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Mineral Industry Surveys

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MOLYBDENUM IN MARCH 2005

Domestic production of molybdenum in concentrate in March 2005 was about 4% more than that of the previous month and was about 49% more than that of March 2004, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 5,930 metric tons (t) at the beginning of 2005 and 5,390 t at the end of March.

According to Ryan's Notes (2005b), the March monthly average prices for U.S. ferromolybdenum (FeMo) ranged from $36.000 to $37.222 per pound of molybdenum content, compared with $33.250 to $34.500 in February. European FeMo monthly averages ranged from $78.222 to $80.889 per kilogram (kg) of molybdenum content in March as compared with $67.438 to $70.125 in February. In March, worldwide molybdenum oxide prices ranged from $33.444 to $34.278 per pound versus $28.125 to $29.063 in February.

Higher molybdenum oxide prices dominated the molybdenum markets in both the United States and Europe in March, with prices up about 20% as compared with those of February. For the first time in over a year, molybdenum oxide prices were at a premium to FeMo prices. U.S. FeMo prices did not follow European FeMo prices higher, as most domestic producers were able to supply their accounts, and there was little spot buying. Some mills in the European stainless steel sector delayed FeMo deliveries as downstream users opted for lower molybdenum-bearing steels, and resisted the idea of a surcharge based on molybdenum prices. European steel maker Arcelor reportedly reduced its 316 stainless steel output significantly in response to this trend (Ryan's Notes, 2005a).

Molybdenum mines in the Huludao region of northeastern China remained closed on government orders, and renewed safety checks in the wake of fatal coal mine accidents in February reportedly could keep operations shuttered until May. The closures reduced the amount of FeMo available, and caused price increases. Even with higher prices, there was little FeMo to export owing to reduced raw material supply. Mines in the Huludao region accounted for one quarter of China's molybdenum concentrate, and about one half of the country's FeMo exports. The government gave no set timeframe for re-opening the mines (Metal Bulletin, 2005).

Chile's major copper producers, led by state-owned Corporación Nacional del Cobre (Codelco), produced 41,833 t of molybdenum in 2004, up 20% from that of 2003. Santiago-based Molibdenos y Metales S.A. (Molymet) planned to invest $106 million by 2007 to increase roasting capacity by 50% at its plants in Chile and Belgium. However, molybdenum production at Antofagasta's Los Pelambres Mine decreased in 2004 owing to lower ore grades and reduced recoveries. Molybdenum output was 7,900 t in 2004, down from 8,700 t in 2003, and was forecast to decline further to about 7,200 t in 2005 (Platts Metals Week, 2005).

Included in this Mineral Industry Surveys are U.S. production and shipments of molybdenum concentrates and materials, U.S. consumption by end use, stocks of molybdenum material in February and March 2005, and trade data for January and February 2005.

References Cited

Metal Bulletin, 2005, China's moly mines could remain closed until May: Metal Bulletin, no. 8883, March 7, p. 14.
Platts Metals Week, 2005, Chile's February moly exports surge: Platts Metals Week, v. 76, no. 12, March 21, p. 5.
Ryan's Notes, 2005a, Moly oxide prices turn upward: Ryan's Notes, v. 11, no. 10, March 7, p. 4.
Ryan's Notes, 2005b, [untitled]: Ryan's Notes, v. 11, no. 14, April 4, p. 10.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS[1]

(Metric tons, contained molybdenum)

	2004		2005		
	January-December[p]	January-March	February	March	January-March
Production	42,100	9,030	4,540 [r]	4,720	13,400
Shipments:[2]					
Domestic	31,100	6,960	2,720 [r]	3,060	8,670
Export	11,100	2,550	1,510	1,790	4,630

[p]Preliminary. [r]Revised.
[1]Data are rounded to no more than three significant digits.
[2]As reported by producers.

TABLE 2
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM PRODUCTS[1]

(Metric tons, contained molybdenum)

	2004		2005		
	January-December[r, p]	January-March	February[r]	March	January-March
Gross production	66,300	15,900	6,220	6,480	19,700
Internal consumption[2]	42,000	9,910	4,040	4,120	12,400
Gross shipments	39,300	8,910	4,050	4,250	12,300

[p]Preliminary. [r]Revised.
[1]Data are rounded to no more than three significant digits.
[2]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[1]

