



Commonwealth Bureau of Census and Statistics.

CANBERRA.

OFFICIAL STATISTICS, COMMONWEALTH OF AUSTRALIA.

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MANUFACTURING INDUSTRIES,  
1937-38.

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No. 1. CEMENT AND CEMENT GOODS.

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PREPARED UNDER INSTRUCTIONS FROM  
THE HONORABLE THE TREASURER.

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## P R E F A C E

1. Industries included in the Series: A complete list of the industries for which summaries in this series are being issued is given on the back of the cover page. They will be published as the material becomes available, and not necessarily in the order shown in the list. The following summaries have already been published: Nos. 6, 4 and 3.
2. Classification of Factories: The classification of factories in Australia is based on the nature of the product. Where two or more distinct types of industrial activity are carried on in one establishment, factory proprietors are requested to furnish separate returns for each activity. In some instances, however, this is not practicable, and in such cases there is no alternative but to classify the factory according to its predominant activity. This difficulty is most acute in the Metal Trades industries (e.g. Engineering firms also producing Agricultural Implements, Stoves and Ovens, and/or Brass and Copper products), but it is also to be found in factories concerned with the treatment or manufacture of Skins, Leather Clothing, Wood products and some other articles. In consequence, and to an extent which will vary with individual industries, the figures may include the subsidiary but extraneous activities of those establishments included in the industry, while they will exclude relevant activities which are subsidiary to the predominant activity of establishments classified to some other industry. This qualification is not important in the case of Cement and Cement Goods, the industry with which this summary is concerned.
3. Basis of the Statistics: The scope of the factory statistics is fully explained in Part I of the annual Production Bulletin.

Briefly, a "factory" is taken to be an industrial establishment in which four or more hands are employed or in which power other than hand is used.

All persons employed in the manufacturing activities of the factory are counted as factory employees. The figures relating to employment, therefore, exclude all those engaged in selling and distribution, such as salesmen, travellers, collectors, carters engaged solely on outward delivery, and retailing storemen. The figures do include, however, proprietors who work in their own business and "out-workers".

The value of output is the wholesale selling value at the factory of goods made or processed during the year, including by-products. In addition, it includes the value of other work done, such as repair work, assembling and making up for customers.

The value of production is the value of output minus the cost of raw materials, containers, power, fuel, light, lubricants, water, tools replaced, and repairs to plant.

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Canberra, A.C.T.  
3rd April, 1939.

CEMENT AND CEMENT GOODS.

Prior to the introduction of the present factory classification in 1930-31, factories engaged in the manufacture of Cement and Cement Goods were included in the industrial group, "Lime, Plaster, Cement and Asphalt", and consequently a statistical analysis of the development of this industry prior to the year 1930-31 is not readily available.

The manufacture of cement was an established industry before the Great War, but development during the post-War period has been most pronounced. Practically the entire requirements of Australia are now supplied by local manufacturers. Some quantities are still imported, but these consist mainly of those types not produced in Australia.

The industries covered by this report include, in addition to Portland Cement, those engaged in the manufacture of cement building sheets, cement pipes, tiles, posts etc. and other cement goods.

A summary of the principal statistics of these industries since the introduction of the present classification is shown in the following table:-

1. CEMENT AND CEMENT GOODS - AUSTRALIA, 1930-31 TO 1937-38.

Year	Number of Factories	Persons Employed (a)	Salaries and Wages Paid (b)	Power, Fuel and Light Used	Other Materials Used	Value of Production	Value of Output
	No.	No.	£'000	£'000	£'000	£'000	£'000
1930-31	78	1,600	419	324	620	1,043	1,987
1931-32	72	1,287	286	207	381	695	1,283
1932-33	80	1,620	335	233	558	960	1,751
1933-34	88	2,004	387	276	677	1,204	2,151
1934-35	91	2,321	458	375	825	1,573	2,773
1935-36	101	2,698	569	424	949	1,828	3,201
1936-37	108	3,214	677	502	1,171	1,988	3,661
1937-38	125	3,232	863	577	1,429	2,307	4,313

(a) Including working Proprietors. (b) Excluding amounts drawn by working Proprietors.

