

Mineral Industry Surveys

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MOLYBDENUM IN NOVEMBER 2006

Domestic production of molybdenum in concentrate in November 2006 was about 6% less than the revised output of the previous month and about 3% less than that of November 2005, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 7,390 metric tons (t) at the beginning of 2006 and about 5,730 t at the end of November.

According to Ryan's Notes (2006b), the November monthly average price range for U.S. ferromolybdenum (FeMo) was from \$27.500 to \$28.000 per pound of molybdenum content, compared with \$27.561 to \$28.056 in October. European FeMo monthly averages ranged from \$61.429 to \$62.357 per kilogram (kg) of molybdenum content in November compared with \$59.250 to \$60.333 per kg in October. In November, worldwide molybdenum oxide (MoO₃) prices ranged from \$25.300 to \$25.757 per pound versus \$25.522 to \$25.989 per pound in October.

According to Chinese Government statistics, molybdenum concentrate production by state-authorized mines rose more than 40% to 67,098 t through September as compared with that of the same period in 2005. The gradual restart of the closed mines in the Huludao region increased the output in Liaoning Province

by 33% to 3,750 t. Production from Shaanxi Province fell 2% to 22,661 t while production in Henan Province rose by 122% to 29,137 t. Domestic prices for Chinese FeMo began to decrease after the imposition of the 10% export duty on November 1. What long-term effect the export duty would have on Chinese molybdenum exports was unknown; however, if Chinese domestic prices fall more than 10% below world prices, reportedly it would be profitable to export and pay the duty (Ryan's Notes, 2006a).

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 October and November 2006. Export data for September and October 2006 and import data for October 2006 are also included.

References Cited

- Ryan's Notes, 2006a, Ferroalloy notes: Ryan's Notes, v. 12, no. 45, November 13, p. 5.
Ryan's Notes, 2006b, [untitled]: Ryan's Notes, v. 12, no. 48, December 4, p. 10.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2005		2006		
	January- December ^p	January- November	October	November	January- November
Production	57,900	53,100	5,060 ^r	4,760	55,700
Shipments: ²					
Domestic	38,200	35,100	3,220	3,060	36,500
Export	19,400	17,300	1,840 ^r	1,810	19,600

^pPreliminary. ^rRevised.

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

²As reported by producers.

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

(Metric tons, contained molybdenum)

	2005		2006		
	January- December ^p	January- November	October	November	January- November
Gross production	78,500	72,200	5,600 ^r	6,350	71,800
Internal consumption ²	48,700	45,500	3,990	3,240	43,800
Gross shipments	46,700	43,200	4,260	5,030	46,700

^pPreliminary. ^rRevised.

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

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
2006, October:						
Steel:						
Carbon	11,600	W	--	--	W	11,600
High-strength low-alloy	46,400	7,930	--	--	11,300	65,700
Stainless and heat-resisting	164,000	64,900	--	W	6,510	236,000
Full alloy	150,000	244,000	--	--	1,510	396,000 ^r
Tool	52,500	W	--	--	--	52,500
Total	425,000	317,000 ^r	--	W	19,400	761,000
Cast irons (gray, malleable, and ductile iron)	W	7,960	--	--	763	8,720
Superalloys	84,400	W	--	(3)	156,000	240,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	73	3,930	--	--	--	4,010
Mill products made from metal powder ⁴	--	--	--	--	202,000 ^r	202,000 ^r
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	809	809
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	11,100	11,100
Other	1,090	30,900	73,000	1,840	16,800	124,000
Grand total	588,000	359,000	73,000	1,840	407,000 ^r	1,430,000 ^r
Stocks, October 31, 2006	480,000	184,000 ^r	3,070	15,500	855,000	1,540,000 ^r
2006, November:						
Steel:						
Carbon	12,200	W	--	--	W	12,200
High-strength low-alloy	47,000	12,300	--	--	11,300	70,600
Stainless and heat-resisting	157,000	63,000	--	W	6,510	227,000
Full alloy	155,000	244,000	--	--	1,510	400,000
Tool	57,300	W	--	--	--	57,300
Total	428,000	319,000	--	W	19,400	767,000
Cast irons (gray, malleable, and ductile iron)	W	7,470	--	--	763	8,230
Superalloys	71,800	W	--	(3)	146,000	218,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	148	6,490	--	--	--	6,640
Mill products made from metal powder ⁴	--	--	--	--	194,000	194,000
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	1,000	1,000
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	11,000	11,000
Other	1,090	44,900	73,000	1,840	16,800	138,000
Grand total	579,000	378,000	73,000	1,840	389,000	1,420,000
Stocks, November 30, 2006	502,000	191,000	3,070	10,900	857,000	1,560,000

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

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

²Includes calcium molybdate.

