

Mineral Industry Surveys

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TUNGSTEN IN DECEMBER 2004

On the basis of preliminary data, U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder produced from metal powder, in 2004 was 24% lower than that produced in 2003, according to the U.S. Geological Survey. U.S. net production of intermediate tungsten products during the quarter ending December 31, 2004, was 7% higher than net production during the quarter ending September 30, 2004.

Total U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and other tungsten materials in 2004 was 7% higher than reported consumption in 2003. U.S. reported consumption of these materials during the quarter ending December 31, 2004, was nearly equal in amount to consumption during the quarter ending September 30, 2004. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports through November 2004 are published in this 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 (WO₃) content of 65%. The prices for January 1-31, 2005, are as follows:

Low—\$62/metric ton unit WO₃ (\$56/short ton unit WO₃)
High—\$66/metric ton unit WO₃ (\$60/short ton unit WO₃)

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	
2003:									
December	W	402	W	29,400	265	509	697	806	765
January-December	W	4,690	XX	XX	4,010	9,030	9,400	XX	XX
2004:									
January	W	328	W	28,900	318	535	788	834	757
February	W	92	W	28,800	220	560	797	769	743
March	W	157	W	28,800	335	578	855	734	736
April	W	207	W	28,500	321	606	853	749	730
May	W	68	W	28,400	369	537	830	845	729
June	W	190	W	28,400	326	581	947	833	729
July	W	78	W	28,400	268	529	825	828	724
August	W	326	W	28,400	238	590	833	871	724
September	W	255	W	28,400	268	569	851	853	724
October	W	218	W	28,400	280	610	836	757	724
November	W	227	W	28,400	268	580	839	756	685
December	W	NA	W	28,400	267	620	845	760	685
Total	W	NA	XX	XX	3,480	6,890	10,100	XX	XX

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
2003:			
December	W	W	W
January-December ³	W	6,590	XX
2004:			
January	W	790	W
February	W	650	W
March	W	W	W
April	W	881	W
May	W	769	129
June	W	827	W
July	W	634	150
August	W	W	95
September	W	759	69
October	W	694	47
November	W	722	W
December	W	755	W
Total ³	W	7,480	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		
	2004				2004		
	2003	November	December	Year to date	2003	November	December
Metal powder	5,350	214	252	2,710	544	461	460
Tungsten carbide powder (made from metal powder)	3,680	367	368	4,180	263	295	300
Total	9,030	580	620	6,890	806	756	760

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	2004		
	November	December	Year to date
Steels	22	21	264
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	442	442	5,260
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	374	382	4,570
Total	839	845	10,100

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:						
2003:						
December	22	W	445	W	6	697
January-December	275	W	5,300	W	72	9,400
2004:						
January	21	W	452	W	6	788
February	21	W	450	W	6	797
March	22	W	444	W	6	855
April	21	W	447	W	6	853
May	22	W	441	W	6	830
June	22	W	445	W	6	947
July	21	W	434	W	6	825
August	21	W	438	W	6	833
September	22	W	457	W	6	851
October	22	W	437	W	6	836
November	22	W	450	W	6	839
December	21	W	451	W	6	845
Total	258	W	5,350	W	72	10,100
Stocks:						
2003:						
December	31	33	301	24	9	398
2004:						
January	30	33	312	25	9	409
February	29	31	307	23	9	399
March	27	31	308	26	9	401
April	26	30	304	29	9	398
May	24	33	317	24	9	407
June	33	31	308	18	9	399
July	31	28	307	27	9	403
August	30	26	313	26	9	404
September	29	28	308	27	9	400
October	27	30	310	29	9	404
November	25	28	302	34	9	397
December	24	27	297	23	9	379

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

¹Includes estimates.

²Includes tungsten chemicals.

