

Mineral Industry Surveys

For information, contact:

Kim B. Shedd, Tungsten Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4974, Fax: (703) 648-7757
E-mail: kshedd@usgs.gov

Frederic de Haas (Data)
Telephone: (703) 648-7978
Fax: (703) 648-7975
E-mail: fdehaas@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

TUNGSTEN IN DECEMBER 2003

On the basis of preliminary data, U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder produced from metal powder, in 2003 was 23% lower than that produced in 2002, 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 2003 was slightly lower than that consumed in 2002. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for December 2003 will be published in a subsequent 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 (WO₃) content of 65%. The prices for January 1-31, 2004, are as follows:

Low—\$42/metric ton unit WO₃ (\$38/short ton unit WO₃)
High—\$50/metric ton unit WO₃ (\$45/short ton unit WO₃)

TABLE 1
U.S. SALIENT TUNGSTEN STATISTICS¹

(Metric tons, tungsten content)

Period	Concentrate				Reported scrap consumption	Intermediate products			
	Reported consumption	Imports for consumption	Stocks, end of period			Net production ⁴	Reported consumption ⁵	Stocks, end of period	
			Industry ²	U.S. Government ³				Industry ⁶	U.S. Government ³
2002:									
December	W	600	W	30,100	360	949	750	666	947
January-December	W	4,090	XX	XX	4,270	12,000	9,300	XX	XX
2003:									
January	W	250	W	29,800	362	1,010 ^r	788	674	927
February	W	253	W	29,800	403	965	750	718	927
March	W	474	W	29,800	476	1,120	777	779	913
April	W	377	W	29,800	399	1,110	863	785	894
May	W	679	W	29,600	312	1,120	904	746 ^r	808
June	W	365	W	29,600	293	575 ^r	719	722	784
July	W	463	W	29,600	301	523 ^r	735	655	759
August	W	427	W	29,600	329	516 ^r	700	637 ^r	759
September	W	530	W	29,500	253	567	720	661	767
October	W	223	W	29,500	380	548	711	626	767
November	W	244	W	29,400	357	558	711	628	767
December	W	NA	W	29,400	374	607	708	592	765
Total	W	NA	XX	XX	4,240	9,220	9,090	XX	XX

^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data. XX Not applicable.

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

²Reported by consumers.

³Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

⁴Net production of tungsten metal powder and tungsten carbide powder.

⁵Includes estimates and scrap.

⁶Data for tungsten metal powder and tungsten carbide powder reported by producers.

TABLE 2
U.S. PRODUCTION, CONSUMPTION, AND STOCKS OF
AMMONIUM PARATUNGSTATE, BY MONTH¹

(Metric tons, tungsten content)

Period	Production	Consumption	Stocks, end of period ²
2002:			
December	W	W	68
January-December	W	8,860	XX
2003:			
January	W	776	W
February	W	750	61
March	W	851	73
April	W	W	44
May	W	724	38
June	W	710	59
July	W	W	45
August	W	W	49
September	W	839	42
October	W	846	36
November	W	835	W
December	W	W	35
Total ³	W	6,330	XX

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

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

²Producers and consumers.

³Does not include withheld data.

TABLE 3
U.S. PRODUCTION AND STOCKS OF TUNGSTEN PRODUCTS¹

(Metric tons, tungsten content)

Product ³	Net production ²				Stocks at end of period		
	2003				2003		
	2002	November	December	Year to date	2002	November	December
Metal powder	7,970	224	274	5,330	427	408	374
Tungsten carbide powder (made from metal powder)	4,070	334	333	3,890	239	220	219
Total	12,000	558	607	9,220	666	628	592

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

²Gross production less quantity used to make other products in table.

³Data 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^{1,2,3}

(Metric tons, tungsten content)

End use	2003		
	November	December	Year to date
Steels	21	21	261
Superalloys	24	25	318
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	403	408	4,780
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	263	255	3,720
Total	711	708	9,090

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

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

²Does not include materials used in making primary tungsten products.

³Includes estimates.

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

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

TABLE 5
U.S. REPORTED CONSUMPTION AND CONSUMER STOCKS OF TUNGSTEN MATERIALS¹

(Metric tons, tungsten content)

Period	Ferro- tungsten	Tungsten metal powder	Tungsten carbide powder	Tungsten scrap	Other tungsten materials ²	Total
Consumption:						
2002:						
December	23	W	405	W	6	750
January-December	274	W	4,840	W	76	9,300
2003:						
January	21	W	400	W	6	788
February	23	W	395	W	6	750
March	21	W	396	W	6	777
April	23	W	404	W	6	863
May	22	W	404	W	6	904
June	20	W	401	W	6	719
July	20	W	393	W	6	735
August	22	W	391	W	6	700
September	23	W	406	W	6	720
October	21	W	392	W	6	711
November	20	W	404	W	6	711
December	20	W	410	W	6	708
Total	257	W	4,800	W	72	9,090
Stocks:						
2002:						
December	18	26	293	23	9	368
2003:						
January	25	24	295	19	9	372
February	20	22	292	20	9	362
March	20	20	285	27	9	361
April	15	24	288	22	9	358
May	29	26	292	21	9	376
June	23	24	304	21	9	381
July	21	22	294	27	9	373
August	28	23	296	25	9	381
September	25	20	284	19	9	357
October	21	21	286	15	9	352
November	29	21	287	22	9	367
December	27	23	287	18	9	364

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

¹Includes estimates.

