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**MANUFACTURING PRODUCTION, AUSTRALIA  
METAL PRODUCTS  
FEBRUARY 1991**

**TABLE 1. FERROUS METALS**  
(\*000 tonnes)

Period	Basic iron, spiegeleisen and sponge iron(671.01)			Iron and steel in ingots or other primary forms(a)(672.40)			Blooms and slabs			
	Original	Seasonally adjusted(c)	Trend(d)	Original	Seasonally adjusted(c)	Trend(d)	From	From rolling and forging(b)(672.04)		
							continuous casting (672.03)	Original	Seasonally adjusted(c)	Trend(d)
1987-88	5,544	..	..	6,093	..	..	n.a.	2,660	..	..
1988-89	5,875	..	..	6,651	..	..	n.p.	2,578	..	..
1989-90	6,188	..	..	6,681	..	..	5,136	2,440	..	..
1989— December	553	538	527	590	584	564	446	200	197	194
1990— January	534	526	518	576	577	559	469	190	194	187
February	440	490	508	451	509	552	367	136	152	185
March	484	481	501	538	544	545	400	198	194	188
April	498	513	499	555	577	542	420	211	208	196
May	518	520	500	532	539	542	410	188	197	207
June	476	487	504	530	529	547	381	213	217	215
July	515	494	510	553	518	556	r414	r230	230	218
August	551	533	517	626	598	564	478	228	221	216
September	526	520	520	601	589	567	445	227	214	211
October	521	503	518	573	549	565	441	209	191	207
November	539	547	510	569	576	556	r422	r187	r197	r204
December	523	508	498	562	554	r544	421	217	214	r203
1991— January	454	452	r485	468	477	r532	343	199	203	r202
February	413	460	470	483	554	519	357	182	203	203
1989-90: July to Feb.	4,211	..	..	4,526	..	..	3,525	1,630	..	..
1990-91: July to Feb.	4,042	..	..	4,410	..	..	3,320	1,679	..	..

(a) Includes ingots, puddled bars, piglets, blocks or lumps and steel in the molten state. (b) From rolling and forging of iron and steel (primary mills output). (c) See Paragraph 5, Explanatory Notes. (d) See paragraph 6 to 8, Explanatory Notes.

**INQUIRIES**

- for further information about statistics in this publication and the availability of related unpublished statistics, contact Kevin Squair on Canberra (06) 252 5558 or any ABS State office.
- for information about other ABS statistics and services please refer to the back page of this publication.

**TABLE 2. STEEL WIRE AND WIRE PRODUCTS**  
 (tonnes)

<i>Period</i>	<i>Ferrous welded wire fabric(a) (691.54.55)</i>	<i>Nails, tacks, drawing pins, etc(b) (694.10)</i>	<i>Steel wool (697.73)</i>
1987-88	271,726	n.a.	1,323
1988-89	314,584	n.a.	1,251
1989-90	312,668	21,675	1,221
1987—			
December qtr	69,475	Not available prior to September quarter 1989	360
1988—			
March qtr	64,985		298
June qtr	70,720		321
September qtr	80,863		329
December qtr	82,464		314
1989—			
March qtr	79,859		298
June qtr	87,532		310
September qtr	88,472	6,235	333
December qtr	83,715	6,095	345
1990—			
March qtr	69,050	4,422	237
June qtr	71,431	4,923	306
September qtr	70,393	5,485	308
December qtr	70,403	5,608	294
1989-90: July to Dec.	172,187	12,330	678
1990-91: July to Dec.	140,796	11,093	602

(a) Includes welded reinforcing steel mesh. (b) Includes staples (except in strips for office, upholstery or packaging), spiked clamps, studs and spikes. Excludes wire heads of copper.

