



# Mineral Industry Surveys

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## TUNGSTEN IN JANUARY 2003

January 2003 U.S. net production of tungsten metal powder and tungsten carbide powder produced from metal powder was 6% lower compared with that of December 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 January 2003 was approximately the same as that consumed in December 2002. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for January 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 (WO<sub>3</sub>) content of 65%. The prices for February 1-28, 2003, are as follows:

Low—\$37/metric ton unit WO<sub>3</sub> (\$34/short ton unit WO<sub>3</sub>)  
High—\$47/metric ton unit WO<sub>3</sub> (\$43/short ton unit WO<sub>3</sub>)

TABLE 1  
U.S. SALIENT TUNGSTEN STATISTICS 1/

(Metric tons, tungsten content)

Period	Concentrate				Intermediate products				
	Reported consumption	Imports for consumption	Stocks, end of period		Reported scrap consumption	Net production 4/	Reported consumption 5/	Stocks, end of period	
			Industry 2/	U.S. Government 3/				Industry 6/	U.S. Government 3/
2002:									
January	W	207	W	NA	342	759	781	686	NA
February	W	79	W	NA	341	811	788	693	NA
March	W	212	W	NA	270	750	772	640	NA
April	W	292	W	NA	421	743	776	667	NA
May	W	292	W	NA	393	1,040	949	650	NA
June	W	439	W	31,200	351	1,080	924	662	1,100
July	W	362	W	30,400	345 r/	931 r/	949	654	1,020
August	W	418	W	30,500	228 r/	1,110 r/	951	737	987
September	W	341	W	30,100	240 r/	1,110 r/	970	750	981
October	W	341	W	30,100	260 r/	1,120 r/	965	765	975
November	W	509	W	30,100	239 r/	1,080 r/	976	752	948
December	W	600	W	30,100	236 r/	1,140 r/	941	749	947
January-December	W	4,090	XX	XX	3,670	11,700	10,700	XX	XX
2003:									
January	W	NA	W	29,800	226	1,070	946	614	927

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

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

2/ Reported by consumers.

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

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

5/ Includes estimates and scrap.

6/ 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 1/

(Metric tons, tungsten content)

Period	Production	Consumption	Stocks, end of period 2/
2002:			
January	W	621	W
February	W	814	118
March	W	653	W
April	W	830	W
May	W	798	W
June	W	893	103
July	W	740 r/	212 r/
August	W	794 r/	97 r/
September	W	828 r/	102 r/
October	W	782 r/	109 r/
November	W	W	86 r/
December	W	W	77
Total	W	W	XX
2003:			
January	W	799	W

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

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

2/ Producers and consumers.

3/ Does not include withheld data.

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

(Metric tons, tungsten content)

Product 3/	Net production 2/			Stocks at end of period	
	2003			2002	2003
	2002	January	Year to date	January	January
Metal powder	7,720	730	730	441	305
Tungsten carbide powder (made from metal powder)	3,960	340	340	308	309
Total	11,700	1,070	1,070	749	614

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

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

3/ 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 1/ 2/ 3/

(Metric tons, tungsten content)

End use	2002		2003
	December	Year to date	January
Steels	36	436	34
Superalloys	29	436	34
Other alloys (excludes steels and superalloys) 4/	W	W	W
Cemented carbides 5/	459	5,590	462
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	418	4,280	416
Total	941	10,700	946

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

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

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

3/ Includes estimates.

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

5/ 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 1/

(Metric tons, tungsten content)

Period	Ferro- tungsten	Tungsten metal powder	Tungsten carbide powder	Tungsten scrap	Other tungsten materials 2/	Total
<b>Consumption:</b>						
2002:						
January	37	222	466	50	6	781
February	38	230	473	37	9	788
March	38	223	465	40	6	772
April	34	220	479	36	6	776
May	33	W	465	W	6	949
June	33	W	471	W	6	924
July	34	W	467	W	6	949
August	32	W	464	W	6	951
September	33	W	476	W	6	970
October	34	W	468	W	6	965
November	34	W	470	W	6	976
December	34	W	464	W	6	941
Total	415	W	5,630	W	76	10,700
2003:						
January	33	W	467	W	6	946
<b>Stocks:</b>						
2002:						
January	42	32	548	36	9	666
February	36	29	540	41	9	655
March	33	32	547	40	9	661
April	32	36	540	45	9	663
May	28	34	544	43	9	657
June	34	40	552	42	9	677
July	28	39	546	36	9	657
August	27	36	547	39	9	658
September	23	33	544	34	9	642
October	29	34	536	42	9	649
November	24	39	539	35	9	646
December	21	38	539	37	9	643
2003:						
January	28	37	546	37	9	657

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

1/ Includes estimates.

2/ Includes tungsten chemicals.

