

# Mineral Industry Surveys

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## COBALT IN NOVEMBER 2013

U.S. cobalt consumption during January through November 2013 was 3% less than consumption during the same period in 2012. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals during January through November 2013 was 7% less than that imported during the same period in 2012. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals during January through November 2013 was slightly more than that exported during the same period in 2012.

## Prices

Prices for cobalt metal, in dollars per pound, in November 2013 are listed below.

Type	Price range	Average price
U.S. spot <sup>1</sup>	11.75–13.50	12.69
LME cash mean <sup>2</sup>	11.57–12.42	11.96

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

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

TABLE 1  
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS<sup>1</sup>

(Metric tons, contained cobalt)

Period	Metal <sup>2</sup>	Oxide and other chemical compounds <sup>3</sup>	Scrap	Total
2012: <sup>p</sup>				
November	329	174	163	666
December	311	176	181	668
January–November <sup>f</sup>	3,450	1,980	1,970	7,400
January–December	3,760	2,160	2,160	8,070
2013:				
January	311	180	182	673
February	308	179	182	669
March	304	180	182	666
April	304	186	182	672
May	286	183	182	651
June	287	175	182	645
July	295	182	182	659
August	288	183	182	653
September	276	177	182	634
October	277	188	182	647
November	284	179	182	645
January–November	3,220	1,990	2,000	7,210

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

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

<sup>2</sup>Includes metal powder.

<sup>3</sup>Data may include other cobalt materials.

TABLE 2  
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE<sup>1</sup>

(Metric tons, contained cobalt)

End use	2012 <sup>p</sup>		2013	
	January–November	January–December <sup>2,3</sup>	November	January–November
Steel	492	536	45	492
Superalloys	3,500 <sup>f</sup>	3,810	289	3,280
Magnetic alloys	231	252	21	232
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	709 <sup>f</sup>	774	65	709
Chemical and ceramic uses <sup>6</sup>	2,050 <sup>f</sup>	2,240	187	2,080
Miscellaneous and unspecified	422 <sup>f</sup>	460	38	422
Total	7,400 <sup>f</sup>	8,070	645	7,210

<sup>p</sup>Preliminary. <sup>f</sup>Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

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

<sup>2</sup>Data based on monthly reports.

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

<sup>4</sup>Includes nonferrous alloys, welding materials, and wear-resistant alloys.

<sup>5</sup>Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

<sup>6</sup>Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

TABLE 3  
U.S. REPORTED STOCKS OF COBALT MATERIALS<sup>1</sup>

(Metric tons, contained cobalt)

Period	U.S. industry <sup>p,2</sup>			U.S. Government, metal <sup>6</sup>	LME, <sup>3</sup> metal		Total
	Metal and scrap <sup>4</sup>	Oxide and other chemical compounds <sup>5</sup>	Total		U.S. warehouse	Non-U.S. warehouse	
2012:							
November	533	171	704	301	51	367	418
December	527	168	695	301	51	378	429
2013:							
January	520	180	700	301	48	387	435
February	541	170	711	301	44	386	430
March	565	168	733	301	44	407	451
April	556	171	727	301	46	392	438
May	550	167	718	301	46	369	415
June	558	162	720	301	46	418	464
July	553	164	716	301	46	436	482
August	550 <sup>r</sup>	164	713 <sup>r</sup>	301	46	497	543
September	559 <sup>r</sup>	198 <sup>r</sup>	756 <sup>r</sup>	301	46	488	534
October	555	204	759	301	46	487	533
November	554	221	775	301	41	481	522

<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.

<sup>2</sup>Stocks reported by cobalt processors and consumers.

<sup>3</sup>London Metal Exchange.

<sup>4</sup>Includes metal powder.

<sup>5</sup>Data may include other cobalt materials.

<sup>6</sup>Data from Defense Logistics Agency, DLA Strategic Materials; uncommitted material only.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY<sup>1</sup>

(Metric tons, gross weight of material, except as noted)

