

Mineral Industry Surveys

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TUNGSTEN IN NOVEMBER 2006

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder, was slightly higher during January through November 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 November 2006 was 4% 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 October 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 December 1-31, 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:									
November	W	227	W	26,100	411	609	811	828	403
December	W	249	W	26,100	295	561	872	800	282
January-December	W	2,080	XX	XX	4,560	7,810	10,900	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
November	W	256	W	22,900	342	652	958	765	266
Total	W	2,000	XX	XX	4,090	7,360	10,400	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.

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:			
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
November	W	900	67
Total	W	10,300	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	October	November	Year to date	2005	October	November
Metal powder	3,150	319	320	3,020	395	387	403
Tungsten carbide powder	4,660	342	332	4,340	405	380	363
Total	7,810	661	652	7,360	800	767	765

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		
	October	November	Year to date
Steels	30	22	259
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	487	496	5,400
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	456	440	4,720
Total	973	958	10,400

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:						
November	19	W	495	W	6	811
December	19	W	494	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
November	20	W	489	W	6	958
Total	221	W	5,320	W	66	10,400
Stocks:						
2005:						
November	21	26	425	33	9	514
December	21	26	394	32	9	481
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	9	451
October	19	26	359	37	9	450
November	20	26	356	34	9	445

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:								
August	91	394	21	178	138	136	958	7,140
September:	180	222	15	196	129	211	952	8,090
October:								
Australia	--	--	--	--	--	--	--	24
Austria	--	--	--	--	--	2	2	18
Belgium	--	--	--	--	(3)	1	1	11
Bolivia	71	--	--	--	--	--	71	584
Canada	--	--	--	18	25	--	43	636
China	--	97	15	17	61	150	341	4,730
Congo (Kinshasa)	--	--	--	--	--	--	--	34
Czech Republic	--	--	--	--	--	(3)	(3)	25
France	--	--	--	(3)	(3)	(3)	1	8
Germany	--	--	--	36	12	12	60	797
Hong Kong	--	--	--	--	--	1	1	8
Hungary	--	--	--	--	--	1	1	5
India	--	--	--	--	--	3	3	9
Israel	--	--	--	47	10	1	58	542
Japan	--	--	--	(3)	--	2	2	32
Korea, Republic of	--	--	--	21	2	(3)	24	198
Mexico	10	--	--	--	(3)	--	10	35
Mongolia	--	--	--	--	--	--	--	13
Netherlands	--	--	--	--	--	(3)	(3)	10
Portugal	93	--	--	--	--	--	93	578
Russia	--	27	--	--	--	(3)	27	96
Rwanda	31	--	--	--	--	--	31	187
Singapore	--	--	--	--	--	(3)	(3)	19
South Africa	--	--	--	--	--	--	--	20
Spain	--	--	--	--	--	(3)	(3)	4
Sweden	--	--	--	--	--	(3)	(3)	17
Thailand	--	--	--	--	--	--	--	88
Uganda	8	--	--	--	--	--	8	24
Ukraine	--	--	--	--	--	--	--	1
United Kingdom	--	--	--	--	(3)	(3)	(3)	25
Uzbekistan	--	--	--	--	--	--	--	68
Vietnam	--	--	--	--	--	--	--	16
Other	--	--	--	(3)	--	(3)	(3)	2
Total	212	124	15	139	111	174	776	8,870
Total, year to date	1,750	2,630	234	1,510	1,350	1,390	8,870	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 October 2006 totaled 120 metric tons, tungsten content, to give a year-to-date total of 1,230 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:							
August	(4)	19	69	91	183	363	3,810
September:	--	45	53	64	183	346	4,150
October:							
Argentina	--	--	--	(4)	(4)	(4)	1
Australia	--	--	2	1	1	3	21
Austria	--	--	--	(4)	--	(4)	4
Belgium	--	--	(4)	1	(4)	1	19
Brazil	--	--	(4)	1	1	2	38
Canada	--	--	8	8	11	28	287
Chile	--	--	(4)	--	--	(4)	2
China	--	--	--	2	(4)	2	341
Colombia	--	--	--	--	(4)	(4)	3
Czech Republic	--	--	--	--	2	2	81
Denmark	--	--	--	--	--	--	8
France	--	--	(4)	3	4	7	135
Germany	--	17	64	30	5	117	881
Hungary	--	--	(4)	--	(4)	(4)	18
India	--	--	--	1	(4)	1	32
Indonesia	(4)	--	--	--	(4)	(4)	2
Ireland	--	--	--	(4)	(4)	1	11
Israel	--	--	4	--	1	5	43
Italy	--	--	2	(4)	(4)	2	34
Japan	--	--	1	1	5	7	124
Korea, Republic of	(4)	--	--	(4)	(4)	(4)	13
Luxembourg	--	--	--	--	--	--	2
Malaysia	--	--	--	--	(4)	(4)	19
Mexico	--	--	25	--	4	29	173
Morocco	--	--	--	--	--	--	4
Netherlands	--	--	--	--	(4)	(4)	943
New Zealand	--	--	--	--	4	4	7
Norway	--	--	--	--	--	--	3
Peru	--	--	--	(4)	1	1	6
Philippines	--	--	--	--	4	4	44
Saudi Arabia	--	--	--	--	1	1	4
Singapore	--	--	1	1	8	9	70
South Africa	--	--	(4)	(4)	(4)	(4)	31
Spain	--	--	--	--	--	--	10
Sweden	--	--	--	--	2	2	68
Switzerland	--	--	(4)	--	(4)	(4)	2
Taiwan	--	--	6	(4)	(4)	6	175
Thailand	--	--	(4)	--	--	(4)	1
Turkey	--	--	(4)	--	--	(4)	2
United Kingdom	--	--	13	9	15	37	701
Venezuela	--	--	(4)	5	--	5	57
Other	--	--	1	(4)	(4)	1	10
Total	(4)	17	126	64	72	279	4,430
Total, year to date	129	230	802	834	2,440	4,430	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 October 2006 totaled 63 metric tons, tungsten content, to give a year-to-date total of 1,230 metric tons, tungsten content.

Source: U.S. Census Bureau.