

Mineral Industry Surveys

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MOLYBDENUM IN DECEMBER 2010

Domestic production of molybdenum (Mo) in concentrate in December 2010 was 8% more than that of the previous month and about 58% more than December 2009 production, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 6,070 metric tons (t) at the beginning of 2010 and about 8,500 t at the end of December 2010.

According to Ryan's Notes, the December monthly average price range for U.S. ferromolybdenum (FeMo) was \$18.193 to \$18.529 per pound of molybdenum content, compared with \$17.863 to \$18.250 in November. European FeMo monthly averages ranged from \$40.757 to \$41.221 per kilogram (kg) of molybdenum content in December compared with \$40.500 to \$40.963 per kg in November. In December, worldwide molybdenum oxide (MoO₃) prices ranged from \$16.071 to \$16.271 per pound compared with \$15.944 to \$16.150 per pound in November.

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 2010. Export data for October and November 2010 and import data for November 2010 are also included.

China's imports of molybdenum concentrates and MoO₃ declined dramatically in the first 10 months of 2010, according to official customs figures. China imported 20,664 t of MoO₃ in the January-October period, almost one-half the amount imported during the same months of 2009 (41,976 t MoO₃). According to industry sources, the decline in imports was because of higher prices for molybdenum material overseas and sufficient domestic supply from increased Chinese molybdenum production (Metal-Pages, 2010).

Reference Cited

Metal-Pages, 2010, China molybdenum imports down dramatically this year: Metal-Pages, December 6. (Accessed March 25, 2011, via <http://www.metal-pages.com/>.)

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

| | 2009 | | 2010 | |
|-------------------------|-----------------------------------|--------------------|----------|-----------------------------------|
| | January- December ^p | November | December | January- December ² |
| Production | 47,700 | 5,410 ^r | 5,850 | 59,600 |
| Shipments: ³ | | | | |
| Domestic | 12,200 | 1,250 ^r | 1,350 | 14,000 |
| Export | 12,800 | W | W | W |

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data.

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

²May include revisions to prior month(s).

³As reported by producers.

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

(Metric tons, contained molybdenum)

| | 2009 | | 2010 | |
|-----------------------------------|-----------------------------------|--------------------|----------|-----------------------------------|
| | January- December ^p | November | December | January- December ² |
| Gross production | 59,900 | 6,680 ^r | 7,050 | 72,600 |
| Internal consumption ³ | 26,200 | W | W | W |
| Gross shipments | 43,300 | 4,430 ^r | 4,870 | 51,600 |

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data.

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

²May include revisions for prior month(s).

³Includes 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 | Molybdic oxides | Ferro molyb- denum ² | Ammonium and sodium molybdate | Molyb- denum scrap | Other | Total |
|--|--------------------|---------------------------------------|-------------------------------------|--------------------------|---------|-----------|
| 2010: | | | | | | |
| November: | | | | | | |
| Steel: | | | | | | |
| Carbon | 33,200 | W | -- | -- | W | 33,200 |
| High-strength low-alloy | W | 7,320 | -- | -- | -- | 7,320 |
| Stainless and heat-resisting | 168,000 | 62,900 | -- | W | 6,510 | 238,000 |
| Full alloy | 252,000 | 301,000 | -- | -- | W | 553,000 |
| Tool | W | W | -- | -- | -- | W |
| Total | 454,000 | 371,000 | -- | W | 6,510 | 832,000 |
| Cast irons (gray, malleable, and ductile iron) | W | W | -- | -- | W | W |
| Superalloys | 22,200 | W | -- | W | 70,900 | 93,100 |
| Alloys: (other than steels, cast irons, and superalloys) | | | | | | |
| Welding materials (structural and hard-facing) | -- | W | -- | -- | W | W |
| Other alloys | 80 | W | -- | -- | -- | 80 |
| Mill products made from metal powder ³ | -- | -- | -- | -- | W | W |
| Cemented carbides and related products ⁴ | -- | -- | -- | -- | 6 | 6 |
| Chemical and ceramic uses: | | | | | | |
| Pigments | -- | -- | W | -- | -- | W |
| Catalysts | 77,300 | -- | W | -- | W | 77,300 |
| Other chemicals | -- | -- | -- | -- | W | W |
| Miscellaneous and unspecified uses: | | | | | | |
| Lubricants | -- | -- | -- | -- | 10,800 | 10,800 |
| Other | 110,000 | 50,600 | 72,600 | 55,700 | 208,000 | 496,000 |
| Grand total | 663,000 | 422,000 | 72,600 | 55,700 | 296,000 | 1,510,000 |
| Stocks, November 30, 2010 | 308,000 | 296,000 | 2,090 | (5) | (5) | 1,490,000 |
| December: | | | | | | |
| Steel: | | | | | | |
| Carbon | 33,200 | W | -- | -- | W | 33,200 |
| High-strength low-alloy | 54,800 | 7,320 | -- | -- | -- | 62,100 |
| Stainless and heat-resisting | 158,000 | 62,100 | -- | W | 6,510 | 227,000 |
| Full alloy | 248,000 | 298,000 | -- | -- | W | 546,000 |
| Tool | W | W | -- | -- | -- | W |
| Total | 494,000 | 367,000 | -- | W | 6,510 | 868,000 |
| Cast irons (gray, malleable, and ductile iron) | W | W | -- | -- | W | W |
| Superalloys | 29,200 | W | -- | W | 77,600 | 107,000 |
| Alloys: (other than steels, cast irons, and superalloys) | | | | | | |
| Welding materials (structural and hard-facing) | -- | W | -- | -- | W | W |
| Other alloys | 115 | W | -- | -- | -- | 115 |
| Mill products made from metal powder ³ | -- | -- | -- | -- | W | W |
| Cemented carbides and related products ⁴ | -- | -- | -- | -- | 6 | 6 |
| Chemical and ceramic uses: | | | | | | |
| Pigments | -- | -- | W | -- | -- | W |
| Catalysts | 77,300 | -- | W | -- | W | 77,300 |
| Other chemicals | -- | -- | -- | -- | W | W |

