

# Mineral Industry Surveys

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## COBALT IN DECEMBER 2000

On the basis of preliminary monthly data, U.S. consumption of cobalt in 2000 was approximately the same as that during 1999, according to the U.S. Geological Survey. The cobalt content of U.S. imports of cobalt metal and chemicals was approximately the same during January through November 2000 as that during the first 11 months of 1999. The cobalt content of U.S. exports of unwrought cobalt and chemicals during January through November 2000 was 71% higher than that during the first 11 months of 1999. Trade data for December 2000 will be available in a subsequent issue.

### Note

With the exception of prices, all data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

### Price

Prices for electrolytic cobalt, in dollars per pound, from Platt's Metals Week are listed below.

<u>Date</u>	<u>Price range</u>
January 25	13.00-14.00
February 1	13.00-14.00
February 8	13.50-14.50
February 15	13.50-14.50

<u>Month</u>	<u>Average price</u>
January	13.13

TABLE 1  
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Metal 2/	Oxide and other chemical compounds 3/	Scrap	Total
1999:				
December	285	167	220	672
January-December 4/	3,390	1,910	2,710	8,010
Year 5/	3,780	1,910	2,720	8,420
2000:				
January	288	173	225	687
February	272	149	220	641
March	283	158	233	674
April	304	161	226	691
May	299	166	225	689
June	272	157	226	655
July	290	149	216	654
August	280	137	221	638
September	285	147	217	649
October	288	153	224	666
November	306	151	223	680
December	290	144	219	653
January-December	3,460	1,850	2,680	7,980

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

2/ Includes metal powder.

3/ Data may include other cobalt materials.

4/ Data based on monthly reports.

5/ Includes annual reports.

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

(Metric tons, contained cobalt)

End use	1999		2000	
	January- December 2/	Year 3/	December	January- December 4/
Steel	154	154	8	137
Superalloys	3,510	3,830	298	3,580
Magnetic alloys	765	794	62	752
Other alloys 5/	W	291	W	W
Cemented carbides 6/	754	755	66	771
Chemical and ceramic uses 7/	2,510	2,530	195	2,450
Miscellaneous and unspecified	317	64	24	290
Total	8,010	8,420	653	7,980

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

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

2/ Data based on monthly reports.

3/ Includes annual reports.

4/ May include revisions to prior months.

5/ Includes nonferrous alloys, welding materials, and wear-resistant alloys.

6/ Includes diamond bit matrices, cemented and sintered carbides, and cast carbide dies or parts.

7/ Includes catalysts, driers in paints or related usage, feed or nutritive additive, glass decolorizer, ground coat frit, pigments, and other uses.

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

(Metric tons, contained cobalt)

Period	Industry 2/				U.S. Government, metal 5/
	Metal 3/	Oxide and other chemical compounds 4/	Scrap	Total	
1999:					
December 6/	314	231	150	695	13,200
Yearend 7/	322	251	165	739	13,200
2000:					
January	296	225	167	688	13,100
February	332	207	172	712	12,700
March	381	204	160	745	12,100
April	375 r/	207	150	732 r/	12,100
May	339	209	156	704	12,100
June	335	212	150	697	11,700
July	388	220	155	762	11,700
August	348	190	157	695	11,600
September	372	224	159	755	11,100
October	363	206	171	740	11,100
November	368	207	168	742	10,200
December 6/	362	215	166	743	10,200

r/ Revised.

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

2/ Stocks reported by cobalt processors and consumers.

3/ Includes metal powder.

4/ Data may include other cobalt materials.

5/ Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

6/ Data based on monthly reports.

7/ Includes annual reports.

