

Mineral Industry Surveys

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TUNGSTEN IN SEPTEMBER 2006

During the quarter ending September 30, 2006, U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder, was 9% lower than net production during the quarter ending June 30, 2006, according to the U.S. Geological Survey. U.S. net production during the first three quarters of 2006 was approximately equal to net production during the first three quarters of 2005 (revised).

Total U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and other tungsten materials during the quarter ending September 30, 2006, was 7% lower than reported consumption during the quarter ending June 30, 2006. U.S. reported consumption of these materials during the first three quarters of 2006 was slightly higher than reported consumption during the same period in 2005 (revised). They were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for January through August 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 October 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 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:									
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	794 ^r	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
Total	W	1,540	XX	XX	3,480	6,050	8,450	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:			
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
September	W	949	29
Total	W	8,440	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	August	September	Year to date	2005	August	September
Metal powder	3,150	254	311	2,380	395	380	369
Tungsten carbide powder	4,660	417	384	3,670	405	392	391
Total	7,810	671	696	6,050	800	772	760

¹Revised.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Receipts 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		
	August	September	Year to date
Steels	24	22	206
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	485	485	4,420
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	454	442	3,820
Total	963	949	8,450

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:						
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
September	20	W	478	W	6	949
Total	174	W	4,350	W	54	8,450
Stocks:						
2005:						
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
September	20	25	358	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:								
June	185	308	26	147	118	205	989	5,230
July	230	281	15	171	144	114	955	6,180
August:								
Australia	--	--	--	--	--	--	--	24
Austria	--	--	--	--	--	2	2	14
Belgium	--	--	--	--	(3)	3	3	9
Bolivia	--	--	--	--	--	--	--	414
Canada	--	--	--	26	12	--	38	507
China	--	362	19	33	79	103	596	4,000
Congo (Kinshasa)	--	--	--	--	--	--	--	34
Czech Republic	--	--	--	--	--	(3)	(3)	25
France	--	--	--	--	(3)	(3)	(3)	7
Germany	--	17	--	75	11	19	122	620
Hong Kong	--	--	--	--	--	(3)	(3)	7
Hungary	--	--	--	--	--	(3)	(3)	3
India	--	--	--	--	1	(3)	2	6
Israel	--	--	--	25	34	1	61	405
Japan	--	--	--	1	--	1	2	25
Korea, Republic of	--	--	--	12	(3)	(3)	12	147
Mexico	--	--	--	--	(3)	(3)	(3)	25
Netherlands	--	--	--	--	--	(3)	(3)	10
Portugal	41	--	--	--	--	--	41	485
Russia	--	--	--	--	--	1	1	36
Rwanda	21	--	--	--	--	--	21	136
Singapore	--	--	--	--	--	3	3	10
South Africa	--	--	--	--	--	--	--	10
Spain	--	--	--	--	--	--	--	4
Sweden	--	--	--	--	--	(3)	(3)	17
Thailand	21	--	--	--	--	--	21	77
Uganda	9	--	--	--	--	--	9	9
Ukraine	--	--	--	--	--	--	--	1
United Kingdom	--	15	2	6	--	(3)	23	24
Uzbekistan	--	--	--	--	--	--	--	34
Vietnam	--	--	--	--	--	--	--	16
Other	--	--	--	--	(3)	(3)	(3)	2
Total	91	394	21	178	138	136	958	7,140
Total, year to date	1,360	2,290	204	1,180	1,110	1,000	7,140	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 August 2006 totaled 34 metric tons, tungsten content, to give a year-to-date total of 1,050 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:							
June	31	7	68	80	115	302	3,110
July	2	22	82	113	114	334	3,440
August:							
Argentina	--	--	--	(4)	(4)	(4)	1
Australia	--	--	1	1	--	2	14
Austria	--	--	(4)	--	--	(4)	3
Belgium	--	--	(4)	1	(4)	1	19
Brazil	--	--	(4)	6	10	17	34
Canada	--	--	7	9	8	25	209
China	(4)	--	(4)	(4)	29	30	319
Colombia	--	--	--	--	(4)	(4)	3
Czech Republic	--	--	--	--	1	1	77
Denmark	--	--	--	1	(4)	1	8
France	--	--	6	8	3	17	116
Germany	--	19	20	21	26	87	666
Hungary	--	--	--	--	1	1	16
India	--	--	(4)	2	(4)	3	25
Indonesia	--	--	(4)	--	(4)	(4)	2
Ireland	--	--	--	1	(4)	1	9
Israel	--	--	--	--	1	1	16
Italy	--	--	1	1	(4)	2	30
Japan	--	--	1	--	6	7	105
Korea, Republic of	--	--	(4)	--	1	1	12
Luxembourg	--	--	--	--	--	--	1
Malaysia	--	--	--	1	(4)	1	19
Mexico	--	--	17	(4)	2	20	129
Morocco	--	--	4	--	--	4	4
Netherlands	--	--	--	--	(4)	(4)	943
New Zealand	--	--	1	--	--	1	2
Norway	--	--	--	--	--	--	2
Peru	--	--	(4)	--	(4)	1	5
Philippines	--	--	--	--	9	9	40
Saudi Arabia	--	--	--	(4)	(4)	(4)	3
Singapore	--	--	1	(4)	11	12	54
South Africa	--	--	1	1	(4)	1	30
Spain	--	--	(4)	--	--	(4)	9
Sweden	--	--	--	10	6	17	62
Switzerland	--	--	(4)	--	1	1	2
Taiwan	--	--	6	(4)	10	16	158
Thailand	--	--	--	--	--	--	1
Turkey	--	--	--	--	--	--	2
United Kingdom	--	--	1	24	55	80	607
Venezuela	--	--	(4)	3	(4)	3	44
Other	--	--	1	(4)	(4)	1	8
Total	(4)	19	69	91	183	363	3,810
Total, year to date	129	167	622	706	2,180	3,810	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 August 2006 totaled 216 metric tons, tungsten content, to give a year-to-date total of 1,030 metric tons, tungsten content.

Source: U.S. Census Bureau.