		operatives	3.8	4.1
		other employees (d)	2.5	3.2
Wages and salaries	£'000	of operatives	2,760	3,983
		of other employees (d)	2,360	4,067
Capital expenditure (e)				
Total	"	990	1,770	
New building work	"	187	200	
Land and existing buildings (f)	"	102	31	
Plant and machinery (f)	"	565	1,469	
Vehicles (f)	"	136	132	

(a) For 1968, estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for 11 per cent. of the total figures in which they were incorporated: of this, unsatisfactory returns accounted for 2 per cent. For 1963 the comparable figures were 8 per cent. and less than 1 per cent. respectively.

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

	1963	1968
Number of establishments	60	75
Average number employed:		
Working proprietors	54	54
Other persons employed	492	711

Footnotes continued on page 38/2.

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	25	24	87	..	..	..
6-10	17	17	119	..	..	..
11-24	31	29	529	..	..	..
25-49	10	9	381	4,008	1,410	3,701
50-99	11	10	700	5,806	2,343	3,347
100-199	9	7	1,297	9,253	3,687	2,843
200-499	4	3	1,289	9,446	3,131	2,429
500 and over	5	5	2,777	18,371	7,348	2,646
Unsatisfactory returns	5	5	118	..	..	..
Total	117	97	7,297	52,963(c)	20,229(c)	2,772(c)

(ii) Employees, wages and salaries

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Employees		Wages and salaries		Wages and salaries per head	
	Oper-atives	Others (d)	Oper-atives	Others (d)	Oper-atives	Others (d)
	Number	Number	£'000	£'000	£	£
1-5	..	..	..	..	..	..
6-10	..	..	..	..	..	..
11-24	..	..	..	..	..	..
25-49	190	186	171	204	898	1,098
50-99	412	287	412	398	1,001	1,385
100-199	820	477	782	683	953	1,431
200-499	730	559	810	715	1,110	1,279
500 and over	1,466	1,311	1,370	1,625	934	1,240
Unsatisfactory returns	..	..	..	..	..	..
Total	4,073(c)	3,163(c)	3,983(c)	4,067(c)	978(c)	1,286(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	1	3	4
18 and over	59	37	96
All ages	60	40	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 2 establishments in 1968 and 8 in 1963.
- (b) 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).
- (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) Excluding expenditure for establishments not yet in production.
- (f) Acquisitions less disposals.

TABLE 4 Analysis of larger establishments, 1963 and 1968

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

	Unit	1963	1968	
Number of enterprises	No.	36	29	
Number of establishments	"	55	42	
Gross output	£'000	26,191	47,004	
Net output	"	10,656	17,953	
Net output per head	£	1,812	2,772	
Sales and work done	{ goods produced and work done (b)	£'000	24,666	41,500
	{ merchanted goods and canteen takings	"	1,553	4,822
Index of specialisation (c)	Per cent.	79	75	
Purchases	{ materials for processing and packaging, and fuel	£'000	13,493	23,739
	{ goods for merchenting and canteen purchases	"	1,111	3,874
Payments to other organisations	{ for work done on materials given out	"	38	9
	{ for transport	"		
	{ by road	"		1,015
	{ by rail and other means excluding postal services	"	784	159
Stocks and work in progress				
Goods on hand for sale	{ change during year	"	- 50	+ 667
	{ at end of year	"	2,030	3,487
Work in progress	{ change during year	"	+ 21	+ 15
	{ at end of year	"	586	815
Materials, stores and fuel	{ change during year	"	- 108	- 254
	{ at end of year	"	1,709	2,904
Number employed on average during the year	{ total, including working proprietors	No.	5,881	6,476
	{ operatives	"	3,575	3,642
	{ other employees (d)	"	2,300	2,828
Wages and salaries	{ of operatives	£'000	2,568	3,561
	{ of other employees (d)	"	2,194	3,636
Wages and salaries per head	{ operatives	£	718	978
	{ other employees (d)	"	954	1,286
Capital expenditure (e)				
New building work	£'000	172	178	
Land and existing buildings	{ acquisitions	"		
	{ disposals	"	94(f)	- 27(f)
Plant and machinery	{ acquisitions	"	535	1,316
	{ disposals	"	14	12
Vehicles	{ acquisitions	"	195	195
	{ disposals	"	70	78

For notes to this table - see page 38/5.

