

Mineral Industry Surveys

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MOLYBDENUM IN DECEMBER 2020

Domestic production of molybdenum in concentrate in December 2020 was 4% more than the output of the previous month and 15% more than that of December 2019. Total production in 2020 was 17% more than production in 2019 (fig. 1, table 1).

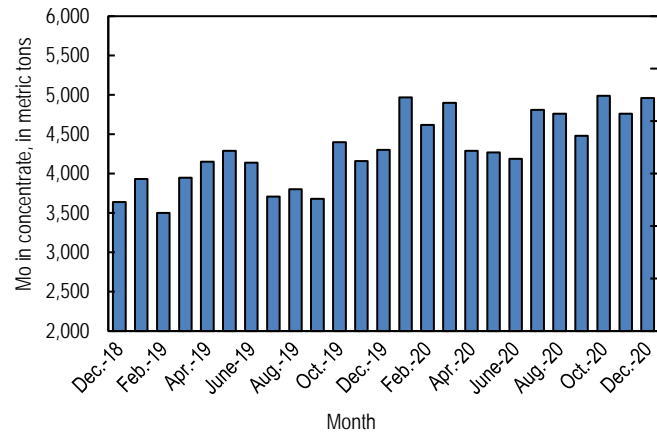


Figure 1. Monthly domestic production of molybdenum (Mo) in concentrate from December 2018 through December 2020 (may include revisions to previously published data).

According to CRU Group (2021), the December 2020 monthly average price range for U.S. ferromolybdenum (FeMo) was \$10.600 to \$10.800 per pound of molybdenum content, compared with \$10.325 to \$10.525 per pound in November 2020. FeMo monthly averages in Europe ranged from \$22.970 to \$23.330 per kilogram (\$10.419 to \$10.582 per pound) of molybdenum content in December 2020 compared with \$22.725 to \$23.050 per kilogram (\$10.308 to \$10.455 per pound) in

November 2020. U.S. molybdic oxide (MoO₃) prices ranged from \$9.020 to \$9.300 per pound of molybdenum content in December 2020 compared with \$8.719 to \$8.988 per pound in November 2020 (fig. 2).

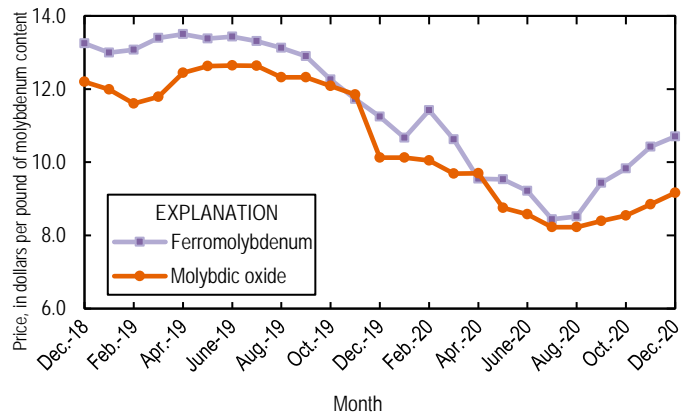


Figure 2. Average monthly prices for U.S. ferromolybdenum and molybdic oxide from December 2018 through December 2020. Source: CRU Group.

Reference Cited

CRU Group, 2021, Molybdenum prices: London, United Kingdom, CRU Group, January 4. (Accessed January 27, 2021, via <http://www.crugroup.com/>.)

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TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE
STATISTICS^{1,2}

(Metric tons, contained molybdenum)

Period	Production	Shipments ^{3,4}
2019:		
January	3,930 ^r	3,920 ^r
February	3,500 ^r	3,470 ^r
March	3,950 ^r	4,010 ^r
April	4,150 ^r	4,140 ^r
May	4,290 ^r	4,290 ^r
June	4,140 ^r	4,140 ^r
July	3,710 ^r	3,710 ^r
August	3,800 ^r	3,790 ^r
September	3,680 ^r	3,670 ^r
October	4,400 ^r	4,420 ^r
November	4,160 ^r	4,160 ^r
December	4,300 ^r	4,320 ^r
January–December	48,000 ^r	48,000 ^r
2020:		
January	4,970 ^r	4,940 ^r
February	4,620 ^r	4,650 ^r
March	4,900 ^r	4,900 ^r
April	4,290 ^r	4,320 ^r
May	4,270 ^r	4,280 ^r
June	4,190 ^r	4,190 ^r
July	4,810 ^r	4,810 ^r
August	4,760 ^r	4,740 ^r
September	4,480 ^r	4,520 ^r
October	4,990 ^r	4,970 ^r
November	4,760 ^r	4,780 ^r
December	4,960	4,970
January–December	56,000	56,100

^rRevised.

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

²Includes data from Freeport-McMoRan Inc., 2019–2020. Adjusted by USGS to reflect estimated monthly data.

³As reported by producers.

⁴Shipments include sales to domestic customers, sales for export, and transfers to other company plants.

