

# Mineral Industry Surveys

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# **MOLYBDENUM IN JULY 2007**

Domestic production of molybdenum (Mo) in concentrate in July 2007 was about 5% less than the output of the previous month and about 10% less than that of July 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 5,990 t at the end of July.

According to Ryan's Notes (2007b), the July monthly average price range for U.S. ferromolybdenum (FeMo) was from \$34.833 to \$35.833 per pound of molybdenum content, compared with \$36.000 to \$37.000 in June. European FeMo monthly averages ranged from \$72.444 to \$73.167 per kilogram (kg) of molybdenum content in July compared with \$75.000 to \$76.333 per kg in June. In July, worldwide molybdenum oxide (MoO<sub>3</sub>) prices ranged from \$31.633 to \$32.089 per pound versus \$32.267 to \$33.028 per pound in June.

In October 2006, the European Commission (EC) suspended the 22.5% antidumping duty on FeMo imports from China into the European Union (EU) for 9 months. Then the EC undertook

a 15-month sunset review of the antidumping duty, which was required to be completed by January 31, 2008. The EC proposed that the suspension, set to expire on July 24, 2007, be extended to coincide with the completion of the sunset review. The proposal was presented to the EC Antidumping Committee, and none of the member states objected. The EC expected the full Council will vote to accept the extension and publish the decision in the EU Official Journal by the end of July (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 June and July 2007. Export data for May and June 2007 and import data for June 2007 are also included.

## **References Cited**

Ryan's Notes, 2007a, Ferroalloy notes: Ryan's Notes, v. 13, no. 28, July 9, p. 3. Ryan's Notes, 2007b, [untitled]: Ryan's Notes, v. 13, no. 32, August 6, p. 10.

 $\label{eq:table 1} \textbf{TABLE 1} \\ \textbf{U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS}^{\textbf{I}}$ 

# (Metric tons, contained molybdenum)

	200	6 <sup>p</sup>				
	January- December	January-	Inno	Inly	January- July	
		July <sup>r</sup>	June	July		
Production	59,800	35,500	5,100 <sup>r</sup>	4,850	34,900	
Shipments: <sup>2</sup>						
Domestic	38,600	23,600	3,220	3,160	23,900	
Export	21,300	11,800	1,710	1,220	10,200	

<sup>&</sup>lt;sup>p</sup>Preliminary. <sup>r</sup>Revised.

TABLE 2 U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM  ${\sf PRODUCTS}^1$ 

(Metric tons, contained molybdenum)

	200	)6 <sup>p</sup>				
	January- January-				January-	
	December	July	June	July	July	
Gross production	78,000	46,500	3,700	3,860	37,800	
Internal consumption <sup>2</sup>	47,400	29,200	1,140	1,130	19,700	
Gross shipments	51,000	29,800	3,910	3,970	28,500	

Preliminary.

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

<sup>&</sup>lt;sup>2</sup>As reported by producers.

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

 $<sup>^2</sup>$ 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

(Kilograms, contained molybdenum)

	Molybdic	Ferro molyb-	Ammonium and sodium	Molyb- denum		
End use	oxides	denum <sup>2</sup>	molybdate	scrap	Other	Total
2007, June:	=					
Steel:	_					
Carbon	75,500	W			W	75,500
High-strength low-alloy	37,900	7,920			11,300	57,200
Stainless and heat-resisting	178,000	65,800		W	6,510	250,000
Full alloy	145,000	177,000			1,510	323,000
Tool	57,000	W				57,000
Total	493,000	250,000		W	19,400	763,000
Cast irons (gray, malleable, and ductile iron)	W	6,860			763	7,620
Superalloys	72,300	W		W	78,600	151,000
Alloys: (other than steels, cast irons, and superalloys)	_					
Welding materials (structural and hard-facing)		W			6	6
Other alloys		5,400				5,400
Mill products made from metal powder <sup>3</sup>					184,000	184,000
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					599	599
Miscellaneous and unspecified uses:	-					
Lubricants	- 				10,600	10,600
Other	1.090	32,300	75,100 <sup>r</sup>	47,400	21,400	177,000
Grand total	644,000	295,000	75,100 °	47,400	316,000	1,380,000
Stocks, June 30, 2007	574,000	302,000	4,350 <sup>r</sup>	46,300	850,000	1,780,000
2007, July:		,	,			, ,
Steel:	_					
Carbon	14,500	W			W	14,500
High-strength low-alloy	37,900	12,000			11,300	61,300
Stainless and heat-resisting	165,000	64,200		W	6,510	236,000
Full alloy	153,000	297,000			1,510	452,000
Tool	57,900	277,000 W				57,900
Total	429,000	374,000		W	19,400	822,000
Cast irons (gray, malleable, and ductile iron)	- 125,000 W	6,860			763	7,620
Superalloys	47,500	0,000 W		W	71,200	119,000
Alloys: (other than steels, cast irons, and superalloys)	_ 47,500	**		**	71,200	117,000
Welding materials (structural and hard-facing)	=	W			6	6
Other alloys		2,380				2,380
Mill products made from metal powder <sup>3</sup>		2,360			184,000	184,000
Cemented carbides and related products <sup>4</sup>					184,000 W	184,000 W
					W	w
Chemical and ceramic uses:	-		***			***
Pigments			W			W
Catalysts	77,300		W		W 470	77,300
Other chemicals	-				472	472
Miscellaneous and unspecified uses:	-					
Lubricants					10,600	10,600
Other	1,090	44,900	72,600	68,700	33,400	221,000
Grand total	555,000	428,000	72,600	68,700	320,000	1,440,000
Stocks, July 31, 2007	582,000	309,000	4,160	16,400	856,000	1,770,000

Revised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zerc Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Includes calcium molybdate.

