

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS

CANBERRA, AUSTRALIA

MANUFACTURING INDUSTRIES

1960-61

NO. 29. RUBBER WORKS

Prepared Under Instructions from
THE RIGHT HONORABLE THE TREASURER,

by

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COMMONWEALTH STATISTICIAN

PREFACE

1. GENERAL: The range of Bulletins in this series for 1960-61 is the same as for 1959-60 and a complete list is shown on the back of the cover of this Bulletin.

Where a number of industries are combined in one Bulletin the introductory paragraph on Page 3 specifies the industries so included.

2. CLASSIFICATION OF FACTORIES: For purposes of industry classification, factories in Australia are classified according to the nature of their product. Where two or more distinct types of industrial activity are carried on in one establishment, a separate return is obtained, wherever practicable, for each activity in order to allow classification on this basis. In cases where this is not practicable, factories are classified according to predominant activity. These cases are encountered most frequently in the Metal Trades, (e.g. General Engineering firms also producing Agricultural Implements or Stoves, etc.), and to a lesser degree in factories concerned with Skins, Leather, Clothing and Wood products.

Each of the summaries in the "Manufacturing Industries" series relates, generally, to the operations of factories classified to the industry specified. Figures shown in the quantity tables herein represent total recorded production of the articles listed and include quantities produced, as subsidiary production, in industries otherwise classified.

3. BASIS OF THE STATISTICS: The scope of the factory statistics is fully explained in the annual Secondary Industries Bulletin.

Briefly, a "factory" is defined as an establishment in which four or more persons are employed or where power (other than manual) is used in any manufacturing process. It should be noted that details relating to small establishments not classified for statistical purposes as factories are not included in the figures shown herein.

All persons employed in the manufacturing activities of the factory are counted as factory employees. The figures relating to employment, therefore, include working proprietors as well as "out-workers", but exclude all those engaged in selling and distribution, such as salesmen, travellers, collectors, carters engaged solely on outward delivery of manufactured goods, and retailing storemen.

The value of materials used includes the value, in the usual sense, of the materials used, stores used, containers, tools replaced and materials used in repairs to plant. In general, it does not include the value of customers' articles or materials repaired, assembled or treated by the factory.

The value of output is the selling value, at the factory, (exclusive of all delivery costs and charges and excise duties, but inclusive of bounty and subsidy payments to the manufacturer of the finished article) of all goods made during the year. 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 added to raw materials by the process of manufacture. It is calculated by deducting from the value of factory output the value (at the factory) of the materials used, containers and packing, power, fuel and light used, tools replaced and materials used in repairs to plant (but not depreciation charges). The value of production is the source from which, in addition to wages and salaries, such items as interest, depreciation, profits, taxation, advertising and other sundry charges are met. As details of these other costs of production are not collected, the amounts of profit resulting from factory operations cannot be ascertained from the figures contained herein.

MANUFACTURING INDUSTRIES : AUSTRALIA, 1960-61RUBBER WORKS

1. SUMMARY OF STATISTICS: The following table furnishes a summary for the years 1956-57 to 1960-61 of the principal statistics of the factories engaged in the manufacture of Rubber Goods and in Tyre Retreading and Repairing.

TABLE 1. - RUBBER WORKS : AUSTRALIA

Year	Factories (1) Number	Persons Employed (a)(2) Number	Salaries and Wages Paid (b)(3) £'000	Power, Fuel and Light, etc. Used (c)(4) £'000	Value of Materials, etc. Used (d)(5) £'000	Value of Production (e)(6) £'000	Value of Output (f)(7) £'000
1956-57	536	17,844	16,660	2,325	39,159	28,530	70,014
1957-58	565	18,105	17,472	2,455	41,285	30,209	73,979
1958-59	606	18,467	18,163	2,601	41,897	32,805	77,303
1959-60	620	18,563	19,827	2,724	49,316	32,138	84,178
1960-61	629	18,395	19,785	2,797	48,375	34,925	86,097

(a) Average over whole year; includes Working Proprietors. (b) Excludes amounts drawn by Working Proprietors. (c) Includes Water and Lubricating Oil. (d) Includes also containers, packing, etc., replacements of tools and repairs to plant. (e) Value of Production equals column (7) less total of columns (4) and (5). (f) Value of goods produced.

