

# Mineral Industry Surveys

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## COBALT IN NOVEMBER 2012

Preliminary data indicate that U.S. cobalt consumption during January through November 2012 was 8% less than consumption during the same period in 2011. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals from January through November 2012 was 6% more than that imported during the same period in 2011. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals from January through November 2012 was 9% more than that exported during the same period in 2011.

## Prices

Prices for cobalt metal, in dollars per pound, in November 2012 are listed below.

Type	Price range	Average price
U.S. spot <sup>1</sup>	11.15–13.00	12.06
LME cash mean <sup>2</sup>	XX	10.60

XX Not applicable.

<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>p, 1</sup>

(Metric tons, contained cobalt)

Period	Metal <sup>2</sup>	Oxide and other chemical compounds <sup>3</sup>	Scrap	Total
2011:				
November	193	175	250	618
December	271	179	164	614
January–November <sup>f</sup>	3,690	1,990	2,040	7,720
January–December <sup>4</sup>	3,960	2,170	2,200	8,340
2012:				
January	281	179	168	629
February	286	179	175	639
March	257	180	193	630
April	295	179	176	650
May	261	181	195	637
June	264	183	187	633
July	295	178	183	656
August	278	188	166	632
September	263 <sup>r</sup>	185	191 <sup>r</sup>	639
October	297 <sup>r</sup>	183	181 <sup>r</sup>	661 <sup>r</sup>
November	281	220	181	682
January–November	3,060	2,030	1,990	7,090

<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>Includes metal powder.

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

<sup>4</sup>Data based on monthly reports.

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

(Metric tons, contained cobalt)

End use	2011		2012	
	January–November	January–December <sup>2, 3</sup>	November	January–November <sup>3</sup>
Steel	492 <sup>r</sup>	536	45	492
Superalloys	3,970 <sup>r</sup>	4,250	301	3,280
Magnetic alloys	231	252	21	231
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	709 <sup>r</sup>	773	66	728
Chemical and ceramic uses <sup>6</sup>	2,070 <sup>r</sup>	2,260	226	2,110
Miscellaneous and unspecified	248	271	23	248
Total	7,720 <sup>r</sup>	8,340	682	7,090

<sup>p</sup>Preliminary. <sup>r</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	
2011:							
November	521	172	692	301	40	279	319
December	519	193	712	301	43	261	304
2012:							
January	521	185	706	301	26	285	311
February	498	180	678	301	20	273	293
March	536	181	717	301	27	318	345
April	542	182	724	301	22	328	350
May	524	178	702	301	22	330	352
June	519	173	692	301	21	334	355
July	504	181	685	301	21	335	356
August	504	167	671	301	21	340	361
September	491 <sup>r</sup>	167	658 <sup>r</sup>	301	31	350	381
October	478 <sup>r</sup>	170	648 <sup>r</sup>	301	31	367	398
November	495	169	664	301	51	367	418