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molyb-denum[2]	Ammonium and sodium molybdate	Molyb-denum scrap	Other	Total
2005, February:						
Steel:						
Carbon	34,400	W	--	--	W	34,400
High-strength low-alloy	25,700	22,500	--	--	11,300	59,500
Stainless and heat-resisting	165,000 r	70,600 r	--	W	6,510 r	242,000 r
Full alloy	191,000	200,000	--	--	1,510	392,000
Tool	47,500	W	--	--	--	47,500
Total	463,000 r	293,000 r	--	W	19,400 r	776,000 r
Cast irons (gray, malleable, and ductile iron)	W	7,980 r	--	--	763	8,740 r
Superalloys	65,000	W	--	(3)	110,000 r	175,000 r
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	204	2,250	--	--	11 r	2,470 r
Mill products made from metal powder [4]	--	--	--	--	123,000	123,000
Cemented carbides and related products[5]	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	1,040	1,040
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	11,300	11,300
Other	1,090	37,500 r	75,000	1,840 r	16,800	132,000 r
Grand total	607,000 r	341,000 r	75,000	1,840 r	283,000 r	1,310,000 r
Stocks, February 28, 2005	418,000	263,000 r	4,140	37,500	864,000 r	1,590,000 r
2005, March:						
Steel:						
Carbon	16,500	W	--	--	W	16,500
High-strength low-alloy	28,000	22,300	--	--	11,300	61,700
Stainless and heat-resisting	179,000	69,000	--	W	6,510	254,000
Full alloy	201,000	203,000	--	--	1,510	406,000
Tool	60,400	W	--	--	--	60,400
Total	485,000	295,000	--	W	19,400	799,000
Cast irons (gray, malleable, and ductile iron)	W	9,000	--	--	763	9,760
Superalloys	41,700	W	--	(3)	129,000	170,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	73	2,190	--	--	11	2,270
Mill products made from metal powder [4]	--	--	--	--	123,000	123,000
Cemented carbides and related products[5]	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	--	--
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,600	10,600
Other	1,090	31,200	73,500	1,840	16,800	124,000
Grand total	605,000	337,000	73,500	1,840	299,000	1,320,000
Stocks, March 31, 2005	403,000	266,000	3,420	24,700	851,000	1,550,000

[r]Revised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes calcium molybdate.
[3]Included in "Other" of the "Superalloys" category.
[4]Includes ingot, wire, rod, and sheet.
[5]Includes construction, mining, oil and gas, metalworking machinery.

TABLE 4
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY[1]

(Kilograms, contained molybdenum)

	2004		2005		
Country	January-December	January-February	January	February	January-February
Australia	30,500	3,540	36,900	45,200	82,200
Austria	1,310,000	56,700	--	2,590	2,590
Belgium	6,470,000	675,000	37,400	63,100	101,000
Brazil	31,000	1,930	1,410	2,670	4,070
Canada	1,370,000	50,200	232,000	178,000	409,000
Chile	1,380,000	734,000	1,200	109,000	110,000
China	36,000	--	57,100	--	57,100
Costa Rica	26,700	12,000	1,230	--	1,230
India	430	--	--	1,480	1,480
Italy	--	--	35,100	--	35,100
Japan	5,730,000	124,000	96,000	185,000	281,000
Korea, Republic of	95,200	11,900	1,300	2,730	4,030
Mexico	3,910,000	179,000	587,000	126,000	713,000
Netherlands	14,100,000	558,000	1,080,000	991,000	2,070,000
Sweden	38,200	--	--	--	--
Taiwan	19,200	8,370	--	2,820	2,820
United Kingdom	8,910,000	1,290,000	1,140,000	839,000	1,980,000
Other	2,770,000	37,500	1,710	6,310	8,020
Total	46,200,000	3,750,000	3,300,000	2,550,000	5,860,000

-- Zero.

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

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY[1]

(Kilograms, contained molybdenum)

	2004		2005		
Country	January-December	January-February	January	February	January-February
Australia	1,090	545	--	--	--
Canada	870,000	114,000	204,000	129,000	332,000
France	10,100	--	--	--	--
Indonesia	381	--	163	--	163
Mexico	33,700	10,300	--	4,130	4,130
Netherlands	--	--	33,300	--	33,300
Sweden	9,150	--	--	--	--
United Kingdom	491	--	--	--	--
Total	925,000	125,000	237,000	133,000	370,000

-- Zero.

[1]Data 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 PRODUCTS[1]

(Kilograms, unless otherwise specified)

	January-December 2004			February 2005			January-February 2005		
Material	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	7,580,000	4,710,000	$133,000	723,000	451,000	$29,600	1,660,000	1,040,000	$70,500
Ore and concentrates other	9,330,000	4,070,000	135,000	1,710,000	605,000	56,600	3,280,000	1,310,000	98,600
Molybdenum chemicals:									
Oxides and hydroxides	822,000	NA	15,800	52,100	NA	2,360	324,000	NA	5,920
Molydates of ammonium	1,940,000	1,330,000	18,400	20,000	11,200	260	435,000	264,000	4,050
Molydates (all others)	254,000	116,000	1,430	42,700	9,970	726	48,500	11,400	767
Molybdenum orange	1,030,000	NA	4,760	68,500	NA	389	134,000	NA	762
Ferromolybdenum	8,310,000	5,310,000	158,000	520,000	328,000	22,600	1,680,000	1,060,000	68,200
Molybdenum powders	139,000	95,200	4,930	6,730	5,950	571	9,790	8,030	780
Molybdenum unwrought	151,000	151,000	3,520	5,700	6,240	426	6,540	7,090	480
Molybdenum waste and scrap	454,000	415,000	10,200	39,200	39,000	3,120	121,000	120,000	8,490
Molybdenum wire	20,500	NA	2,010	3,680	NA	461	5,220	NA	695
Molybdenum other	132,000	NA	13,700	16,500	NA	1,940	39,700	NA	4,110
Total	30,200,000	16,200,000	501,000	3,200,000	1,460,000	119,000	7,740,000	3,820,000	263,000

NA Not available.

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

[2]Customs value.

Source: U.S. Census Bureau.