

Mineral Industry Surveys

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ALUMINUM IN DECEMBER 2023

Domestic primary aluminum production in December 2023 was 64,000 metric tons (t). The average daily production in December 2023 was 2,060 t, essentially unchanged from that in November 2023, unchanged from that in December 2022, and 19% less than that in December 2021. In 2023, domestic primary aluminum production was 750,000 t. The average daily production in 2023 was 2,050 metric tons per day, 13% less than that in 2022, and 16% less than that in 2021 (fig. 1, table 1).

Total aluminum recovered from scrap in December 2023 was 262,000 t, slightly less than that in November 2023, slightly more than that in December 2022, and 4% less than that in December 2021. Of this, 145,000 t of aluminum was recovered from new scrap, and 118,000 t was recovered from old scrap (due to rounding, does not add to total). In 2023, total aluminum recovered from scrap was 3.31 million metric tons, essentially unchanged from that in 2022 and 2021 (fig. 1, table 1).

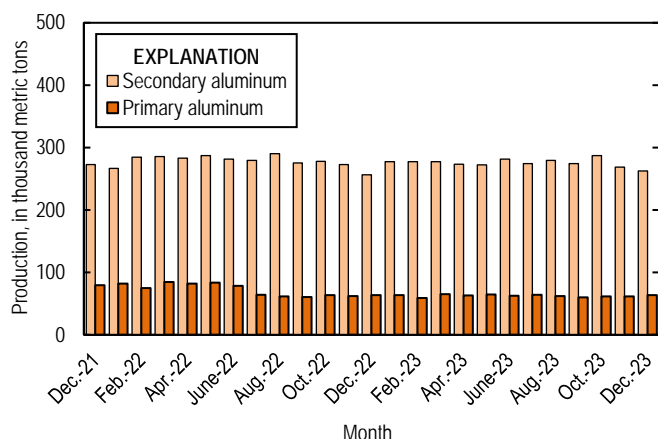


Figure 1. Monthly domestic primary and secondary aluminum production from December 2021 through December 2023.

Prices and Stocks

The December 2023 average U.S. spot market price of primary aluminum ingot was \$1.18 per pound, essentially unchanged from that in November 2023, 9% less than that in December 2022, and 21% less than that in December 2021. The

average cash price in December 2023 of primary aluminum ingot on the London Metal Exchange (LME) was \$0.99 per pound, essentially unchanged from that in November 2023, 9% less than that in December 2022, and 19% less than that in December 2021 (fig. 2, table 6).

Inventories of primary aluminum in LME-approved warehouses, including off-warrant inventories, in the United States were 3,323 t at the end of December 2023, slightly less than that at the end of November 2023. Inventories of secondary aluminum (North American Secondary Aluminum Alloy Contract) in LME-approved warehouses, including off-warrant inventories, in the United States were 1,559 t at the end of December 2023, more than double (130%) that at the end of November 2023 (London Metal Exchange Ltd., 2023a, b; 2024a, b).

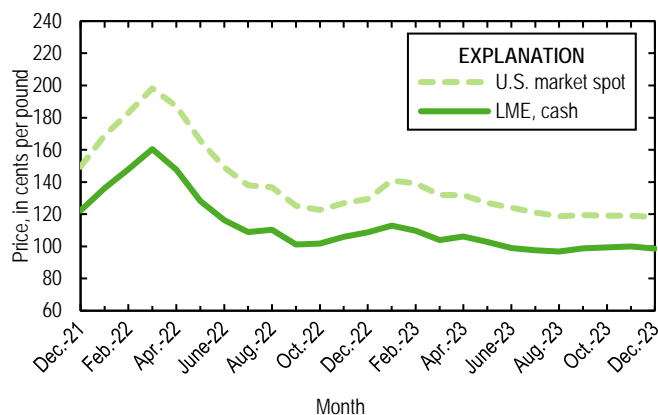


Figure 2. Average monthly prices for primary aluminum from December 2021 through December 2023. Source: S&P Global Platts Metals Week.