Period and country of origin	Metals <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the period <sup>5</sup>	Cobalt content, year to date <sup>5,6</sup>
	Quantity	Value <sup>4</sup> (thousands)	Quantity	Value <sup>4</sup> (thousands)	Quantity	Value <sup>4</sup> (thousands)		
2012:								
November	622	\$18,700	144	\$3,410	144	\$1,500	770	10,300
December	611	16,700	124	2,750	98	881	732	11,100
January–November	8,140	248,000	2,190	48,400	1,710	20,100	10,300	XX
January–December	8,750	264,000	2,320	51,200	1,810	20,900	11,100	XX
2013:								
January	684	17,300	149	3,260	85	793	816	816
February	758	18,500	141	2,690	163	2,310	917	1,730
March	677	17,400	225	4,490	117	923	873	2,610
April	861	22,500	187	4,060	120	1,310	1,030	3,640
May	581	15,300	191	4,000	124	1,300	759	4,400
June	525	14,100	262	5,910	118	1,350	757	5,160
July	887	24,600	224	5,060	147	1,580	1,100	6,250
August	729	20,800	212	4,860	234	2,680	963	7,220
September	680	19,800	197	4,430	91	1,380	858	8,070
October	647	17,700	283	6,630	103	1,230	887	8,960
November:								
Australia	56	1,440	--	--	--	--	56	443
Austria	1	64	--	--	--	--	1	12
Belgium	1	25	60	1,600	--	--	44	431
Brazil	--	--	--	--	6	66	2	296
Canada	24	835	--	--	--	--	24	297
China	88	2,490	28	540	53	669	128	1,940
Congo (Kinshasa)	--	--	--	--	--	--	--	55
Finland	37	1,360	31	739	--	--	59	927
France	2	90	--	--	--	--	2	36
Germany	(7)	4	--	--	--	--	(7)	11
Hong Kong	--	--	--	--	--	--	--	4
India	--	--	--	--	--	--	--	39
Ireland	--	--	--	--	--	--	--	1
Italy	(7)	11	--	--	--	--	(7)	3
Japan	77	2,010	--	--	--	--	77	756
Korea, Republic of	(7)	5	7	74	--	--	5	52
Madagascar	43	1,250	--	--	--	--	43	536
Morocco	20	543	--	--	--	--	20	161
Netherlands	--	--	--	--	--	--	--	5
Norway	52	1,510	--	--	--	--	52	1,180
Peru	--	--	--	--	--	--	--	1
Russia	--	--	--	--	--	--	--	797
South Africa	6	159	--	--	--	--	6	326
Sweden	--	--	--	--	--	--	--	6
Taiwan	--	--	--	--	1	4	(7)	20
Uganda	--	--	--	--	--	--	--	30
United Arab Emirates	--	--	--	--	--	--	--	3
United Kingdom	10	403	76	1,690	3	34	66	683
Zambia	59	1,470	--	--	--	--	59	560
Total	476	13,700	202	4,640	63	773	645	9,610
January–November	7,510	202,000	2,270	50,000	1,370	15,600	9,610	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 5  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY<sup>1</sup>

(Metric tons, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Quantity	Value <sup>2</sup> (thousands)	Quantity	Value <sup>2</sup> (thousands)	Quantity	Value <sup>2</sup> (thousands)
2012:						
November	89	\$2,620	88	\$1,470	20	\$1,750
December	76	2,140	57	751	13	1,360
January–November	780	25,500	763	12,100	266	27,000
January–December	856	27,600	820	12,800	279	28,400
2013:						
January	87	2,650	43	565	15	1,560
February	80	2,300	58	709	15	1,910
March	50	1,470	45	635	17	1,960
April	89	2,890	52	1,230	26	2,470
May	87	3,260	65	985	15	1,680
June	59	1,830	63	840	21	2,000
July	37	1,310	50	637	26	2,580
August	128	4,000	58	1,170	16	2,320
September	112	3,270	64	1,040	43	3,020
October	87	2,900	63	821	20	2,690
November:						
Austria	--	--	--	--	(3)	3
Belgium	17	538	--	--	--	--
Canada	66	1,820	2	12	2	580
China	5	143	(3)	5	3	260
Finland	(3)	18	--	--	--	--
France	(3)	10	--	--	6	409
Germany	2	164	--	--	5	618
Ireland	(3)	3	25	230	--	--
Japan	(3)	6	1	15	1	56
Korea, Republic of	--	--	(3)	4	--	--
Singapore	(3)	7	--	--	--	--
United Kingdom	2	82	4	69	4	263
Total	93	2,790	33	335	20	2,190
January–November	908	28,700	594	8,970	233	24,400

-- 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 6  
U.S. EXPORTS OF COBALT MATERIALS<sup>1</sup>

(Metric tons, gross weight of material, except as noted)

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>	Cobalt content, year to date <sup>5,6</sup>
	Quantity	Value <sup>4</sup> (thousands)	Quantity	Value <sup>4</sup> (thousands)	Quantity	Value <sup>4</sup> (thousands)		
2012:								
November	265	\$7,410	(7)	\$12	58	\$526	279	3,450
December	287	8,090	33	397	20	154	316	3,760
January–November	3,130	98,300	364	2,140	206	3,430	3,450	XX
January–December	3,420	106,000	397	2,540	226	3,580	3,760	XX
2013:								
January	276	8,200	32	108	--	--	299	299
February	252	6,850	6	81	20	164	261	560
March	319	9,270	48	875	23	189	360	919
April	281	8,050	3	88	19	162	288	1,210
May	343	9,570	3	92	24	225	351	1,560
June	264	7,090	52	713	2	34	302	1,860
July	265	7,110	20	520	1	13	279	2,140
August	346	7,770	53	118	39	359	393	2,530
September	250	7,060	35	83	39	332	285	2,820
October	283	7,710	16	324	38	334	303	3,120
November	314	9,880	110	649	19	173	399	3,520
January–November	3,190	88,600	378	3,650	223	1,980	3,520	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 7  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE,  
AND CONCENTRATES<sup>1</sup>

(Metric tons, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value <sup>2</sup> (thousands)	Quantity	Value <sup>2</sup> (thousands)
2012:				
November	180	\$9,400	1	\$35
December	231	11,300	--	--
January–November	1,590	94,900	35	428
January–December	1,820	106,000	35	428
2013:				
January	152	8,390	1	30
February	206	9,230	--	--
March	236	11,900	63	95
April	155	8,080	--	--
May	229	10,900	85	121
June	197	10,100	(3)	4
July	174	9,160	--	--
August	260	11,900	--	--
September	119	7,300	--	--
October	158	8,790	157	355
November	154	9,080	--	--
January–November	2,040	105,000	306	605

-- 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.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.