

# Mineral Industry Surveys

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## ALUMINUM IN MARCH 2012

Domestic primary aluminum production in March 2012 was 179,000 metric tons (t). The average daily production was 5,780 t, essentially the same as that for the previous month and 11% higher than that for March 2011. Primary production for the first quarter of 2012 was up by 16% from that of the first quarter of 2011.

Total aluminum recovered from scrap in March 2012 was 293,000 t, 6% more than the amount recovered in the previous month and 13% more than the amount recovered in March 2011. Of this, 154,000 t of aluminum was recovered from new scrap, 5% more than the amount in the previous month and 13% more than the amount in March 2011. Aluminum recovered from old scrap in March 2012 totaled 138,000 t, 6% more than the amount in February and 13% more than the amount in March 2011. Total aluminum recovered from scrap for January through March was 14% higher than the total for the same period of 2011. In January through March, aluminum recovered from new scrap was up by 10% and recovery from old scrap was up by 18% from those in the same period of the previous year.

### Update

Alcoa Inc. delayed repairs to the casthouse at the 135,000-metric-ton-per-year (t/yr) West Smelting Plant at Massena, NY, because of the discovery of asbestos following a fire on March 29. (See Aluminum in February 2012.) Primary aluminum production at the smelter was not affected, and a reopening date for the affected portion of the casthouse could not be projected until after the investigation of the fire and removal of the asbestos were completed (Waite, 2012a).

The labor dispute and employee lockout at the 438,000-t/yr Alma smelter at Saguenay-Lac-Saint-Jean, Quebec, Canada, continued after Rio Tinto Alcan Inc. and the union representing about 750 employees ended talks in late March without scheduling further meetings. (See Aluminum in February 2012.) Two-thirds of the smelter's capacity was shut down January 1 when the prior contract expired (Waite, 2012c).

Nichols Aluminum LLC (Lincolnshire, IL) and the International Brotherhood of Teamsters continued negotiating for a new contract for employees in Davenport, IA, without reaching an agreement. A 3-month strike involving 225

employees at the Davenport rolling mill and remelt furnace ended in mid-April when employees returned to work after more than 100 replacement workers were given permanent jobs. The ongoing negotiations were focused on health care issues and the union request that all striking workers be rehired (Platts Metals Week, 2012d).

Production of primary aluminum during the first quarter of 2012 from BHP Billiton Ltd.'s 700,000-t/yr Hillside, South Africa, smelter decreased by 20% compared with production during the fourth quarter of 2011 and 17% compared with production during the same quarter of 2011. BHP Billiton attributed the decline in production to an unplanned outage of its anode furnace. Production was expected to return to full capacity by early 2013 (BHP Billiton Ltd., 2012, p. 2; Platts Metals Week, 2012b).

Primary aluminum smelters in Venezuela were receiving emergency Government funding to purchase raw materials. The 170,000-t/yr Alcasa smelter was producing at a rate of about 65,000 t/yr, citing shortages of aluminum fluoride, cryolite, and petroleum coke. The production rate at the 430,000-t/yr Venalum smelter also dropped to about 105,000 t/yr because of raw material shortages. Since power shortages forced shutdowns of some capacity in early 2010, the Venalum smelter had been producing at a rate of approximately 290,000 t/yr and the Alcasa smelter had been producing at a rate of about 70,000 t/yr (Platts Metals Week, 2011a, c).

Aleris International Inc. (Beachwood, OH) completed upgrades to secondary smelters in Chicago Heights, IL, and Morgantown, KY. A holding furnace and two rotary furnaces were installed at the Morgantown smelter. A rotary furnace also was installed at the Chicago Heights smelter. Both smelters produced secondary ingot, and the Morgantown smelter also processed dross and salt cake from other secondary aluminum smelters (Fitzgerald, 2012).

Noranda Aluminum Holding Corp. (Franklin, TN) revised the schedule for completion of expansion of its primary aluminum smelter in New Madrid, MO. The project had been expected to be completed by the beginning of 2013 but was now expected to be finished later in the year, and ramp up of the new capacity was expected to be completed by 2014. The project would

increase smelting capacity to 279,000 t/yr from 263,000 t/yr (Waite, 2012b).

The upward trend of the monthly average U.S. market price of primary aluminum ingot peaked at \$1.079 per pound in March, up from \$1.07 per pound in February, before declining sharply in April to \$1.016 per pound.