U.S. Trade

Total imports of aluminum for consumption in 2023 decreased by 12% compared with those in 2022. Imports of crude metal and alloys, and semi-fabricated products decreased by 8% and 26%, respectively, while imports of scrap were essentially unchanged. The leading sources of total aluminum imports in 2023 were Canada (59%), the United Arab Emirates (9%), Mexico (5%) and Australia (4%). For crude metal and

alloy imports, the leading sources were Canada (69%), the United Arab Emirates (13%), Australia (6%), and Argentina (4%). For semi-fabricated products, the leading sources were Canada (21%), China, including Hong Kong (11%), the Republic of Korea (9%), and Oman (6%). For scrap, the leading sources were Canada (59%) and Mexico (32%) (table 8).

Total exports of aluminum increased by 8% in 2023 compared with those in 2022. Exports of crude metal and alloys, semi-fabricated products, and scrap increased by 54%, 5%, and 3%, respectively, compared with those in 2022. The leading destinations for total aluminum exports during 2023 were Mexico (19%), Malaysia (17%), Canada (16%), India (14%), and the Republic of Korea (9%). For scrap, the leading destinations were India (22%), Malaysia (18%), the Republic of Korea (13%), Thailand (11%), and China, including Hong Kong (10%). Scrap accounted for 63% of all aluminum exports in 2023 (table 9).

Updates

Magnitude 7 Metals LLC announced that it would cease operations by January 28, at its New Madrid primary aluminum smelter in Marston, Missouri. In a letter addressed to employees, the company attributed the shutdown to abnormally cold weather and expressed its intention to seek investors for a potential smelter restart. The New Madrid smelter has a capacity of 263,000 tons of primary aluminum per year and employed approximately 450 employees (Kite, 2024; Reuters, 2024).

References Cited

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TABLE 1
COMPONENTS OF ALUMINUM SUPPLY¹

(Thousand metric tons)

Period	Primary production	Secondary recovery ²			Imports for consumption			Total new supply ³	Stocks, end of period ⁴
		New	Old	Total	Metals and alloys, crude	Plates, sheets, bars, etc.	Total		
2022	861	1,890	1,450	3,330	4,150	1,460	5,610	9,810	2,050
2022, December	64	143	113	256	388	96	484	804	2,050
2023:									
January	64	159	118	278	307	106 ^r	413 ^r	755 ^r	1,950
February	59	147	130	277	238	79 ^r	317 ^r	653 ^r	2,000
March	65	149	129	278	316	95 ^r	411 ^r	754 ^r	1,960
April	63	147	126	273	375	97 ^r	472 ^r	808 ^r	1,990
May	65	148	125	272	407	93 ^r	500 ^r	837 ^r	1,930
June	62	150	131	282	345	94 ^r	439 ^r	783 ^r	1,910
July	64	143	131	274	331	86 ^r	417 ^r	755 ^r	1,860
August	62	147	132	280	283	94 ^r	377 ^r	719 ^r	1,860
September	60	151	123	274	309	80 ^r	389 ^r	723 ^r	1,890
October	61	161	127	287	313	85 ^r	398 ^r	746 ^r	1,830
November	61	148	121	269	277	81 ^r	358 ^r	688 ^r	1,780
December	64	145	118	262	311	86	397	723	NA
January–December	750	1,790	1,510	3,310	3,810	1,080	4,890	8,940	NA

^rRevised. NA Not Available.

¹Data are rounded to no more than three significant digits, except “Primary production”; may not add to totals shown.

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

³Primary production, secondary recovery, and imports for consumption.

⁴Inventory levels reflect total for 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 SCRAP¹

(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
2022	2,330	1,730	1,650	1,500	101	93	4	4	4,090 ^r	3,330
2022, December	192	141	118	107	8	8	(2)	(2)	318	256
2023:										
January	201	151	130	119	8	8	(2)	(2)	340	278
February	196	146	135	123	8	8	(2)	(2)	339	277
March	199	147	134	122	8	8	(2)	(2)	342	278
April	194	144	133	121	8	8	(2)	(2)	335	273
May	199	148	129	118	8	8	(2)	(2)	337	273
June	197	148	141	128	8	8	(2)	(2)	347	284
July	197	148	133	120	8	8	(2)	(2)	339	276
August	199	150	137	124	8	8	(2)	(2)	345	281
September	195	147	131	120	8	8	(2)	(2)	335	274
October	198	148	143	131	8	8	(2)	(2)	350	287
November	197	148	124	113	8	8	(2)	(2)	330	269
December	197	148	118	107	8	8	(2)	(2)	323	262
January–December	2,370	1,770	1,590	1,450	96	96	3	3	4,060	3,310

^rRevised.

