

# Alumina Refining: 2002

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## 2002 Economic Census

*Manufacturing*

Industry Series



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-- Not applicable for this report.

**Table 1. Historical Statistics for the Industry: 2002 and Earlier Years**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year <sup>1</sup>	Com- panies <sup>2</sup>	All estab- lish- ments <sup>3</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
			Number <sup>4</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)				
331311, Alumina refining .....	7	9	1 528	88 198	1 133	2 596	59 851	435 768	392 356	822 450	13 584
2002..	N	N	2 983	156 862	2 197	4 553	104 172	304 752	560 737	865 744	115 914
2001..	N	N	2 981	142 444	2 171	4 496	98 527	250 672	877 574	1 124 660	306 596
1999..	N	N	2 863	132 912	2 113	4 451	90 119	265 723	898 476	1 179 228	98 631
1998..	N	N	3 004	140 710	2 258	4 994	97 849	356 424	957 643	1 313 383	93 391
1997..	5	6	3 035	150 696	2 278	5 060	102 416	329 432	816 488	1 219 057	96 963

<sup>1</sup>Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

<sup>2</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>3</sup>Includes establishments with payroll at any time during the year.

<sup>4</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 2. Industry Statistics for Selected States: 2002**

[Not applicable for this report]

**Table 3. Detailed Statistics by Industry: 2002**

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
<b>331311, Alumina refining</b>	
Companies <sup>1</sup> .....	number.. 7
All establishments <sup>2</sup> .....	number.. 9
Establishments with 1 to 19 employees .....	number.. 3
Establishments with 20 to 99 employees .....	number.. 3
Establishments with 100 employees or more .....	number.. 3
All employees <sup>3</sup> .....	number.. 1 528
Total compensation .....	\$1,000.. 113 138
Annual payroll .....	\$1,000.. 88 198
Total fringe benefits .....	\$1,000.. 24 940
Production workers, average for year .....	number.. 1 133
Production workers on March 12 .....	number.. 1 061
Production workers on May 12 .....	number.. 1 152
Production workers on August 12 .....	number.. 1 167
Production workers on November 12 .....	number.. 1 147
Production worker hours .....	1,000.. 2 596
Production worker wages .....	\$1,000.. 59 851
Total cost of materials .....	\$1,000.. 392 356
Materials, parts, containers, packaging, etc., used .....	\$1,000.. D
Resales .....	\$1,000.. D
Purchased fuels .....	\$1,000.. 111 101
Purchased electricity .....	\$1,000.. D
Contract work .....	\$1,000.. 28 707
Quantity of electricity purchased for heat and power .....	1,000 kWh.. 229 295
Quantity of electricity generated less sold for heat and power .....	1,000 kWh.. 304
Total value of shipments .....	\$1,000.. 822 450
Primary products value of shipments .....	\$1,000.. D
Secondary products value of shipments .....	\$1,000.. D
Total miscellaneous receipts .....	\$1,000.. D
Value of resales .....	\$1,000.. D
Contract receipts .....	\$1,000.. D
Other miscellaneous receipts .....	\$1,000.. D
Primary products specialization ratio .....	percent.. D
Value of primary products shipments made in all industries .....	\$1,000.. 554 557
Value of primary products shipments made in this industry .....	\$1,000.. D
Value of primary products shipments made in other industries .....	\$1,000.. D
Coverage ratio .....	percent.. 97
Value added .....	\$1,000.. 435 768
Total inventories, beginning of year .....	\$1,000.. 108 775
Finished goods inventories .....	\$1,000.. 25 940
Work-in-process inventories .....	\$1,000.. 32 694
Materials and supplies inventories .....	\$1,000.. 50 141
Total inventories, end of year .....	\$1,000.. 107 105
Finished goods inventories .....	\$1,000.. 25 106
Work-in-process inventories .....	\$1,000.. 39 202
Materials and supplies inventories .....	\$1,000.. 42 797
Gross value of depreciable assets (acquisition costs) at beginning of year .....	\$1,000.. 344 796
Total capital expenditures (new and used) .....	\$1,000.. '13 584
Buildings and other structures (new and used) .....	\$1,000.. D
Machinery and equipment (new and used) .....	\$1,000.. D
Automobiles, trucks, etc., for highway use .....	\$1,000.. D
Computers and peripheral data processing equipment .....	\$1,000.. D
All other expenditures for machinery and equipment .....	\$1,000.. D
Total retirements .....	\$1,000.. '4 750
Gross value of depreciable assets at end of year .....	\$1,000.. '353 630
Depreciation charges during year .....	\$1,000.. '39 635
Total rental payments .....	\$1,000.. 7 925
Buildings and other structures .....	\$1,000.. 1 218
Machinery and equipment .....	\$1,000.. 6 707
Total other expenses <sup>4</sup> .....	\$1,000.. 93 857
Response coverage ratio <sup>5</sup> .....	percent.. 98
Repair and maintenance services of buildings and/or machinery <sup>4</sup> .....	\$1,000.. D
Communications services <sup>4</sup> .....	\$1,000.. 1 013
Legal services <sup>4</sup> .....	\$1,000.. D
Accounting, auditing, and bookkeeping services <sup>4</sup> .....	\$1,000.. 41
Advertising and promotional services <sup>4</sup> .....	\$1,000.. D
Expensed computer hardware and supplies and purchased computer services <sup>4</sup> .....	\$1,000.. D
Refuse removal (including hazardous waste) services <sup>4</sup> .....	\$1,000.. 624
Management consulting and administrative services <sup>4</sup> .....	\$1,000.. D
Taxes and license fees <sup>4</sup> .....	\$1,000.. D
All other expenses <sup>4</sup> .....	\$1,000.. D

<sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

<sup>4</sup>Based on 2002 Annual Survey of Manufactures (ASM) sample data.

<sup>5</sup>A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 4. Industry Statistics by Employment Size: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E <sup>1</sup>	All establishments <sup>2</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
331311, Alumina refining											
All establishments .....	—	9	1 528	88 198	1 133	2 596	59 851	435 768	392 356	822 450	13 584
Establishments with—											
1 to 4 employees .....	—	—	—	—	—	—	—	—	—	—	—
5 to 9 employees .....	—	—	—	—	—	—	—	—	—	—	—
10 to 19 employees .....	9	3	38	1 923	26	56	1 249	4 742	8 898	13 774	242
20 to 49 employees .....	9	1	b	D	D	D	D	D	D	D	D
50 to 99 employees .....	—	2	c	D	D	D	D	D	D	D	D
100 to 249 employees .....	—	1	c	D	D	D	D	D	D	D	D
250 to 499 employees .....	—	1	e	D	D	D	D	D	D	D	D
500 to 999 employees .....	—	1	f	D	D	D	D	D	D	D	D
1,000 to 2,499 employees .....	—	—	—	—	—	—	—	—	—	—	—
2,500 employees or more .....	—	—	—	—	—	—	—	—	—	—	—
Administrative records <sup>4</sup> .....	—	—	—	—	—	—	—	—	—	—	—

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

<sup>3</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

<sup>4</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 5. Industry Statistics by Primary Product Class Specialization: 2002**

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments <sup>1</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>2</sup>	Payroll (\$1,000)	Number <sup>2</sup>	Hours (1,000)	Wages (\$1,000)				
331311	Alumina refining .....	9	1 528	88 198	1 133	2 596	59 851	435 768	392 356	822 450	13 584
3313110	Aluminum oxide, except natural alumina .....	9	1 528	88 198	1 133	2 596	59 851	435 768	392 356	822 450	13 584

<sup>1</sup>Includes establishments with payroll at any time during the year.

<sup>2</sup>Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

**Table 6a. Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments		
				Quantity	Value (\$1,000)	
331311	Alumina refining .....	2002..	N	X	X	554 557
		1997..	N	X	X	1 019 017
3313110	Aluminum oxide, except natural alumina .....	2002..	N	X	X	554 557
33131101	Aluminum oxide, except natural alumina .....	2002..	N	X	X	1 019 017
		1997..	N	X	X	554 557
3313110100	Aluminum oxide, except natural alumina <sup>1</sup> .....	2002..	9	X	X	1 019 017
		1997..	9	X	X	554 557
3313110Y	Aluminum oxide, except natural alumina, nsk, total .....	2002..	N	X	X	—
3313110YWW	Aluminum oxide, except natural alumina, nsk, for nonadministrative-record establishments .....	2002..	N	X	X	—
		1997..	N	X	X	—
3313110YWY	Aluminum oxide, except natural alumina, nsk, for administrative-record establishments .....	2002..	N	X	X	—
		1997..	N	X	X	—

<sup>1</sup>For additional detail, see Current Industrial Report MQ325A, Inorganic Chemicals.

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6b. **Product Class Shipments for Selected States: 2002 and 1997**

[Not applicable for this report.]

**Table 7. Materials Consumed by Kind: 2002 and 1997**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
331311	Alumina refining		
0090001	Total materials .....	X	D
	.....2002..	X	625 521
	.....1997..	X	D
32518107	Sodium hydroxide (caustic soda)(100 percent NaOH) .....	D	D
	..... 1,000 s tons ..2002..	172.4	22 149
	.....1997..	X	30 803
325000A5	Other industrial inorganic chemicals.....	X	34 394
	.....2002..	X	
	.....1997..	X	
21229903	Bauxite.....	D	D
	..... 1,000 s tons ..2002..	11 709.8	361 988
	.....1997..	X	D
33300015	Parts and attachments for machinery and equipment .....	X	D
	.....2002..	X	63 571
	.....1997..	X	30 452
00970099	All other materials and components, parts, containers, and supplies.....	X	143 419
	.....2002..	X	1 887
	.....1997..	X	-

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.