

# Mineral Industry Surveys

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## TUNGSTEN IN SEPTEMBER 2001

U.S. net production of tungsten metal powder and tungsten carbide powder produced from metal powder during January through September 2001 was 8% higher than 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 September 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 September 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 October 1 to 31, 2001, are as follows:

Low—\$54/metric ton unit WO<sub>3</sub> (\$49/short ton unit WO<sub>3</sub>)  
High—\$65/metric ton unit WO<sub>3</sub> (\$59/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/
2000: p/									
September	W	97	W	33,500	380	857	746	1,120	2,250
October	W	342	W	33,500	448	778	718	1,080	2,180
November	W	97	W	33,500	444	814	684	1,140	2,180
December	W	190	W	33,400	413	761	667	1,160	2,110
January-December	W	2,370	XX	XX	5,040	9,780 7/	8,600	XX	XX
2001:									
January	W	151	W	33,400	476	907	785	W	2,050
February	W	112	W	33,200	483	838	730	W	1,840
March	W	92	W	32,600	488	859	708	W	1,740
April	W	179	W	32,500	594 r/	985 r/	739	W	1,710
May	W	302	W	32,300	450 r/	866 r/	699	1,030 r/	1,610
June	W	288	W	32,300	477 r/	904 r/	656	1,040 r/	1,540
July	W	275	W	32,300	524 r/	862	729 r/	917	1,490
August	W	247	W	32,100	490 r/	915	726 r/	872	1,440
September	W	NA	W	32,100	383	888	707	795	1,410
Total	W	NA	XX	XX	4,370	8,030	6,480	XX	XX

p/ Preliminary. 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/
2000:			
September	W	696	W
October	W	841	146
November	W	822	121
December	W	749	W
January-December 3/	1,270	7,590	XX
2001:			
January	W	905	W
February	W	W	W
March	W	890	151
April	W	927 r/	W
May	W	W	119 r/
June	W	913 r/	88 r/
July	W	853	100
August	W	970	119
September	W	758	95
Total 3/	W	6,220	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		
		August	September		2000	August	September
Metal powder	5,290 3/	499	485	4,100	621	410	456
Tungsten carbide powder (made from metal powder)	4,490	416	403	3,920	538	462	339
Total 4/	9,780 3/	915	888	8,030	1,160	872	795

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	August	September	Year to date
Steels	51 r/	43	405
Superalloys	29	30	269
Other alloys (excludes steels and superalloys) 4/	W	W	W
Cemented carbides 5/	479	492	4,410
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	166 r/	143	1,390
Total	726 r/	707	6,480

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 CONSUMPTION AND CONSUMER STOCKS OF TUNGSTEN MATERIALS 1/ 2/ 3/

(Metric tons, tungsten content)

Period	Ferro-tungsten	Tungsten metal powder	Tungsten carbide powder	Tungsten scrap	Other tungsten materials 4/	Total
<b>Consumption:</b>						
2000: p/						
September	36	W	498	32	W	746
October	36	164	476	34	8	718
November	36	129	476	34	8	684
December	40	110	479	30	8	667
January-December	476	1,770	5,850	387	105	8,600
2001:						
January	45	W	516	32	W	785
February	38	W	493	29	W	730
March	46	124	497	32	8	708
April	37	W	476	32	W	739
May	43	112	497	38	8	699
June	42	98	484	23	8	656
July	43	W	486	38	W	729 r/
August	49 r/	W	482	27	W	726 r/
September	41	135	495	28	8	707
January-September	385	W	4,430	279	W	6,480
<b>Stocks:</b>						
2000: p/						
September	38	14	412	38	11	513
October	46	16	414	37	11	526
November	41	23	405	40	11	520
December	36	20	406	40	11	514
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 r/
September	39	14	400	30	11	493

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included in summation and/or "Total."