### References Cited

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TABLE 1  
COMPONENTS OF ALUMINUM SUPPLY<sup>1</sup>

(Thousand metric tons)

Period	Primary production	Secondary recovery <sup>2</sup>			Imports for consumption			Total new supply <sup>3</sup>	Stocks, end of period <sup>4</sup>
		New	Old	Total	Metals and alloys, crude	Plates, sheets, bars, etc.	Total		
2011 <sup>P</sup>	1,986	1,630	1,410 <sup>r</sup>	3,040 <sup>r</sup>	2,830	880	3,710	8,740 <sup>r</sup>	1,060
2011:									
January–March	453	407 <sup>r</sup>	333	740 <sup>r</sup>	655	202	857	2,050	1,070
March	162	137	122	259	232	75	307	728	1,070
April	162	134	117	251	220	68	288	701	1,110
May	170	136	123	258	285	73	358	787	1,100
June	167	136	122	258	263	74	337	762	1,090
July	171	135	120	256	220	70	290	717 <sup>r</sup>	1,100
August	172	148	123	271	241	85	327	770	1,090
September	169	138	122 <sup>r</sup>	260 <sup>r</sup>	263	86	349	778 <sup>r</sup>	1,080
October	175	141	123 <sup>r</sup>	263 <sup>r</sup>	243	78	321	759 <sup>r</sup>	1,060
November	171	129	116 <sup>r</sup>	245 <sup>r</sup>	192	74	266	683 <sup>r</sup>	1,050
December	177	126	114 <sup>r</sup>	240 <sup>r</sup>	245	70	315	732 <sup>r</sup>	1,060
2012:									
January	178	146	125	271	281	70	351	800 <sup>r</sup>	1,090 <sup>r</sup>
February	167	147	130 <sup>r</sup>	277 <sup>r</sup>	284	77	360	805	1,060
March	179	154	138	293	NA	NA	NA	NA	NA
January–March	525	447	393	840	NA	NA	NA	NA	NA

<sup>P</sup>Preliminary. <sup>r</sup>Revised. NA Not available.

<sup>1</sup>Data are rounded to no more than three significant digits, except "Primary production"; may not add to totals shown.

<sup>2</sup>Metallic recovery from purchased, tolled, or imported scrap, expanded for full coverage of industry.

<sup>3</sup>Primary production, secondary recovery, and imports for consumption.

<sup>4</sup>Inventory levels reflect total for both U.S. and Canadian producers; data from the Aluminum Association Inc.

TABLE 2  
ESTIMATED FULL COVERAGE CONSUMPTION OF AND METALLIC RECOVERY FROM  
PURCHASED NEW AND OLD ALUMINUM SCRAP<sup>1</sup>

(Thousand metric tons)

Period	Secondary smelters		Independent mill fabricators		Foundries		Other consumers		Total	
	Con- sump- tion	Metal recovery	Con- sump- tion	Metal recovery	Con- sump- tion	Metal recovery	Con- sump- tion	Metal recovery	Con- sump- tion	Metal recovery
	2011 <sup>p</sup>	2,210	1,650	1,470 <sup>r</sup>	1,340 <sup>r</sup>	61	53	8 <sup>r</sup>	8 <sup>r</sup>	3,750 <sup>r</sup>
2011:										
January–March	534 <sup>r</sup>	398 <sup>r</sup>	359	327	15	13	2	2	911 <sup>r</sup>	740 <sup>r</sup>
March	186	139	126	115	5	4	1	1	318	259
April	178	131	127	115	5	4	1	1	310	251
May	186	137	128	116	5	4	1	1	320	258
June	186	139	126	114	5	4	1	1	318	258
July	185	138	124	113	5	4	1	1	315	256
August	192	144	134	122	5	4	1	1	332	271
September	187	140	127 <sup>r</sup>	115 <sup>r</sup>	5	4	1	1	320 <sup>r</sup>	260 <sup>r</sup>
October	192	143	127 <sup>r</sup>	115 <sup>r</sup>	5	4	1	1	324 <sup>r</sup>	263 <sup>r</sup>
November	186	138	113 <sup>r</sup>	102 <sup>r</sup>	5	4	1	1	304 <sup>r</sup>	245 <sup>r</sup>
December	184	136	109 <sup>r</sup>	99 <sup>r</sup>	5	4	1	1	299 <sup>r</sup>	240 <sup>r</sup>
2012:										
January	208	150	128 <sup>r</sup>	116 <sup>r</sup>	5	4	1	1	342 <sup>r</sup>	271 <sup>r</sup>
February	211	155	129 <sup>r</sup>	117 <sup>r</sup>	5	4	1	1	346 <sup>r</sup>	277 <sup>r</sup>
March	215	158	143	130	5	4	1	1	364	293
January–March	634	463	401	363	15	13	2	2	1,050	840