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

	1963		1968			
	Quantity	Value	Quantity	Value	Enterprises	Entries
Gelatine, glue and size (animal)	Th.tons	£'000	Th.tons	£'000	Number	Number
Gelatine, edible (including pharmaceutical) and photographic	13.5	5,104	17.1	9,122	8	11
Technical gelatine, glue and size, dried, or undried in terms of commercial dry weight	24.1	3,233	..	2,455	10	17
Liquid glue	3.5	404	..	648	8	11
Other adhesives						
Formulated adhesives based wholly or mainly on						
Vinyl and polyvinyl acetate	32.6	4,606	14.5	2,557	14	17
Other synthetic resins (including urea formaldehyde and casein)			..	5,484	20	25
	Th.cwt.		Th.cwt.			
Formulated rubber adhesives (including processed latex adhesives and synthetic latex adhesives made from synthetic rubber)	441	5,199	539	8,078	35	36
	..	2,136	..	2,871		
Vegetable adhesives for all purposes	..	2,973	37.4	2,867	13	16
	Th.tons		Th.tons			
Other adhesives	9.4	886	13.8	1,503	21	24
			..	832		
Bone by-products not elsewhere specified (other than for use as fertiliser or for feeding stuffs for animals and poultry) and vegetable gums, not adhesive, for textile finishing, etc	..	488	..	444	*	*
Other products (including bleached lac)			..	401	6	8
Waste products	..	463	..	71	6	11
Work done				489	5	5
Total		25,493		37,822	..	..
Sales in other industries (see Table 6)		6,105		6,570	..	..
Principal products of this industry sold by establishments in the industry		19,388		31,252	29	38(a)

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

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

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

	1963		1968			
	Quantity	Value	Quantity	Value	Entries	Principal industries in which produced (a)
Gelatine, glue and size (animal)	Th.tons	£'000	..	£'000	Number	
	5.1	315	..	398	7	14,16,148
Other adhesives						
Formulated adhesives, based wholly or mainly on vinyl, polyvinyl acetate, urea formaldehyde and other synthetic resins (including casein)	6.4	1,071(b)	..	1,411	10	18,29,32,37
Formulated rubber adhesives (including processed latex adhesives and synthetic latex adhesives made from synthetic rubber)	..	2,649	Th.cwt. 158 ..	2,280 198	19	37,40,84 144
			Th.tons			
Vegetable adhesives for all purposes	..	1,607	20.8	1,551	5	18,35,41
Other adhesives	5.8	463(c)	..	732	8	32,35,145,148
Total		6,105		6,570	..	

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

(b) For 1963, casein was excluded.

(c) For 1963 includes casein and non-adhesive vegetable gums for textile finishing etc.

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
Paint, paste filler, mastic, other adhesive cement and putty	355	2,226
Synthetic resins and plastics materials	129	2,128
Other chemical products	775	2,140
All other products	3,970	3,698
Services rendered to other organisations and research and development for which payments were receivable (a)	49(b)	56
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	1,530	4,774
Canteen takings	23	48
Total	6,831	15,070

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

(b) For 1963 including capital items for firms' own use, but excluding research and development for which payments were receivable.

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.

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
		£'000	Th.tons	£'000
Materials for use in production				
Rubber				
Natural including reclaimed, compounded and latex	..	250(a)	3.5	497
Synthetic including latex	..	255(a)	..	1,122
Gelatine	..	123	..	1,090
Osseine, starch and dextrine	..	891	..	1,719
Vegetable and seed oils (raw, refined, boiled or otherwise modified)	..	(b)	..	148
Natural gums and resins	..	220	..	278
Bone and bone pieces	..	2,461	..	2,829
Glue and gelatine stock, hide cuttings and leather and skin waste	..	711	..	560
Mineral oils other than for use as fuels, including petroleum and other waxes	..	(b)	..	345
Dyestuffs and pigments, dry or in pulp form	..	31(a)	..	151
Inorganic chemicals and gases (c)				
Acids			..	513
Other inorganic chemicals and gases			..	936
Organic chemicals and gases (c)				
Alcohols			..	464
Cellulose derivatives			..	622
Benzole, solvent naphthas and cyclic hydrocarbons (benzine, toluene, xylene, etc)	..	3,244	..	127
Phenols			..	408
Vinyl acetate			..	604
Other organic chemicals and gases			..	1,107
Other chemicals (eg mixtures of inorganic and organic chemicals) (c)			..	504
Synthetic resins and plastics materials (excluding leathercloth and reinforced plastics)				
Acrylics, solutions, emulsions and dispersions			..	167
Phenolics and allied products (including cresylic): resins (the net resin content), solutions, emulsions, dispersions, moulding and extrusion compounds			Th.cwt. 15.5	151
Polyvinyl acetate solutions, emulsions and dispersions	..	129(a)	..	525
Styrene polymers and copolymers: solutions, emulsions and dispersions			..	211
Other synthetic resins and plastics materials including alkyds and thermosetting polyesters			..	93
Glues and adhesives (including formulated synthetic resin adhesives, but excluding synthetic resins bought as such)	..	(b)	..	382

