

# Mineral Industry Surveys

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## COBALT IN DECEMBER 2017

On the basis of preliminary monthly data, U.S. cobalt consumption in 2017 was essentially unchanged from consumption during 2016. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals in 2017 was 6% less than imports during 2016 (table 2). The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals in 2017 was 38% more than exports during 2016. Exports of cobalt waste and scrap in 2017 were nearly twice as high as those in 2016 (table 4).

**Prices**

Cobalt prices continued the upward trend that began in early 2016 as a result of strong demand from consumers, limited availability of cobalt on the spot market, and an increase in metal purchases by investors. In December, the monthly average U.S. spot cobalt price was 18% higher than that in November 2017 and 137% higher than that in December 2016. The monthly average LME cash mean price was 17% higher than

that in November 2017 and 129% higher than that in December 2016. The following listed prices are for cobalt metal in December, in dollars per pound.

Type	Price range	Average price
U.S. spot <sup>1</sup>	32.50–37.00	35.34
LME cash mean <sup>2</sup>	29.96–34.13	32.82

<sup>1</sup>Source: Platts Metals Week, minimum 99.8% cobalt cathode.

<sup>2</sup>London Metal Exchange, mean of the cash buyer and cash seller price, minimum 99.3% cobalt briquettes, cathode, ingot, or rounds (converted from dollars per metric ton and rounded to the nearest cent).

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TABLE 1  
REPORTED CONSUMPTION AND STOCKS OF COBALT MATERIALS<sup>1</sup>

(Metric tons, contained cobalt)

Period	Consumption, U.S. industry <sup>p, 2</sup>	Stocks, end of period				
		U.S. industry <sup>p, 2</sup>	U.S. Government <sup>3, 4</sup>	LME <sup>3, 5</sup>		Total
				U.S. warehouse	Non-U.S. warehouse	
2016:						
December	700	936	301	195	496	691
January–December <sup>6</sup>	8,680	936	301	195	496	691
Year <sup>7</sup>	9,010	969	301	195	496	691
2017:						
January	713	938	301	195	458	653
February	725	941	301	185	533	718
March	747	932	301	193	533	726
April	740	935	301	188	601	789
May	734	937	301	188	557	745
June	731	929	301	193	548	741
July	728	939	301	191	503	694
August	732	966	302	191	553	744
September	731	978	302	183	622	805
October	724	985	302	167	583	750
November	701	977	302	163	562	725
December	705	996	302	160	420	580
January–December <sup>6</sup>	8,710	996	302	160	420	580

<sup>p</sup>Preliminary.

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

<sup>2</sup>Data for cobalt metal, metal powder, oxide and other chemical compounds, and scrap reported by U.S. cobalt processors and consumers. Includes estimates.

<sup>3</sup>Cobalt metal.

<sup>4</sup>Data from Defense Logistics Agency Strategic Materials.

<sup>5</sup>London Metal Exchange.

<sup>6</sup>U.S. industry data based on monthly reports.

<sup>7</sup>U.S. industry data include annual reports.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY OR LOCALITY<sup>1</sup>

Period and country or locality of origin	Metals <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the period <sup>5</sup> (metric tons)	Cobalt content, year to date <sup>5,6</sup> (metric tons)
	Gross weight (metric tons)	Value <sup>4</sup> (thousands)	Gross weight (metric tons)	Value <sup>4</sup> (thousands)	Gross weight (metric tons)	Value <sup>4</sup> (thousands)		
2016:								
December	1,450	\$40,000	209	\$4,690	149	\$1,340	1,650	12,800
January–December	10,800	267,000	1,960	39,300	2,120	20,500	12,800	XX
2017:								
January	720	21,700	135	3,300	183	2,130	880	880
February	1,130	37,600	180	4,260	237	2,720	1,350	2,230
March	793	25,500	207	5,570	234	2,630	1,020	3,250
April	980	45,500	222	7,050	211	2,040	1,200	4,440
May	535	25,600	227	7,890	215	2,370	764	5,210
June	977	49,800	106	3,930	316	3,750	1,160	6,360
July	756	38,900	141	5,540	175	2,770	917	7,280
August	569	31,300	202	8,180	297	3,660	800	8,080
September	789	45,300	139	5,970	234	2,500	963	9,040
October	875	51,900	104	4,670	187	2,730	1,000	10,000
November	1,090	63,800	250	10,900	182	3,340	1,340	11,400
December:								
Australia	--	--	--	--	--	--	--	186
Belgium	3	215	56	2,720	--	--	43	408
Bolivia	--	--	--	--	--	--	--	199
Brazil	--	--	--	--	41	358	13	98
Canada	118	5,920	--	--	--	--	118	1,600
China	(7)	8	27	1,220	45	614	33	1,290
Finland	35	1,980	25	1,100	104	2,470	92	1,250
France	(7)	27	--	--	--	--	(7)	34
Germany	4	242	--	--	--	--	4	43
Hong Kong	--	--	--	--	--	--	--	89
India	(7)	6	--	--	--	--	(7)	6
Italy	1	27	--	--	--	--	1	5
Japan	166	10,200	--	--	--	--	166	1,430
Korea, Republic of	--	--	10	297	--	--	7	29
Madagascar	105	6,830	--	--	--	--	105	1,070
Morocco	20	1,300	--	--	--	--	20	178
Norway	--	--	--	--	--	--	--	2,560
Peru	--	--	--	--	--	--	--	4
Russia	--	--	--	--	--	--	--	408
South Africa	55	1,440	--	--	--	--	55	289
Switzerland	--	--	--	--	--	--	--	36
United Kingdom	1	65	83	4,000	32	94	68	576
Zambia	--	--	--	--	--	--	--	315
Other	(7)	12	--	--	--	--	(7)	1
Total	507	28,300	201	9,330	223	3,530	725	12,100
January–December	9,730	465,000	2,120	76,600	2,690	34,200	12,100	XX

XX Not applicable. -- Zero.