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3  
CONSUMPTION OF AND RECOVERY FROM PURCHASED  
NEW AND OLD ALUMINUM SCRAP IN MARCH 2012<sup>1</sup>

(Metric tons)

	Consumption		Calculated metallic recovery	
	Tabulated reports	Estimated full coverage	Tabulated reports	Estimated full coverage
	Secondary smelters	179,000	215,000	131,000
Independent mill fabricators	130,000	143,000	118,000	130,000
Foundries	4,230	5,070	3,690	4,430
Other consumers	482	579	481	577
Total	314,000	364,000	253,000	293,000

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 4  
PURCHASED AND TOLL-TREATED ALUMINUM-BASE SCRAP AND SWEATED PIG IN MARCH 2012<sup>1</sup>

(Metric tons)

	March			January–March <sup>2</sup>		
	Stocks, opening <sup>2</sup>	Net receipts <sup>3</sup>	Melted or consumed	Stocks, closing	Net receipts <sup>3</sup>	Melted or consumed
<b>New scrap:</b>						
Extrusion	19,700	40,700	41,400	19,100	114,000	115,000
Can stock clippings	23,400	25,200	24,700	23,900	69,200	69,600
Other wrought sheet/clippings	9,450	38,800	40,000	8,240	113,000	118,000
Casting	2,390	5,480	5,500	2,370	16,500	16,600
Borings and turnings	4,420	10,800	11,000	4,240	32,300	32,300
Dross and skimmings	16,300	53,400	53,400	16,300	160,000	161,000
<b>Total new scrap</b>	<b>75,700</b>	<b>174,000</b>	<b>176,000</b>	<b>74,100</b>	<b>506,000</b>	<b>513,000</b>
<b>Old scrap:</b>						
Used castings	6,650	23,200	24,400	5,460	70,500	71,200
Used extrusion	8,400	13,400	14,700	7,020	39,800	41,800
Used cans (shredded, loose, baled)	29,500	64,800	64,600	29,700	180,000	180,000
Other wrought products	10,300	27,400	26,600	11,100	78,700	77,200
Fragmentized shredder (auto shredder)	1,720	7,650	7,960	1,410	23,100	23,100
<b>Total old scrap</b>	<b>56,600</b>	<b>136,000</b>	<b>138,000</b>	<b>54,700</b>	<b>392,000</b>	<b>394,000</b>
Sweated pig	55	33	33	55	98	98
<b>Total all classes</b>	<b>132,000</b>	<b>311,000</b>	<b>314,000</b>	<b>129,000</b>	<b>898,000</b>	<b>906,000</b>

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include revisions to previously published data.

<sup>3</sup>Includes data on imported aluminum-base scrap.

TABLE 5  
ALUMINUM ALLOYS PRODUCED AT SECONDARY SMELTERS IN THE UNITED STATES IN MARCH 2012<sup>1,2</sup>

(Metric tons)

	March			January–March <sup>3</sup>		
	Stocks, opening <sup>3</sup>	Production	Net shipments	Stocks, closing	Production	Net shipments
<b>Die-cast alloys:</b>						
13% Si, 360, etc. (0.6% Cu, max.)	3,140	4,180	4,000	3,310	12,400	11,900
380 and variations	10,500	19,800	19,800	10,500	59,400	59,400
<b>Sand and permanent mold:</b>						
95/5 Al-Si, 356, etc. (0.6% Cu, max.)	1,900	4,240	4,240	1,900	12,700	12,700
No. 319 and variations	3,470	5,850	5,670	3,650	17,100	17,000
F-132 alloy and variations	450	439	439	450	1,320	1,320
Al-Zn alloys	99	143	143	99	428	428
Al-Si alloys (0.6% to 2.0% Cu)	111	292	292	111	875	875
Al-Cu alloys (1.5% Si, max.)	170	162	162	170	487	487
Other <sup>4</sup>	1,810	9,050	8,520	2,340	26,400	26,200
Wrought alloys, extrusion billets	16,000	43,300	43,400	15,900	127,000	127,000
<b>Total all alloys</b>	<b>37,700</b>	<b>87,400</b>	<b>86,700</b>	<b>38,500</b>	<b>258,000</b>	<b>257,000</b>
<b>Less:</b>						
Primary aluminum consumed	XX	12,200	XX	XX	36,600	XX
Primary silicon consumed	XX	2,060	XX	XX	6,270	XX
Other alloying ingredients consumed	XX	1,520	XX	XX	4,230	XX
Net metallic recovery from aluminum scrap and sweated pig consumed in production of secondary aluminum ingot <sup>5</sup>	XX	71,600	XX	XX	211,000	XX

XX Not applicable.