In the following table, particulars are given for each State during the year 1960-61.

TABLE 2. - RUBBER WORKS : STATES, 1960-61

Particulars	N.S.W. No.	Vic. No.	Q'ld. No.	S.A. No.	W.A. No.	Tas. No.	Aust. No.
Factories	228	163	108	65	43	22	629
Persons Employed -							
Males	6,061	5,858	1,467	1,008	219	112	14,725
Females	1,534	1,501	368	220	33	14	3,670
TOTAL:	7,595	7,359	1,835	1,228	252	126	18,395
Salaries and Wages paid	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Value of -							
Power, Fuel and Light, etc. used	8,489	7,993	1,519	1,437	229	118	19,785
Materials, etc., used	1,127	1,267	194	162	29	18	2,797
Production	20,216	21,545	3,872	2,090	441	211	48,375
Output	12,457	15,449	3,496	2,741	539	243	34,925
Land and Buildings (a)	33,800	38,261	7,562	4,993	1,009	472	86,097
Plant and Machinery (a)	5,210	6,664	1,898	1,020	447	293	15,532
	3,737	7,392	849	629	242	141	12,990
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
H.P. of Engines ordinarily in use	59,473	64,462	10,999	7,248	1,190	614	143,986

(a) Depreciated or book values at end of year.
See also notes to Table 1 above.

2. AVERAGE SALARIES, OUTPUT AND PRODUCTION: Particulars of the average salaries and wages paid, together with the average values of output and production per person engaged and the ratio of salaries and wages to the value of production are shown in the following table for the years 1956-57 to 1960-61.

TABLE 3. - RUBBER WORKS : AVERAGE SALARIES AND WAGES PAID, OUTPUT, ETC.PER EMPLOYEE : AUSTRALIA

Year	Salaries and Wages per Employee (a) £.	Value of Output per Person Engaged (b) £.	Value of Production per Person Engaged (b) £.	Ratio of Salaries and Wages to Value of Production %
1956-57	949	3,924	1,599	58.39
1957-58	981	4,086	1,669	57.84
1958-59	999	4,186	1,776	55.37
1959-60	1,077	4,510	1,722	61.69
1960-61	1,088	4,680	1,899	56.65

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

3. **MATERIALS USED AND ARTICLES PRODUCED:** In the following table, details are given of the quantities and values of the principal materials used and articles produced in Rubber Factories in Australia for the year 1960-61. In some cases the table includes particulars of small quantities used and produced in works not classified as "Rubber Works".