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
2003	4,690	2,640	377	1,090	1,370	1,020	11,200	XX
2004:								
September	255	310	14	187	143	44	952	7,160
October	218	134	29	77	121	29	609	7,770
November:								
Australia	--	--	--	--	--	--	--	(3)
Austria	--	--	--	12	--	1	13	44
Belgium	--	--	--	--	--	--	--	6
Bolivia	110	--	--	--	--	--	110	478
Brazil	--	--	14	--	--	--	14	28
Canada	41	--	--	26	55	(3)	123	1,330
China	--	121	51	74	61	45	352	4,000
Congo (Kinshasa)	--	--	--	--	--	--	--	28
Costa Rica	--	--	--	--	--	--	--	(3)
Czech Republic	--	--	--	--	--	(3)	(3)	10
France	--	--	--	--	(3)	(3)	(3)	8
Germany	--	17	--	14	(3)	1	33	632
Hong Kong	--	--	--	--	--	1	1	87
Hungary	--	--	--	--	--	1	1	6
India	--	--	--	--	--	(3)	(3)	4
Israel	--	--	--	15	48	(3)	63	380
Italy	--	--	--	--	--	--	--	33
Japan	--	--	--	2	(3)	4	5	89
Kenya	--	--	--	--	--	--	--	38
Korea, Republic of	--	--	--	14	--	--	14	146
Liechtenstein	--	--	--	--	--	--	--	41
Malaysia	--	--	--	--	--	--	--	(3)
Mexico	--	--	--	--	--	--	--	31
Mongolia	--	--	--	--	--	--	--	15
Netherlands	--	--	--	--	--	(3)	(3)	51
Norway	--	--	--	--	--	--	--	(3)
Panama	--	--	--	--	--	--	--	(3)
Poland	--	--	--	--	--	--	--	(3)
Portugal	48	--	--	--	--	--	48	440
Russia	--	--	--	--	--	--	--	181
Rwanda	--	--	--	--	--	--	--	138
Singapore	--	--	--	--	--	2	2	12
Spain	--	--	--	--	--	--	--	(3)
Sweden	--	--	--	--	--	(3)	(3)	(3)
Switzerland	--	--	--	--	--	(3)	(3)	1
Taiwan	--	--	--	--	--	(3)	(3)	12
Thailand	27	--	--	--	--	--	27	211
Uganda	--	--	--	--	--	--	--	8
United Kingdom	--	--	--	--	(3)	(3)	(3)	69
Vietnam	--	--	--	--	--	--	--	19
Total	227	138	65	157	166	55	807	8,570
Total, year to date	2,140	1,850	245	1,410	1,650	1,270	8,570	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 estimated in part.

³Less than 1/2 unit.

Note: Imports of waste and scrap in November 2004 totaled 82 metric tons, tungsten content, to give a year-to-date total of 1,060 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
2003	20	99	1,130	1,700	1,440	4,390	XX
2004:							
September	7	--	32	138	93	270	2,490
October	1	--	43	120	96	260	2,750
November:							
Argentina	--	--	--	--	--	--	1
Australia	--	--	1	1	1	2	33
Austria	--	--	--	--	--	--	7
Belgium	--	--	--	(4)	(4)	(4)	13
Brazil	--	--	(4)	1	11	12	34
Canada	--	--	10	4	8	21	210
Chile	--	--	(4)	(4)	--	(4)	3
China	--	--	2	(4)	(4)	2	44
Columbia	--	--	--	--	(4)	(4)	6
Czech Republic	--	--	--	--	1	1	12
France	--	--	1	11	(4)	12	156
Georgia	--	--	--	--	(4)	(4)	1
Germany	4	--	11	1	16	33	564
Hong Kong	--	--	(4)	--	--	(4)	5
Hungary	--	--	--	--	(4)	(4)	77
India	--	--	--	5	1	7	33
Indonesia	--	--	--	--	(4)	(4)	1
Ireland	--	--	--	2	--	2	8
Israel	--	--	--	--	--	--	17
Italy	--	--	3	(4)	(4)	3	65
Japan	--	--	(4)	1	11	13	125
Korea, Republic of	--	--	--	3	(4)	4	37
Luxembourg	--	--	--	--	--	--	32
Malaysia	--	--	--	--	--	--	16
Mexico	--	--	--	--	14	14	274
Netherlands	--	--	--	--	(4)	(4)	22
Norway	--	--	--	--	--	--	5
Peru	--	--	--	--	--	--	3
Philippines	--	--	--	--	--	--	4
Poland	--	--	--	--	--	--	1
Romania	--	--	--	--	--	--	1
Saudi Arabia	--	--	--	--	(4)	(4)	1
Singapore	--	--	1	(4)	(4)	1	13
Slovakia	--	--	--	--	(4)	(4)	2
South Africa	--	--	--	--	--	--	31
Spain	--	--	(4)	--	1	1	24
Sweden	--	--	(4)	25	(4)	25	137
Switzerland	--	--	(4)	--	(4)	(4)	22
Taiwan	--	--	5	(4)	15	20	287
Thailand	--	--	--	--	--	--	4
Turkey	--	--	--	--	--	--	18
United Arab Emirates	--	--	--	--	(4)	(4)	2
United Kingdom	--	--	1	15	1	16	594
Venezuela	--	--	1	--	--	1	5
Other	--	--	(4)	(4)	(4)	(4)	2
Total	4	--	37	70	84	194	2,950
Total, year to date	42	125	402	1,240	1,140	2,950	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 November 2004 totaled 66 metric tons, tungsten content, to give a year-to-date estimated total of 488 metric tons, tungsten content.

Source: U.S. Census Bureau.