

Mineral Industry Surveys

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TUNGSTEN IN AUGUST 2006

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder, was slightly higher during January through August 2006 than net production during the same period in 2005, 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 August 2006 was slightly higher than that consumed during the same period in 2005. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for January through July 2006 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 September 1-30, 2006, are as follows:

Low—\$160/metric ton unit WO₃ (\$145/short ton unit WO₃)
High—\$170/metric ton unit WO₃ (\$154/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 Industry ²	U.S. Gov- ernment ³		Net production ⁴	Reported consump- tion ⁵	Stocks, end of period Industry ⁶	U.S. Gov- ernment ³
2005:									
August	W	135	W	26,700	516	743	1,040	837	546
September	W	73	W	26,700	295	660	915	847	518
October	W	224	W	26,500	383	651	854	880	403
November	W	227	W	26,100	411	609	810	828	403
December	W	249	W	26,100	296	561	872	800	282
January-December	W	2,080	XX	XX	4,550	7,810	10,800	XX	XX
2006:									
January	W	187	W	26,000	441	647	960	767	266
February	W	197	W	25,900	317	604	906	653	266
March	W	173	W	25,700	399	764	956	721	266
April	W	133	W	25,000	405	717	985	741	266
May	W	161	W	24,500	492	685	1,000	724	266
June	W	185	W	24,100	338	714	923	772	266
July	W	230	W	24,100	247	554	804	761	266
August	W	91	W	24,100	429	671	963	772	266
Total	W	1,360	XX	XX	3,070	5,360	7,500	XX	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.

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
2005:			
August	W	810	118
September	W	681	W
October	W	843	170
November	W	(3)	153
December	W	(3)	W
January-December	W	9,530	XX
2006:			
January	W	991	W
February	W	783	W
March	W	1,000	W
April	W	930	177
May	W	1,190	114
June	W	1,010	60
July	W	753	56
August	W	830	78
Total	W	7,490	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.

³Withheld to avoid disclosing company proprietary data; included in "Total."

TABLE 3
U.S. PRODUCTION AND STOCKS OF TUNGSTEN PRODUCTS¹

(Metric tons, tungsten content)

Product ³	Net production ²				Stocks at end of period		
	2006				2006		
	2005	July	August	Year to date	2005	July	August
Metal powder	3,150	176	254	2,070	395	393	380
Tungsten carbide powder	4,660	379	417	3,280	405	368	392
Total	7,810	554	671	5,360	800	761	772

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Receipts plus gross 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	2006		
	July	August	Year to date
Steels	23	24	184
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	488	485	3,930
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	293	454	3,380
Total	804	963	7,500

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:						
2005:						
August	19	W	497	W	6	1,040
September	19	W	490	W	6	915
October	19	W	493	W	6	854
November	19	W	494	W	6	810
December	19	W	493	W	6	872
January-December	231	W	5,930	W	73	10,800
2006:						
January	19	W	500	W	6	960
February	19	W	480	W	6	906
March	18	W	486	W	6	956
April	19	W	477	W	6	985
May	19	W	495	W	6	1,000
June	19	W	481	W	6	923
July	20	W	479	W	6	804
August	21	W	478	W	6	963
Total	154	W	3,870	W	48	7,500
Stocks:						
2005:						
August	25	32	386	31	9	482
September	24	29	401	30	9	493
October	23	26	436	33	9	527
November	21	26	426	30	9	512
December	21	26	394	29	9	478
2006:						
January	20	26	368	35	9	458
February	24	26	373	40	9	472
March	24	26	369	37	9	464
April	23	26	368	34	9	460
May	22	25	370	43	9	469
June	24	25	374	48	9	480
July	23	29	374	40	9	475
August	21	27	354	45	9	456