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

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1999:								
November	489,000	\$16,700,000	137,000	\$3,710,000	170,000	\$1,310,000	633,000	7,590,000
December	447,000	14,900,000	87,100	2,410,000	182,000	1,270,000	558,000	8,150,000
January-December	6,800,000	229,000,000	1,260,000	33,700,000	1,610,000	12,400,000	8,150,000	XX
2000:								
January	467,000	13,400,000	178,000	4,240,000	384,000	2,490,000	697,000	697,000
February	592,000	17,200,000	109,000	2,700,000	213,000	1,380,000	728,000	1,420,000
March	450,000 7/	12,400,000 7/	206,000	4,960,000	90,100	605,000	622,000	2,050,000
April	571,000	16,500,000	61,500	1,560,000	21,000	128,000	621,000	2,670,000
May	656,000 7/	20,700,000 7/	122,000	3,010,000	18,100	145,000	749,000	3,420,000
June	624,000 7/	18,100,000 7/	136,000	3,610,000	164,000	1,140,000	766,000	4,180,000
July	390,000 7/	11,400,000 7/	121,000	2,990,000	102,000	675,000	505,000	4,690,000
August	476,000 7/	13,800,000 7/	111,000	2,450,000	179,000	1,160,000	603,000	5,290,000
September	892,000	25,800,000	105,000	2,500,000	77,400	459,000	987,000	6,280,000
October	677,000 7/	19,800,000 7/	98,100	2,170,000	168,000	988,000	792,000	7,070,000
November:								
Australia	20,000	551,000	--	--	--	--	20,000	266,000
Belgium	--	--	35,500	953,000	--	--	25,600	318,000
Brazil	20,000	542,000	--	--	--	--	20,000	320,000
Canada	49,900	1,560,000	--	--	1,010	16,400	50,400	749,000
China	--	--	101	3,020	--	--	73	32,900
Congo (Kinshasa)	80,600	1,680,000	--	--	--	--	80,600	850,000
Finland	136,000	4,600,000	74,000	1,530,000	82,500	523,000	211,000	1,980,000
France	445	34,700	4,940	211,000	--	--	4,000	41,900
Germany	5,460	215,000	1,000	19,700	2 7/	5,000 7/	6,180	82,700
Italy	--	--	--	--	--	--	--	138
Japan	1,600	94,800	--	--	--	--	1,600	39,800
Korea, Republic of	51 7/	4,500 7/	--	--	--	--	51	761
Morocco	--	--	--	--	--	--	--	61,700
Netherlands	10,000	284,000	--	--	--	--	10,000	10,000
Norway	62,200	1,660,000	--	--	--	--	62,200	1,410,000
Russia	64,800	1,820,000	--	--	--	--	64,800	956,000
South Africa	87,600	2,200,000	--	--	--	--	87,600	136,000
Sweden	--	--	--	--	--	--	--	8,280
Uganda	10,900	325,000	--	--	--	--	10,900	26,200
United Kingdom	--	--	9,830	198,000	--	--	7,080	169,000
Uzbekistan	--	--	--	--	--	--	--	1,470
Zambia	8,000	223,000	--	--	--	--	8,000	290,000
Total	558,000	15,800,000	125,000	2,920,000	83,500	544,000	670,000	7,740,000

XX Not applicable. -- Zero.

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

2/ Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder.

3/ Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

4/ Customs value.

5/ Estimated from gross weights.

6/ May include revisions to prior months.

7/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Other cobalt: matte, waste and scrap 2/		Wrought cobalt and cobalt articles	
	Quantity	Value 3/	Quantity	Value 3/	Quantity	Value 3/
1999:						
November	11,800	\$457,000	52,300	\$521,000	11,400	\$786,000
December	7,260	237,000	32,600	685,000	10,800	643,000
January-December	255,000	9,360,000	391,000	4,060,000	173,000	9,130,000
2000:						
January	11,300	349,000	28,200	386,000	36,800	1,960,000
February	26,900	640,000	52,300 4/	1,500,000 4/	24,100	1,030,000
March	9,010	399,000	87,100 4/	1,710,000 4/	22,500	1,200,000
April	4,010	132,000	148,000 4/	2,390,000 4/	22,300	1,320,000
May	22,900	562,000	57,900 4/	1,260,000 4/	17,900	1,120,000
June	66,300	1,700,000	71,600 4/	1,770,000 4/	19,200	1,430,000
July	5,290	137,000	55,000 4/	1,620,000 4/	29,500	1,160,000
August	2,600	85,700	52,200 4/	1,090,000 4/	16,600	1,030,000
September	12,000	359,000	83,000 4/	1,660,000 4/	17,500	1,390,000
October	7,490	211,000	96,300 4/	2,180,000 4/	43,400	1,440,000
November:						
Australia	--	--	--	--	3,740 4/	99,000 4/
Austria	120	10,700	--	--	--	--
Belgium	7,390	192,000	--	--	225	11,700
Canada	--	--	--	--	964	218,000
China	--	--	--	--	--	--
Finland	--	--	8,400 4/	222,000 4/	--	--
France	--	--	2,680 4/	161,000 4/	1,160	78,200
Germany	--	--	643	4,170	5,570	190,000
Italy	--	--	--	--	500	12,600
Japan	1,280	102,000	27,100 4/	1,190,000 4/	1,080	185,000
Sweden	2,390	82,400	700	9,680	--	--
Switzerland	--	--	1,590	30,300	--	--
United Kingdom	2,830	83,900	17,200	105,000	8,270	412,000
Total	14,000	472,000	58,400	1,720,000	21,500	1,210,000

