

# Mineral Industry Surveys

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## TUNGSTEN IN FEBRUARY 2006

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder, was 23% lower during January through February 2006 than net production during the same period in 2005, according to the U.S. Geological Survey.

Total U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and other tungsten materials in January through February 2006 was 4% lower than that consumed during the same period in 2005. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

U.S. trade data for January 2006 are published in this issue.

### Update

Prices for tungsten ore concentrates, in dollars per metric ton unit from Metal Bulletin, are listed below. Prices in dollars per short ton unit were converted from metric ton unit prices and rounded to the nearest dollar. These prices represent combined prices for wolframite and scheelite ore concentrates with a minimum tungsten trioxide (WO<sub>3</sub>) content of 65%. The prices for March 1-31, 2006, are as follows:

Low—\$160/metric ton unit WO<sub>3</sub> (\$145/short ton unit WO<sub>3</sub>)

High—\$220/metric ton unit WO<sub>3</sub> (\$200/short ton unit WO<sub>3</sub>)

TABLE 1  
U.S. SALIENT TUNGSTEN STATISTICS<sup>1</sup>

(Metric tons, tungsten content)

Period	Concentrate				Reported scrap consumption	Intermediate products			
	Reported consump- tion	Imports for consumption	Stocks, end of period			Net production <sup>4</sup>	Reported consump- tion <sup>5</sup>	Stocks, end of period	
			Industry <sup>2</sup>	U.S. Gov- ernment <sup>3</sup>			Industry <sup>6</sup>	U.S. Gov- ernment <sup>3</sup>	
2005:									
February	W	202	W	28,400	420 <sup>r</sup>	537	869 <sup>r</sup>	757	685
March	W	193	W	27,300	296 <sup>r</sup>	707	827 <sup>r</sup>	699	685
April	W	230	W	27,200	317 <sup>r</sup>	637	900 <sup>r</sup>	715	611
May	W	118	W	27,200	438 <sup>r</sup>	727	1,020	774	564
June	W	140	W	27,200	380 <sup>r</sup>	742	918 <sup>r</sup>	770	564
July	W	122	W	27,100	318 <sup>r</sup>	542	822 <sup>r</sup>	747	564
August	W	135	W	26,700	510 <sup>r</sup>	746	1,040 <sup>r</sup>	834	546
September	W	73	W	26,700	289 <sup>r</sup>	664	917 <sup>r</sup>	845	518
October	W	224	W	26,500	377 <sup>r</sup>	654	848 <sup>r</sup>	877	403
November	W	227	W	26,100	405 <sup>r</sup>	612	805 <sup>r</sup>	824	403
December	W	249	W	26,100	289 <sup>r</sup>	565	876 <sup>r</sup>	797	282
January-December	W	2,080	XX	XX	4,460 <sup>r</sup>	7,850	10,800 <sup>r</sup>	XX	XX
2006:									
January	W	187	W	26,000	322 <sup>r</sup>	540	891 <sup>r</sup>	735	266
February	W	NA	W	25,900	270	422	862	680	266
Total	W	NA	XX	XX	592	962	1,750	XX	XX

<sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data. XX Not applicable.

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

<sup>2</sup>Reported by consumers.

<sup>3</sup>Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

<sup>4</sup>Net production of tungsten metal powder and tungsten carbide powder.

<sup>5</sup>Includes estimates and scrap.

<sup>6</sup>Data for tungsten metal powder and tungsten carbide powder reported by producers.

TABLE 2  
U.S. PRODUCTION, CONSUMPTION, AND STOCKS OF  
AMMONIUM PARATUNGSTATE, BY MONTH<sup>1</sup>

(Metric tons, tungsten content)

Period	Production	Consumption	Stocks, end of period <sup>2</sup>
2005:			
February	W	929	W
March	W	979	W
April	W	828	59
May	W	814	110
June	W	864	W
July	W	652	103
August	W	810	118
September	W	681	W
October	W	843	170
November	W	(3)	153
December	W	(3)	W
Total	W	9,530	XX
2006:			
January	W	667	W
February	W	559	W
Total	W	1,230	XX

W Withheld to avoid disclosing company proprietary data. XX  
Not applicable.

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

<sup>2</sup>Producers and consumers.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included  
in "Total."