<sup>1</sup>Excludes integrated aluminum companies.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>May include revisions to previously published data.

<sup>4</sup>Includes alloys No. 12, Al-Mg, Al-Si-Cu-Ni, aluminum-base hardeners, variations of these alloys, plus other aluminum alloys.

<sup>5</sup>No allowance made for melt-loss of primary aluminum and alloying ingredients.

TABLE 6  
AVERAGE PRICE OF ALUMINUM IN THE UNITED STATES  
AND ON THE LONDON METAL EXCHANGE

(Cents per pound)

Period	Midwest U.S. market price	LME cash price Grade A
2011:		
March	121.800	115.767
April	128.313	120.762
May	126.063	117.558
June	124.350	115.896
July	121.625	113.926
August	116.563	108.508
September	112.400	104.160
October	105.875	98.515
November	102.563	94.038
December	98.150	91.694
January–December	116.121	108.768
2012:		
January	103.375	97.244
February	107.000	99.953
March	107.900	99.002
January–March	106.092	98.733

TABLE 7  
AVERAGE BUYING PRICES FOR ALUMINUM SCRAP

(Cents per pound)

Month	Used beverage cans	Mixed low copper clips	Old sheet and cast	Turnings (clean and dry)
2011:				
March	90.96	87.07	81.96	81.00
April	96.07	87.19	82.83 <sup>1</sup>	81.93
May	94.71	86.10	80.69 <sup>1</sup>	79.31
June	94.05	84.50	79.30 <sup>1</sup>	79.11
July	90.95	84.55	79.43 <sup>1</sup>	79.00
August	86.54	83.91	77.56 <sup>1</sup>	76.87
September	83.07	80.64	74.27 <sup>1</sup>	73.64
October	78.07	74.88	70.13 <sup>1</sup>	68.90
November	76.63	73.85	69.10 <sup>1</sup>	68.60
December	73.18	73.03	69.01 <sup>1</sup>	68.13
January–December	86.68	81.94	76.73	75.68
2012:				
January	77.30	75.60	71.63 <sup>1</sup>	69.88
February	79.83	77.93	74.73 <sup>1</sup>	72.88
March	79.86	78.41	75.25 <sup>1</sup>	73.66
January–March	79.00	77.31	73.87	72.14

<sup>1</sup>Beginning in April 2011, old sheet and old cast were reported separately. The average of the two prices is presented in this table.

Source: American Metal Market.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF ALUMINUM IN FEBRUARY 2012<sup>1</sup>

(Metric tons)