³Included in "Other" of the "Superalloys" category.

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	2005		2006		
	January- December	January- October	September	October	January- October
Australia	110,000	110,000	--	81,500	88,800
Austria	3,230	3,230	--	--	--
Belgium	9,430,000	7,490,000	651,000	568,000	6,580,000
Brazil	66,700	66,700	300	37,900	94,300
Canada	3,840,000	3,350,000	203,000	192,000	2,280,000
Chile	177,000	111,000	--	20,000	160,000
China	4,390,000	4,280,000	--	--	398,000
Costa Rica	3,810	3,810	--	--	--
India	41,100	39,600	33,200	11,700	58,800
Italy	35,100	35,100	--	--	--
Japan	2,050,000	1,750,000	162,000	133,000	1,880,000
Korea, Republic of	11,700	11,400	34,000	39	45,000
Mexico	3,130,000	2,250,000	615,000	686,000	5,300,000
Netherlands	15,000,000	13,900,000	694,000	828,000	8,290,000
Taiwan	3,600	3,600	--	29,000	29,600
United Kingdom	7,310,000	5,970,000	629,000	384,000	5,810,000
Other	767,000	754,000	3,270	--	56,000
Total	46,400,000	40,100,000	3,030,000	2,970,000	31,100,000

-- Zero.

¹Data 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 COUNTRY¹

(Kilograms, contained molybdenum)

Country	2005		2006		
	January- December	January- October	September	October	January- October
Argentina	--	--	--	--	14,500
Australia	--	--	--	--	24,100
Austria	11,400	11,400	--	--	--
Brazil	17,200	17,200	--	--	37,700
Canada	1,930,000	1,630,000	27,800	75,600	1,680,000
Denmark	--	--	--	--	57
India	--	--	--	--	367
Indonesia	5,930	5,930	--	--	--
Japan	--	--	--	--	60
Mexico	88,700	81,800	2,010	490	141,000
Netherlands	33,300	33,300	--	--	--
Singapore	--	--	--	--	1,630
Switzerland	--	--	--	--	12,000
Total	2,090,000	1,780,000	29,900	76,100	1,910,000

-- 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 2005			October 2006			January-October 2006		
	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	8,570,000	5,380,000	\$306,000	409,000	257,000	\$9,500	8,480,000	5,210,000	\$143,000
Ore and concentrates other	13,800,000	6,480,000	440,000	883,000	368,000	20,500	8,500,000	3,890,000	180,000
Molybdenum chemicals:									
Oxides and hydroxides	1,240,000	NA	42,500	85,800	NA	3,190	589,000	NA	22,700
Molybdates of ammonium	4,220,000	2,730,000	53,600	40,000	22,500	795	1,270,000	751,000	29,500
Molybdates (all others)	101,000	24,800	1,250	370	138	7	158,000	40,500	1,750
Molybdenum orange	983,000	NA	4,780	70,800	NA	375	716,000	NA	4,490
Ferromolybdenum	6,340,000	4,040,000	278,000	324,000	209,000	12,400	4,230,000	2,690,000	144,000
Molybdenum powders	92,900	78,500	7,740	14,300	14,000	1,050	321,000	225,000	14,400
Molybdenum unwrought	99,000	98,800	5,750	38	38	4	153,000	153,000	8,530
Molybdenum waste and scrap	503,000	480,000	35,600	14,500	13,700	713	385,000	379,000	23,900
Molybdenum wire	21,300	NA	3,160	2,130	NA	318	15,800	NA	2,150
Molybdenum other	163,000	NA	20,700	8,050	NA	1,210	115,000	NA	14,400
Total	36,200,000	19,300,000	1,200,000	1,850,000	885,000	50,000	24,900,000	13,300,000	589,000

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.