

# Mineral Industry Surveys

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## ALUMINUM IN DECEMBER 2010

Domestic primary aluminum production in December was 148,000 metric tons (t), according to the U.S. Geological Survey. The average daily production was 4,770 t, essentially the same as that for the previous month and 6% higher than that for December 2009.

Total aluminum recovered from scrap in December 2010 was 201,000 t, 11% lower than that in the previous month and 17% lower than the total in December 2009. Of this, 117,000 t of aluminum was recovered from new scrap, 9% lower than the amount in the previous month and 16% lower than that of December 2009. Aluminum recovered from old scrap in December 2010 totaled 85,000 t, which was 13% lower than that in November 2010 and 17% lower than the amount in December 2009.

U.S. primary aluminum production for 2010 was 1.73 million metric tons (Mt), the same as that in 2009. Total aluminum recovered from scrap in 2010 was 2.67 Mt, 14% lower than that of 2009. Of this, 1.54 Mt of aluminum was recovered from new scrap, 16% lower than that in 2009, and 1.13 Mt of aluminum was recovered from old scrap, 10% lower than that in 2009.

### Update

Rio Tinto Alcan (Montreal, Canada) started construction on the second and final phase of revitalization of its electrode department at its 196,000-metric-ton-per-year smelter in Sebree, KY. The \$37 million second phase includes a new anode bake furnace. The first phase of the modernization was completed in 2010 (Rio Tinto Alcan, 2011).

In December, the monthly average U.S. market price of primary aluminum ingot increased to \$1.120 per pound from \$1.119 per pound in November, and in January 2011, it increased to \$1.163 per pound. The annual average U.S. market price of primary aluminum ingot was \$1.044 per pound in 2010, 31% higher than the 2009 annual average price.

### Reference Cited

Rio Tinto Alcan, 2011, Rio Tinto Alcan's Sebree aluminum smelter begins construction on US\$37 million bake furnace project: Montreal, Quebec, Canada, Rio Tinto Alcan press release, February 10, 1 p.

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>	Total stocks, end of period <sup>4</sup>
		New	Old	Total	Metals and alloys, crude	Plates, sheets, bars, etc.	Total		
2009	1,727	1,840	1,250	3,090	2,900	786	3,680	8,500	938
2009:									
December	140	140	103	243	217	73	290	673	938
2010:									
January	142	131	83	214	238	82	319	675	983
February	130	130	90	220	209	67	276	626	976
March	146	138	84	222	230	94	325	693	970
April	142	123	97	220	257	102	359	722	988
May	148	123	102	225	233	96	329	701	999
June	141	125	103	228	232	74	306	675	1,090
July	146	131	99	230	223	92	315	691	1,030
August	146	134	100 <sup>r</sup>	235 <sup>r</sup>	207	81	288	669	989
September	143	126 <sup>r</sup>	100 <sup>r</sup>	226 <sup>r</sup>	224	78	302	671 <sup>r</sup>	1,000
October	148	129 <sup>r</sup>	94 <sup>r</sup>	222	203	76	279	650	1,030
November	144	129 <sup>r</sup>	98 <sup>r</sup>	227	209	68	277	648 <sup>r</sup>	998
December	148	117	85	201	179	59	238	588	1,010
January-December	1,726	1,540	1,130	2,670	2,650	967	3,610	8,010	1,010

<sup>r</sup>Revised.

<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
	2009 <sup>r</sup>	1,480	1,150	2,140	1,860	90	78	10	9	3,720
2009:										
December	126	97	162	139	7	7	1	1	296	243
2010:										
January	114	86	144	123	5	4	1	1	263	214
February	116	89	145	126	5	4	1	1	267	220
March	127	95	141	122	5	4	1	1	273	222
April	117	88	148	127	5	4	1	1	271	220
May	121	93	149	127	5	4	1	1	276	225
June	122	92	153	131	5	4	1	1	280	228
July	124	92	155	133	5	4	1	1	285	230
August	130 <sup>r</sup>	97	155	133	5	4	1	1	290	235 <sup>r</sup>
September	127 <sup>r</sup>	94 <sup>r</sup>	148	127	5	4	1	1	281 <sup>r</sup>	226 <sup>r</sup>
October	130 <sup>r</sup>	96	142 <sup>r</sup>	122 <sup>r</sup>	5	4	1	1	278 <sup>r</sup>	222 <sup>r</sup>
November	129 <sup>r</sup>	96	147	126	5	4	1	1	282 <sup>r</sup>	227
December	117	86	131	111	5	4	1	1	254	201
January-December	1,470	1,100	1,760	1,510	61	53	8	7	3,300	2,670

<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 DECEMBER 2010<sup>1</sup>

(Metric tons)

	Consumption		Calculated metallic recovery	
	Tabulated reports	Estimated full coverage	Tabulated reports	Estimated full coverage
	Secondary smelters	97,700	117,000	71,400
Independent mill fabricators	117,000	131,000	99,100	111,000
Foundries	4,220	5,070	3,680	4,420
Other consumers	535	642	492	590
Total	219,000	254,000	175,000	201,000