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 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
2000	2,370	2,270	470	593	1,000	2,480	9,190	XX
2001:								
June	288	201	15	32	54	237	827	4,680
July	275	242	81	54	55	229	936	5,610
August:								
Australia	--	--	--	--	--	(3/)	(3/)	(3/)
Austria	--	--	--	--	4	2	6	62
Belgium	--	--	--	--	--	(3/)	(3/)	10
Bolivia	90	--	--	--	--	--	90	359
Brazil	--	--	--	--	--	6	6	6
Canada	--	--	--	(3/)	32	(3/)	32	328
China	93	180	43	33	25	292	666	4,080
Czech Republic	7	--	--	--	--	--	7	8
France	--	--	--	--	1	(3/)	1	7
Germany	--	--	2	13	7	4	26	316
Hong Kong	--	16	--	--	--	(3/)	16	181
Hungary	--	--	--	--	--	1	1	5
India	--	--	--	--	--	(3/)	(3/)	16
Ireland	--	--	--	--	--	--	--	(3/)
Israel	--	--	--	2	19	2	22	131
Italy	--	--	--	--	--	--	--	(3/)
Japan	--	--	--	4	--	13	17	86
Korea, Republic of	--	--	--	9	3	--	11	41
Luxembourg	--	--	--	--	--	--	--	16
Malaysia	--	--	--	--	--	--	--	(3/)
Mexico	--	--	--	--	--	(3/)	(3/)	(3/)
Mongolia	13	--	--	--	--	--	13	25
Netherlands	--	--	--	--	--	(3/)	(3/)	3
Peru	5	--	--	--	--	--	5	14
Portugal	39	--	--	--	--	--	39	307
Russia	--	--	--	--	--	(3/)	(3/)	398
Rwanda	--	--	--	--	--	--	--	12
Singapore	--	--	--	--	--	(3/)	(3/)	3
Spain	--	--	--	--	--	--	--	(3/)
Sweden	--	--	--	--	--	--	--	2
Switzerland	--	--	--	--	--	(3/)	(3/)	1
Taiwan	--	--	--	--	--	(3/)	(3/)	1
Thailand	--	--	--	--	--	(3/)	(3/)	40
Uganda	--	--	--	--	--	--	--	24
United Kingdom	--	--	--	20	(3/)	(3/)	20	116
Total	247	196	44	81	90	322	980	6,590
Total, year to date	1,650	1,810	295	648	686	1,510	6,590	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 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 August 2001 totaled 95 metric tons, tungsten content, to give a year-to-date total of 737 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:							
June	20	1	66	251	69	407	2,370
July:	9	2	50	142	47	251	2,620
August:							
Australia	--	--	3	(4/)	1	4	15
Austria	--	--	--	--	(4/)	(4/)	9
Belgium	1	--	--	1	(4/)	3	17
Brazil	--	--	2	(4/)	(4/)	3	24
Canada	--	--	4	15	3	23	182
Chile	--	--	(4/)	--	(4/)	(4/)	(4/)
China	--	--	(4/)	(4/)	(4/)	(4/)	14
Colombia	--	--	--	--	(4/)	(4/)	4
Czech Republic	--	17	(4/)	--	--	17	50
Denmark	--	--	--	--	--	--	1
Ecuador	--	--	--	--	--	--	5
France	--	--	(4/)	(4/)	(4/)	1	141
Germany	3	--	35	16	14	67	681
Hong Kong	--	--	(4/)	(4/)	--	(4/)	5
Hungary	--	--	--	--	(4/)	(4/)	9
India	--	--	(4/)	(4/)	2	2	18
Indonesia	--	--	--	--	--	--	3
Ireland	--	--	--	--	--	--	4
Israel	--	--	--	(4/)	--	(4/)	16
Italy	--	--	(4/)	(4/)	(4/)	1	12
Japan	(4/)	--	1	2	2	5	70
Korea, Republic of	--	--	--	(4/)	(4/)	(4/)	16
Malaysia	--	--	1	--	(4/)	1	1
Mexico	--	--	1	(4/)	5	6	54
Netherlands	--	--	--	(4/)	3	3	419
Philippines	--	--	--	--	--	--	2
Singapore	--	--	1	(4/)	(4/)	2	7
South Africa	--	--	--	--	(4/)	(4/)	17
Spain	--	--	(4/)	--	2	2	18
Sweden	2	--	--	60	(4/)	62	339
Switzerland	--	--	--	--	(4/)	(4/)	6
Taiwan	--	--	1	--	(4/)	1	16
Turkey	--	--	--	--	--	--	1
United Arab Emirates	--	--	(4/)	--	--	(4/)	1
United Kingdom	5	--	2	92	1	99	742
Other	--	--	2	(4/)	(4/)	2	6
Total	11	17	53	189	35	304	2,930
Total, year to date	90	158	440	1,530	713	2,930	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 August 2001 totaled 82 metric tons, tungsten content, to give a year-to-date estimated total of 679 tons, tungsten content.

Source: U.S. Census Bureau.