<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>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)		
2011:								
November	577	\$18,700	235	\$4,750	124	\$1,330	784	9,710
December	632	19,900	294	5,610	105	1,220	878	10,600
January–November	7,390	276,000	2,300	55,600	2,090	24,000	9,710	XX
January–December	8,020	296,000	2,590	61,200	2,190	25,300	10,600	XX
2012:								
January	636	20,100	175	3,260	90	662	785	785
February	812	25,500	201	4,470	186	2,670	1,040	1,820
March	740	24,600	325	7,240	149	1,750	1,020	2,840
April	1,010	31,200	353	7,610	187	2,040	1,320	4,160
May	839	25,700	118	2,490	172	2,130	987	5,150
June	579	18,500	269	5,420	180	2,450	843	5,990
July	624	18,300	93	2,420	164	1,910	749	6,740
August	840	24,000	194	4,730	235	2,690	1,070	7,810
September	671	18,900	112	2,420	124	1,470	796	8,600
October	774	22,200	208	4,940	78	798	948	9,550
November:								
Australia	52	1,380	--	--	--	--	52	636
Austria	--	--	--	--	--	--	--	12
Belgium	--	--	35	880	--	--	25	455
Brazil	24	696	--	--	4	61	26	539
Canada	24	778	--	--	--	--	24	810
China	153	4,420	26	643	18	290	180	1,990
Congo (Kinshasa)	--	--	--	--	--	--	--	72
Finland	43	1,850	39	901	48	386	84	1,100
France	1	32	--	--	18	65	5	28
Germany	(7)	21	--	--	--	--	(7)	7
India	--	--	--	--	40	400	11	137
Japan	39	1,120	--	--	--	--	39	569
Korea, Republic of	--	--	1	30	--	--	1	48
Madagascar	1	25	--	--	--	--	1	1
Morocco	10	254	--	--	--	--	10	150
Netherlands	--	--	--	--	--	--	--	9
Norway	163	4,810	--	--	--	--	163	982
Peru	--	--	--	--	3	65	1	12
Philippines	--	--	--	--	--	--	--	13
Russia	60	1,730	--	--	--	--	60	884
South Africa	31	952	--	--	--	--	31	378
Sweden	1	33	--	--	--	--	1	11
Taiwan	2	60	--	--	--	--	2	25
Uganda	--	--	--	--	--	--	--	18
United Kingdom	(7)	10	43	959	12	229	36	401
Zambia	18	502	--	--	--	--	18	1,030
Other	--	--	--	--	1	--	--	2
<b>Total</b>	<b>622</b>	<b>18,700</b>	<b>144</b>	<b>3,410</b>	<b>144</b>	<b>1,500</b>	<b>770</b>	<b>10,300</b>
January–November	8,140	248,000	2,190	48,400	1,710	20,100	10,300	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)
2011:						
November	63	\$2,110	47	\$817	19	\$2,420
December	81	2,560	44	669	18	2,070
January–November	673	24,700	686	11,400	229	25,000
January–December	754	27,300	730	12,100	247	27,000
2012:						
January	82	2,680	67	1,080	36	1,900
February	73	2,500	54	1,110	22	2,200
March	59	1,950	124	2,310	21	2,610
April	81	2,770	41	733	22	2,670
May	59	1,870	86	1,060	19	2,610
June	91	3,230	38	433	27	2,820
July	67	2,090	97	1,530	28	3,020
August	67	1,990	59	884	26	2,570
September	55	1,780	55	690	24	2,480
October	56	1,990	54	777	21	2,410
November:						
Austria	--	--	1	24	--	--
Belgium	5	142	12	580	--	--
Canada	72	1,960	20	194	6	751
China	1	12	--	--	3	219
Finland	(3)	33	--	--	--	--
France	(3)	25	19	203	(3)	30
Germany	1	81	--	--	8	499
Ireland	--	--	16	185	--	--
Japan	--	--	9	113	(3)	13
Korea, Republic of	--	--	3	40	--	--
Mexico	--	--	(3)	2	--	--
Singapore	(3)	3	--	--	--	--
Switzerland	--	--	--	--	(3)	5
Taiwan	--	--	--	--	(3)	10
United Kingdom	9	361	7	129	3	219
Total	89	2,620	88	1,470	20	1,750
January–November	780	25,500	763	12,100	266	27,000

-- 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)		
2011:								
November	249	\$6,860	55	\$246	38	\$555	298	3,160
December	220	7,460	21	63	2	25	236	3,390
January–November	2,840	88,800	312	2,640	401	4,570	3,160	XX
January–December	3,060	96,300	332	2,700	403	4,590	3,390	XX
2012:								
January	234	7,450	35	183	19	182	264	264
February	238	8,380	3	81	23	225	246	510
March	325	10,800	16	347	1	22	337	847
April	258	8,400	33	159	1	10	281	1,130
May	353	10,700	70	323	20	1,750	408	1,540
June	229	8,210	18	65	3	32	243	1,780
July	215	7,350	73	245	22	198	273	2,050
August	345	10,000	80	490	1	10	403	2,460
September	392	10,600	36	229	19	158	423	2,880
October	279	9,010	(7)	9	40	320	289	3,170
November	265	7,410	(7)	12	58	526	279	3,450
January–November	3,130	98,300	364	2,140	206	3,430	3,450	XX

XX Not applicable.

<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)
2011:				
November	99	\$5,920	--	--
December	123	7,780	--	--
January–November	1,240	74,100	707	\$1,570
January–December	1,360	81,800	707	1,570
2012:				
January	118	7,190	(3)	4
February	125	8,450	5	68
March	127	7,850	20	83
April	141	8,330	2	48
May	132	8,800	3	58
June	110	7,250	(3)	16
July	190	10,300	1	42
August	152	8,910	1	39
September	117	7,570	--	--
October	198	10,900	1	36
November	180	9,400	1	35
January–November	1,590	94,900	35	428

-- 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.