<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 DECEMBER 2010<sup>1</sup>

(Metric tons)

	December			January-December <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
New scrap:						
Extrusion	16,000	44,000	38,900	21,100	546,000	555,000
Can stock clippings	5,030	17,000	17,500	4,490	241,000	240,000
Other wrought sheet/clippings	5,650	24,000	23,900	5,740	292,000	292,000
Casting	864	3,800	3,830	833	47,600	47,600
Borings and turnings	1,650	8,930	7,900	2,680	98,600	97,700
Dross and skimmings	2,250	47,000	41,100	8,100	474,000	468,000
Total new scrap	31,400	145,000	133,000	43,000	1,700,000	1,700,000
Old scrap:						
Used castings	7,790	18,900	17,700	9,020	225,000	222,000
Used extrusion	4,260	8,680	8,280	4,660	99,300	98,400
Used cans (shredded, loose, baled)	20,300	46,800	44,900	22,300	647,000	635,000
Other wrought products	5,210	12,600	10,600	7,170	98,400	96,400
Fragmentized shredder (auto shredder)	929	4,440	4,250	1,110	53,700	53,500
Other	--	--	--	--	46,300	46,300
Total old scrap	38,500	91,500	85,700	44,200	1,170,000	1,150,000
Sweated pig	1	223	118	106	1,630	1,530
Total all classes	69,900	236,000	219,000	87,300	2,870,000	2,850,000

-- Zero.

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

<sup>2</sup>May include revised data from previous month(s).

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

TABLE 5  
ALUMINUM ALLOYS PRODUCED AT SECONDARY SMELTERS IN THE UNITED STATES FOR 2010<sup>1,2</sup>

(Metric tons)

UNROUNDED

	December				January-December <sup>3</sup>	
	Stocks, opening	Production	Net shipments	Stocks, closing	Production	Net shipments
<b>Die-cast alloys:</b>						
13% Si, 360, etc. (0.6% Cu, max.)	1,390	3,000	2,950	1,440	32,700	32,500
380 and variations	2,710	13,600	13,300	2,980	166,000	166,000
<b>Sand and permanent mold:</b>						
95/5 Al-Si, 356, etc. (0.6% Cu, max.)	1,950	2,970	2,300	2,630	35,500	34,800
No. 319 and variations	1,690	2,640	1,360	2,970	32,100	30,700
F-132 alloy and variations	431	501	478	454	5,960	5,930
Al-Zn alloys	291	130	143	278	1,630	1,640
Al-Si alloys (0.6% to 2.0% Cu)	261	227	90	398	3,080	2,950
Al-Cu alloys (1.5% Si, max.)	48	39	39	48	496	496
Other <sup>4</sup>	11,800	5,840	5,670	12,000	75,400	77,400
Wrought alloys, extrusion billets	20,600	39,000	43,900	15,700	466,000	470,000
<b>Total all alloys</b>	<b>41,200</b>	<b>67,900</b>	<b>70,300</b>	<b>38,900</b>	<b>819,000</b>	<b>822,000</b>
<b>Less:</b>						
Primary aluminum consumed	XX	13,200	XX	XX	157,000	XX
Primary silicon consumed	XX	1,240	XX	XX	14,700	XX
Other alloying ingredients consumed	XX	1,010	XX	XX	11,900	XX
Net metallic recovery from aluminum scrap and sweated pig consumed in production of secondary aluminum ingot <sup>5</sup>	XX	52,400	XX	XX	635,000	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 revised data from previous month(s).

<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
2009:		
December	103.800	98.871
January-December	79.433	75.499
2010:		
January	106.875	101.372
February	98.688	92.923
March	105.700	100.028
April	110.875	105.072
May	98.688	92.541
June	93.438	87.589
July	96.000	90.166
August	102.438	96.055
September	103.550	98.067
October	112.438	106.418
November	111.938	105.807
December	111.950	106.600
January-December	104.382	98.553

Source: Platts Metals Week.

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)
2009:				
December	71.16	63.55	46.15	57.34
January-December	53.28	49.36	45.08	41.04
2010:				
January	73.95	73.34	66.76	64.76
February	68.05	64.50	64.71	63.18
March	75.48	70.80	70.26	68.85
April	78.77	78.00	73.36	70.73
May	69.10	71.03	64.75	62.70
June	65.77	67.05	62.14	60.45
July	67.43	68.88	63.64	62.64
August	72.45	72.91	66.59	65.14
September	74.76	73.60	66.98	65.83
October	82.57	76.86	70.74	68.38
November	79.38	76.90	71.35	68.93
December	82.26	77.68	72.47	70.05
January-December	74.16	72.63	67.81	65.97

Source: American Metal Market.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF ALUMINUM IN NOVEMBER 2010<sup>1</sup>

(Metric tons)

