

# Mineral Industry Surveys

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## TUNGSTEN IN JULY 2002

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder produced from metal powder, was 17% lower during January through July 2002 than net production during the same period in 2001, 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 July 2002 was basically the same as that consumed during the first seven months of 2001. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for July 2002 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 August 1-31, 2002, are as follows:

Low—\$32/metric ton unit WO<sub>3</sub> (\$29/short ton unit WO<sub>3</sub>)  
High—\$45/metric ton unit WO<sub>3</sub> (\$41/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/
2001:									
July	W	275	W	32,300	544	735	759	909	1,490
August	W	247	W	32,100	510	781	712	851	1,440
September	W	246	W	32,100	402	788	732	813	1,410
October	W	389	W	NA	449	584	769	693	NA
November	W	149	W	NA	372	696	742	676	NA
December	W	253	W	31,200 r/ e/	350	573	672	699	1,120 e/
January-December	W	2,680	XX	XX	5,660	9,520	8,960	XX	XX
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 r/	743 r/	776	667	NA
May	W	292	W	NA	430 r/	689 r/	760	679	NA
June	W	439	W	31,200	422 r/	720 r/	756 r/	664	1,100
July	W	NA	W	31,200	421	669	761	647	1,100
Total	W	NA	XX	XX	2,650	5,140	5,400	XX	XX

e/ Estimated. 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/
2001:			
July	W	726	100
August	W	835	140
September	W	W	97
October	W	721	179
November	W	619	W
December	W	481	W
January-December 3/	W	7,020	XX
2002:			
January	W	621	W
February	W	814	118
March	W	653	W
April	W	830 r/	W
May	W	731 r/	103
June	W	753 r/	103
July	W	728	172
Total	W	5,130	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 3/	Net production 2/				Stocks at end of period		
	2001	2002			2001	2002	
		June r/	July	Year to date		June	July
Metal powder	5,190	360	333	2,790	367	350	348
Tungsten carbide powder (made from metal powder)	4,330	360	336	2,350	332	314	299
Total	9,520	720	669	5,140	699	664	647

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/ 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	June	July	Year to date
Steels	34	36	262
Superalloys	28	36	263
Other alloys (excludes steels and superalloys) 4/	W	W	W
Cemented carbides 5/	466	467	3,260
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	229 r/	221	1,610
Total	756 r/	761	5,400

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/

(Metric tons, tungsten content)

Period	Ferro-tungsten	Tungsten metal powder	Tungsten carbide powder	Tungsten scrap	Other tungsten materials 2/	Total
<b>Consumption:</b>						
2001:						
July	30	215	471	50	6	772
August	36	154	474	39	6	710
September	28	196	474	40	6	745
October	22	218	471	50	6	767
November	23	204	474	48	6	755
December	22	145	473	39	6	684
January-December	334	2,350	5,680	524	73	8,960
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	217	465	40	6	760
June	33	217 r/	471	30	6	756 r/
July	35	209	467	44	6	761
Total	248	1,540	3,290	277	45	5,400
<b>Stocks:</b>						
2001:						
July	36	30	573	38	9	687
August	29	29	509	45	9	621
September	36	30	536	38	9	648
October	41	33	553	40	9	677
November	40	32	539	45	9	665
December	37	33	596	43	9	717
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 r/
July	29	39	546	36	9	658

r/ Revised.

