

# Mineral Industry Surveys

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## TUNGSTEN IN NOVEMBER 2001

U.S. net production of tungsten metal powder and tungsten carbide powder produced from metal powder during January through November 2001 was equal to that produced during the same period in 2000, 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 November 2001 was approximately the same as that during the same period in 2000. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for November 2001 will be published in a subsequent issue.

### Note

All data in this report have been rounded to no more than

three significant digits. Totals and percentages were calculated by using unrounded data.

### 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 December 1 to 31, 2001, are as follows:

Low—\$40/metric ton unit WO<sub>3</sub> (\$36/short ton unit WO<sub>3</sub>)  
High—\$57/metric ton unit WO<sub>3</sub> (\$52/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/
<b>2000:</b>									
November	W	97	W	33,500	444	814	724	1,140	2,180
December	W	190	W	33,400	413	761	707	1,160	2,110
January-December	W	2,370	XX	XX	5,040	9,780 7/	9,100	XX	XX
<b>2001:</b>									
January	W	151	W	33,400	479 r/	907	785 r/	W	2,050
February	W	112	W	33,200	483	838	730 r/	W	1,840
March	W	92	W	32,600	488	859	708 r/	W	1,740
April	W	179	W	32,500	594	985	739 r/	W	1,710
May	W	302	W	32,300	450	866	699 r/	1,030	1,610
June	W	288	W	32,300	477	904	656 r/	1,040	1,540
July	W	275	W	32,300	533 r/	735 r/	729 r/	909 r/	1,490
August	W	247	W	32,100	499 r/	788 r/	726 r/	856 r/	1,440
September	W	246	W	32,100	391 r/	796 r/	707 r/	818 r/	1,410
October	W	389	W	NA	438 r/	637 r/	699 r/	709 r/	NA
November	W	NA	W	NA	361	744	697	720	NA
Total	W	NA	XX	XX	5,190	9,060	7,870	XX	XX

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.

7/ Revised after the Mineral Industry Surveys Tungsten 2000 Annual Review was published.

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/
<b>2000:</b>			
November	W	822	121
December	W	749	W
January-December 3/	1,270	7,590	XX
<b>2001:</b>			
January	W	905	W
February	W	W	W
March	W	890	151
April	W	927	W
May	W	W	119
June	W	913	88
July	W	726 r/	100
August	W	843 r/	119
September	W	632 r/	95
October	W	782 r/	95 r/
November	W	656	W
Total 3/	W	7,270	XX

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	Net production 2/				Stocks at end of period		
	2000	2001		Year to date	2001		
		October r/	November		2000	October r/	November
Metal powder	5,290 3/	374	468	4,910	621	344	367
Tungsten carbide powder (made from metal powder)	4,490	263	276	4,160	538	365	353
Total 4/	9,780 3/	637	744	9,060	1,160	709	720

r/ Revised.

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/ Revised after the Mineral Industry Surveys Tungsten 2000 Annual Review was published.

4/ Data for cast and crystalline tungsten carbide powder and tungsten chemicals are withheld to avoid disclosing company proprietary data.

TABLE 4  
U.S. REPORTED CONSUMPTION OF TUNGSTEN, BY END USE IN 2001 1/ 2/ 3/

(Metric tons, tungsten content)

End use	October	November	Year to date
Steels	37	37	479
Superalloys	39 r/	38	346
Other alloys (excludes steels and superalloys) 4/	W	W	W
Cemented carbides 5/	479	485	5,380
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	143 r/	135	1,670
Total	699 r/	697	7,870

r/ Revised. 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 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
2000:						
December 3/	33	29	381	44	9	495
2001:						
January	29	16	391	43	11	491
February	32	18	404	40	11	506
March	26	13	401	34	11	485
April	23	16	403	29	11	482
May	27	17	399	29	11	484
June	17	14	403	36	11	482
July	39	14	407	30	11	502
August	32	13	398	37	11	490
September	39	14	400	30	11	493
October	44	17	392	32 r/	11	497 r/
November	43	16	394	37	11	501

r/ Revised.

1/ Includes estimates.

2/ Includes tungsten chemicals.

3/ Data based on monthly reports.