²Includes tungsten chemicals.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF TUNGSTEN, BY COUNTRY¹

(Metric tons, tungsten content)

Period and country of origin	Ores and concentrates	Ammonium tungstates	Ferro-tungsten	Metal powder	Tungsten carbide powder	Other ²	Total	Total year to date
2002	4,090	2,400	480	642	901	1,190	9,700	XX
2003:								
September	530	352	59	48	101	41	1,130	8,700
October	223	237	162	112	102	67	904	9,600
November:								
Australia	--	--	--	--	--	--	--	10
Austria	--	--	--	3	--	2	5	49
Belgium	--	--	--	1	--	--	1	4
Bolivia	--	--	--	--	--	--	--	324
Canada	117	--	--	5	44	--	166	3,510
China	--	65	--	39	39	2	144	4,100
Congo (Kinshasa)	14	--	--	--	--	--	14	14
Czech Republic	--	--	--	--	--	(3)	(3)	2
France	--	--	--	--	(3)	--	(3)	4
Germany	--	--	--	15	8	4	27	449
Hong Kong	--	--	--	--	--	(3)	(3)	7
Hungary	--	--	--	--	--	(3)	(3)	4
Ireland	--	--	--	--	--	--	--	1
Israel	--	--	--	8	12	1	21	385
Italy	--	--	--	--	--	(3)	(3)	1
Japan	--	--	--	(3)	--	4	4	140
Kenya	26	--	--	--	--	--	26	37
Korea, Republic of	--	--	--	18	--	(3)	18	128
Luxembourg	--	--	--	--	--	--	--	7
Mongolia	--	--	--	--	--	--	--	10
Peru	--	--	--	--	--	--	--	22
Portugal	71	--	--	--	--	--	71	541
Russia	--	--	--	--	--	1	1	40
Rwanda	--	--	--	--	--	--	--	127
Singapore	--	--	--	--	--	--	--	9
Spain	--	--	--	--	--	--	--	(3)
Sweden	--	--	--	--	--	(3)	(3)	6
Taiwan	--	--	--	--	--	(3)	(3)	16
Tanzania	--	--	--	--	--	--	--	11
Thailand	16	--	--	--	--	--	16	68
Uganda	--	--	--	--	--	--	--	8
United Kingdom	--	--	--	--	--	(3)	(3)	54
Vietnam	--	--	--	--	--	--	--	22
Other	--	--	--	--	--	(3)	(3)	7
Total	244	65	--	90	103	15	516	10,100
Total, year to date	4,280	2,550	377	861	1,200	851	10,100	XX

XX Not applicable. -- Zero.

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

²Includes 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.

³Less than 1/2 unit.

Note: Imports of waste and scrap in November 2003 totaled 80 metric tons, tungsten content, to give a year-to-date total of 967 metric tons, tungsten content.

Source: U.S. Census Bureau.

TABLE 7
U.S. EXPORTS OF TUNGSTEN, BY COUNTRY¹

(Metric tons, tungsten content)

Period and country of destination	Ores and concentrates ²	Ammonium tungstates	Metal powder ²	Tungsten carbide powder	Other ³	Total	Total year to date
2002	94	69	496	1,250	1,050	2,960	XX
2003:							
September	1	--	34	65	114	213	3,410
October	1	--	132	89	134	356	3,770
November:							
Australia	--	--	(4)	2	(4)	2	37
Belgium	--	--	--	(4)	2	2	47
Brazil	--	--	1	--	(4)	1	45
Canada	--	--	3	7	7	17	174
Chile	--	--	--	--	--	--	3
China	--	--	--	--	(4)	(4)	20
Colombia	--	--	--	--	(4)	(4)	1
Czech Republic	--	--	17	(4)	(4)	17	31
Egypt	--	--	--	--	--	--	1
Estonia	11	--	--	--	--	11	11
Finland	--	--	(4)	(4)	--	(4)	1
France	--	--	2	5	3	11	199
Germany	--	19	5	26	1	52	1,210
Hong Kong	--	--	--	--	(4)	(4)	9
Hungary	--	--	(4)	--	(4)	(4)	2
India	--	--	(4)	--	1	1	348
Indonesia	--	--	--	--	--	--	1
Ireland	--	--	--	1	--	1	15
Israel	--	--	23	--	1	24	125
Italy	--	--	3	(4)	2	5	74
Japan	--	--	1	2	28	31	157
Korea, Republic of	--	--	(4)	2	(4)	2	28
Luxembourg	--	--	--	2	--	2	9
Malaysia	--	--	--	--	(4)	(4)	15
Mexico	--	--	1	--	9	10	219
Netherlands	--	--	(4)	1	21	22	106
New Zealand	--	--	--	(4)	(4)	(4)	3
Philippines	--	--	--	--	--	--	20
Poland	--	--	--	--	(4)	(4)	2
Singapore	--	--	1	(4)	(4)	1	17
Slovakia	--	--	--	--	(4)	(4)	5
South Africa	--	--	(4)	--	--	(4)	57
Spain	--	--	(4)	--	2	2	29
Sweden	--	--	1	--	3	4	221
Switzerland	--	--	(4)	1	1	2	12
Taiwan	--	--	(4)	1	40	41	277
Turkey	--	--	--	--	--	--	2
United Kingdom	(4)	--	9	57	1	67	558
Other	--	--	(4)	--	(4)	1	7
Total	11	19	68	106	124	329	4,100
Total, year to date	20	99	1,020	1,660	1,300	4,100	XX

XX Not applicable. -- Zero.

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

²Tungsten content estimated from reported gross weight.

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

⁴Less than 1/2 unit.

Note: Estimated exports of waste and scrap in November 2003 totaled 115 metric tons, tungsten content, to give a year-to-date total of 560 metric tons, tungsten content.

Source: U.S. Census Bureau.