**TABLE 4. - PRINCIPAL MATERIALS USED
AND RUBBER ARTICLES PRODUCED : AUSTRALIA - 1960-61**

Particulars	For Manufacture or Repair of Tyres and Tubes		For Other Articles	
	Quantity '000 lb.	Value £.	Quantity '000 lb.	Value £.
Rubber Used -				
Crude	43,345	6,477,901	21,181	3,204,457
Reclaimed	9,050	471,545	8,525	410,213
Scrap (a)	380	14,953	21,724	95,890
Latex	600	127,856	13,262	1,554,766
Camelback	24,998	5,164,629	(b)	(b)
Synthetic	40,598	4,246,894	13,034	1,612,462
Other	1,272	345,644	1,132	238,828
Rubber and Synthetic Rubber composition sheets (mainly for footwear)	(c)	140,624	(c)	1,578,783
			Unit of Quantity	Value
Articles Produced -				
Tyres, Pneumatic -				
Car and Motor Cycle -			number	
For use with Tube			1,760,022	7,682,970
Tubeless			1,864,425	8,187,002
Truck and Omnibus -				
For use with Tube			547,155	10,897,128
Tubeless			3,635	28,010
Tractor			187,754	3,713,963
Aero			4,476	130,514
Other			86,791	139,454
Bicycle			(b)	(b)
Tyres - Solid			193,613	103,158
Tyres Retreaded and Recapped			2,579,415	(d)
Tubes -				
Car and Motor Cycle			2,284,117	1,496,078
Truck and Omnibus			499,987	857,503
Tractor			145,529	380,010
Aero			1,236	4,488
Other			105,166	43,468
Bicycle			(b)	(b)
Rubber Boots (all kinds)			pair	689,479
Rubber Shoes - Partly Rubber - (Sand Shoes, etc.)			"	1,605,816
Rubber Thongs			"	2,375,103
Galooshes			"	152,063
Soles and Heels -				
Moulded Rubber and Rubber Composition -				
Full Soles			dos.pair	354,199
Half Soles			"	(b)
Heels			"	324,404
Out Rubber -				
Full Soles			"	29,618
Half Soles			"	125,719
Heels			"	26,211
Soling Material -				
Sheets Rubber			lb.	1,191,485
Sheets Resin and Rubber Composition			"	5,024,202
Rubber Hose -				
Garden			lin.ft.	2,178,848
Other			"	11,840,087
Floor Mats			lb.	(c)

Continued on next page.

**TABLE 4. - PRINCIPAL MATERIALS USED
AND RUBBER ARTICLES PRODUCED : AUSTRALIA - 1960-61 - (Cont'd.)**

Particulars	Unit of Quantity	Quantity	Value (£)
Articles Produced - (Cont'd.)			
Floor Covering	sq.yd.	(b)	(b)
Tubing	lin.ft.	1,994,417	62,413
Hot Water Bottles	number	815,624	232,255
Sheeting	sq.yd.	84,147	52,525
Gloves	pair	(b)	(b)
Belting -			
Flat Transmission	ft.	993,506	272,729
Conveyer	"	841,900	2,036,744
V. Belts	number	2,489,138	794,093
Other Types	lb.	(b)	(b)
Sponge and Foam Rubber	"	10,747,410	3,639,864
Balls -			
Golf	doz.	232,694	550,894
Tennis	"	164,234	362,813
Tread Rubber - Camelback	lb.	24,564,730	3,197,750

(a) Purchased Scrap. (b) Not available for publication. (c) Quantity not available.
(d) Quantity only available.

In the two tables which follow, details of Rubber used and Principal Rubber articles produced in all Factories in Australia are shown for the years 1956-57 to 1960-61.

**TABLE 5. - RUBBER USED IN ALL FACTORIES : AUSTRALIA
('000 lb.)**

Year	Crude	Reclaimed	Scrap	Latex	Camelback	Synthetic	Other	Total
1956-57	64,068	18,725	13,840	13,204	18,327	31,354	2,330	161,848
1957-58	62,860	18,423	21,891	13,169	19,859	37,407	2,101	175,710
1958-59	72,914	17,423	24,562	14,668	21,710	35,400	1,805	188,482
1959-60	72,449	17,074	22,660	17,400	23,588	44,580	1,855	199,606
1960-61	64,526	17,575	22,104	13,862	24,998	53,632	2,404	199,101