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
2005	2,080	1,920	385	1,530	1,690	1,480	9,090	XX
2006:								
May	161	371	40	118	159	151	999	4,240
June	185	308	26	147	118	205	989	5,230
July:								
Australia	--	--	--	--	--	(3)	(3)	24
Austria	--	--	--	--	--	1	1	12
Belgium	--	--	--	--	1	1	1	6
Bolivia	86	--	--	--	--	--	86	414
Canada	27	--	--	16	41	--	85	468
China	--	263	15	51	72	95	497	3,400
Congo (Kinshasa)	13	--	--	--	--	--	13	34
Czech Republic	--	--	--	14	--	(3)	15	24
France	--	--	--	--	(3)	(3)	1	6
Germany	--	18	--	55	12	10	94	498
Hong Kong	--	--	--	(3)	2	1	3	6
Hungary	--	--	--	--	--	1	1	3
India	--	--	--	--	2	(3)	3	4
Israel	--	--	--	21	12	1	34	344
Japan	--	--	--	1	--	2	3	23
Korea, Republic of	--	--	--	12	2	(3)	14	135
Mexico	10	--	--	--	--	--	10	25
Netherlands	--	--	--	--	--	(3)	(3)	10
Portugal	83	--	--	--	--	--	83	444
Russia	--	--	--	--	--	1	1	35
Rwanda	10	--	--	--	--	--	10	115
Singapore	--	--	--	--	--	(3)	(3)	7
South Africa	--	--	--	--	--	--	--	10
Spain	--	--	--	--	--	(3)	(3)	4
Sweden	--	--	--	--	--	(3)	(3)	17
Thailand	--	--	--	--	--	--	--	57
Ukraine	--	--	--	--	--	--	--	1
United Kingdom	--	--	--	--	(3)	--	(3)	2
Uzbekistan	--	--	--	--	--	--	--	34
Vietnam	--	--	--	--	--	--	--	16
Other	--	--	--	--	--	(3)	(3)	2
Total	230	281	15	171	144	114	955	6,180
Total, year to date	1,270	1,890	183	1,000	972	868	6,180	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 ½ unit.

Note: Imports of waste and scrap in July 2006 totaled 33 metric tons, tungsten content, to give a year-to-date total of 1,020 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
2005	52	774	750	1,560	1,950	5,080	XX
2006:							
May	10	16	80	88	114	309	2,810
June	31	7	68	80	115	302	3,110
July:							
Argentina	--	--	--	--	(4)	(4)	1
Australia	--	--	(4)	2	--	2	13
Austria	--	--	--	(4)	(4)	(4)	3
Belgium	--	--	(4)	1	11	11	17
Brazil	--	--	1	--	(4)	1	17
Canada	--	--	6	6	12	24	184
China	2	--	--	3	12	17	289
Colombia	--	--	--	--	(4)	(4)	3
Czech Republic	--	--	--	--	(4)	(4)	76
Denmark	--	--	--	--	--	--	7
France	--	--	2	13	1	16	99
Germany	--	19	43	21	7	91	579
Hungary	--	--	(4)	--	(4)	(4)	15
India	--	3	--	1	(4)	4	22
Indonesia	--	--	--	(4)	(4)	(4)	2
Ireland	--	--	--	1	(4)	1	8
Israel	--	--	--	4	1	5	15
Italy	--	--	(4)	(4)	1	1	28
Japan	--	--	1	1	9	11	98
Korea, Republic of	--	--	(4)	--	(4)	1	11
Luxembourg	--	--	--	(4)	--	(4)	1
Malaysia	--	--	(4)	--	5	5	19
Mexico	--	--	14	(4)	2	17	109
Netherlands	--	--	5	(4)	(4)	5	942
Norway	--	--	--	--	(4)	(4)	2
Peru	--	--	(4)	(4)	(4)	1	4
Philippines	--	--	--	--	(4)	(4)	32
Poland	--	--	--	--	--	--	1
Saudi Arabia	--	--	--	--	(4)	(4)	2
Singapore	(4)	--	1	(4)	10	11	42
South Africa	--	--	(4)	--	--	(4)	29
Spain	--	--	(4)	--	--	(4)	9
Sweden	--	--	--	--	6	6	46
Switzerland	--	--	(4)	--	(4)	(4)	1
Taiwan	--	--	6	1	5	12	141
Thailand	--	--	--	--	--	--	1
Turkey	--	--	--	--	(4)	(4)	2
United Arab Emirates	--	--	--	--	--	--	1
United Kingdom	--	--	1	51	30	82	527
Venezuela	--	--	(4)	6	(4)	6	41
Other	--	--	1	(4)	(4)	2	7
Total	2	22	82	113	114	334	3,440
Total, year to date	128	148	553	615	2,000	3,440	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 ½ unit.

Note: Estimated exports of waste and scrap in July 2006 totaled 21 metric tons, tungsten content, to give a year-to-date total of 817 metric tons, tungsten content.

Source: U.S. Census Bureau.