**TABLE 3. IRON AND STEEL PIPES AND TUBES**  
 (tonnes)

<i>Period</i>	<i>Tubes, pipes and hollow profiles, of iron or steel</i>			<i>Tube or pipe fittings, of iron or steel</i>	
	<i>Cast Iron (679.11)</i>	<i>Other</i>		<i>Non- malleable Cast Iron (679.51)</i>	<i>Other (679.57, 58, 61)</i>
		<i>Seamless (679.18)</i>	<i>Other (679.62)</i>		
1989-90	79,936	9	n.p.	10,523	2,265
1989—					
December	5,185	6	n.p.	669	159
1990—					
January	2,702	—	n.p.	675	80
February	6,347	—	n.p.	841	210
March	6,673	2	n.p.	959	168
April	4,858	—	n.p.	802	156
May	8,956	—	n.p.	1,082	202
June	6,831	—	n.p.	971	169
July	8,548	—	n.p.	945	180
August	6,370	—	n.p.	789	n.p.
September	6,252	—	n.p.	659	156
October	6,877	—	n.p.	958	191
November	5,654	—	n.p.	953	201
December	4,379	—	n.p.	510	165
1991—					
January	1,729	—	n.p.	433	r100
February	6,414	—	n.p.	727	155
1989-90: July to Feb.	n.p.	7	n.p.	6,709	1,570
1990-91: July to Feb.	46,463	—	n.p.	5,974	n.p.

**TABLE 4. NON-FERROUS ROLLED, EXTRUDED AND DRAWN PRODUCTS**  
(tonnes)

Period	Aluminium and alloy			Copper and alloy				
	Bars, rods and profiles(a) (684.2 t)	Foil(b) (684.24)	Other (684.28)	Bars, rods sections		Wire rod and profiles (682.37)	Wire(c) (682.43)	Lead and alloy(d) (685.23)
				Brass (682.36)	Other (682.35)			
1987-88	96,421	15,968	n.a.	r26,525	r18,419	n.a.	42,291	n.a.
1988-89	103,406	15,603	n.a.	r28,954	r16,745	n.a.	42,757	n.a.
1989-90	88,585	n.p.	r179,917		100,816		23,998	5,290
1989—								
December	6,660	n.p.	13,876		r8,028		2,265	346
1990—								
January	4,496	n.p.	9,560		4,011		550	290
February	7,685	n.p.	10,074		r10,131		2,054	351
March	7,913	n.p.	13,656		r12,247		2,739	455
April	6,098	n.p.	r15,023		7,982		2,257	349
May	7,152	n.p.	r16,257		8,559		2,101	505
June	5,821	n.p.	r16,081		8,323		1,944	350
July	6,365	n.p.	12,535	1,742	n.p.	n.p.	1,886	376
August	7,054	1,255	17,881	1,717	n.p.	n.p.	2,087	388
September	6,824	n.p.	17,590	1,458	n.p.	n.p.	1,879	289
October	7,233	r1,226	16,748	1,504	n.p.	n.p.	2,056	300
November	7,786	r1,182	16,310	1,543	n.p.	n.p.	2,125	373
December	5,757	922	13,363	1,063	n.p.	n.p.	1,693	222
1991—								
January	3,399	n.p.	13,820	347	n.p.	n.p.	735	187
February	6,245	n.p.	15,951	1,545	n.p.	n.p.	1,580	190
1989-90: July to Feb.	61,601	n.p.	118,900	n.a.	n.a.	n.a.	14,957	3,630
1990-91: July to Feb.	50,663	n.p.	124,198	10,919	n.p.	n.p.	14,041	2,325

(a) Includes wire rod. Excludes profile decking and cladding prior to July 1989. (b) Of a thickness (excluding any backing) not exceeding 0.20mm. (c) Excludes lead stranded, braided or insulated. Excludes of brass prior to July 1989. (d) Includes un-coated lead. Excludes foil.

**TABLE 5. NON-FERROUS REFINED METALS(a)**

Period	Precious metals(c)					
	Copper '000 tonnes	Lead(b) '000 tonnes	Tin tonnes	Zinc '000 tonnes	Silver kg	Gold kg
1987-88	186	182	501	306	304,426	111,934
1988-89	211	184	377	303	305,013	169,653
1989-90	245	197	381	295	368,378	233,301
1989—						
December	19	17	31	25	32,759	19,462
1990—						
January	21	4	18	27	12,368	19,404
February	20	12	28	23	26,780	18,422
March	19	20	28	25	37,653	19,897
April	19	18	17	20	41,171	17,678
May	24	20	22	26	45,286	23,468
June	20	18	26	27	38,543	19,854
July	21	18	25	28		
August	21	18	23	28		
September	21	18	41	26	97,488	54,770
October	21	19	29	22		
November	21	17	31	27		
December	20	20	24	26	117,540	80,437
1991—						
January	20	3	23	26		
February	11	16	19	25		
1989-90: July to Feb.	164	121	288	198	205,725	152,404
1990-91: July to Feb.	154	135	215	208	n.a.	n.a.

