

Mineral Industry Surveys

For information, contact:

Kim B. Shedd, Tungsten Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4974, Fax: (703) 648-7757
E-mail: kshedd@usgs.gov

Brian Jaskula (Data)
Telephone: (703) 648-4908
Fax: (703) 648-7792
E-mail: bjaskula@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

TUNGSTEN IN OCTOBER 2006

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder, during January through October 2006, was nearly equal in amount to 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 October 2006 was 3% 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 September 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 November 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			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	
2005:									
October	W	224	W	26,500	384 ^r	651	855 ^r	880	403
November	W	227	W	26,100	411	609	811 ^r	828	403
December	W	249	W	26,100	295 ^r	561	872	800	282
January-December	W	2,080	XX	XX	4,560 ^r	7,810	10,900 ^r	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	794	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	(7)	671	963	772	266
September	W	180	W	23,300	(7)	696	949	760	266
October	W	212	W	23,100	265	661	973	767	266
Total	W	1,750	XX	XX	3,740	6,710	9,420	XX	XX

^rRevised. 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.

⁷Withheld to avoid disclosing company proprietary data; included in "Total."

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:			
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
September	W	949	29
October	W	1,010	67
Total	W	9,450	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			Year to date	2006		
	2005	September	October		2005	September	October
Metal powder	3,150	311	319	2,700	395	369	387
Tungsten carbide powder	4,660	384	342	4,010	405	391	380
Total	7,810	696	661	6,710	800	760	767

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		
	September	October	Year to date
Steels	22	30	236
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	485	487	4,910
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	442	456	4,280
Total	949	973	9,420

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:						
October	19	W	493	W	6	855 ^r
November	19	W	495 ^r	W	6	811 ^r
December	19	W	494 ^r	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
September	20	W	478	W	6	949
October	27	W	480	W	6	973
Total	201	W	4,830	W	60	9,420
Stocks:						
2005:						
October	23	26	436	33	9	527
November	21	26	425 ^r	33 ^r	9	514 ^r
December	21	26	394	32 ^r	9	481 ^r
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
September	20	25	358	39 ^r	9	451 ^r
October	19	26	359	37	9	450

^rRevised. 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:								
July	230	281	15	171	144	114	955	6,180
August	91	394	21	178	138	136	958	7,140
September:								
Australia	--	--	--	--	--	(3)	(3)	24
Austria	--	--	--	(3)	--	2	2	16
Belgium	--	--	--	--	--	1	1	10
Bolivia	100	--	--	--	--	--	100	513
Canada	27	--	--	25	34	--	86	593
China	--	171	15	34	66	107	393	4,390
Congo (Kinshasa)	--	--	--	--	--	--	--	34
Czech Republic	--	--	--	--	--	(3)	(3)	25
France	--	--	--	--	--	(3)	(3)	7
Germany	--	50	--	45	2	20	117	737
Hong Kong	--	--	--	--	--	1	1	7
Hungary	--	--	--	--	--	1	1	4
India	--	--	--	--	--	(3)	(3)	6
Israel	--	--	--	53	25	2	80	485
Japan	--	--	--	3	(3)	2	5	30
Korea, Republic of	--	--	--	25	1	1	28	175
Mexico	--	--	--	--	--	--	--	25
Mongolia	13	--	--	--	--	--	13	13
Netherlands	--	--	--	--	--	(3)	(3)	10
Portugal	--	--	--	--	--	--	--	485
Russia	--	--	--	--	--	33	33	69
Rwanda	21	--	--	--	--	--	21	156
Singapore	--	--	--	--	--	9	9	19
South Africa	--	--	--	9	--	--	9	20
Spain	--	--	--	--	--	(3)	(3)	4
Sweden	--	--	--	--	--	(3)	(3)	17
Thailand	11	--	--	--	--	--	11	88
Uganda	8	--	--	--	--	--	8	16
Ukraine	--	--	--	--	--	--	--	1
United Kingdom	--	--	--	--	--	(3)	(3)	24
Uzbekistan	--	--	--	--	--	34	34	68
Vietnam	--	--	--	--	--	--	--	16
Other	--	--	--	--	--	(3)	(3)	2
Total	180	222	15	196	129	211	952	8,090
Total, year to date	1,540	2,510	219	1,380	1,240	1,220	8,090	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 September 2006 totaled 56 metric tons, tungsten content, to give a year-to-date total of 1,110 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:							
July	2	22	82	113	114	334	3,440
August	(4)	19	69	91	183	363	3,810
September:							
Argentina	--	--	--	(4)	--	(4)	1
Australia	--	--	2	1	--	3	18
Austria	--	--	--	--	(4)	(4)	4
Belgium	--	--	--	--	(4)	(4)	19
Brazil	--	--	2	--	(4)	2	36
Canada	--	--	6	9	35	50	259
China	--	--	--	--	21	21	339
Colombia	--	--	--	--	(4)	(4)	3
Czech Republic	--	--	--	--	2	2	79
Denmark	--	--	--	--	--	--	8
France	--	--	1	8	3	12	128
Germany	--	45	14	17	22	99	764
Hungary	--	--	--	--	1	1	17
India	--	--	--	6	(4)	6	31
Indonesia	--	--	(4)	--	(4)	(4)	2
Ireland	--	--	--	1	(4)	1	10
Israel	--	--	(4)	--	22	22	38
Italy	--	--	(4)	(4)	2	2	32
Japan	--	--	1	--	12	13	118
Korea, Republic of	--	--	(4)	(4)	(4)	1	13
Luxembourg	--	--	(4)	(4)	--	(4)	2
Malaysia	--	--	(4)	--	(4)	(4)	19
Mexico	--	--	13	(4)	2	15	144
Morocco	--	--	--	--	--	--	4
Netherlands	--	--	--	--	(4)	(4)	943
New Zealand	--	--	1	--	(4)	1	3
Norway	--	--	(4)	--	(4)	1	3
Peru	--	--	--	(4)	--	(4)	5
Philippines	--	--	--	--	(4)	(4)	40
Saudi Arabia	--	--	--	--	(4)	(4)	3
Singapore	--	--	1	(4)	6	7	61
South Africa	--	--	(4)	(4)	(4)	(4)	31
Spain	--	--	(4)	--	1	2	10
Sweden	--	--	--	(4)	3	4	66
Switzerland	--	--	(4)	--	--	(4)	2
Taiwan	--	--	7	--	5	12	170
Thailand	--	--	--	--	--	--	1
Turkey	--	--	--	--	--	--	2
United Kingdom	--	--	2	14	42	58	665
Venezuela	--	--	1	7	--	8	52
Other	--	(4)	1	(4)	1	2	10
Total	--	45	53	64	183	346	4,150
Total, year to date	129	213	676	770	2,370	4,150	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 September 2006 totaled 136 metric tons, tungsten content, to give a year-to-date total of 1,170 metric tons, tungsten content.

Source: U.S. Census Bureau.