

# Mineral Industry Surveys

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## MOLYBDENUM IN JANUARY 2007

Domestic production of molybdenum in concentrate in January 2007 was about 13% more than the output of the previous month and about 14% more than that of January 2006, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 5,330 metric tons (t) at the beginning of 2007 and about 4,430 t at the end of January.

According to Ryan's Notes (2007b), the January monthly average price range for U.S. ferromolybdenum (FeMo) was from \$26.889 to \$27.444 per pound of molybdenum content, compared with \$26.444 to \$26.972 in December. European FeMo monthly averages ranged from \$58.667 to \$60.222 per kilogram (kg) of molybdenum content in January compared with \$59.344 to \$60.000 per kg in December. In January, worldwide molybdenum oxide (MoO<sub>3</sub>) prices ranged from \$24.861 to \$25.383 per pound versus \$24.667 to \$25.067 per pound in December.

The Comision Chilena del Cobre (Cochilco) expected molybdenum production in Chile to decrease 12% to about 38,000 t (84 million pounds) in 2007 as compared with about 43,100 t (95 million pounds) in 2006. Cochilco projected that the molybdenum oxide price would average about \$20 per pound in 2007. Molybdenum production by Corporacion

Nacional del Cobre (Codelco) in Chile was expected to decrease to 25,000 to 30,000 t (55 to 66 million pounds) in 2007 as compared with about 30,800 t (68 million pounds) in 2006. Codelco produced about 36,700 t in 2005. Codelco attributed the reduced production to lower ore grades and repair of the broken conveyor belt at the Chuquicamata Mine, which was expected to be completed in May (Ryan's Notes, 2007a).

Included in this Mineral Industry Surveys are U.S. production and shipments of molybdenum concentrates and materials, U.S. consumption by end use, and stocks of molybdenum material in December 2006 and January 2007. Export data for November and December 2006 and import data for December\* 2006 are also included.

### References Cited

Ryan's Notes, 2007a, Moly continues to bounce: Ryan's Notes, v. 13, no. 4, January 22, p. 3.  
Ryan's Notes, 2007b, [untitled]: Ryan's Notes, v. 13, no. 6, February 5, p. 10.

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\*Correction posted on August 3, 2007.

TABLE 1  
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS<sup>1</sup>

(Metric tons, contained molybdenum)

	2006			2007
	January- December <sup>p</sup>	January	December	January
Production	60,600	4,860	4,880	5,530
Shipments: <sup>2</sup>				
Domestic	37,800	2,800	1,320	1,200
Export	21,000	1,720	1,460	2,120

<sup>p</sup>Preliminary.

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

<sup>2</sup>As reported by producers.

TABLE 2  
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM  
PRODUCTS<sup>1</sup>

(Metric tons, contained molybdenum)

	2006			2007
	January- December <sup>p</sup>	January	December	January
Gross production	78,000	7,180	6,160	6,240
Internal consumption <sup>2</sup>	47,400	4,350	3,530	3,980
Gross shipments	51,000	4,470	4,300	4,790

<sup>p</sup>Preliminary.

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

<sup>2</sup>Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3  
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS<sup>1</sup>

(Kilograms, contained molybdenum)

End use	Molybdc oxides	Ferro molyb- denum <sup>2</sup>	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2006, December:						
Steel:						
Carbon	12,200	W	--	--	W	12,200
High-strength low-alloy	39,700	10,500	--	--	11,300	61,500
Stainless and heat-resisting	163,000 <sup>r</sup>	64,100 <sup>r</sup>	--	W	6,510	234,000 <sup>r</sup>
Full alloy	154,000	216,000	--	--	1,510	372,000
Tool	60,300	W	--	--	--	60,300
Total	430,000 <sup>r</sup>	291,000	--	W	19,400	740,000 <sup>r</sup>
Cast irons (gray, malleable, and ductile iron)	W	7,340	--	--	763	8,100
Superalloys	50,200	W	--	W	72,900 <sup>r</sup>	123,000 <sup>r</sup>
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	68	3,950	--	--	--	4,020 <sup>r</sup>
Mill products made from metal powder <sup>3</sup>	--	--	--	--	191,000 <sup>r</sup>	191,000 <sup>r</sup>
Cemented carbides and related products <sup>4</sup>	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	889	889
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	11,100	11,100
Other	1,090	38,600 <sup>r</sup>	74,000 <sup>r</sup>	60,100 <sup>r</sup>	16,800 <sup>r</sup>	191,000 <sup>r</sup>
Grand total	558,000 <sup>r</sup>	341,000 <sup>r</sup>	74,000 <sup>r</sup>	60,100 <sup>r</sup>	313,000 <sup>r</sup>	1,350,000 <sup>r</sup>
Stocks, December 31, 2006	485,000	166,000 <sup>r</sup>	2,730 <sup>r</sup>	19,800	857,000 <sup>r</sup>	1,530,000 <sup>r</sup>
2007, January:						
Steel:						
Carbon	11,900	W	--	--	W	11,900
High-strength low-alloy	41,200	8,060	--	--	11,300	60,600
Stainless and heat-resisting	186,000	64,900	--	W	6,510	257,000
Full alloy	161,000	140,000	--	--	1,510	302,000
Tool	71,700	W	--	--	--	71,700
Total	471,000	213,000	--	W	19,400	703,000
Cast irons (gray, malleable, and ductile iron)	W	7,530	--	--	763	8,300
Superalloys	68,600	W	--	W	78,000	147,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	103	3,750	--	--	--	3,850
Mill products made from metal powder <sup>3</sup>	--	--	--	--	203,000	203,000
Cemented carbides and related products <sup>4</sup>	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	1,180	1,180
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,700	10,700
Other	1,090	30,200	73,000	68,300	16,800	189,000
Grand total	618,000	254,000	73,000	68,300	330,000	1,340,000
Stocks, January 31, 2007	526,000	339,000	2,760	25,700	855,000	1,750,000

