

This Report on the Abrasives Industry relates to establishments engaged wholly or mainly in shaping natural abrasives into grindstones, etc; grinding natural and synthetic abrasives; coating cloth and paper with abrasives and making abrasive bonded wheels, discs, etc. The manufacture of metallic abrasives is excluded.

This industry corresponds to minimum list heading 469(1) 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 106).

There were no small establishments in this industry in Northern Ireland in 1963 and 1968.

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) Revised figure.
- (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) Administrative, technical and clerical employees.
- (f) Excluding expenditure for establishments not yet in production.
- (g) Acquisitions less disposals.

TABLE 1 Industry summary, 1963 and 1968
United Kingdom (a) (b)

	Unit	All establishments		
		1963	1968	
Number of enterprises	No.	50(c)	49	
Number of establishments	"	66	63	
Gross output	£'000	28,774	36,804	
Net output	"	15,804	21,086	
Net output per head	£	1,889	2,704	
Sales and work done	£'000	goods produced and work done (d)	26,117	34,014
		merchanted goods and canteen takings	2,449	2,077
Purchases	"	materials for use in production and packaging and fuel	10,412	13,758
		goods for merchandising and canteen purchases	1,977	1,672
Payments to other organisations	"	for work done on materials given out for transport	-	34
		by road	378	471
		by rail and other means excluding postal services			70
Stocks and work in progress				
Total stocks and work in progress	"	change during year	+ 5	+ 1,002
		at end of year	6,695	8,599
Goods on hand for sale	"	change during year	+ 126	+ 447
		at end of year	2,122	2,926
Work in progress	"	change during year	+ 82	+ 266
		at end of year	1,365	2,074
Materials, stores and fuel	"	change during year	- 202	+ 289
		at end of year	3,208	3,599
Number employed on average during the year	Th.	total, including working proprietors	8.4	7.8
		operatives	5.2	4.7
		other employees (e)	3.1	3.0
Wages and salaries	£'000	of operatives	4,090	5,291
		of other employees (e)	3,123	4,158
Capital expenditure (f)				
Total	"	1,114	738	
New building work	"	171	88	
Land and existing buildings (g)	"	56	- 39	
Plant and machinery (g)	"	752	494	
Vehicles (g)	"	135	194	

(a) For 1968, estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for about 4 per cent. of the total figures in which they were incorporated. For 1963 the comparable figure was just under 4 per cent.; of this, unsatisfactory returns were negligible for both 1968 and 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	31	35
Average number employed		
Working proprietors	39(c)	36
Other persons employed	261(c)	307

Footnotes continued on page 129/2.

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	15	15	48	..	..	..
6-10	7	7	61	..	..	..
11-24	15	15	278	..	..	..
25-49	4	4	160	890	380	2,374
50-99	5	5	286	1,103	616	2,152
100-199	8	7	1,083	6,270	3,384	3,125
200-399	4	3	1,037	4,467	2,283	2,202
500 and over	4	4	4,844	22,261	13,384	2,763
Unsatisfactory returns	1	1	2	..	..	..
Total	63	49	7,799	36,804(c)	21,086(c)	2,704(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	90	66	81	95	901	1,435
50-99	200	81	176	124	880	1,530
100-199	776	304	802	451	1,034	1,485
200-399	635	402	656	514	1,033	1,279
500 and over	2,798	2,046	3,335	2,788	1,192	1,363
Unsatisfactory returns	..	..	..	..	..	..
Total	4,716(c)	3,034(c)	5,291(c)	4,158(c)	1,122(c)	1,370(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	2	1	3
18 and over	85	12	97
All ages	87	13	100