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
2000	2,370	2,270	470	593	1,000	2,480	9,190	XX
2001:								
August	247	196	44	81	90	322	980	6,590
September	246	235	15	58	62	72	688	7,280
October:								
Australia	--	--	--	--	--	--	--	(3/)
Austria	--	--	--	--	15	1	16	80
Belgium	--	--	--	(3/)	--	1	1	11
Bolivia	32	--	--	--	--	--	32	459
Brazil	--	--	--	--	--	--	--	6
Canada	--	--	--	(3/)	26	--	26	384
China	247	168	13	67	8	70	573	5,050
Czech Republic	--	--	--	--	--	--	--	8
France	--	--	--	(3/)	1	(3/)	2	9
Germany	--	17	--	6	6	5	35	372
Hong Kong	43	--	--	--	3	(3/)	46	267
Hungary	--	--	--	--	--	(3/)	(3/)	6
India	--	--	--	--	--	(3/)	(3/)	16
Ireland	--	--	--	--	--	--	--	(3/)
Israel	--	--	--	3	22	1	26	168
Italy	--	--	--	--	--	(3/)	(3/)	1
Japan	--	--	--	2	--	17	19	107
Korea, Republic of	--	--	--	--	3	(3/)	3	51
Luxembourg	--	--	--	--	--	--	--	16
Malaysia	--	--	--	--	--	--	--	(3/)
Mexico	--	--	--	--	--	--	--	2
Mongolia	--	--	--	--	--	--	--	37
Netherlands	--	--	--	(3/)	--	(3/)	(3/)	4
Pakistan	--	--	--	14	--	--	14	14
Peru	5	--	--	--	--	--	5	39
Portugal	63	--	--	--	--	--	63	390
Russia	--	--	--	--	--	--	--	416
Rwanda	--	--	--	--	--	--	--	12
Singapore	--	--	--	--	--	(3/)	(3/)	3
Spain	--	--	--	--	--	(3/)	(3/)	(3/)
Sweden	--	--	--	--	1	(3/)	1	3
Switzerland	--	--	--	--	--	(3/)	(3/)	1
Taiwan	--	--	--	--	--	(3/)	(3/)	1
Thailand	--	--	--	--	--	--	--	40
Uganda	--	--	--	--	--	--	--	32
United Kingdom	--	--	--	20	(3/)	(3/)	20	156
Venezuela	--	--	--	--	--	--	--	(3/)
Total	389	185	13	112	85	97	882	8,160
Total, year to date	2,280	2,230	322	818	833	1,680	8,160	XX

XX Not applicable. -- 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 October 2001 totaled 53 metric tons, tungsten content, to give a year-to-date total of 867 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
2000	70	53	467	969	483	2,040	XX
2001:							
August	11	17	53	189	35	304	2,930
September	38	21	28	155	81	323	3,250
October:							
Australia	--	--	2	2	--	4	20
Austria	--	--	--	--	(4/)	(4/)	10
Belgium	--	--	1	(4/)	(4/)	1	18
Brazil	--	--	2	(4/)	(4/)	2	28
Canada	--	--	2	15	7	24	227
Chile	--	--	--	--	--	--	1
China	--	--	(4/)	--	(4/)	(4/)	18
Colombia	--	--	--	--	1	1	7
Czech Republic	--	--	--	--	--	--	51
Denmark	--	--	--	(4/)	--	(4/)	1
Ecuador	--	--	--	--	(4/)	(4/)	5
France	--	--	(4/)	4	(4/)	5	148
Germany	--	58	22	20	28	129	863
Hong Kong	--	--	--	--	--	--	6
Hungary	--	--	--	--	2	2	13
India	--	--	(4/)	(4/)	1	2	23
Indonesia	--	--	--	--	--	--	4
Ireland	--	--	--	--	(4/)	(4/)	4
Israel	--	--	--	(4/)	(4/)	1	17
Italy	(4/)	--	(4/)	--	(4/)	1	14
Japan	--	--	2	2	1	5	83
Korea, Republic of	--	--	(4/)	--	(4/)	(4/)	18
Malaysia	--	--	--	--	--	--	1
Mexico	--	--	1	--	4	5	63
Netherlands	--	--	--	--	41	41	527
Philippines	--	--	--	--	--	--	3
Russia	--	--	--	--	--	--	32
Singapore	--	--	1	(4/)	(4/)	1	8
South Africa	--	--	--	1	--	1	17
Spain	--	--	(4/)	--	(4/)	(4/)	22
Sweden	3	--	--	14	(4/)	18	411
Switzerland	--	--	(4/)	1	(4/)	1	9
Taiwan	--	--	1	--	1	2	21
Turkey	--	--	(4/)	--	(4/)	(4/)	1
United Arab Emirates	--	--	--	--	--	--	1
United Kingdom	7	--	(4/)	23	(4/)	30	827
Other	--	--	(4/)	--	(4/)	(4/)	7
Total	10	58	37	82	90	277	3,530
Total, year to date	138	236	505	1,760	885	3,530	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 wrought tungsten, ferrotungsten, and other tungstates. Tungsten content estimated in part.

4/ Less than 1/2 unit.

Note: Estimated exports of waste and scrap in October 2001 totaled 43 metric tons, tungsten content, to give a year-to-date estimated total of 847 tons, tungsten content.

Source: U.S. Census Bureau.