In the following table particulars of these industries are given for each State during the year 1937-38.

2. CEMENT AND CEMENT GOODS - STATES 1937-38.

Particulars	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	AUSTRALIA
	No.	No.	No.	No.	No.	No.	No.
Number of Factories	38	46	18	5	14	4	125
Number Employed (a)-							
Males ..	1,396	1,219	440	189	350	188	3,782
Females ..	19	13	7	2	3	6	50
Total ..	1,415	1,232	447	191	353	194	3,832
£	£	£	£	£	£	£	£
Value of -							
Salaries and Wages Paid (b) ..	351,127	257,204	99,635	47,762	69,141	38,147	863,016
Fuel used ..	222,491	131,175	56,112	37,867	79,472	50,193	577,316
Materials, etc. used	517,549	444,377	206,639	62,726	107,556	90,257	1,429,104
Production ..	1,052,314	607,222	234,357	97,446	178,863	136,827	2,307,029
Output ..	1,792,354	1,182,774	497,114	198,039	365,891	277,277	4,313,449
Land and Buildings	644,072	302,596	151,076	71,778	52,304	124,187	1,346,013
Plant and Machinery	1,064,667	587,069	189,399	203,322	139,818	125,373	2,308,648
H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
H.P. of Engines Ordinarily in use..	16,992	5,491	3,980	2,889	3,875	3,154	36,381

(a) Includes Working Proprietors. (b) Exclusive of amounts drawn by working Proprietors.

/Particulars

Particulars of the average salary and wage paid per employee, together with the average values of output and production per person engaged, are shown in the following table for each of the years indicated.

3. AVERAGE SALARIES AND WAGES PAID, OUTPUT ETC. PER EMPLOYEE - AUSTRALIA, 1930-31 TO 1937-38.

Year	Salaries and Wages per Employee (a)	Value of Output per Person Engaged(b)	Value of Production per Person Engaged(b)	Ratio per cent of Salaries and Wages to Value of Production
	£	£	£	%
1930-31	266	1,242	652	40.15
1931-32	226	997	540	41.15
1932-33	210	1,081	593	34.86
1933-34	196	1,076	600	32.13
1934-35	200	1,195	678	29.09
1935-36	214	1,187	677	31.13
1936-37	213	1,139	618	34.05
1937-38	227	1,126	602	37.41

(a) Excludes Working Proprietors and amounts drawn by them. (b) Including Working Proprietors.

Particulars of the materials used and articles produced in Cement and Cement Goods factories during 1937-38 are shown in the following table. The quantities and values shown here are those furnished by the establishments included in this summary only. The figures do not include similar materials used or articles produced in establishments not classified as Cement and Cement Goods Factories.

4. MATERIALS USED AND ARTICLES PRODUCED - AUSTRALIA, 1937-38.

Materials Used	Quantity	Value	Articles Produced	Quantity	Value
	Tons	£		Tons	£
Clay Materials ..	121,662	17,612	Cement Portland tons	848,914	2,991,927
Limestone Shell and Coral ....	1,293,445	353,626	Cement Building Sheets sq.yds.	3,579,877	300,217
Gypsum ..	35,197	59,306	Cement Pipes .. (a)	4,626,247	592,841
Asbestos ..	3,769	80,986	Cement Tiles ..	(a)	52,571
Reinforcing Steel	5,614	69,057	Cement Posts, Poles and Piles ..	(a)	1,059
Cement ..	59,477	260,210	Other Articles Produced	(a)	374,834
Other Materials..	(a)	1,022,462	Total Value of	Value	4,313,449
Total Materials Used:	Value Only	1,023,259	Output:	Value Only	

(a) Not collected.