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

²Less than ½ unit.

TABLE 3
CONSUMPTION OF AND RECOVERY FROM PURCHASED
NEW AND OLD ALUMINUM SCRAP IN DECEMBER 2023¹

(Metric tons)

	Consumption		Calculated metallic recovery	
	Tabulated reports	Estimated full coverage	Tabulated reports	Estimated full coverage
Secondary smelters	164,000	197,000	123,000	148,000
Independent mill fabricators	107,000	118,000	97,600	107,000
Foundries	7,040	8,450	6,440	7,730
Other consumers	242	290	242	290
Total	279,000	323,000	227,000	262,000

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

TABLE 4
PURCHASED AND TOLL-TREATED ALUMINUM-BASE SCRAP IN DECEMBER 2023¹

(Metric tons)

	December				January–December	
	Stocks, opening ²	Net receipts ³	Melted or consumed	Stocks, closing	Net receipts ³	Melted or consumed
New scrap:						
Extrusion	61,800	40,500	40,500	61,800	474,000	474,000
Can stock clippings	10,600	26,300	26,300	10,600	337,000	337,000
Other wrought sheet/clippings	11,400	34,000	34,300	11,100	444,000	442,000
Casting	3,740	4,890	4,890	3,740	63,500	63,500
Borings and turnings	5,620	12,600	12,600	5,620	151,000	151,000
Dross and skimmings ⁴	18,400	43,900	43,900	18,400	532,000	532,000
Total new scrap	112,000	162,000	162,000	111,000	2,000,000	2,000,000
Old scrap:						
Used castings	8,690	26,500	26,500	8,690	318,000	318,000
Used extrusion	8,210	12,700	12,700	8,210	152,000	152,000
Used cans (shredded, loose, baled)	5,890	48,400	48,400	5,890	593,000	593,000
Other wrought products	20,500	17,500	17,500	20,500	287,000	287,000
Fragmentized shredder (auto shredder)	5,150	11,100	11,100	5,150	137,000	137,000
Total old scrap	48,400	116,000	116,000	48,400	1,490,000	1,490,000
Total all classes	160,000	278,000	279,000	160,000	3,490,000	3,490,000

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

²May include revisions to previously published data.

³Includes data on imported aluminum-base scrap.

⁴Gross volume of dross and skimmings. Recoverable aluminum content ranges from 15% to 50% of gross weight.

TABLE 5
ESTIMATED ALUMINUM ALLOYS PRODUCED AT SECONDARY SMELTERS IN THE UNITED
STATES IN DECEMBER 2023^{1,2}

(Metric tons)

	December				January–December	
	Stocks, opening ³	Production	Net shipments	Stocks, closing	Production	Net shipments
Die-cast alloys:						
13% Si, 360, etc. (0.6% Cu, max.)	2,830	2,700	2,700	2,830	32,400	32,400
380 and variations	7,310	20,300	20,300	7,310	237,000	234,000
Sand and permanent mold:						
95/5 Al-Si, 356, etc. (0.6% Cu, max.)	1,940	3,100	3,100	1,940	37,100	37,100
No. 319 and variations	1,420	1,390	1,390	1,420	16,700	16,700
F-132 alloy and variations	89	233	233	89	2,800	2,800
Al-Zn alloys	339	71	71	339	851	851
Al-Si alloys (0.6% to 2.0% Cu)	230	195	195	230	2,340	2,340
Al-Cu alloys (1.5% Si, max.)	139	724	724	139	8,690	8,690
Other ⁴	3,380	4,900	4,900	3,380	65,200	68,000
Wrought alloys, extrusion billets	16,000	61,200	61,200	16,000	735,000	735,000
Total all alloys	33,600	94,800	94,800	33,600	1,140,000	1,140,000
Less:						
Primary aluminum consumed	XX	14,400	XX	XX	173,000	XX
Primary silicon consumed	XX	1,750	XX	XX	21,000	XX
Other alloying ingredients consumed	XX	851	XX	XX	10,200	XX
Net metallic recovery from aluminum scrap consumed in production of secondary aluminum ingot ⁵	XX	77,800	XX	XX	934,000	XX

XX Not applicable.