See footnotes at end of table.

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

(Kilograms, contained molybdenum)

| End use | Molybdic oxides | Ferro molyb- denum ² | Ammonium and sodium molybdate | Molyb- denum scrap | Other | Total |
|-------------------------------------|--------------------|---------------------------------------|-------------------------------------|--------------------------|---------|-----------|
| 2010: | | | | | | |
| December—Continued: | | | | | | |
| Miscellaneous and unspecified uses: | | | | | | |
| Lubricants | -- | -- | -- | -- | 10,800 | 10,800 |
| Other | 66,600 | 53,300 | 72,600 | 25,000 | 209,000 | 427,000 |
| Grand total | 667,000 | 420,000 | 72,600 | 25,000 | 304,000 | 1,490,000 |
| Stocks, December 31, 2010 | 331,000 | 290,000 | 2,080 | (5) | (5) | 1,520,000 |

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.

³Includes ingot, wire, rod, and sheet.

⁴Includes construction, mining, oil and gas, metalworking machinery.

⁵Withheld to avoid disclosing company proprietary data; included in "Total."

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

(Kilograms, contained molybdenum)

| Country | 2009 | | | 2010 | | |
|----------------------|----------------------|-----------|----------------------|-----------|-----------|----------------------|
| | January- December | November | January- November | October | November | January- November |
| Argentina | -- | -- | -- | -- | 3,950 | 17,200 |
| Australia | 159 | -- | 159 | -- | -- | -- |
| Austria | -- | -- | -- | 35,000 | 124,000 | 272,000 |
| Belgium | 7,060,000 | 791,000 | 6,310,000 | 925,000 | 732,000 | 8,690,000 |
| Brazil | 49,100 | -- | 49,100 | 18,700 | 21,000 | 232,000 |
| Canada | 1,070,000 | 75,900 | 1,030,000 | 120,000 | 165,000 | 1,050,000 |
| Chile | 212,000 | -- | 212,000 | -- | -- | -- |
| China | 6,680,000 | 910,000 | 6,120,000 | 489,000 | 384,000 | 4,880,000 |
| France | -- | -- | -- | -- | -- | 4,410 |
| Germany | -- | -- | -- | -- | -- | 143,000 |
| Hong Kong | 38,900 | -- | -- | -- | -- | -- |
| India | 144,000 | -- | 139,000 | 45,300 | 138,000 | 784,000 |
| Italy | -- | -- | -- | 13,200 | -- | 13,200 |
| Japan | 912,000 | 75,700 | 802,000 | 433,000 | 308,000 | 2,370,000 |
| Kenya | 23,200 | -- | 23,200 | -- | -- | -- |
| Korea, Republic of | 884,000 | 107,000 | 839,000 | 82,300 | 44,100 | 750,000 |
| Luxembourg | -- | -- | -- | -- | 11,500 | 11,500 |
| Mexico | 2,870,000 | 388,000 | 2,510,000 | 388,000 | 513,000 | 4,530,000 |
| Netherlands | 6,510,000 | 229,000 | 5,930,000 | 742,000 | 675,000 | 7,750,000 |
| New Caledonia | -- | -- | -- | -- | -- | 1,050 |
| Panama | -- | -- | -- | -- | 2,360 | 2,360 |
| Poland | -- | -- | -- | -- | -- | 194 |
| Slovenia | -- | -- | -- | -- | -- | 24,600 |
| South Africa | 431,000 | -- | 431,000 | 17,700 | -- | 520,000 |
| Spain | -- | -- | -- | -- | -- | 24,600 |
| Sweden | 1,140 | -- | 1,140 | 151 | -- | 151 |
| Taiwan | 20,000 | -- | 20,000 | -- | 7,590 | 34,100 |
| Thailand | 9,620 | -- | 9,620 | -- | -- | 19,200 |
| United Arab Emirates | 5,910 | -- | 5,910 | -- | 12,000 | 129,000 |
| United Kingdom | 2,440,000 | 10,500 | 2,210,000 | 377,000 | 553,000 | 4,330,000 |
| Venezuela | 1,580 | -- | 1,580 | -- | -- | 940 |
| Vietnam | 229,000 | -- | 205,000 | 2,340 | 2,390 | 68,600 |
| Total | 29,600,000 | 2,590,000 | 26,900,000 | 3,690,000 | 3,700,000 | 36,700,000 |