(a) Primary origin only. Comprises production by establishments classified to either the Manufacturing or Mining Sectors. Source: Australian Bureau of Agricultural and Resource Economics. (b) Includes lead content of lead alloys from primary sources but excludes lead-silver bullion. (c) Collected on a quarterly basis from July 1990.

## EXPLANATORY NOTES

**Introduction**

This publication, is one of a series of ten containing monthly and quarterly production statistics. The titles of other publications of this series are shown in paragraph 9.

**Classification**

2. Data contained in these publications are mostly based on monthly or quarterly collections conducted by the Australia Bureau of Statistics (ABS). Most items are identified by the commodity codes used in the Australian Standard Commodity Classification (ASCC), which was developed by the ABS to facilitate greater comparability of manufacturing production commodity statistics with import and export commodity statistics. In cases where data are derived from sources other than ABS collections no commodity code is shown and the source of the data is acknowledged in a footnote.

**Scope and coverage**

3. Manufacturing commodity statistics collected by the ABS exclude details relating to single establishment manufacturing enterprises with fewer than four persons employed and production of establishments predominantly engaged in non-manufacturing activities but which may carry on, in a minor way, some manufacturing. However, except for a few commodities the effect on production levels and movements is marginal.

4. Annual figures shown in this publication are derived by aggregating monthly/quarterly production and relate to production during the year ended 30 June. They may differ from annual manufacturing census data which relate to the census year and, in the case of businesses unable to report on a June year basis, include details in respect of substitute accounting periods.

**Seasonal adjustment and trend estimates**

5. This publication contains seasonally adjusted statistics of several items. In the seasonal adjustment, account has been taken not only of normal seasonal factors but also, where appropriate, of 'working-day' effects (arising from the varying numbers of Sundays, Mondays, Tuesdays etc. in the month) and the influence of Easter and Australia Day which may, in successive years, affect figures for different months. However, care should be exercised in interpreting the figures for those months in which Christmas/New Year and Easter holidays fall as some manufacturers vary holiday shutdowns in the light of prevailing demand for their products. Details of the methods used in seasonally adjusting these and other series are available on request.

6. The smoothing of seasonally adjusted series to create trend estimates is a means of reducing the impact of the irregular component of the series. The trend estimates have been derived by applying a 13-term Henderson weighted moving average to the seasonally adjusted series.

7. While this smoothing technique enables estimates of trend to be produced for the latest month, it does result in revisions to the estimates for the most recent months as data for subsequent months become available. Generally subsequent revisions become smaller and after 3 months have little impact on the series. There will also be revisions as a result of revisions to the original estimates and annual reviews of seasonal and 'working day' factors.

8. Users may wish to refer to the ABS Information Papers *A Guide to Smoothing Time Series — Estimates of 'Trend'* (1316.0) and *Time Series Decomposition — An Overview* (1317.0) for more detailed information on smoothing of seasonally adjusted time series data.

**Related publications**

9. Other ABS publications which may be of interest are:

*Manufacturing Production, Australia, Preliminary* (8301.0) — issued monthly

*Manufacturing Production, Australia, Household Appliances and Electrical Equipment* (8357.0) — issued monthly

*Manufacturing Production, Australia, Clothing and Footwear* (8358.0) — issued monthly

*Manufacturing Production, Australia, Food, Drink, Tobacco, Stock and Poultry Food* (8359.0) — issued monthly

*Manufacturing Production, Australia, Fibres, Yarns, Fabrics, Bedding and Floor Coverings* (8360.0) — issued monthly

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*Manufacturing Commodities: Selected Principal Articles Produced, Australia 1986-87, Preliminary* (8365.0)

*Manufacturing Commodities: Principal Articles Produced, Australia 1986-87, (8303.0).*

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#### Symbols and other usages

n.p.	not available for separate publication (but included in totals where applicable)
n.a.	not available
. .	not applicable
r	revised since last issue
—	nil or rounded to zero
—	break in continuity of series (where a line is shown between consecutive figures in the same column)

J. L. CARROLL  
Acting Australian Statistician



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