TABLE 6. - PRINCIPAL RUBBER ARTICLES PRODUCED IN ALL FACTORIES : AUSTRALIA

Commodity	Unit	1957-58	1958-59	1959-60	1960-61
Tyres, Pneumatic					
Car and Motor Cycle -					
For use with tube	No.	1,592,476	1,730,099	1,712,790	1,760,022
Tubeless	"	1,411,170	1,475,832	1,740,695	1,864,425
Truck and Omnibus -					
For use with tube	"	495,097	559,318	561,234	547,155
Tubeless	"	7,628	7,968	7,931	3,635
Tractor and Aero	"	155,170	166,946	204,953	192,230
Retreaded and Recapped	"	2,164,200	2,276,250	2,416,476	2,579,415
Tubes, Pneumatic					
Car and Motor Cycle	"	1,787,240	2,019,912	2,169,878	2,284,117
Truck and Omnibus	"	470,824	499,900	530,087	499,987
Tractor and Aero	"	122,345	138,889	168,440	146,765
Rubber Boots (all kinds)	pair	736,840	647,184	661,474	689,479
Shoes	"	2,355,972	1,939,076	1,674,001	1,605,816
Hose -					
Garden	'000 ft.	2,736	2,514	2,494	2,179
Other	"	10,007	10,680	11,706	11,840
Hot Water Bottles	No.	614,410	805,924	805,321	815,624

4. **EMPLOYMENT:** The numbers of persons employed, shown in Tables 1, 2, 8 and 9 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.

TABLE 7. - RUBBER WORKS CLASSIFIED ACCORDING TO PERSONS EMPLOYED : AUSTRALIA

Number of Persons Employed in Each Factory	1956-57		1957-58		1958-59		1959-60		1960-61	
	No. of Factories	No. Employed	No. of Factories	No. Employed	No. of Factories	No. Employed	No. of Factories	No. Employed	No. of Factories	No. Employed
Under 4	138	286	149	302	196	416	202	419	233	453
4	65	260	72	288	61	244	82	328	83	332
5 to 10	179	1,177	183	1,220	182	1,209	198	1,303	181	1,211
11 to 21	83	1,188	90	1,250	85	1,216	64	935	58	858
21 to 50	31	928	32	1,015	45	1,350	32	922	31	833
51 to 100	19	1,474	14	980	14	1,071	13	909	15	1,037
101 to 300	7	1,103	12	1,775	10	1,638	17	2,901	16	2,852
301 and over	14	11,452	13	11,358	13	11,386	12	11,184	12	10,854
TOTAL:	536	17,868	565	18,188	606	18,530	620	18,901	629	18,430
Average Number Employed per Factory	33		32		31		30		29	

Further details of employment are furnished in the next three tables. In Table 8 the number of persons employed in Rubber Works are shown according to the nature of their employment for the year 1960-61.

TABLE 8. - RUBBER WORKS : PERSONS EMPLOYED ACCORDING TO OCCUPATIONAL STATUS : AUSTRALIA : 1960-61

Occupational Status	Rubber Works		
	Rubber Goods	Tyre Retreading and Repairing	Total
Working Proprietors	29	183	212
Managerial and Clerical Staff, including Salaried Managers and Working Directors	1,880	650	2,530
Chemists, Draftsmen and other Laboratory and Research Staff	455	..	455
Foremen and Overseers	13,052 (a)	2,146 (a)	15,198 (a)
Workers in Factory (Skilled and Unskilled)			
Carters (excluding delivery only), Messengers and Persons working regularly at home			
TOTAL:	15,416	2,979	18,395

(a) Separate details no longer collected.

In Table 9 the numbers of males and females employed are shown for the years 1958-59 to 1960-61 according to the nature of their employment.

TABLE 9. - RUBBER WORKS : PERSONS EMPLOYED CLASSIFIED ACCORDING TO OCCUPATIONAL STATUS : AUSTRALIA

Occupational Status	Males			Females		
	1958-59	1959-60	1960-61	1958-59	1959-60	1960-61
Working Proprietors	257	215	183	30	33	29
Managerial and Clerical Staff, including Salaried Managers and Working Directors	1,607	1,658	1,645	866	895	885
Chemists, Draftsmen and Other Laboratory and Research Staff	396	409	420	32	34	35
Foremen and Overseers	909	923		23	30	
Workers in Factory (Skilled and Unskilled)	11,396	11,374	12,477(a)	2,662	2,824	2,721(a)
Other (Carters and Messengers, etc.)	260	242		29	26	
TOTAL:	14,825	14,821	14,725	3,642	3,842	3,670

(a) Separate details no longer collected.