-- 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 | 2009 | | | 2010 | | |
|----------------------|----------------------|----------|----------------------|---------|----------|----------------------|
| | January- December | November | January- November | October | November | January- November |
| Argentina | 13,200 | -- | 13,200 | -- | -- | 13,300 |
| Australia | -- | -- | -- | -- | -- | 628 |
| Belgium | 13,500 | -- | 13,500 | -- | -- | -- |
| Canada | 581,000 | 80,600 | 540,000 | 47,900 | 37,400 | 627,000 |
| China | 25,300 | -- | 25,300 | -- | -- | -- |
| Colombia | 1,280 | -- | 1,280 | -- | -- | 1,170 |
| Denmark | 200 | -- | 200 | 200 | -- | 372 |
| India | 65,300 | -- | 65,300 | 6,470 | 6,640 | 36,600 |
| Israel | 95 | -- | 95 | -- | -- | -- |
| Korea, Republic of | 26,800 | -- | 26,800 | -- | -- | 11,200 |
| Mexico | 55,200 | 525 | 52,900 | -- | 3,260 | 12,900 |
| Netherlands | 24,000 | -- | 24,000 | 37,100 | 26,000 | 156,000 |
| Peru | 3,180 | -- | 3,180 | -- | -- | -- |
| Philippines | 1,210 | -- | 1,210 | -- | -- | 939 |
| Singapore | -- | -- | -- | -- | 6,890 | 14,300 |
| Taiwan | 12,500 | -- | 12,500 | -- | -- | -- |
| Turkey | -- | -- | -- | -- | -- | 103 |
| United Arab Emirates | 3,260 | -- | 3,260 | -- | -- | -- |
| Total | 827,000 | 81,100 | 783,000 | 91,700 | 80,100 | 874,000 |

-- 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 PRODUCTS ¹

(Kilograms, unless otherwise specified)

| Material | January-December 2009 | | | November 2010 | | | January-November 2010 | | |
|------------------------------|-----------------------|----------------------|--------------------------------|---------------|----------------------|--------------------------------|-----------------------|----------------------|--------------------------------|
| | 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 | 7,780,000 | 4,800,000 | \$94,800 | 613,000 | 374,000 | \$5,650 | 9,560,000 | 5,880,000 | \$104,000 |
| Ore and concentrates other | 5,590,000 | 2,720,000 | 54,900 | 1,190,000 | 605,000 | 20,000 | 12,600,000 | 6,160,000 | 188,000 |
| Molybdenum chemicals: | | | | | | | | | |
| Oxides and hydroxides | 209,000 | NA | 3,330 | -- | -- | -- | 476,000 | NA | 11,300 |
| Molybdates of ammonium | 1,140,000 | 642,000 | 19,400 | 20,000 | 11,200 | 409 | 1,570,000 | 893,000 | 28,200 |
| Molybdates (all others) | 30,300 | 14,500 | 1,090 | 2,110 | 836 | 65 | 61,000 | 22,700 | 1,420 |
| Molybdenum orange | 269,000 | NA | 2,170 | 19,000 | NA | 153 | 330,000 | NA | 2,550 |
| Ferromolybdenum | 3,040,000 | 2,030,000 | 50,100 | 264,000 | 178,000 | 7,730 | 4,900,000 | 3,280,000 | 120,000 |
| Molybdenum powders | 60,000 | 52,500 | 2,870 | 11,200 | 11,200 | 486 | 232,000 | 220,000 | 10,100 |
| Molybdenum unwrought | 107,000 | 97,800 | 2,880 | 25,800 | 23,300 | 789 | 247,000 | 241,000 | 7,710 |
| Molybdenum waste and scrap | 482,000 | 473,000 | 15,300 | 94,500 | 94,200 | 3,510 | 683,000 | 662,000 | 26,200 |
| Molybdenum wire | 15,100 | NA | 2,120 | 1,570 | NA | 258 | 17,600 | NA | 2,760 |
| Molybdenum other | 306,000 | NA | 19,800 | 33,700 | NA | 3,020 | 549,000 | NA | 34,800 |
| Total | 19,000,000 | XX | 269,000 | 2,270,000 | XX | 42,000 | 31,300,000 | XX | 537,000 |

NA Not available. XX Not applicable. -- Zero.

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

²Customs value.

Source: U.S. Census Bureau.