Source: Department of Employment

(a) The percentages relate to the number employed (excluding working proprietors) in the abrasives and building materials etc industries not elsewhere specified - minimum list heading 469 - 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 3 establishments in both 1968 and 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) Characteristic products relate only to sub-divisions of the industry.
- (f) 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.
- (g) Administrative, technical and clerical employees.
- (h) Excluding expenditure for establishments not yet in production.
- (i) 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	Sub-divisions of the industry (b)				Total	
		Abrasive wheels, stones, etc 11		Abrasive cloths, paper and other prepared abrasives 12		1963	1968
		1963	1968	1963	1968		
Number of enterprises (c)	No.	13	12	9	7	22	17
Number of establishments	"	21	18	14	10	35	28
Gross output	£'000	19,635	24,514	8,107	10,672	27,742	35,185
Net output	"	11,161	14,597	4,076	5,562	15,237	20,159
Net output per head	£	1,904	2,566	1,848	3,146	1,889	2,704
Sales and work done	£'000	goods produced and work done (d)		merchanted goods and canteen takings		25,181	32,518
		17,497	22,458	7,683	10,060		
Sales of characteristic products	"	13,415	17,866	7,361	10,059	(e)	(e)
Index of specialisation (f)	Per cent.	77	80	96	100	97	99
Purchases	£'000	materials for use in production and packaging, and fuel		goods for merchandising and canteen purchases		10,039	13,153
		6,360	8,220	3,679	4,933		
Payments to other organisations	"	for work done on materials given out for transport		by road		1,907	1,599
		-	33	-	-		
	"	by rail and other means excluding postal services				364	450
	"	262	355	102	95		
Stocks and work in progress	"	change during year		at end of year		2,046	2,798
		+ 95	+ 175	+ 26	+ 252		
Goods on hand for sale	"	1,339	1,461	707	1,337	2,046	2,798
Work in progress	"	change during year		at end of year		1,316	1,983
		+ 23	+ 34	+ 56	+ 220		
Materials, stores and fuel	"	change during year		at end of year		3,093	3,441
		- 173	+ 178	- 22	+ 98		
Number employed on average during the year	No.	total including working proprietors		operatives		8,067	7,456
		5,861	5,688	2,206	1,768		
		3,647	3,490	1,406	1,039		
Wages and salaries	£'000	of operatives		of other employees (g)		3,961	5,081
		3,066	4,055	896	1,026		
Wages and salaries per head	£	operatives		other employees (g)		784	1,122
		841	1,162	637	988		
Capital expenditure (h)	£'000	acquisitions		disposals		165	85
		116	67	49	17		
Land and existing buildings	"	acquisitions		disposals		71	- 37
		*	*	*	*		
Plant and machinery	"	acquisitions		disposals		731	472
		571	364(i)	159	109(i)		
Vehicles	"	acquisitions		disposals		210	282
		139	201	71	81		
	"	48	73	32	23	80	96

For notes to this table - see page 129/5

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
11		£'000		£'000	Number	Number
Abrasive wheels, disc wheels, segments, sharpening stones and other shapes or forms of bonded abrasives						
Aluminium oxide (artificial)	..	9,911	..	13,349	10	12
Silicon carbide	..	2,753	..	3,318	11	13
Diamond impregnated (natural or synthetic)	..	707	..	1,398	6	7
Other (including cut from natural rock)	..	381	..			
12						
Abrasive paper, cloth and other coated flexible abrasive materials, in sheets	(b) Th.reams		(b) Th.reams			
Aluminium oxide (artificial)			35.4	524	6	6
Silicon carbide			209	2,207	6	6
Emery			34.5	424	*	*
Garnet			23.9	151	6	6
Glass, flint, sand and other	{2.48 ..	{2,512 5,197}	117	421	*	*
12						
Abrasive paper, cloth and other flexible abrasive materials in coils, rolls, discs, belts and other forms, and articles made wholly or mainly from flexible abrasive material			..	6,661	10	12
12						
Other abrasives, ground, pulverised, refined or otherwise prepared (other than metallic abrasives) (c)						
Artificial	Th.tons		Th.tons			
Aluminium oxide	32.0	2,422	21.0	2,445	5	5
Silicon carbide	..	598	..	260	6	6
Other	..	272	..	171	*	*
Natural of all kinds other than metallic	..	121	..	208	*	*
Other products	..	4	..	10	5	5
Waste products	..	19	..	59	*	*
Work done	..		..
Total		24,895		32,878	..	..
Sales in other industries (see Table 6)		520		796	..	..
Principal products of this industry sold by establishments in the industry		24,374		32,082	17	23(d)

(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) Reams of 500 sheets.