In the following Table, the numbers of persons employed in June for the years 1957 to 1961 are shown according to age and sex distribution.

TABLE 10. - RUBBER WORKS : DISTRIBUTION OF EMPLOYEES ACCORDING TO AGE AND SEX : AUSTRALIA
(Excluding Working Proprietors)

Last Pay Day in June	Under 16 Years	16 Years	17 Years	18 Years	19 Years	20 Years	Total 16 to 20 Years	21 Years and over	Total all Ages
MALES									
1957	100	96	151	186	185	178	796	13,358	14,254
1958	87	113	155	176	214	203	861	13,612	14,560
1959	82	128	153	177	190	214	862	13,782	14,726
1960	79	106	148	178	189	162	783	14,023	14,885
1961	61	(a)	(a)	(a)	(a)	(a)	660	12,529	13,250
FEMALES									
1957	62	93	103	121	121	88	526	2,939	3,527
1958	65	99	116	129	142	115	601	2,926	3,592
1959	69	94	101	123	121	124	563	3,083	3,715
1960	63	99	120	117	134	111	581	3,303	3,947
1961	59	(a)	(a)	(a)	(a)	(a)	414	2,567	3,040

(a) Separate details no longer collected.

5. **POWER EQUIPMENT:** Statistics of the power equipment installed are given in the next table. The details include the rated horsepower of engines ordinarily in use, together with those in reserve or idle.

TABLE 11. - RUBBER WORKS : TYPES AND RATED HORSEPOWER OF ENGINES : AUSTRALIA

Class of Engine	Rated Horsepower of Engines					
	Ordinarily in Use			In Reserve or Idle		
	1958-59	1959-60	1960-61	1958-59	1959-60	1960-61
Steam - Reciprocating	4,050	3,792	3,836	35	35	35
Turbine	337	175	175	570	560	560
Internal Combustion -						
Petrol or Other Light						
Oils	892	684	667	640	994	1,056
Heavy Oils	221	20	32	175	..	..
<u>Total, Prime Movers:</u>	5,500	4,671	4,710	1,420	1,589	1,651
Motors driven by electricity -						
Purchased	132,143	135,216	139,276	16,564	16,498	15,912
Own Generation	(a) 1,200	(a) 30	(a) 30	..	..	..
<u>Total, Electricity:</u>	133,343	135,246	139,306	16,564	16,498	15,912
<u>TOTAL POWER EMPLOYED:</u>	137,643	139,887	143,986	17,984	18,087	17,563

(a) These motors are driven by electricity generated by Prime Movers and to avoid duplication are excluded from statistics of total power employed.

6. **POWER, FUEL AND LIGHT, ETC. USED:** Details of the quantities and values of the various items of power, fuel and light used are shown in the following table.

TABLE 12. - RUBBER WORKS : POWER, FUEL AND LIGHT, ETC. USED : AUSTRALIA

Particulars	Unit of Quantity	Quantity			Value (£)		
		1958-59	1959-60	1960-61	1958-59	1959-60	1960-61
<u>Power, Fuel and Light -</u>							
Coal - Black	ton	41,790	36,985	38,574	190,830	162,345	171,522
Brown	"	43,571	45,330	31,900	72,362	74,578	60,013
Brown Coal							
Briquettes	"	6,653	7,384	6,767	36,527	40,460	34,871
Coke	"	906	904	747	6,097	6,628	5,652
Wood	"	11,400	10,120	12,185	26,404	25,752	23,930
Fuel Oil	'000 gal.	8,178	9,032	9,995	587,755	600,232	612,356
Tar (Fuel)	"	228	280	276	13,085	15,754	17,645
Electricity	-	(a)	(a)	(a)	1,475,060	1,588,240	1,666,961
Gas	-	(a)	(a)	(a)	16,718	17,736	18,430
Other (Charcoal, etc.)	-	(a)	(a)	(a)	3,177	1,727	2,069
<u>Water and Lubricating Oil used</u>	-	(a)	(a)	(a)	172,823	190,473	185,837
<u>TOTAL:</u>		(a)	(a)	(a)	2,600,838	2,723,925	2,797,306

(a) Quantity not available.