TABLE 3  
U.S. PRODUCTION AND STOCKS OF TUNGSTEN PRODUCTS<sup>1</sup>

(Metric tons, tungsten content)

Product <sup>3</sup>	Net production <sup>2</sup>				Stocks at end of period		
	2006				2005	2006	
	2005	January	February	Year to date		January	February
Metal powder	3,200	343	182	525	392	380	313
Tungsten carbide powder	4,650	197	241	437	405	354	367
Total	7,850	540	422	962	797	735	680

W Withheld to avoid disclosing company proprietary data.

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

<sup>2</sup>Receipts plus gross production less quantity used to make other products in table.

<sup>3</sup>Data for cast and crystalline tungsten carbide powder and tungsten chemicals are withheld to avoid disclosing company  
proprietary data; not included in "Total."

TABLE 4  
U.S. REPORTED CONSUMPTION OF TUNGSTEN, BY END USE<sup>1, 2, 3</sup>

(Metric tons, tungsten content)

End use	2006		
	January	February	Year to date
Steels	19	19	38
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) <sup>4</sup>	W	W	W
Cemented carbides <sup>5</sup>	514 <sup>r</sup>	495	1,010
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	358 <sup>r</sup>	348	706
Total	891 <sup>r</sup>	862	1,750

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

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

<sup>2</sup>Does not include materials used in making primary tungsten products.

<sup>3</sup>Includes estimates.

<sup>4</sup>Includes welding and hard-facing rods and materials, wear- and corrosion-resistant alloys, and nonferrous alloys.

<sup>5</sup>Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

TABLE 5  
U.S. REPORTED CONSUMPTION AND CONSUMER STOCKS OF TUNGSTEN MATERIALS<sup>1</sup>

(Metric tons, tungsten content)

Period	Ferro-tungsten	Tungsten metal powder	Tungsten carbide powder	Tungsten scrap	Other tungsten materials <sup>2</sup>	Total
<b>Consumption:</b>						
2005:						
February	19	W	511 <sup>r</sup>	W	6	869 <sup>r</sup>
March	20	W	504 <sup>r</sup>	W	6	827 <sup>r</sup>
April	20	W	505 <sup>r</sup>	W	6	900 <sup>r</sup>
May	20	W	499 <sup>r</sup>	W	6	1,020
June	20	W	510 <sup>r</sup>	W	6	918 <sup>r</sup>
July	19	W	500 <sup>r</sup>	W	6	822 <sup>r</sup>
August	19	W	509 <sup>r</sup>	W	6	1,040 <sup>r</sup>
September	19	W	508 <sup>r</sup>	W	6	917 <sup>r</sup>
October	19	W	503 <sup>r</sup>	W	6	848 <sup>r</sup>
November	19	W	504 <sup>r</sup>	W	6	805 <sup>r</sup>
December	19	W	513 <sup>r</sup>	W	6	876 <sup>r</sup>
Total	233	W	6,070 <sup>r</sup>	W	73	10,800 <sup>r</sup>
2006:						
January	19	W	518 <sup>r</sup>	W	6	891 <sup>r</sup>
February	19	W	499	W	6	862
Total	37	W	1,020	W	12	1,750
<b>Stocks:</b>						
2005:						
February	26	27	361 <sup>r</sup>	20 <sup>r</sup>	9	442 <sup>r</sup>
March	44	25	362 <sup>r</sup>	23 <sup>r</sup>	9	463 <sup>r</sup>
April	22	28	363 <sup>r</sup>	27 <sup>r</sup>	9	448 <sup>r</sup>
May	20	26 <sup>r</sup>	372 <sup>r</sup>	30 <sup>r</sup>	9	456 <sup>r</sup>
June	27	28	378 <sup>r</sup>	30 <sup>r</sup>	9	472 <sup>r</sup>
July	26	28	380 <sup>r</sup>	22 <sup>r</sup>	9	465 <sup>r</sup>
August	25	32	367 <sup>r</sup>	23 <sup>r</sup>	9	455 <sup>r</sup>
September	24	29	378 <sup>r</sup>	21 <sup>r</sup>	9	462 <sup>r</sup>
October	23	26	383 <sup>r</sup>	24 <sup>r</sup>	9	465 <sup>r</sup>
November	21	26	381 <sup>r</sup>	22 <sup>r</sup>	9	459 <sup>r</sup>
December	21	26	380 <sup>r</sup>	21 <sup>r</sup>	9	456 <sup>r</sup>
2006:						
January	20	26	367 <sup>r</sup>	20 <sup>r</sup>	9	442 <sup>r</sup>
February	20	26	371	26	9	452

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Total."

<sup>1</sup>Includes estimates.