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
		£'000		£'000
Materials for use in production (continued)				
Lubricating oils and greases	..	9	..	13
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement	..	289	..	367
All other materials for use in production	..	2,434	..	3,530
Packaging materials				
Paper and board				
Boxes, cartons, drums and canisters (with or without metal ends) of paper and cardboard	..	761	..	472
Fibreboard packing cases			..	118
Bags and multiwall paper sacks			..	94
Wrapping and packing paper (including paper coated with plastics and any laminates incorporating paper but not metal)			..	61
Other packaging materials of paper and paperboard (including moulded pulp units and labels but excluding paper and board for converting into packaging materials)			..	77
Metal				
Cans and boxes			..	402
Barrels, kegs and drums			Thousands 277	223
Aluminium collapsible tubes, aluminium foil and laminates incorporating aluminium foil and aluminium foil labels and closures	..	545	..	348
Glass containers			8,079	86
Plastics (other than transparent regenerated cellulose film)			..	37
Bags, sacks, film, sheet and sheeting			..	113
Moulded and fabricated containers including closures and inserts			..	202
Jute and hessian piece goods, bags and sacks			..	58
All other packaging materials, including timber used for packaging			..	130
Fuel and electricity (d)				
Coal	Th.tons 82.4	370	..	80
Coke (including screenings and manufactured fuel)	6.2	35	Th.tons 0.2	2
Derv fuel and motor spirit for use in road vehicles	Th.gal. 420	83	Th.gal. 291	81
Other liquid fuels (including creosote/pitch mixtures, etc and liquefied petroleum gases)	10,045	345	12,588	524
			..	340(e)

Continued on next page.

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
	Th.therms	£'000	Th.therms	£'000
Fuel and electricity (d) (continued)				
Gas	113	9	131	13
	Th.kWh		Th.kWh	
Electricity	52,997	298	57,361	360
			..	91
Total cost of materials and fuel		13,493		23,738
Goods purchased for merchanting		1,082		3,820
Canteen purchases		29		55
Total cost of purchases		14,604		27,613

(a) So far as recorded separately in 1963.

(b) Not recorded separately for 1963.

(c) Described as 'Heavy chemicals (acids, alkalis, other inorganic and organic chemicals, compressed gases etc)' for 1963.

(d) The total quantity of electricity generated in establishments employing 25 or more persons in this industry was 13,959 Th.kWh in 1968 and 10,876 Th.kWh in 1963.

(e) May include a small amount of unspecified fuels.

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.	131	173
Transport costs			
Wages and salaries	£'000	111	206
Derv fuel and motor spirit	"	83	81
Tyres and other spare parts for road goods vehicles	"	..	23
Payments to other organisations for transport	{ by road by rail and other means excluding postal services	{ 784	{ 1,015
Costs of operating road goods vehicles			159
Insurance	"	12	6
Vehicle licences	"	12	15
Depreciation	"	60	47
Payments to other organisations for repairs and maintenance	"	50	22
Total	"	1,112(a)	1,574

(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
	£'000	£'000
Repairs and maintenance to		
Buildings	64	63
Road goods vehicles	50	22
Plant, machinery and other capital equipment	145	353
Insurance, licensing and depreciation of road goods vehicles (b)	84	68
Rates, excluding water rates	156	291
Hire of plant and machinery	4	36
Postage, telephone, telegrams, cables and telex (c)	101	185
Total	604	1,018

(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)	2.6	0.8
May	0.0	0.0
June	0.0	0.0
July	0.0	0.0
August	0.0	0.0
September	5.3	12.0
October	0.0	0.0
November	0.0	0.0
December	55.2	48.8
1969		
January	0.0	0.0
February	0.0	0.0
March	23.7	27.3
April (b)	13.2	11.1
	100	100

(a) From 6 April.

(b) To 5 April.

