

Mineral Industry Surveys

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TUNGSTEN IN SEPTEMBER 2003

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder produced from metal powder, in January through September 2003 was 12% higher than net production during the same period 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 during January through September 2003 was 11% higher than that consumed during the same period in 2002. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for September 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_3) content of 65%. The prices for October 1-31, 2003, are as follows:

Low—\$42/metric ton unit WO_3 (\$38/short ton unit WO_3)
High—\$50/metric ton unit WO_3 (\$45/short ton unit WO_3)

TABLE 1
U.S. SALIENT TUNGSTEN STATISTICS¹

(Metric tons, tungsten content)

Period	Concentrate				Reported scrap consumption	Intermediate products			
	Reported consump- tion	Imports for consumption	Stocks, end of period			Net production ⁴	Reported consump- tion ⁵	Stocks, end of period	
			Industry ²	U.S. Gov- ernment ³			Industry ⁶	U.S. Gov- ernment ³	
2002:									
September	W	341	W	30,100	429	1,080	810	742	981
October	W	341	W	30,100	382	1,170	836	705	975
November	W	509	W	30,100	346	1,160	816	733	948
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	1,000	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	1,100	863	785	894
May	W	679	W	29,600	312	1,120	904	747	808
June	W	365	W	29,600	298	1,150	893	752	784
July	W	463	W	29,600	296	1,090	882	740	759
August	W	427	W	29,500	314	1,090 ^r	880	725 ^r	759
September	W	NA	W	29,500	305	1,130	905	698	767
Total	W	NA	XX	XX	3,170	9,770	7,640	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:			
September	W	800	102
October	W	798	109
November	W	804	85
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	737	43
July	W	W	52
August	W	W	56
September	W	700	48
Total ³	W	4,540	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	August	September	Year to date	2002	August	September
Metal powder	7,970	838 ^r	878	7,120	427	439 ^r	412
Tungsten carbide powder (made from metal powder)	4,070	253	255	2,660	239	286	286
Total	12,000	1,090 ^r	1,130	9,770	666	725 ^r	698

^rRevised.

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		
	August	September	Year to date
Steels	22	24	198
Superalloys	24	30	241
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	391	404	3,580
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	443	448	3,620
Total	880	905	7,640

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:						
September	22	W	400	W	6	810
October	22	W	403	W	6	836
November	22	W	403	W	6	816
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	893
July	20	W	393	W	6	882
August	22	W	391	W	6	880
September	23	W	406	W	6	905
Total	195	W	3,590	W	54	7,640
Stocks:						
2002:						
September	20	20	275	20	9	344
October	26	22	273	26	9	356
November	21	27	278	22	9	356
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

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

¹Includes estimates.

²Includes tungsten chemicals.

³Less than 1/2 unit.

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	1,180	9,690	XX
2003:								
June	365	407	15	90	161	133	1,170	5,410
July	463	358	15	33	108	77	1,050	6,460
August:								
Australia	--	--	--	10	--	(3)	10	10
Austria	--	--	--	--	--	2	2	41
Belgium	--	--	--	--	--	--	--	4
Bolivia	37	--	--	--	--	--	37	247
Canada	303	--	--	--	29	(3)	332	2,730
China	--	367	15	60	26	75	543	2,980
Czech Republic	--	--	--	--	--	(3)	(3)	1
France	--	--	--	--	--	--	--	3
Germany	--	--	--	30	(3)	3	34	299
Hong Kong	--	--	--	--	--	(3)	(3)	5
Hungary	--	--	--	--	--	(3)	(3)	3
Ireland	--	--	--	--	--	--	--	1
Israel	--	--	--	12	35	1	47	307
Italy	--	--	--	--	--	--	--	(3)
Japan	--	--	--	1	(3)	6	6	125
Kenya	--	--	--	--	--	--	--	11
Korea, Republic of	--	--	--	10	1	(3)	11	88
Luxembourg	--	--	--	--	--	--	--	7
Mongolia	--	--	--	--	--	--	--	10
Peru	--	--	--	--	--	--	--	22
Portugal	49	--	--	--	--	--	49	385
Russia	--	--	--	--	--	(3)	(3)	38
Rwanda	14	--	--	--	--	--	14	116
Singapore	--	--	--	--	--	--	--	5
Spain	--	--	--	--	--	--	--	(3)
Sweden	--	--	--	--	--	(3)	(3)	6
Taiwan	--	--	--	--	--	--	--	16
Tanzania	--	--	--	--	--	--	--	11
Thailand	16	--	--	--	--	--	16	32
Uganda	8	--	--	--	--	--	8	8
United Kingdom	--	--	--	--	--	(3)	(3)	53
Other	--	--	--	--	--	(3)	(3)	3
Total	427	367	15	122	92	88	1,110	7,570
Total, year to date	3,290	1,900	156	611	890	731	7,570	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

³Less than 1/2 unit.

Note: Imports of waste and scrap in August 2003 totaled 101 metric tons, tungsten content, to give a year-to-date total of 833 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:							
June	(4)	19	162	134	104	418	2,440
July	1	--	144	107	94	345	2,790
August:							
Australia	--	--	1	--	28	29	32
Belgium	--	--	--	(4)	(4)	(4)	37
Brazil	--	--	(4)	1	(4)	1	28
Canada	--	--	2	6	4	13	131
Chile	--	--	--	--	--	--	2
China	--	--	(4)	--	2	2	19
Colombia	--	--	--	--	(4)	(4)	1
Czech Republic	--	--	--	--	(4)	(4)	2
Egypt	--	--	--	--	(4)	(4)	1
Finland	--	--	--	--	--	--	1
France	--	--	1	(4)	6	7	175
Germany	--	5	17	73	15	110	1,070
Hong Kong	--	--	(4)	--	(4)	(4)	6
Hungary	--	--	--	--	1	1	1
India	--	--	113	1	3	116	248
Indonesia	--	--	--	--	(4)	(4)	1
Ireland	--	--	--	(4)	(4)	1	12
Israel	--	--	--	--	(4)	(4)	97
Italy	--	--	2	--	(4)	3	51
Japan	--	--	1	1	8	10	62
Korea, Republic of	--	--	(4)	2	(4)	3	22
Luxembourg	--	--	--	--	--	--	7
Malaysia	--	--	--	--	--	--	14
Mexico	--	--	1	--	12	13	157
Netherlands	2	--	--	(4)	(4)	3	78
New Zealand	--	--	--	--	(4)	(4)	2
Philippines	--	--	--	--	5	5	19
Poland	--	--	--	--	(4)	(4)	2
Singapore	--	--	2	(4)	1	3	14
Slovakia	--	--	--	--	(4)	(4)	5
South Africa	--	--	(4)	(4)	--	(4)	57
Spain	--	--	(4)	(4)	1	2	20
Sweden	--	--	(4)	(4)	(4)	1	216
Switzerland	--	--	(4)	--	(4)	(4)	6
Taiwan	--	--	4	--	22	25	199
Turkey	--	--	(4)	--	--	(4)	2
United Kingdom	--	--	11	50	(4)	62	404
Other	(4)	--	(4)	--	1	1	6
Total	2	5	157	136	112	412	3,200
Total, year to date	7	80	791	1,400	922	3,200	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 August 2003 totaled 84 metric tons, tungsten content, to give a year-to-date total of 352 metric tons, tungsten content.

Source: U.S. Census Bureau.