-- Zero.

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

2/ Includes other intermediate products of cobalt metallurgy; may include other cobalt-bearing materials from which cobalt is extracted, or from which cobalt-containing chemical compounds are manufactured.

3/ Customs value.

4/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 6  
U.S. EXPORTS OF COBALT MATERIALS 1/

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1999:								
November	92,100	\$2,960,000	75,900	\$1,400,000	53,100	\$874,000	160,000	1,410,000
December	63,600	2,300,000	90,900	707,000	43,800	298,000	140,000	1,550,000
January-December	1,100,000	38,400,000	521,000	8,140,000	307,000	3,100,000	1,550,000	XX
2000:								
January	79,000	3,180,000	92,400	1,070,000	39,300	343,000	155,000	155,000
February	93,700	3,650,000	23,600	484,000	35,100	326,000	119,000	274,000
March	71,900	2,440,000	143,000	1,340,000	136,000	430,000	208,000	482,000
April	123,000	5,410,000	143,000 7/	1,060,000 7/	177,000	525,000	269,000	751,000
May	132,000	5,020,000	78,600 7/	577,000 7/	29,500	289,000	195,000	946,000
June	66,000	2,770,000	111,000 7/	837,000 7/	18,000	168,000	150,000	1,100,000
July	152,000	6,580,000	138,000 7/	1,230,000 7/	23,100	219,000	257,000	1,350,000
August	191,000	5,130,000	176,000 7/	1,370,000 7/	18,400	169,000	322,000	1,680,000
September	275,000	8,090,000	201,000 7/	1,780,000 7/	58,500	242,000	434,000	2,110,000
October	65,900	2,430,000	96,900 7/	978,000 7/	46,900	451,000	147,000	2,260,000
November	106,000	4,220,000	62,200 7/	415,000 7/	12,800	146,000	154,000	2,410,000

XX Not applicable.

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

2/ May include other intermediate products of cobalt metallurgy, and unwrought cobalt alloys.

3/ Cobalt acetates and cobalt chlorides.

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

5/ Estimated from gross weights.

6/ May include revisions to prior months.

7/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 7  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES 1/

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value 2/	Quantity	Value 2/
1999:				
November	46,000	\$2,010,000	468	\$3,150
December	29,300	1,690,000	--	--
January-December	546,000	26,400,000	175,000	1,090,000
2000:				
January	64,300	2,220,000	--	--
February	104,000	2,520,000	--	--
March	72,900	3,090,000	--	--
April	116,000	2,790,000	132,000 3/	323,000 3/
May	49,900	2,200,000	300,000 3/	189,000 3/
June	65,300	2,940,000	34,800 3/	516,000 3/
July	59,700	2,560,000	47,800 3/	1,410,000 3/
August	147,000	5,550,000	31,100 3/	618,000 3/
September	40,300	2,630,000	--	--
October	127,000	5,910,000	91,400 3/	303,000 3/
November	66,600	3,680,000	3,610 3/	298,000 3/

-- Zero.

1/ Data are rounded to no more than three significant digits.

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

3/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.