¹Excludes integrated aluminum companies.

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

³May include revisions to previously published data.

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

⁵No 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
2022	152.572	122.767
2022, December	129.488	108.612
2023:		
January	141.000	112.881
February	139.175	109.624
March	131.935	103.858
April	131.764	106.168
May	127.088	102.837
June	124.000	98.917
July	121.012	97.614
August	118.557	96.787
September	119.429	98.756
October	119.136	99.433
November	119.011	99.877
December	118.250	98.610
January–December	125.863	102.113

Source: S&P Global Platts Metals Week.

TABLE 7
AVERAGE BUYING PRICES FOR ALUMINUM SCRAP

(Cents per pound)

Month	Used beverage cans	Mixed low copper clips	Old sheet	Old cast	Turnings (clean and dry)
2022	92.88	74.05	70.83	70.33	63.28
2022, December	79.30	66.80	64.50	64.40	48.80
2023:					
January	83.25	68.75	68.25	67.63	51.88
February	88.50	69.38	70.00	70.25	57.38
March	83.30	69.50	70.90	72.30	59.40
April	77.25	70.75	70.75	74.25	62.25
May	73.13	69.50	69.88	73.63	64.00
June	69.20	67.30	68.70	70.60	60.30
July	68.00	68.38	68.50	70.00	57.88
August	67.80	67.40	67.00	69.40	59.60
September	67.75	66.50	67.25	68.50	59.25
October	68.00	66.50	68.75	68.75	59.50
November	69.50	68.00	69.50	69.40	61.60
December	70.38	68.25	68.88	69.75	65.50
January–December	73.84	68.35	69.03	70.37	59.88

Source: Fastmarkets–AMM.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF ALUMINUM IN DECEMBER 2023¹

(Metric tons)

Country or locality	Metals and alloys, crude		Plates, sheets, bars, etc.		Scrap		Total	
	December	January– December	December	January– December	December	January– December	December	January– December
Argentina	25,000	153,000	--	101	--	--	25,000	154,000
Australia	6,420	210,000	(2)	146	--	(2)	6,420	210,000
Austria	--	(2)	1,510	28,200	6	114	1,520	28,300
Bahrain	3,080	93,100	3,960	21,900	--	--	7,050	115,000
Belgium	39	1,160	721	15,400	--	--	760	16,500
Brazil	--	--	1,960	19,400	--	4,740	1,960	24,100
Canada	236,000	2,640,000	15,300	229,000	24,900	397,000	276,000	3,270,000
Chile	--	--	--	--	--	1,140	--	1,140
China ³	58	769	12,400	123,000	17	338	12,400	124,000
Colombia	--	--	486	6,300	199	6,930	685	13,200
Costa Rica	--	--	70	469	118	1,890	189	2,350
France	629	7,370	386	5,850	9	139	1,020	13,400
Germany	(2)	1,360	1,720	26,800	569	7,050	2,290	35,200
Greece	--	--	1,820	29,100	--	119	1,820	29,200
Guatemala	--	--	--	16	709	9,850	709	9,870
Honduras	--	--	641	5,550	10	1,440	651	6,990
India	6,060	47,400	2,260	15,800	--	16	8,320	63,200
Indonesia	--	119	1,370	16,500	--	--	1,370	16,600
Italy	246	2,420	1,330	12,400	7	15	1,580	14,800
Japan	(2)	22	1,090	24,600	--	128	1,090	24,700
Korea, Republic of	862	18,100	8,790	96,300	--	741	9,660	115,000
Malaysia	--	1,090	1,160	8,530	--	95	1,160	9,710
Mexico	1,040	14,700	4,760	60,700	13,700	218,000	19,500	294,000
Netherlands	74	1,100	25	1,510	85	588	184	3,200
New Zealand	1,060	12,400	(2)	1	--	--	1,060	12,400
Norway	456	5,190	951	6,240	--	--	1,410	11,400
Oman	--	325	3,950	63,700	--	--	3,950	64,000
Qatar	6,890	84,400	18	141	--	--	6,910	84,500
Romania	--	--	(2)	336	--	111	(2)	446
Russia	--	7,960	12	38	--	--	12	8,000
Saudi Arabia	--	2,090	1,030	10,900	--	--	1,030	13,000
South Africa	--	917	600	36,000	--	6,530	600	43,500
Spain	25	3,920	996	10,200	--	620	1,020	14,700
Sweden	--	2,500	936	12,300	--	--	936	14,800
Switzerland	--	56	963	8,710	--	--	963	8,770
Taiwan	67	1,350	408	4,110	--	(2)	476	5,470
Thailand	87	955	1,310	32,200	5	222	1,410	33,400
Turkey	183	2,180	2,500	41,100	--	852	2,680	44,200
United Arab Emirates	22,700	492,000	483	2,440	--	627	23,100	495,000
United Kingdom	24	188	511	7,330	305	1,140	840	8,650
Vietnam	--	--	4,100	35,800	--	--	4,100	35,800
Other	45	318	5,440	56,700	1,170	16,200	6,660	73,200
Total	311,000	3,810,000	85,900	1,080,000	41,800	677,000	439,000	5,570,000