Country	Metals and alloys, crude		Plates, sheets, bars, etc.		Scrap		Total	
	November	January- November	November	January- November	November	January- November	November	January- November
Argentina	10,700	128,000	--	--	--	--	10,700	128,000
Australia	3,110	27,400	4	97	--	103	3,110	27,600
Austria	(2)	947	1,490	16,700	--	155	1,500	17,800
Bahrain	--	--	1,580	15,800	--	6	1,580	15,800
Brazil	4,050	55,000	805	12,500	--	262	4,850	67,700
Canada	155,000	1,790,000	27,400	296,000	30,600	317,000	213,000	2,400,000
Chile	--	5	--	(2)	710	2,130	710	2,140
China	188	1,130	7,960	264,000	13	76	8,160	265,000
Egypt	--	--	622	4,700	--	--	622	4,700
Germany	5	859	5,650	62,800	55	212	5,710	63,900
Greece	--	380	2,170	19,900	--	22	2,170	20,300
Guatemala	--	20	--	--	870	8,480	870	8,500
Hong Kong	--	--	594	5,180	--	--	594	5,180
India	--	40	1,140	14,000	--	13	1,140	14,100
Indonesia	--	--	4,740	59,500	--	--	4,740	59,500
Japan	100	779	793	6,410	36	666	929	7,850
Korea, Republic of	332	2,470	188	2,090	--	143	521	4,700
Mexico	3,030	20,100	2,110	20,100	8,810	98,500	13,900	139,000
New Zealand	1,920	17,000	1	155	--	7	1,930	17,100
Norway	156	1,960	(2)	9	--	44	156	2,020
Qatar	124	11,000	--	--	--	--	124	11,000
Russia	17,600	196,000	1,250	13,600	--	--	18,800	210,000
Saudi Arabia	17	50	--	(2)	1,420	8,490	1,430	8,540
South Africa	--	14,300	5,240	46,200	--	--	5,240	60,500
United Arab Emirates	7,480	73,400	4	5	--	23	7,480	73,500
United Kingdom	4	431	701	6,590	1,110	7,100	1,810	14,100
Venezuela	5,340	117,000	136	2,200	83	1,840	5,560	121,000
Other	552	13,300	3,280	40,100	1,510	19,900	5,340	73,200
Total	209,000	2,470,000	67,900	908,000	45,200	465,000	322,000	3,840,000

-- 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 NOVEMBER 2010<sup>1</sup>

(Metric tons)

Country or territory	Metals and alloys, crude		Plates, sheets, bars, etc.		Scrap		Total	
	November	January- November	November	January- November	November	January- November	November	January- November
Australia	66	367	276	2,330	2	11	343	2,710
Bangladesh	--	41	--	--	--	1,320	--	1,360
Belgium	195	478	140	967	131	325	466	1,770
Brazil	1,010	1,080	2,140	13,100	64	4,220	3,220	18,400
Canada	7,490	81,900	29,300	340,000	10,400	117,000	47,200	539,000
Chile	--	190	37	4,150	--	195	37	4,540
China	245	3,770	2,230	29,800	114,000	1,110,000	116,000	1,140,000
Colombia	11	1,030	205	1,420	--	65	216	2,520
El Salvador	--	232	10	143	--	--	10	375
France	59	1,340	961	10,000	1	886	1,020	12,200
Germany	201	2,760	777	8,980	111	459	1,090	12,200
Guatemala	--	33	1,590	13,800	--	--	1,590	13,900
Hong Kong	26	87	447	10,300	3,210	49,200	3,690	59,600
India	--	234	155	1,720	3,200	33,700	3,350	35,600
Indonesia	2	19	27	585	326	3,300	355	3,910
Ireland	5	17	668	6,150	--	1	673	6,160
Israel	132	1,010	985	6,460	--	--	1,120	7,480
Japan	107	1,460	551	7,330	2,030	22,000	2,690	30,800
Korea, Republic of	48	397	1,430	13,700	13,200	141,000	14,700	155,000
Malaysia	2	43	117	1,110	468	5,980	587	7,130
Mexico	16,100	159,000	22,300	241,000	10,800	142,000	49,200	543,000
Netherlands	18	165	52	677	77	268	147	1,110
Pakistan	--	(2)	4	159	282	3,980	285	4,140
Poland	25	252	131	562	--	--	156	814
Romania	57	445	24	92	--	--	81	537
Saudi Arabia	--	9	1,970	14,700	--	9	1,970	14,700
Singapore	38	677	302	2,590	97	407	437	3,670
Taiwan	142	1,710	690	4,200	7,270	102,000	8,100	108,000
Thailand	--	11	92	1,230	842	4,580	935	5,830
United Arab Emirates	--	148	876	8,440	45	173	921	8,760
United Kingdom	41	535	687	8,990	94	384	822	9,900
Vietnam	--	6	3	80	552	9,530	555	9,620
Other	36	527	2,450	27,000	329	3,160	2,810	30,700
Total	26,000	260,000	71,700	782,000	167,000	1,750,000	265,000	2,790,000

-- 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.