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:								
April	292	313	15	42	92	35	789	2,590
May	292	400	45	46	65	20	870	3,460
June:								
Australia	--	--	--	--	--	(3/)	(3/)	(3/)
Austria	--	--	--	--	--	(3/)	(3/)	22
Belgium	--	--	--	(3/)	--	(3/)	(3/)	1
Bolivia	49	--	--	--	--	--	49	268
Canada	307	--	--	--	17	--	324	997
China	30	223	30	24	10	21	338	2,160
Czech Republic	--	--	--	--	--	--	--	(3/)
France	--	--	--	--	1	(3/)	1	8
Germany	--	20	--	8	12	4	44	201
Hong Kong	--	15	--	--	--	(3/)	16	65
Hungary	--	--	--	--	--	1	1	1
India	--	--	--	--	--	(3/)	(3/)	23
Ireland	--	--	--	--	--	(3/)	(3/)	(3/)
Israel	--	--	--	10	19	2	31	125
Italy	--	--	--	--	(3/)	--	(3/)	1
Japan	--	29	--	(3/)	--	3	32	50
Korea, Republic of	--	--	--	12	4	--	16	57
Luxembourg	--	--	--	--	2	--	2	3
Malaysia	--	--	--	--	--	--	--	(3/)
Mexico	--	--	--	--	--	(3/)	(3/)	(3/)
Netherlands	--	--	--	(3/)	--	(3/)	(3/)	(3/)
Pakistan	--	--	--	--	--	--	--	10
Peru	5	--	--	--	--	--	5	14
Portugal	48	--	--	--	--	--	48	261
Russia	--	--	--	--	--	--	--	43
Singapore	--	--	--	1	--	2	3	10
Spain	--	--	--	--	--	(3/)	(3/)	(3/)
Sweden	--	--	--	5	--	(3/)	5	11
Switzerland	--	--	--	--	--	(3/)	(3/)	(3/)
Taiwan	--	--	--	--	--	(3/)	(3/)	(3/)
Uganda	--	--	--	--	--	--	--	7
United Kingdom	--	--	--	--	(3/)	(3/)	(3/)	40
Total	439	287	30	60	65	35	916	4,380
Total, year to date	1,520	1,480	303	340	414	317	4,380	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 June 2002 totaled 61 metric tons, tungsten content, to give a year-to-date total of 446 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:							
April	8	--	38	100	107	252	1,110
May	11	--	26	110	62	208	1,320
June:							
Australia	(4/)	--	1	--	(4/)	1	9
Austria	--	--	--	--	--	--	3
Belgium	--	--	--	--	--	--	24
Brazil	--	--	3	(4/)	13	17	28
Canada	--	--	2	8	9	19	163
China 5/	--	--	--	18	(4/)	18	22
Colombia	--	--	--	(4/)	--	(4/)	4
Czech Republic	--	--	--	--	(4/)	(4/)	11
France	--	--	1	3	8	12	49
Germany	(4/)	--	28	16	6	50	405
Hong Kong	--	--	(4/)	--	1	1	8
Hungary	--	--	--	--	(4/)	(4/)	5
India	--	--	--	(4/)	2	2	10
Indonesia	--	--	--	--	(4/)	(4/)	2
Ireland	--	--	--	1	(4/)	1	5
Israel	--	--	--	(4/)	3	3	9
Italy	--	--	1	2	1	5	19
Japan	--	--	1	1	9	11	67
Korea, Republic of	--	--	--	4	(4/)	4	24
Luxembourg	--	--	(4/)	--	--	(4/)	1
Malaysia	--	--	--	--	--	--	(4/)
Mexico	--	--	1	--	13	14	126
Netherlands	--	--	(4/)	--	(4/)	1	83
New Zealand	--	--	--	--	--	--	3
Peru	--	--	(4/)	1	--	1	1
Philippines	--	--	--	--	--	--	8
Singapore	--	--	--	(4/)	2	2	9
South Africa	--	--	--	--	(4/)	(4/)	2
Spain	--	--	(4/)	(4/)	3	3	7
Sweden	--	--	--	7	(4/)	7	103
Switzerland	--	--	--	1	(4/)	1	4
Taiwan	--	--	3	5	3	11	57
Thailand	--	--	1	--	--	1	3
Turkey	--	--	--	--	--	--	1
Ukraine	1	--	--	--	--	1	1
United Kingdom	4	--	1	22	4	31	253
Other	--	--	(4/)	(4/)	(4/)	(4/)	(4/)
Total	5	--	45	89	77	216	1,530
Total, year to date	53	44	228	647	560	1,530	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 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 June 2002 totaled 98 metric tons, tungsten content, to give a year-to-date total of 230 metric tons, tungsten content.

Source: U.S. Census Bureau.