The quantities and values of Cement produced in Australia during each of the last ten years are given in the next table:-

5. PRODUCTION OF PORTLAND CEMENT - AUSTRALIA, 1928-29 TO 1937-38.

Year	Quantity	Value	Year	Quantity	Value
	Tons	£		Tons	£
1928-29	708,462	3,161,228	1933-34	410,343	1,650,480
1929-30	696,569	2,979,551	1934-35	550,131	2,132,865
1930-31	389,278	1,630,785	1935-36	645,234	2,389,899
1931-32	247,396	1,046,642	1936-37	720,093	2,566,740
1932-33	320,910	1,324,793	1937-38	848,914	2,991,927

Official records of the total production of Cement in Australia are available only from 1923-24, when 491,976 tons were manufactured. In the early years of the century the industry was unimportant, for the New South Wales Mines Department reported that the output in New South Wales, always a relatively large producer, was valued at only 246,500 in 1902. According to the same authority

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the value of production rose to an average output of £153,000 for the three years ended 1908 and to £362,000 during the three years ended 1913. For the three years ended 1937-38 the average value of output in New South Wales amounted to £1,191,697 or 350,132 tons of cement.

So far as the figures are available, the consumption of Cement in Australia may be seen from the following table:-

6. CONSUMPTION OF CEMENT IN AUSTRALIA.

Period	Production	Net Imports	Available for Consumption
	Tons	Tons	Tons
1924-25	578,064	25,547	603,611
1925-26	604,900	21,955	626,855
1926-27	638,175	17,821	655,996
1927-28	753,580	21,891	775,471
1928-29	708,462	20,393	728,855
1929-30	696,569	13,159	709,728
1930-31	389,278	-1,238	388,040
1931-32	247,396	-3,377	244,019
1932-33	320,910	- 420	320,490
1933-34	410,343	430	410,773
1934-35	550,131	3,405	553,536
1935-36	645,234	12,593	657,827
1936-37	720,093	12,898	732,991
1937-38	848,914	9,025	857,939

Note: Minus sign (-) signifies net export.

The numbers employed shown in Table 2 have been adjusted to represent the average employment over the whole year in those cases where short time was worked. In the following table, the factories have been classified according to the average number employed during the actual period worked.

7. FACTORIES: CLASSIFIED ACCORDING TO HANDS EMPLOYED - AUSTRALIA.  
1930-31 TO 1936-37.

Number of Persons Employed in each Factory	1930-31		1933-34		1934-35		1935-36		1936-37(a)	
	Number of Factories	Number Employed	Number of Factories	Number Employed	Number of Factories	Number Employed	Number of Factories	Number Employed	Number of Factories	Number Employed
Under 4	18	42	18	48	9	24	14	38	13	30
4	10	40	6	24	12	48	9	36	6	24
5 to 10	25	174	27	208	28	179	34	239	38	261
11 to 20	7	94	17	242	16	216	16	238	18	250
21 to 50	8	272	9	351	11	330	11	365	13	406
51 to 100	6	406	6	488	7	480	7	462	10	685
Over 100	4	791	5	727	8	1,181	10	1,480	10	1,609
TOTAL:	78	1,819	88	2,088	91	2,458	101	2,858	103	3,265

(a) 1937-38 not yet available.

Further details of employment are furnished in the following three tables. In the first the employees have been classified according to the nature of their employment.

8. MALES EMPLOYED CLASSIFIED ACCORDING TO GRADE OF OCCUPATION - AUSTRALIA, 1930-31 TO 1937-38.

Grade of Occupation	1930-31	1934-35	1935-36	1936-37	1937-38
	No.	No.	No.	No.	No.
Working Proprietors ..	24	28	33	32	36
Managers and Overseers ..	114	120	132	150	181
Clerical Staff ..	92	109	113	149	160
Engine Drivers and Firemen ..	58	27	34	67	55
Workers, Skilled and Unskilled	1,252	1,974	2,318	2,734	3,310
Other (Carters and Messengers)	26	28	29	44	40
Total Males:	1,566	2,286	2,659	3,176	3,782
Total Females (a)	34	35	39	38	50
TOTAL ALL PERSONS:	1,600	2,321	2,698	3,214	3,832

(a) Mainly Clerical Staff.

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The next table shows the actual number of persons employed (excluding Working Proprietors) on the pay-day nearest to the 15th of each month for the years 1936-37 and 1937-38.