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

(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
2001	2,680	2,720	352	947	932	2,120	9,750	XX
2002:								
October	341	244	15	24	104	94	822	7,640
November	509	126	--	57	89	104	885	8,530
December:								
Armenia	--	--	--	--	--	--	--	8
Australia	--	--	--	--	--	--	--	1
Austria	--	--	--	--	(3/)	3	3	43
Belgium	--	--	--	(3/)	--	(3/)	(3/)	3
Bolivia	63	--	--	--	--	--	63	513
Canada	357	--	--	--	35	--	393	2,880
China	82	162	15	29	18	166	472	4,140
Czech Republic	--	--	--	--	--	--	--	(3/)
France	--	--	--	--	(3/)	(3/)	(3/)	13
Germany	--	19	--	6	1	4	30	407
Hong Kong	--	--	15	--	--	1	16	116
Hungary	--	--	--	--	--	(3/)	(3/)	2
India	--	--	--	--	--	(3/)	(3/)	24
Indonesia	--	--	--	--	--	--	--	(3/)
Ireland	--	--	--	--	--	--	--	(3/)
Israel	--	--	--	(3/)	9	1	10	224
Italy	--	--	--	--	--	(3/)	(3/)	1
Japan	--	--	--	(3/)	(3/)	3	3	147
Korea, Republic of	--	--	--	18	8	--	26	136
Luxembourg	--	--	--	--	2	--	2	14
Malaysia	--	--	--	--	--	--	--	(3/)
Mexico	--	--	--	--	--	--	--	(3/)
Mongolia	--	--	--	--	--	--	--	25
Netherlands	--	--	--	--	--	(3/)	(3/)	(3/)
Pakistan	--	--	--	--	--	--	--	25
Peru	19	--	--	--	--	--	19	55
Portugal	68	--	--	--	--	--	68	550
Russia	--	--	43	--	--	1	44	89
Rwanda	10	--	--	--	--	--	10	34
Singapore	--	--	--	--	--	1	1	20
South Africa	--	--	--	--	--	--	--	4
Spain	--	--	--	--	--	--	--	(3/)
Sweden	--	--	--	--	--	(3/)	(3/)	12
Switzerland	--	--	--	--	--	(3/)	(3/)	(3/)
Taiwan	--	--	--	--	--	--	--	2
Uganda	--	--	--	--	--	--	--	30
United Kingdom	--	--	--	--	(3/)	(3/)	(3/)	155
Vietnam	--	--	--	--	--	--	--	18
Total	600	181	73	53	73	180	1,160	9,690
Total, year to date	4,090	2,400	480	642	901	1,180	9,690	XX

-- Zero.

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

2/ 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.

3/ Less than 1/2 unit.

Note: Imports of waste and scrap in December 2002 totaled 148 metric tons, tungsten content, to give a year-to-date total of 903 metric tons, tungsten content.

Source: U.S. Census Bureau.

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

(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
2001	220	257	569	1,950	1,120	4,110	XX
2002:							
October	4	3	43	75	66	191	2,490
November	1	--	38	124	97	261	2,750
December:							
Australia	--	--	2	(4/)	--	2	21
Austria	--	--	--	--	--	--	3
Belgium	--	--	--	(4/)	(4/)	(4/)	27
Brazil	--	--	4	--	(4/)	4	56
Canada	--	--	2	5	16	22	258
China 5/	1	--	(4/)	--	(4/)	1	33
Colombia	--	--	--	(4/)	(4/)	(4/)	4
Czech Republic	--	--	--	(4/)	--	(4/)	11
France	--	--	1	9	3	13	99
Germany	--	--	22	11	7	40	672
Hong Kong	--	--	--	--	1	1	11
Hungary	--	--	--	--	(4/)	(4/)	5
India	--	--	(4/)	1	2	3	24
Indonesia	--	--	--	--	(4/)	(4/)	2
Ireland	(4/)	--	--	2	--	2	13
Israel	--	--	24	--	4	28	79
Italy	--	--	1	1	1	3	34
Japan	--	--	1	3	4	7	141
Korea, Republic of	--	--	(4/)	(4/)	(4/)	1	49
Luxembourg	--	--	--	--	--	--	6
Malaysia	--	--	--	--	--	--	10
Mexico	--	--	--	(4/)	5	6	168
Netherlands	--	--	--	--	--	--	123
New Zealand	--	--	--	--	--	--	6
Peru	--	--	--	--	--	--	2
Philippines	--	--	--	--	5	5	24
Singapore	--	--	1	(4/)	(4/)	1	16
South Africa	--	--	--	5	--	5	13
Spain	--	--	(4/)	(4/)	3	4	20
Sweden	--	--	--	--	(4/)	(4/)	206
Switzerland	(4/)	--	(4/)	1	(4/)	1	8
Taiwan	(4/)	--	1	--	14	15	151
Thailand	--	--	--	--	--	--	3
Turkey	--	--	1	--	--	1	3
Ukraine	--	--	--	--	--	--	1
United Kingdom	21	--	3	14	(4/)	38	644
Other	--	--	(4/)	--	1	1	9
Total	22	--	63	53	68	206	2,960
Total, year to date	94	69	496	1,250	1,050	2,960	XX

XX Not applicable. -- Zero.

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

2/ Tungsten content estimated from reported gross weight.

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

4/ Less than 1/2 unit.

5/ Includes Macau.

Note: Estimated exports of waste and scrap in December 2002 totaled 3 metric tons, tungsten content, to give a year-to-date total of 353 metric tons, tungsten content.

Source: U.S. Census Bureau.