7. **VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY:** Particulars of the book values of premises occupied and plant installed at the 30th June for the years 1957 to 1961 are shown in the next table. Details of the values of additions and replacements made and depreciation allowed during the same period are also shown. It should be noted that the amounts shown are those recorded by factories which were operating during each year and that changes in their number, as well as other factors, affect comparison from year to year.

**TABLE 13. - RUBBER WORKS : VALUE OF LAND AND BUILDINGS,
PLANT AND MACHINERY, WFO. : AUSTRALIA**

(£)

Year ended June	Book Values as at 30th June (a)		Additions and Replacements made during year		Depreciation allowance during year	
	Land and Buildings	Plant and Machinery	Land and Buildings	Plant and Machinery	Land and Buildings	Plant and Machinery
1957	9,562,729	8,625,588	817,864	2,296,158	143,097	1,614,408
1958	11,687,730	10,234,159	1,119,063	3,619,380	163,454	1,994,003
1959	12,821,369	10,332,565	1,075,954	2,617,006	106,426	2,478,022
1960	13,438,320	12,240,323	1,089,459	4,824,369	118,155	2,212,082
1961	15,531,953	12,989,652	1,122,726	3,150,942	64,925	2,354,454

(a) Includes estimated value of rented premises and machinery.

8. **EXTERNAL TRADE:** The next two tables furnish particulars of the imports and exports of Rubber and Rubber Manufactures for the years 1956-57 to 1960-61.

TABLE 14. - RUBBER AND RUBBER MANUFACTURES (EXCEPT APPAREL) : AUSTRALIA

Item	Unit	1956-57	1957-58	1958-59	1959-60	1960-61
IMPORTS						
Rubber -						
Crude Synthetic	lb.	29,456,822	39,863,901	37,063,701	50,200,006	62,494,620
	£A	3,419,139	4,035,607	3,700,469	5,304,902	6,518,497
Crude, Other (incl. Crepe and Latex)	wt.	679,532	724,212	730,837	784,905	664,851
	£A	9,706,058	8,696,748	9,551,245	14,316,129	10,467,420
Waste, Masticated, Powdered and Reclaimed	wt.	3,470	3,502	7,822	15,449	42,514
	£A	22,005	38,195	50,725	145,236	379,523
Rubber Manufactures -						
Elastics	£A	659,092	666,241	519,227	696,040	819,735
Hose	£A	324,564	420,286	387,291	478,828	648,456
Tyres, Pneumatic	£A	1,661,238	1,657,207	1,274,829	1,642,123	2,411,501
Tubes	£A	88,089	111,509	106,071	104,850	347,711
Tyres other than Pneumatic	£A	22,240	7,994	10,548	14,162	34,356
Other (except apparel)	£A	808,594	1,002,689	1,181,757	1,545,893	3,018,189
EXPORTS						
Crude Rubber, all kinds	£A	13,112	16,603	10,429	20,304	26,696
Hose	£A	51,549	39,530	42,364	43,409	85,297
Tyres and Tubes	£A	446,926	385,222	358,526	409,174	529,420
Elastics	£A	128,336	180,324	201,078	229,655	230,629
Other Rubber manufactures, except apparel	£A	187,699	292,927	236,324	254,918	254,301

NOTE:- Values are expressed in £A f.o.b. port of shipment.

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS
CANBERRA. A.C.T. 20TH AUGUST, 1962

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NOTE:- Inquiries concerning these statistics can be made in Canberra by telephoning UO413 Extension 301 or, in State Capitals, by telephoning the offices of the Deputy Commonwealth Statisticians.