9. NUMBER OF PERSONS EMPLOYED IN AUSTRALIA ON PAY-DAY NEAREST TO THE 15TH OF EACH MONTH (WORKING PROPRIETORS EXCLUDED).

Month	1936-37			1937-38		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
July ..	2,968	34	3,002	3,253	48	3,601
August ..	3,040	34	3,074	3,765	47	3,752
September	3,035	34	3,069	3,759	46	3,805
October..	3,058	34	3,092	3,758	47	3,805
November	3,127	34	3,161	3,856	48	3,898
December	3,132	34	3,166	3,783	48	3,851
January..	3,152	37	3,189	3,878	50	3,928
February	3,193	38	3,231	3,756	51	3,817
March ..	3,078	38	3,116	3,805	51	3,857
April ..	3,176	38	3,214	3,711	52	3,761
May ..	3,207	37	3,244	3,762	52	3,821
June ..	3,197	37	3,234	3,778	52	3,830
Average	3,114	36	3,150	3,756	49	3,803

The distribution according to age of those employed on or about the 15th June, 1938 is shown in the next table.

10. PERSONS EMPLOYED CLASSIFIED ACCORDING TO AGE, JUNE, 1938.

Sex	Under 16	16 and under	Adults	Total
	years	21 years		
	No.	No.	No.	No.
Males .. ..	89	521	3,158	3,778
Per Cent of Total	2%	14%	84%	100%
Females .. ..	1	15	36	52
Per Cent of Total	2%	22%	66%	100%
Persons .. ..	90	546	3,194	3,830
Per Cent of Total	3%	14%	83%	100%

Statistics of the power equipment of the factories included in this group are given in the next table. The details given include the rated horse power of engines ordinarily in use for the years 1936-37 and 1937-38 together with those in reserve or idle in the latter year.

11. POWER EMPLOYED TO DRIVE MACHINERY - AUSTRALIA.

Class of Engine	Rated H.P. of Engines		
	Ordinarily in Use		In Reserve or Idle
	1936-37	1937-38	1937-38
Steam - Reciprocating ..	5,137	1,320	-
Turbine .. ..	9,400	17,250	7,610
Internal Combustion:-			
Gas .. ..	10	-	-
Petrol or Other Light Oils	104	141	80
Heavy Oils .. ..	-	-	-
Water .. ..	-	-	94
Total Prime Movers:	14,651	18,711	7,584
Motors driven by electricity -			
Purchased .. ..	24,324	17,670	2,555
Own Generation .. ..	15,923	26,531	7,516
Total Electricity:	40,247	44,201	10,071
<b>TOTAL POWER USED (a):</b>	<b>32,975</b>	<b>36,381</b>	<b>17,655</b>

(a) Without duplication.

Details of the quantities and values of the various items of power, fuel and light used in Cement and Cement factories are shown in the following table:-

12. POWER,

12. POWER, FUEL AND LIGHT ETC. USED - AUSTRALIA, 1937-38.

Particulars	Unit of Quantity	Quantity	Value £
Coal - Black ..	ton	331,610	320,295
Brown ..	"	343	161
Coke .. ..	"	2,197	1,738
Wood .. ..	"	2,172	1,660
Fuel Oil.. ..	gallon	26,659	1,478
Electricity ..	"	(a)	229,350
Gas .. ..	"	(a)	30
Other (Charcoal etc.)	"	(a)	7
Water used ..	"	(a)	5,886
Lubricating Oil ..	"	(a)	16,711
TOTAL:		Value Only	577,316

(a) Value only available.

Particulars of the book values of premises and plant used for factory purposes as at the 30th June for each of the five years ended 1938 are shown in the next table. In addition, details of the values of additions and replacements made and depreciation allowed during the year 1937-38 are also shown. It should be noted that the amounts expended in Additions and Replacements refer to expenditure incurred by existing factories and do not include the costs of erecting and equipping new factories; these latter items, however, are included with the book values shown at 30th June. The amounts shown for Depreciation are those returned by factories. Changes in the number of factories operating and other factors affect comparison from year to year.

13. VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY - AUSTRALIA, 1937-38.

Particulars	Land and Buildings £	Plant and Machinery £
Additions and Replacements made during year(a)	53,227	280,067
Depreciation allowed during year (a) ..	75,655	221,337
Book Value (a) as at 30th June -		
1938 ..	1,346,013	2,309,648
1937 ..	1,347,741	2,260,667
1936 ..	1,272,985	2,134,478
1935 ..	1,289,102	2,193,173
1934 ..	1,300,056	2,251,842

(a) see note above.

The next two tables furnish particulars of the quantities of Portland Cement imported and exported for each of the years indicated.

14. IMPORTS OF PORTLAND CEMENT - AUSTRALIA, 1908 TO 1937-38.

Country from which Imported	1908	1913	1921-22	1928-29	1936-37	1937-38	
	tons	tons	tons	tons	tons	tons	£A
United Kingdom ..	25,187	31,945	19,829	18,342	14,260	10,919	36,752
France .. ..	1	-	-	765	170	266	1,091
Germany .. ..	18,219	72,057	-	1,037	106	156	1,503
United States of America	133	390	27	950	326	99	675
Other Countries ..	2,212	21,199	4,405	428	144	150	675
TOTAL:	45,752	125,591	24,261	21,522	15,006	11,590	40,694

(a) Includes Belgium 8,276 tons, Denmark 5,617 tons and New Zealand 2,793 tons.  
 (b) Includes Denmark 2,341 tons.

15. EXPORTS OF PORTLAND CEMENT - AUSTRALIA, 1908 TO 1937-38.

Country to which Exported	1908	1913	1921-22	1928-29	1936-37	1937-38	
	tons	tons	tons	tons	tons	tons	£A
New Zealand ..	37	-	-	1	5	1	12
Pacific Islands British	1,657	153	1,408	1,002	1,895	2,413	8,451
Pacific Islands Foreign	761	734	203	125	208	151	586
Other Countries ..	1	24	59	-	-	-	-
TOTAL:	2,456	911	1,670	1,128	2,108	2,565	9,049

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The following table shows the weekly minimum rates of wage and hours of labour operating as at 30th June, 1938-as prescribed by State Industrial Tribunals. Where no rate is shown it indicates that the particular occupation is not specifically provided for in the award or determination.

16. CEMENT AND CEMENT GOODS.  
Minimum Weekly Rates of Wage and Hours of Labour as at  
30th June, 1938

Occupation	New South Wales		Victoria		Queensland		South Australia		Western Australia		Tasmania	
	Hrs.	Weekly Wage	Hrs.	Weekly Wage	Hrs.	Weekly Wage	Hrs.	Weekly Wage	Hrs.	Weekly Wage	Hrs.	Weekly Wage
<u>QUARRY</u>												
Machine men	44	92/- & 98/-	..	..	44	93/10 to 116/1	48	95/6	44	89/10	44	89/-
Assistants	44	86/- & 92/-	..	..	..	..	48	89/6	..	..	..	..
Powder monkey	44	98/-	44	94/- to 106/-	44	93/10 to 116/1	48	98/6	..	..	44	94/-
Jumpermen	44	89/-	..	..	44	90/2 to 112/5	..	..	..	..	..	..
Hammer and Drillmen	44	89/- to 108/4	44	94/- to 106/-	44	90/2 to 112/5	48	92/6	44	89/10	44	89/-
Tool sharpener	44	101/-	..	..	44	93/10 to 116/1	48	92/6	..	..	..	..
<u>CEMENT WORKS</u>												
Stone crusher Loading hand	44	92/-	44	90/- & 92/9	..	..	..	..	..	..	..	..
Labourer	44	81/-	..	..	44	85/7 to 107/10	48	84/-	..	..	44	79/-
Raw mills-Miller	44	92/8	44	94/- & 96/-	44	96/-	48	86/-	44	88/10	44	88/-
Assistant	44	84/-	..	..	44	90/-	48	84/-	44	82/10	44	82/-
Rotary Kiln-Burners	44	93/8 to 102/8	44	91/- & 97/3	44	102/-	48	92/-	44	98/10	44	88/- & 93/-
Clinker shedmen	44	83/-	..	..	44	89/-	48	84/-	44	82/10	44	87/-
Coal Mill-Coalmiller	44	89/6	44	96/-	44	101/-	48	86/-	44	88/10	44	88/-
Assistant	44	82/4	..	..	44	91/-	48	84/-	44	82/10	44	82/-
Cement Mill-Cement miller	44	93/8	44	94/- & 96/-	44	101/-	48	86/-	44	88/10	44	88/-
Assistant	44	84/-	..	..	44	91/-	48	84/-	44	82/10	44	82/-
Laboratory-Mechanical Tester	44	98/4	44	97/3	..	..	..	..	..	..	..	..
Sampler & Tester	44	81/4	..	..	..	..	..	..	..	..	44	72/6
Boys and Youths - 16 years & under	44	41/4	44	29/- & 33/3	..	..	..	..	44	21/8	..	..