TABLE 2
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS^{e, 1}

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molybdenum ²	Ammonium and sodium molybdate	Molybdenum scrap	Other ³	Total
2020:						
November:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	9,590	--	--	--	9,590
Stainless and heat-resisting	151,000	47,300	--	(3)	W	199,000
Full alloy	245,000	78,100	--	--	W	324,000
Tool	W	W	--	--	--	W
Total	397,000	135,000	--	(3)	--	532,000
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	--	--	(3)	63,000	63,000
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	178	W	--	--	--	178
Mill products made from metal powder ⁴	--	--	--	--	W	W
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	(3)
Catalysts	W	--	(3)	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	9,600	9,600
Other	189,000	50,800	407	(3)	327,000	568,000
Grand total	586,000	186,000	407	(3)	400,000	1,170,000
Stocks, November 30, 2020	493,000	762,000	3,000	(6)	(6)	2,100,000
December:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	9,000	--	--	--	9,000
Stainless and heat-resisting	149,000	47,000	--	(3)	W	196,000
Full alloy	246,000	78,000	--	--	W	324,000
Tool	W	W	--	--	--	W
Total	395,000	134,000	--	(3)	--	529,000
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	--	--	(3)	64,000	64,000
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	200	W	--	--	--	200
Mill products made from metal powder ⁴	--	--	--	--	W	W
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	(3)
Catalysts	W	--	(3)	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,000	10,000
Other	190,000	51,000	400	(3)	329,000	570,000
Grand total	585,000	185,000	400	(3)	403,000	1,170,000
Stocks, December 31, 2020	493,000	762,000	3,000	(6)	(6)	2,100,000

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

¹Data are rounded to no more than three significant digits; may not add to totals shown. Includes U.S. Geological Survey estimates.

²Includes calcium molybdate.

³Withheld to avoid disclosing company proprietary data; included in "Other, Miscellaneous and unspecified uses: Other" category.

⁴Includes ingot, wire, rod, and sheet.

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

⁶Withheld to avoid disclosing company proprietary data; included in "Total."

TABLE 3
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY OR LOCALITY¹

(Kilograms, contained molybdenum)

Country or locality	2019		2020		
	January– December	December	November	December	January– December
Belgium	6,630,000	552,000 [†]	239,000	962,000	9,540,000
Brazil	15,900	--	3,060	--	25,600
Cambodia	--	--	--	--	1,440
Canada	1,110,000	144,000	147,000	29,500	1,130,000
Chile	218,000	--	528,000	706,000	2,080,000
China	529,000	31,700	539,000	641,000	3,520,000
Colombia	339	--	--	--	--
Estonia	--	--	--	--	305,000
Germany	1,090	--	--	--	285
India	205,000	21,800	137,000	125,000	915,000
Japan	3,970,000	288,000	256,000	46,400	3,030,000
Korea, Republic of	3,030,000	438,000	539,000	433,000	4,880,000
Mexico	3,050,000	406,000	352,000	400,000	4,250,000
Netherlands	35,900,000	2,590,000	1,780,000	2,240,000	24,600,000
South Africa	--	--	300	--	300
Sri Lanka	1,630	--	--	--	--
Taiwan	23,300	--	--	--	--
Thailand	1,380,000	28,900	--	--	714,000
Turkey	--	--	415	--	1,400
United Kingdom	7,550,000	757,000	290,000	144,000	5,100,000
Vietnam	434,000	21,000	35,000	42,100	381,000
Total	64,100,000	5,280,000 [†]	4,840,000	5,770,000	60,400,000

[†]Revised. -- Zero.

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

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY OR LOCALITY¹

(Kilograms, contained molybdenum)

Country or locality	2019		2020		
	January– December	December	November	December	January– December
Australia	1,610	--	--	--	1,070
Canada	243,000	28,400	28,500	31,300	381,000
China	1,210	--	--	--	--
Denmark	903	--	--	--	948
Mexico	306,000	2,000	20,000	--	170,000
United Kingdom	420	--	--	--	--
Total	552,000	30,400	48,500	31,300	554,000

-- 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. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS¹

(Kilograms, unless otherwise specified)

Material	January–December 2019			2020					
	Gross weight	Contained molybdenum	Value ² (thousands)	December			January–December		
				Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates, roasted	6,490,000	4,050,000	\$89,800	527,000	330,000	\$6,090	7,310,000	4,490,000	\$81,900
Ore and concentrates, other	34,400,000	16,500,000	440,000	1,760,000	874,000	15,100	22,300,000	10,600,000	210,000
Molybdenum chemicals:									
Oxides and hydroxides	4,290,000	NA	89,300	197,000	NA	3,230	3,450,000	NA	54,100
Molybdates of ammonium	1,400,000	789,000	24,200	145,000	81,500	1,950	947,000	533,000	12,900
Molybdates (all others)	216,000	85,600	2,880	5,100	2,020	83	109,000	44,500	1,120
Molybdenum orange	234,000	NA	1,350	9,260	NA	87	138,000	NA	1,270
Ferromolybdenum	10,400,000	6,990,000	196,000	370,000	248,000	5,320	6,820,000	4,630,000	99,400
Molybdenum powders	238,000	221,000	8,520	1,260	1,230	90	201,000	184,000	6,830
Molybdenum unwrought	595,000	593,000	19,300	5,910	5,890	149	415,000	413,000	11,900
Molybdenum waste and scrap	1,900,000	1,750,000	59,700	48,900	47,700	968	1,130,000	1,100,000	31,000
Molybdenum wire	18,400	NA	2,150	1,250	NA	75	16,500	NA	1,620
Molybdenum other	193,000	NA	18,300	9,850	NA	918	174,000	NA	14,900
Total	60,300,000	XX	951,000	3,090,000	XX	34,100	43,000,000	XX	527,000

NA Not available. XX Not applicable.

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

²Customs value.

Source: U.S. Census Bureau.