

Mineral Industry Surveys

For information, contact:

Michael J. Magyar, Molybdenum Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4964, Fax: (703) 648-7757
E-mail: mmagyar@usgs.gov

Lisa Mersdorf (Data)
Telephone: (703) 648-7941
Fax: (703) 648-7975
E-mail: lmersdorf@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

MOLYBDENUM IN DECEMBER 2007

Domestic production of molybdenum (Mo) in concentrate in December 2007 was about 16% less than the output of the previous month and about 12% less than that of December 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 5,380 t at the end of December.

According to Ryan's Notes (2008), the December monthly average price range for U.S. ferromolybdenum (FeMo) was \$31.821 to \$34.929 per pound of molybdenum content, compared with \$34.588 to \$34.875 in November. European FeMo monthly averages ranged from \$74.400 to \$74.929 per kilogram (kg) of molybdenum content in December compared with \$74.800 to \$75.350 per kg in November. In December, worldwide molybdenum oxide (MoO₃) prices ranged from \$32.300 to \$32.786 per pound versus \$32.850 to \$33.200 per pound in November.

Freeport-McMoran Copper & Gold Inc. planned to reopen the Climax Mine and began placing orders for long-lead-time

mining equipment. Freeport expected to spend \$500 million to bring the open pit mine back on-line and to build a new mill. The Climax Mine was expected to produce about 13,600 t (30 million pounds) per year of molybdenum in concentrate, at an estimated cash cost of \$3.50 per pound starting in 2010. Construction was expected to begin in the spring of 2008 (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 consumer stocks of molybdenum material in November and December 2007. Export data for October and November 2007 and import data for November 2007 are also included.

References Cited

Ryan's Notes, 2007a, It's official—Climax will reopen: Ryan's Notes, v. 13, no. 49, December 10, p. 4.
Ryan's Notes, 2008, [untitled]: Ryan's Notes, v. 14, no. 1, January 3, p. 10.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2006	2007		
	January- December	November	December	January- December
Production	59,700	5,130	4,300	56,900
Shipments: ²				
Domestic	38,600	3,560	3,120	40,600
Export	21,300	1,320	1,220	16,400

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

²As reported by producers.

TABLE 2
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM
PRODUCTS¹

(Metric tons, contained molybdenum)

	2006	2007		
	January- December	November	December	January- December
Gross production	78,000	5,860 ^r	5,500	72,800
Internal consumption ²	47,400	3,170 ^r	2,960	41,700
Gross shipments	51,000	3,970	3,350	48,700

^rRevised.

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

²Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS¹

(Kilograms, contained molybdenum)

End use	Molybdc oxides	Ferro molyb- denum ²	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2007, November:						
Steel:						
Carbon	31,000 ^r	W	--	--	W	31,000 ^r
High-strength low-alloy	48,200 ^r	9,020 ^r	--	--	11,300	68,500 ^r
Stainless and heat-resisting	189,000 ^r	65,400	--	W	6,510	261,000 ^r
Full alloy	241,000 ^r	308,000 ^r	--	--	1,510	551,000 ^r
Tool	63,800	W	--	--	--	63,800
Total	574,000 ^r	383,000 ^r	--	W	19,400	976,000 ^r
Cast irons (gray, malleable, and ductile iron)	W	20,700 ^r	--	--	763	21,500 ^r
Superalloys	83,400	W	--	W	76,900 ^r	160,000 ^r
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	121	6,750	--	--	--	6,870
Mill products made from metal powde ³	--	--	--	--	202,000 ^r	202,000 ^r
Cemented carbides and related product ⁴	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	584	584
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	2,000	29,400 ^r	72,900 ^r	86,400	16,800 ^r	207,000 ^r
Grand total	736,000 ^r	439,000 ^r	72,900 ^r	86,400	327,000 ^r	1,660,000 ^r
Stocks, November 30, 2007	542,000 ^r	297,000 ^r	4,020 ^r	16,200	858,000 ^r	1,720,000 ^r
2007, December:						
Steel:						
Carbon	30,200	W	--	--	W	30,200
High-strength low-alloy	61,800	8,750	--	--	11,300	81,900
Stainless and heat-resisting	170,000	63,800	--	W	6,510	240,000
Full alloy	232,000	300,000	--	--	1,510	533,000
Tool	37,400	W	--	--	--	37,400
Total	532,000	372,000	--	W	19,400	923,000
Cast irons (gray, malleable, and ductile iron)	W	20,700	--	--	763	21,500
Superalloys	46,100	W	--	W	76,900	123,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	10	2,880	--	--	--	2,890
Mill products made from metal powde ³	--	--	--	--	193,000	193,000
Cemented carbides and related product ⁴	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	519	519
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	11,400	11,400
Other	1,090	28,700	72,800	43,200	16,800	163,000
Grand total	656,000	425,000	72,800	43,200	318,000	1,520,000
Stocks, December 31, 2007	556,000	294,000	4,100	23,100	859,000	1,740,000

¹Revised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zero.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Includes calcium molybdate.