**CEMENT INDUSTRY (CONTINUED)**

Occupation	New South Wales		Victoria		Queensland		South Australia		Western Australia		Tasmania	
	Hrs.	Weekly Wage	Hrs.	Weekly Wage	Hrs.	Weekly Wage	Hrs.	Weekly Wage	Hrs.	Weekly Wage	Hrs.	Weekly Wage
Boys and Youths (Ctd)												
17 years & under	44	48/10	44	36/9 & 41/-	..	..	..	..	44	29/10	44	27/-
18 "	44	56/5	44	43/6 & 48/-	44	44/6	48	55/6	44	37/11	44	33/-
19 "	44	64/3	44	51/6 & 56/6	..	..	..	..	44	46/-	44	39/-
20 "	44	68/9	44	58/9 & 63/3	..	..	..	..	44	54/1	44	48/-
21 "	..	..	44	66/9 - 71/-	..	..	..	..	44	70/4	44	60/-
<b>CEMENT GOODS</b>												
Leading Hand	44	93/-	44	89/-	44	102/6	..	..	44	83/-	..	..
Mixer (Machine)	44	89/-	44	88/-	44	93/-	44	84/-	44	82/-	..	..
Mixer (Other)	44	89/-	44	86/-	44	93/-	44	84/-	44	82/-	..	..
Moulders pipe machine	..	..	44	87/-	44	93/-	..	..	44	81/-	..	..
Moulders Other	..	..	44	86/-	44	93/-	..	..	44	81/-	..	..
Repairers	44	86/- & 89/-	44	86/-	..	..	..	..	44	81/-	..	..
Mould assemblers	..	..	44	84/6	44	92/-	44	83/6	44	79/-	..	..
Cement spray operator	44	ø	44	84/-	44	89/6	..	..	..	..	..	..
Tile makers	44	91/-	44	84/-	..	..	..	..	..	..	..	..
Strippers	44	88/-	44	83/6	44	92/-	44	83/6	44	79/-	..	..
Finishers	..	..	44	81/-	..	..	..	..	..	..	..	..
All others	44	85/-	44	80/-	44	87/-	44	81/-	44	74/-	..	..
Makers of laundry tubs, sinks etc.	44	85/-	..	..	44	92/6	..	..	..	..	..	..
Pipemakers (machine)	44	92/-	..	..	44	93/-	44	87/-	..	..	..	..
Pipemakers (hand)	44	100/-	..	..	44	93/-	44	87/-	..	..	..	..
Juniors and Apprentices- Under 16 yrs	..	..	44	22/6	44	21/-	..	..	44	22/2	..	..
" 17 "	44	29/1	44	29/6	44	30/-	..	..	44	25/	..	..
" 18 "	44	39/1	44	36/6	44	40/-	..	..	44	33/4	..	..
" 19 "	44	49/-	44	45/9	44	50/-	..	..	44	44/5	..	..
" 20 "	44	58/4	44	53/3	44	58/6	..	..	44	55/6	..	..
" 21 "	44	68/-	44	61/9	44	68/-	..	..	44	66/8	..	..

\* Juniors. ø One penny per hour is paid in addition to normal rates to employees while on this work.