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

<sup>2</sup>Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

<sup>3</sup>Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

<sup>4</sup>Customs value.

<sup>5</sup>Estimated from gross weights.

<sup>6</sup>May include revisions to previously published data.

<sup>7</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY OR LOCALITY<sup>1</sup>

Period and country or locality of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
2016:						
December	43	\$1,540	108	\$1,540	8	\$1,950
January–December	820	27,000	1,030	13,800	167	21,900
2017:						
January	68	3,080	100	1,620	11	1,920
February	33	1,550	111	1,470	12	2,050
March	44	1,600	119	1,780	29	3,240
April	45	1,960	134	1,830	26	3,080
May	26	1,150	158	2,420	19	2,210
June	31	1,300	139	1,980	13	2,570
July	12	530	153	2,820	6	1,570
August	12	484	102	1,580	24	2,510
September	24	1,140	119	1,750	20	2,680
October	45	2,110	181	2,790	13	2,780
November	27	1,260	103	1,100	20	3,040
December:						
Austria	--	--	--	--	(3)	86
Belgium	2	91	3	138	(3)	12
Canada	--	--	12	122	4	900
China	--	--	3	164	(3)	3
Finland	(3)	5	--	--	--	--
France	--	--	12	199	3	1,220
Germany	(3)	4	(3)	4	2	133
Hungary	--	--	--	--	(3)	3
Ireland	--	--	29	355	(3)	30
Japan	--	--	15	178	(3)	48
Korea, Republic of	--	--	1	24	--	--
Madagascar	(3)	18	--	--	--	--
Mexico	--	--	3	31	(3)	22
Netherlands	--	--	6	159	--	--
Norway	1	42	--	--	--	--
Poland	--	--	--	--	(3)	9
Singapore	--	--	--	--	(3)	3
Switzerland	--	--	--	--	(3)	11
Taiwan	--	--	3	64	--	--
Tunisia	--	--	7	69	--	--
United Kingdom	47	2,110	30	557	4	270
Total	50	2,270	124	2,060	15	2,750
January–December	418	18,400	1,540	23,200	206	30,400

-- Zero.

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

<sup>2</sup>Customs value.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF COBALT MATERIALS<sup>1</sup>

Period	Unwrought cobalt, powders, matte, waste and scrap <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the period <sup>5</sup> (metric tons)	Cobalt content, year to date <sup>5,6</sup> (metric tons)
	Gross weight (metric tons)	Value <sup>4</sup> (thousands)	Gross weight (metric tons)	Value <sup>4</sup> (thousands)	Gross weight (metric tons)	Value <sup>4</sup> (thousands)		
2016:								
December	361	\$7,430	2	\$100	9	\$86	365	4,160
January–December	3,990	78,100	134	1,380	314	1,600	4,160	XX
2017:								
January	356	6,380	--	--	31	213	364	364
February	376	6,590	--	--	18	212	381	745
March	471	10,900	97	434	--	--	541	1,290
April	312	9,180	10	269	(7)	7	319	1,600
May	589	12,000	40	305	36	532	626	2,230
June	398	7,520	5	139	19	281	405	2,640
July	486	9,650	9	313	4	66	494	3,130
August	347	8,490	4	138	19	277	354	3,480
September	368	10,100	13	576	19	20	382	3,870
October	485	13,600	7	235	19	281	494	4,360
November	841	11,200	4	169	20	295	849	5,210
December	507	11,600	11	507	19	330	520	5,730
January–December	5,540	117,000	200	3,090	205	2,510	5,730	XX

XX Not applicable. -- 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 other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

<sup>3</sup>Cobalt acetates and cobalt chlorides.

<sup>4</sup>Free alongside ship (f.a.s.) value.

<sup>5</sup>Estimated from gross weights.

<sup>6</sup>May include revisions to previously published data.

<sup>7</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE,  
AND CONCENTRATES<sup>1</sup>

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
2016:				
December	103	\$8,490	--	--
January–December	1,390	96,500	2	\$65
2017:				
January	153	8,520	--	--
February	84	6,430	2	26
March	104	8,090	4	20
April	93	8,180	105	415
May	70	7,590	132	533
June	104	8,610	--	--
July	79	7,860	1	5
August	115	9,010	6	30
September	98	8,990	1	5
October	107	8,350	--	--
November	85	10,200	--	--
December	94	10,400	3	7
January–December	1,190	102,000	253	1,040

-- Zero.

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

<sup>2</sup>Free alongside ship (f.a.s.) value.

Source: U.S. Census Bureau.