⁴Includes ingot, wire, rod, and sheet.

⁵Includes construction, mining, oil and gas, metalworking machinery.

TABLE 4
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2006		2007		
	January-December	January-November	October	November	January-November*
Australia	88,800	88,800	--	--	800
Belgium	7,490,000	7,400,000 ^f	464,000	335,000	5,780,000
Brazil	113,000	113,000	9,970	--	110,000
Canada	2,680,000	2,480,000 ^f	204,000	236,000	2,430,000
Chile	259,000	179,000 ^f	--	--	1,270,000
China	405,000	405,000	--	--	71,400
Finland	--	--	--	38,000	38,000
India	82,800	58,800 ^f	--	1,670	119,000
Italy	--	--	--	19,000	19,000
Japan	2,260,000	2,100,000 ^f	252,000	236,000	2,090,000
Korea, Republic of	45,000	45,000	38,000	85,000	180,000
Mexico	6,070,000	5,780,000 ^f	273,000	407,000	4,420,000
Netherlands	10,300,000	9,170,000 ^f	1,080,000	554,000	8,840,000
Pakistan	--	--	--	--	75,600
Sweden	20,000	--	--	--	--
Switzerland	25,200	25,200	--	--	1,630
Taiwan	53,400	29,600 ^f	--	--	17,900
Thailand	9,740	9,740	--	--	9,620
United Kingdom	7,280,000	6,600,000 ^f	620,000	523,000	5,460,000
Vietnam	14,100	14,100	--	--	4,130
Other	9,420	7,240	204	868	50,100
Total	37,200,000	34,500,000 ^f	2,940,000	2,440,000	31,000,000

^fRevised. -- Zero.

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

*Correction posted March 20, 2009.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2006		2007		
	January-December	January-November	October	November	January-November
Argentina	14,500	14,500	--	--	--
Australia	24,500	24,100 ^f	--	--	25,000
Brazil	37,700	37,700	--	--	--
Canada	1,760,000	1,740,000 ^f	47,900	52,100	710,000
Denmark	57	57	--	--	394
India	667	367 ^f	--	132	1,090
Japan	60	60	--	--	--
Mexico	143,000	142,000 ^f	--	3,230	23,700
Netherlands	14,000	14,000	--	--	145,000
Philippines	--	--	735	--	735
Saudi Arabia	--	--	--	55,900	149,000
Singapore	1,630	1,630	--	--	--
South Africa	--	--	--	--	13,500
Switzerland	12,000	12,000	--	--	--
United Kingdom	--	--	--	--	24,900
Total	2,010,000	1,990,000 ^f	48,600	111,000	1,090,000

^fRevised. -- Zero.

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

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS¹

(Kilograms, unless otherwise specified)

Material	January-December 2006			November 2007			January-November 2007		
	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates roasted	9,570,000	5,900,000	\$167,000	653,000	405,000	\$18,200	7,980,000	5,000,000	\$170,000
Ore and concentrates other	10,900,000	5,000,000	227,000	1,100,000	434,000	22,100	14,000,000	6,550,000	350,000
Molybdenum chemicals:									
Oxides and hydroxides	629,000	NA	24,300	NA	NA	NA	188,000	NA	6,850
Molybdates of ammonium	1,430,000	844,000	34,100	78,000	43,200	3,210	795,000	448,000	26,100
Molybdates (all others)	241,000	72,700	2,810	2,180	642	30	151,000	50,300	1,880
Molybdenum orange	822,000	NA	5,110	29,500	NA	246	546,000	NA	3,590
Ferromolybdenum	4,810,000	3,060,000	165,000	657,000	432,000	29,400	6,020,000	3,880,000	255,000
Molybdenum powders	367,000	270,000	17,600	7,090	6,030	465	65,500	54,600	4,520
Molybdenum unwrought	191,000	191,000	10,800	10	10	6	106,000	105,000	6,680
Molybdenum waste and scrap	452,000	445,000	27,800	24,400	24,100	999	459,000	441,000	27,200
Molybdenum wire	18,600	NA	2,550	607	NA	143	16,100	NA	2,450
Molybdenum other	130,000	NA	17,000	14,200	NA	1,970	139,000	NA	18,000
Total	29,600,000	15,800,000	701,000	2,570,000	1,340,000	76,800	30,400,000	16,500,000	871,000

NA Not available.

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

²Customs value.

Source: U.S. Census Bureau.