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

<sup>&</sup>lt;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)

	20	006	2007				
	January-	January-		January-			
Country	December	June	May	June	June		
Australia	88,800	7,350	800		800		
Belgium	7,490,000	4,120,000	740,000	495,000	3,070,000		
Brazil	113,000	36,900			90,800		
Canada	2,680,000	1,570,000	188,000	181,000	1,570,000		
Chile	259,000	91,800		270,000	1,270,000		
China	405,000	398,000	23,600		71,400		
India	82,800	2,170	23,300	23,700	93,900		
Japan	2,260,000	1,180,000	120,000	94,700	782,000		
Korea, Republic of	45,000	11,000			24,700		
Mexico	6,070,000	2,770,000	541,000	510,000	2,610,000		
Netherlands	10,300,000	5,230,000	677,000	563,000	5,750,000		
Pakistan			36,800		75,600		
Sweden	20,000						
Switzerland	25,200	25,200	1,630		1,630		
Taiwan	53,400	608			413		
Thailand	9,740	122			9,620		
United Kingdom	7,280,000	3,890,000	376,000	406,000	2,600,000		
Vietnam	14,100	9,140			4,130		
Other	9,420	3,980 °	698	539	3,830		
Total	37,200,000	19,300,000	2,730,000	2,540,000	18,000,000		
[D : 1 7							

<sup>&</sup>lt;sup>r</sup>Revised. -- Zero.

Source: U.S. Census Bureau.

 $\label{eq:table 5} \text{U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY}^I$ 

(Kilograms, contained molybdenum)

	20	06				
	January-	January-			January-	
Country	December	June	May	June	June	
Argentina	14,500	14,500				
Australia	24,500	24,100	11,200		11,200	
Brazil	37,700	37,300				
Canada	1,760,000	1,440,000	47,700	120,000	430,000	
Denmark	57	57			394	
India	667	166		207	417	
Japan		60				
Mexico	143,000	134,000	8,560		19,100	
Netherlands	14,000		11,100		145,000	
Saudi Arabia			15,200		45,500	
Singapore	1,630	1,630				
South Africa	·		13,500		13,500	
Switzerland	12,000	12,000				
United Kingdom	·				24,900	
Total	2,010,000	1,660,000	107,000	120,000	689,000	
7.000						

<sup>--</sup> Zero.

Source: U.S. Census Bureau.

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

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 ${\bf TABLE~6} \\ {\bf U.S.~IMPORTS~FOR~CONSUMPTION~OF~MOLYBDENUM~PRODUCTS}^{l}$ 

(Kilograms, unless otherwise specified)

	January-December 2006			June 2007			January-June 2007		
	Gross	Contained	Value <sup>2</sup>	Gross	Contained	Value <sup>2</sup>	Gross	Contained	Value <sup>2</sup>
Material	weight	molybdenum	(thousands)	weight	molybdenum	(thousands)	weight	molybdenum	(thousands)
Ore and concentrates roasted	9,570,000	5,900,000	\$167,000	744,000	466,000	\$12,100	4,230,000	2,660,000	\$75,300
Ore and concentrates other	10,900,000	5,000,000	227,000	587,000	271,000	13,100	10,500,000	4,980,000	258,000
Molybdenum chemicals:									
Oxides and hydroxides	629,000	NA	24,300	26,100	NA	1,030	118,000	NA	4,410
Molybdates of ammonium	1,430,000	844,000	34,100	101,000	56,900	3,260	478,000	270,000	14,900
Molybdates (all others)	241,000	72,700	2,810	37,900	15,100	399	117,000	41,200	1,460
Molybdenum orange	822,000	NA	5,110	52,900	NA	290	313,000	NA	1,890
Ferromolybdenum	4,810,000	3,060,000	165,000	696,000	445,000	31,200	2,800,000	1,790,000	111,000
Molybdenum powders	367,000	270,000	17,600	75	75	3	32,000	30,800	2,410
Molybdenum unwrought	191,000	191,000	10,800	23,100	23,000	1,420	65,800	65,600	4,150
Molybdenum waste and scrap	452,000	445,000	27,800	64,900	60,300	3,760	283,000	270,000	16,500
Molybdenum wire	18,600	NA	2,550	1,460	NA	236	9,200	NA	1,380
Molybdenum other	130,000	NA	17,000	12,800	NA	2,130	72,200	NA	8,700
Total	29,600,000	15,800,000	701,000	2,350,000	1,340,000	69,000	19,000,000	10,100,000	500,000

NA Not available.

Source: U.S. Census Bureau.

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

<sup>&</sup>lt;sup>2</sup>Customs value.