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zero.

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

<sup>2</sup>Includes calcium molybdate.

<sup>3</sup>Includes ingot, wire, rod, and sheet.

<sup>4</sup>Includes construction, mining, oil and gas, metalworking machinery.

TABLE 4  
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(including roasted concentrate), BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2005	2006			
	January-December	October <sup>r,2</sup>	November <sup>r,2</sup>	December	January-December <sup>3</sup>
Australia	110,000	81,500	--	--	88,800
Austria	3,230	--	--	--	--
Belgium	9,430,000	568,000	815,000	90,400	7,490,000
Brazil	66,700	37,900	19,000	--	113,000
Canada	3,840,000	192,000	201,000	198,000	2,680,000
Chile	177,000	20,000	19,000	80,700	259,000
China	4,390,000	--	7,140	--	405,000
Costa Rica	3,810	--	--	--	--
India	41,100	11,700	--	24,000	82,800
Italy	35,100	--	--	--	--
Japan	2,050,000	133,000	219,000	162,000	2,260,000
Korea, Republic of	11,700	39	--	--	45,000
Mexico	3,130,000	686,000	473,000	297,000	6,070,000
Netherlands	15,000,000	828,000	876,000	1,120,000	10,300,000
Taiwan	3,600	29,000	--	23,800	53,400
United Kingdom	7,310,000	384,000	793,000	678,000	7,280,000
Other	767,000 <sup>r</sup>	--	284	22,200	78,500
Total	46,400,000	2,970,000	3,420,000	2,700,000	37,200,000

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Data was erroneously reported in the December 2006 publication.

<sup>3</sup>Includes revisions to previous months' data.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2005	2006			
	January-December	October <sup>r,2</sup>	November <sup>r,2</sup>	December	January-December <sup>3</sup>
Argentina	--	--	--	--	14,500
Australia	--	--	--	349	24,500
Austria	11,400	--	--	--	--
Brazil	17,200	--	--	--	37,700
Canada	1,930,000	75,600	62,500	21,000	1,760,000
Denmark	--	--	--	--	57
India	--	--	--	300	667
Indonesia	5,930	--	--	--	--
Japan	--	--	--	--	60
Mexico	88,700	490	1,400	603	143,000
Netherlands	33,300	--	14,000	--	14,000
Singapore	--	--	--	--	1,630
Switzerland	--	--	--	--	12,000
Total	2,090,000	76,100	77,900	22,200	2,010,000

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Data was erroneously reported in the December 2006 publication.

<sup>3</sup>Includes revisions to previous months' data.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS<sup>1</sup>

(Kilograms, unless otherwise specified)

Material	January-December 2005			December 2006			January-December 2006		
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)
Ore and concentrates roasted	8,570,000	5,380,000	\$306,000	587,000	366,000	\$10,600	9,570,000	5,900,000	\$167,000
Ore and concentrates other	13,800,000	6,480,000	440,000	1,750,000	793,000	35,700	10,900,000	5,000,000	227,000
Molybdenum chemicals:									
Oxides and hydroxides	1,240,000	NA	42,500	38,900	NA	1,580	629,000	NA	24,300
Molybdates of ammonium	4,220,000	2,730,000	53,600	106,000	59,300	3,130	1,430,000	844,000	34,100
Molybdates (all others)	101,000	24,800	1,250	60,200	22,900	759	241,000	72,700	2,810
Molybdenum orange	983,000	NA	4,780	40,200	NA	210	822,000	NA	5,110
Ferromolybdenum	6,340,000	4,040,000	287,000	274,000	180,000	9,340	4,810,000	3,060,000	165,000
Molybdenum powders	92,900	78,500	7,740	34,100	33,100	2,290	367,000	270,000	17,600
Molybdenum unwrought	99,000	98,800	5,740	25,400	25,300	1,510	191,000	191,000	10,800
Molybdenum waste and scrap	503,000	480,000	35,600	24,300	23,800	1,380	452,000	445,000	27,800
Molybdenum wire	21,300	NA	3,160	2,010	NA	271	18,600	NA	2,550
Molybdenum other	163,000	NA	20,700	7,880	NA	1,570	130,000	NA	17,000
Total	36,200,000	19,300,000	1,200,000	2,950,000	1,500,000	68,300	29,600,000	15,800,000	701,000

NA Not available.

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

<sup>2</sup>Customs value.

Source: U.S. Census Bureau.