Country or territory	Metals and alloys, crude		Plates, sheets, bars, etc.		Scrap		Total	
	February	January–	February	January–	February	January–	February	January–
		February		February		February		February
Argentina	--	9,460	--	--	--	--	--	9,460
Australia	4,060	4,200	2	8	--	--	4,060	4,210
Austria	--	--	2,140	3,730	--	--	2,140	3,730
Bahamas, The	--	--	--	--	347	566	347	566
Bahrain	118	313	1,780	4,210	--	--	1,890	4,520
Belgium	58	113	156	265	39	39	253	417
Brazil	352	355	2,790	3,960	--	--	3,150	4,320
Canada	220,000	382,000	30,900	57,600	28,100	60,000	279,000	500,000
Chile	--	--	--	--	254	554	254	554
China	55	145	6,370	12,000	12	36	6,430	12,200
Colombia	--	--	201	336	--	--	201	336
Costa Rica	--	--	--	--	474	716	474	716
Egypt	--	--	167	356	--	--	167	356
El Salvador	--	--	--	15	380	694	380	709
France	351	831	211	312	--	--	562	1,140
Germany	24	29	6,120	12,000	14	21	6,160	12,100
Greece	--	--	1,070	2,290	--	--	1,070	2,290
Guatemala	--	--	--	--	773	2,060	773	2,060
Honduras	--	--	--	--	169	367	169	367
Hong Kong	--	--	195	440	--	--	195	440
India	500	500	1,040	2,460	6	6	1,550	2,970
Indonesia	--	--	7,200	14,400	--	--	7,200	14,400
Italy	40	162	245	471	21	74	306	707
Japan	(2)	(2)	406	757	26	281	432	1,040
Korea, Republic of	1,020	1,700	199	439	38	38	1,260	2,180
Malaysia	--	--	406	846	--	--	406	846
Mexico	5,370	10,400	2,570	4,960	10,100	19,300	18,000	34,600
New Zealand	2,220	2,590	(2)	2	--	--	2,220	2,590
Qatar	11,800	26,300	--	--	--	--	11,800	26,300
Romania	54	65	1,290	2,060	168	228	1,510	2,350
Russia	12,000	60,700	974	2,550	--	--	13,000	63,200
Saudi Arabia	--	--	--	--	574	1,820	574	1,820
South Africa	--	23	7,200	13,300	--	--	7,200	13,300
Sweden	(2)	(2)	259	505	--	--	259	505
Switzerland	(2)	27	188	364	--	--	188	391
Taiwan	--	--	455	1,190	--	--	455	1,190
Tajikistan	--	10,500	--	--	--	--	--	10,500
United Arab Emirates	16,400	36,500	--	(2)	--	22	16,400	36,600
United Kingdom	102	146	726	1,190	333	603	1,160	1,940
Venezuela	8,430	16,500	20	20	321	648	8,770	17,200
Other	622	1,060	1,370	3,240	4,090	8,080	6,080	12,400
Total	284,000	565,000	76,700	146,000	46,200	96,100	407,000	807,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 9  
U.S. EXPORTS OF ALUMINUM IN FEBRUARY 2012<sup>1</sup>

(Metric tons)

Country or territory	Metals and alloys, crude		Plates, sheets, bars, etc.		Scrap		Total	
	February	January– February	February	January– February	February	January– February	February	January– February
Australia	40	79	114	293	--	--	154	372
Belgium	4	13	278	616	--	--	282	629
Brazil	(2)	9	911	1,430	225	417	1,140	1,860
Canada	8,570	17,000	34,500	68,000	10,300	19,400	53,300	104,000
Chile	626	1,130	1,090	1,090	--	3	1,720	2,230
China	256	788	3,190	5,340	119,000	222,000	122,000	229,000
Colombia	1	502	153	351	8	25	162	878
France	387	581	1,420	2,540	--	--	1,810	3,120
Germany	188	335	891	2,180	77	188	1,160	2,700
Guatemala	1	1	759	2,290	27	27	787	2,320
Hong Kong	7	8	104	192	5,060	7,100	5,170	7,300
India	64	109	166	247	5,170	9,080	5,400	9,430
Indonesia	--	--	315	433	340	698	655	1,130
Ireland	1	8	74	200	--	--	75	208
Israel	41	133	664	1,320	--	--	705	1,460
Italy	2	29	266	551	--	--	268	580
Japan	74	127	1,430	2,830	900	1,890	2,410	4,850
Jordan	--	--	81	571	--	--	81	571
Korea, Republic of	46	54	1,420	2,480	16,000	31,000	17,400	33,600
Kuwait	--	--	306	652	--	--	306	652
Malaysia	1	1	273	516	86	446	360	963
Mexico	18,600	38,200	24,400	48,200	13,300	23,600	56,300	110,000
Netherlands	8	12	100	157	--	157	108	326
New Zealand	3	3	69	635	1	1	73	639
Norway	--	--	25	25	115	210	140	235
Pakistan	--	--	(2)	2	1,040	2,180	1,040	2,180
Panama	--	--	529	882	4	4	533	886
Romania	43	48	15	29	--	--	58	77
Saudi Arabia	--	--	4,120	9,980	--	--	4,120	9,980
Singapore	84	177	293	650	59	100	436	927
Spain	(2)	(2)	115	210	--	--	115	210
Taiwan	312	603	924	1,930	5,110	12,700	6,340	15,200
Thailand	1	1	78	250	225	563	304	814
Tunisia	--	--	2	57	--	--	2	57
Turkey	1	1	175	418	--	--	176	419
United Arab Emirates	1	1	438	887	39	116	478	1,000
United Kingdom	78	208	1,790	3,550	4	111	1,880	3,870
Vietnam	--	--	26	33	77	413	103	446
Other	59	203	835	1,890	174	702	1,070	2,800
Total	29,500	60,300	82,300	164,000	177,000	333,000	289,000	558,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

Source: U.S. Census Bureau.