(c) Metallic abrasives are included in the report on the Miscellaneous Metal Goods industry (Part 97) for 1968.

(d) This figure represents the total number of returns made by 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

The total value of the sales of principal products of the industry by larger establishments classified to other industries was £520,000 in 1963 and £796,000 in 1968. Owing to the risk of disclosure of information relating to individual establishments, details cannot be given.

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	
	Quantity	Value	Quantity	Value
		£'000		£'000
Sales of goods (other than principal products)	..	806	..	436
Services rendered to other organisations (a)				
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	..	2,270	..	1,899
Canteen takings	..	92	..	86
Total		3,168		2,421

(a) 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.

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		£'000
Materials for use in production				
Abrasives, crude, ground or graded				
Natural, diamond bort or powder and other natural abrasives	..	656	..	782
Artificial				
Aluminium oxide				
Crude, unground	..	1,385	..	2,010
Ground or graded	..	1,368	..	1,517
Silicon carbide, synthetic diamonds and other artificial abrasives	..	1,219	..	1,372
Paper of all kinds	..	438	..	700
Woven piece goods (other than narrow fabrics) wholly or mainly of cotton	Th. sq.yds. 6,679	964	Th. sq.yds. 7,094	1,131
Vulcanised fibre	..	359	..	457
Bonding materials and adhesives				
Glues and adhesives (including formulated adhesives, but excluding unformulated synthetic resins bought as such)	..	637	..	711
Other bonding agents	..	581	..	455
Lubricating oils and greases	Th. gal. 21.3 Th.cwt. 1.4	9 5	..	8
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	..	312	..	14
Other	..		..	502
All other materials for use in production	..	937	..	1,919
Packaging materials				
Wrapping and packing paper (including paper coated with plastics and any laminates incorporating paper but not metal, and excluding paper for converting into packaging materials)	..	312	..	112
All other packaging materials	..		..	474
Fuel and electricity (a)	Th. tons		Th. tons	
Coal	21.2	107	10.5	58
Coke (including screenings) and manufactured fuel	0.9	8	..	3
Derv fuel and motor spirit for use in road vehicles	Th. gal. 177	38	Th. gal. 154	44

Continued on next page

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
	Th.gal.	£'000	Th.gal.	£'000
Fuel and electricity (a) (continued)				
Other liquid fuels (including creosote/pitch mixtures, etc, and liquefied petroleum gases)	3,583	173	3,582	170
Gas	..	133	2,332	144
Electricity	Th.kWh 66,998	299	Th.kWh 130,557	559
All other fuels	..	(b)	..	12
Total cost of materials and fuel		10,039		13,153
Goods purchased for merchanting		1,812		1,532
Canteen purchases		94		67
Total cost of purchases		11,945		14,752

(a) The total quantity of electricity generated in establishments employing 25 or more persons in this industry was 2,041 Th.kWh in 1968 and 2,815 Th.kWh in 1963.

(b) 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.	75	75
Transport costs			
Wages and salaries	£'000	60	83
Derv fuel and motor spirit	"	38	44
Tyres and other spare parts for road goods vehicles	"	..	14
Payments to other organisations for transport	{ by road by rail and other means excluding postal services	{ 364	{ 450
Costs of operating road goods vehicles			
Insurance	"	5	6
Vehicle licences	"	4	7
Depreciation	"	27	18
Payments to other organisations for repairs and maintenance	"	16	8
Total	"	514(a)	698

(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	52	101
Road goods vehicles	16	8
Plant, machinery and other capital equipment	239	259
Insurance, licensing and depreciation of road goods vehicles (b)	35	31
Rates, excluding water rates	166	271
Hire of plant and machinery	41	18
Postage, telephone, telegrams, cables and telex (c)	117	160
Total	666	848

(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	0.0	0.0
July	0.0	0.0
August	0.0	0.0
September	21.8	33.2
October	4.3	6.9
November	0.0	0.0
December	47.8	50.7
1969		
January	4.3	0.5
February	0.0	0.0
March	21.8	8.7
April (b)	0.0	0.0
	100	100

(a) From 6th April.

(b) To 5th April.