<sup>2</sup>Includes tungsten chemicals.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF TUNGSTEN, BY COUNTRY<sup>1</sup>

(Metric tons, tungsten content)

Period and country of origin	Ores and concentrates	Ammonium tungstates	Ferro- tungsten	Metal powder	Tungsten carbide powder	Other <sup>2</sup>	Total
2005	2,080	1,920	385	1,530	1,690	1,480	9,090
2006:							
January:							
Australia	--	--	--	--	--	(3)	(3)
Austria	--	--	--	--	--	1	1
Belgium	--	--	--	(3)	--	--	(3)
Bolivia	42	--	--	--	--	--	42
Canada	51	--	--	10	56	(3)	117
China	--	147	15	82	34	73	351
Czech Republic	--	--	--	--	8	(3)	8
France	--	--	--	(3)	(3)	1	1
Germany	--	17	--	36	1	8	62
Hungary	--	--	--	--	--	(3)	(3)
India	--	--	--	--	--	(3)	(3)
Israel	--	--	--	11	18	2	31
Italy	--	--	--	--	--	(3)	(3)
Japan	--	--	--	(3)	(3)	1	1
Korea, Republic of	--	--	--	23	--	(3)	23
Malaysia	--	--	--	--	--	(3)	(3)
Netherlands	--	--	--	--	--	(3)	(3)
Portugal	72	--	--	--	--	--	72
Russia	--	--	--	--	--	(3)	(3)
Rwanda	21	--	--	--	--	--	21
Singapore	--	--	--	--	--	(3)	(3)
Spain	--	--	--	--	--	(3)	(3)
Switzerland	--	--	--	--	--	(3)	(3)
Taiwan	--	--	--	--	--	(3)	(3)
United Kingdom	--	--	--	(3)	--	(3)	1
Total	187	164	15	162	117	88	734

-- Zero.

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

<sup>2</sup>Includes other unwrought tungsten, wrought tungsten, calcium and other tungstates, tungsten oxides, tungsten chlorides, other tungsten compounds, ash and residues containing mainly tungsten, and other mixtures of inorganic compounds containing tungsten. Tungsten content estimated in part.

<sup>3</sup>Less than ½ unit.

Note: Imports of waste and scrap in January 2006 totaled 136 metric tons, tungsten content.

Source: U.S. Census Bureau.

TABLE 7  
U.S. EXPORTS OF TUNGSTEN, BY COUNTRY<sup>1</sup>

(Metric tons, tungsten content)

Period and country of destination	Ores and concentrates <sup>2</sup>	Ammonium tungstates	Metal powder <sup>2</sup>	Tungsten carbide powder	Other <sup>3</sup>	Total
2005	52	774	750	1,560	1,950	5,080
2006:						
January:						
Australia	--	--	(4)	1	(4)	1
Belgium	--	--	(4)	1	--	1
Brazil	--	--	1	4	2	6
Canada	--	--	4	7	19	31
China	84	--	1	--	(4)	85
Czech Republic	--	--	29	--	2	32
France	--	--	1	(4)	(4)	2
Germany	--	21	6	14	22	62
Hungary	--	--	--	--	3	3
India	--	--	(4)	2	1	3
Ireland	--	--	(4)	2	--	2
Israel	--	--	--	--	1	1
Italy	--	--	5	(4)	5	10
Japan	--	--	3	3	6	12
Korea, Republic of	--	--	(4)	(4)	(4)	1
Malaysia	--	--	--	--	3	3
Mexico	--	--	1	(4)	2	3
Netherlands	--	--	--	--	69	69
Philippines	--	--	--	--	13	13
Singapore	--	--	1	(4)	(4)	1
South Africa	--	--	(4)	21	--	21
Spain	--	--	(4)	--	1	1
Sweden	--	--	--	3	2	5
Taiwan	--	--	2	(4)	(4)	2
Thailand	--	--	1	--	--	1
United Kingdom	--	--	6	35	15	57
Venezuela	--	--	2	--	--	2
Other	--	--	(4)	(4)	2	3
Total	84	21	65	94	168	431

-- Zero.

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

<sup>2</sup>Tungsten content estimated from reported gross weight.

<sup>3</sup>Includes unwrought tungsten, including bars and rods obtained simply by sintering, wrought tungsten, ferrotungsten, and other tungstates. Tungsten content estimated in part.

<sup>4</sup>Less than ½ unit.

Note: Estimated exports of waste and scrap in January 2006 totaled 561 metric tons, tungsten content.

Source: U.S. Census Bureau.