-- Zero.

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

²Less than ½ unit.

³Includes Hong Kong.

Source: U.S. Census Bureau.

TABLE 9
U.S. EXPORTS OF ALUMINUM IN DECEMBER 2023¹

(Metric tons)

Country or locality	Metals and alloys, crude		Plates, sheets, bars, etc.		Scrap		Total	
	December	January– December	December	January– December	December	January– December	December	January– December
Australia	6	320	135	1,620	--	--	142	1,940
Belgium	--	136	227	2,410	403	6,820	629	9,360
Brazil	--	47	360	4,400	1,300	8,240	1,660	12,700
Canada	3,210	65,000	26,100	342,000	8,870	119,000	38,200	526,000
China ²	374	1,800	901	11,500	19,300	212,000	20,600	226,000
Colombia	1	13	69	487	88	949	157	1,450
Dominican Republic	(3)	18	201	518	307	2,570	508	3,110
France	399	4,250	650	9,290	187	2,110	1,240	15,700
Germany	(3)	3,810	374	5,890	55	3,320	428	13,000
Guatemala	--	--	(3)	102	--	--	(3)	102
India	742	2,160	206	4,560	24,000	452,000	24,900	459,000
Indonesia	29	29	1	214	6,100	47,100	6,130	47,400
Ireland	--	15	7	875	--	510	7	1,400
Israel	(3)	34	894	7,770	--	--	894	7,810
Italy	2	102	197	2,320	90	13,000	289	15,500
Jamaica	--	36	11	69	--	--	11	105
Japan	50	1,030	735	11,400	2,700	36,500	3,490	48,900
Korea, Republic of	146	532	1,930	24,600	20,600	275,000	22,600	300,000
Malaysia	30,900	207,000	591	5,330	24,700	361,000	56,100	573,000
Mexico	10,800	168,000	18,600	295,000	12,000	166,000	41,300	629,000
Netherlands	7	699	58	540	420	7,210	484	8,450
New Zealand	--	20	17	713	--	--	17	733
Norway	--	23	3	14	70	1,760	72	1,800
Pakistan	--	120	2	231	1,990	19,000	1,990	19,400
Panama	--	8	1	72	--	(3)	1	80
Philippines	--	132	14	271	107	3,330	122	3,740
Poland	(3)	12	149	1,320	--	21	149	1,350
Romania	--	(3)	54	1,420	--	--	54	1,420
Saudi Arabia	--	4	3	109	3	190	6	303
Singapore	25	86	105	1,750	39	1,780	169	3,620
Spain	--	19	172	1,800	436	4,720	608	6,530
Taiwan	18	443	239	4,150	3,340	46,100	3,600	50,700
Thailand	534	2,550	58	2,390	21,000	224,000	21,600	229,000
Turkey	2	2	315	6,880	59	1,950	376	8,840
United Arab Emirates	--	55	63	1,440	176	5,320	239	6,820
United Kingdom	10	189	616	10,400	381	2,930	1,010	13,500
Vietnam	7	116	199	1,890	2,660	21,400	2,870	23,400
Other	177	1,830	329	4,640	1,200	9,660	1,700	16,100
Total	47,300	460,000	54,600	770,000	152,000	2,060,000	254,000	3,290,000

-- Zero.

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

²Includes Hong Kong.

³Less than ½ unit.

Source: U.S. Census Bureau.