

Mineral Industry Surveys

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TUNGSTEN IN DECEMBER 2005

On the basis of preliminary data, U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder, in 2005 was 6% higher than that produced in 2004, according to the U.S. Geological Survey. U.S. net production of intermediate tungsten products during the quarter ending December 31, 2005, was 6% lower than net production during the quarter ending September 30, 2005.

Total U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and other tungsten materials in 2005 was 5% higher than reported consumption in 2004. U.S. reported consumption of these materials during the quarter ending December 31, 2005, was 7% higher than that consumed during the quarter ending September 30, 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 November 2005 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, 2006, are as follows:

Low—\$130/metric ton unit WO₃ (\$118/short ton unit WO₃)
High—\$160/metric ton unit WO₃ (\$145/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
2004:									
December	W	166	W	28,400	346	534	878	787	685
January-December	W	2,310	XX	XX	3,890	7,400	11,000	XX	XX
2005:									
January	W	171	W	28,400	416	717	961	862	685
February	W	202	W	28,400	415	537	876	757	685
March	W	193	W	27,300	291	707	834	699	685
April	W	230	W	27,200	312	637	907	715	611
May	W	118	W	27,200	433	727	1,030	774	564
June	W	140	W	27,200	376	742	925	770	564
July	W	122	W	27,100	313	542	829	747	564
August	W	135	W	26,700	506	746	1,040	834	546
September	W	73	W	26,700	285 ^r	664 ^r	1,040	845 ^r	518
October	W	224	W	26,500	372 ^r	654 ^r	1,040	877 ^r	403
November	W	227	W	26,100	400 ^r	612 ^r	1,030	824 ^r	403
December	W	NA	W	26,100	285	564	1,050	797	282
Total	W	NA	XX	XX	4,400	7,850	11,600	XX	XX

^rRevised. 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
2004:			
December	W	587	W
January-December	W	8,790	XX
2005:			
January	W	953	W
February	W	929	W
March	W	979	W
April	W	828	59
May	W	814	110
June	W	864	W
July	W	652	103
August	W	810	118
September	W	681 ^r	W
October	W	843 ^r	170 ^r
November	W	(3)	153 ^r
December	W	(3)	W
Total	W	9,530	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.

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		
	2005				2005		
	2004	November ^r	December	Year to date	2004	November ^r	December
Metal powder	3,020	234	251	3,200	438	404	392
Tungsten carbide powder	4,370	378	313	4,650	349	421	405
Total	7,400	612	564	7,850	787	824	797

^rRevised.

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	2005		
	November	December	Year to date
Steels	20	19	239
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	502	511	6,040
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	510	516	5,290
Total	1,030	1,050	11,600

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:						
2004:						
December	19	W	508	W	6	878
January-December	232	W	6,110	W	73	11,000
2005:						
January	20	W	507	W	6	961
February	19	W	517	W	6	876
March	20	W	511	W	6	834
April	20	W	511	W	6	907
May	20	W	505	W	6	1,030
June	20	W	516	W	6	925
July	19	W	506	W	6	829
August	19	W	515	W	6	1,040
September	19	W	515	W	6	1,040
October	19	W	510	W	6	1,040
November	19	W	511	W	6	1,030
December	19	W	519	W	6	1,050
Total	233	W	6,140	W	73	11,600
Stocks:						
2004:						
December	20	27	308	19	9	382
2005:						
January	27	28	346	20	9	430
February	26	27	347	16	9	424
March	44	25	348	20	9	446
April	22	28	349	24	9	431
May	20	27	358	26	9	439
June	27	28	364	27	9	455
July	26	28	366	19	9	447
August	25	32	353	19	9	437
September	24	29	364	18	9	444
October	23	26	369	21	9	448 ^r
November	21	26	367	19	9	442
December	21	26	366	17	9	438

^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	Ferrotungsten	Metal powder	Tungsten carbide powder	Other ²	Total	Total, year to date
2004	2,310	2,090	392	1,490	1,750	1,360	9,400	XX
2005:								
September	73	186	15	79	160	179	693	7,010
October	224	91	15	65	148	108	651	7,660
November:								
Austria	--	--	--	--	--	2	2	32
Belgium	--	--	--	(3)	--	1	1	19
Boliva	58	--	--	--	--	--	58	447
Brazil	--	--	--	--	--	--	--	28
Canada	83	--	--	11	36	--	130	764
China	--	50	31	27	27	30	163	4,070
Congo (Kinshasa)	18	--	--	--	--	--	18	44
Czech Republic	--	--	--	--	--	(3)	(3)	3
France	--	--	--	--	--	(3)	(3)	16
Germany	--	--	--	11	7	1	19	492
Hong Kong	(3)	--	--	(3)	--	1	1	107
Hungary	--	--	--	--	--	(3)	(3)	5
Iceland	--	--	--	--	--	--	--	8
India	--	--	--	--	--	(3)	(3)	13
Ireland	--	--	--	--	--	--	--	2
Israel	--	--	--	4	29	9	43	494
Japan	--	--	--	1	--	1	2	59
Korea, Republic of	--	--	--	10	--	(3)	10	129
Mexico	--	--	--	--	--	--	--	16
Mongolia	--	--	--	--	--	--	--	13
Portugal	52	--	--	--	--	--	52	702
Russia	--	--	--	--	--	1	1	373
Rwanda	--	--	--	--	--	--	--	130
Singapore	--	--	--	--	--	4	4	24
South Africa	--	--	--	--	--	--	--	12
Spain	--	--	--	--	--	(3)	(3)	1
Sweden	--	--	--	--	--	(3)	(3)	1
Switzerland	--	--	--	--	--	--	--	2
Thailand	16	--	--	--	--	--	16	146
United Kingdom	--	--	--	--	(3)	(3)	(3)	8
Vietnam	--	--	--	--	--	--	--	19
Other	--	--	--	--	--	(3)	(3)	2
Total	227	50	31	63	99	51	519	8,180
Total, year to date	1,830	1,640	354	1,390	1,560	1,400	8,180	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 November 2005 totaled 137 metric tons, tungsten content, to give a year-to-date total of 1,950 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
2004	43	125	433	1,440	1,210	3,240	XX
2005:							
September	8	48	42	97	106	302	3,980
October	7	58	42	166	130	403	4,380
November:							
Australia	--	--	(4)	3	1	4	46
Austria	--	--	--	--	--	--	5
Belgium	--	--	--	--	(4)	(4)	4
Brazil	--	--	1	1	1	2	33
Canada	--	--	7	5	13	25	701
Chile	--	--	(4)	1	--	1	3
China	--	--	--	(4)	(4)	1	393
Colombia	--	--	--	--	1	1	6
Czech Republic	--	--	--	(4)	2	2	42
Denmark	--	--	--	--	--	--	8
France	--	--	2	8	(4)	10	116
Germany	--	64	51	28	9	151	1,120
Hungary	--	--	(4)	--	2	2	19
Iceland	--	--	--	--	--	--	7
India	--	--	--	3	1	4	34
Ireland	--	--	--	1	(4)	1	14
Israel	--	--	2	--	1	3	40
Italy	--	--	1	(4)	2	3	37
Japan	--	--	(4)	1	7	9	190
Korea, Republic of	--	--	(4)	1	1	2	34
Luxembourg	--	--	--	(4)	--	(4)	2
Malaysia	--	--	--	--	3	3	29
Martinique	--	--	--	--	--	--	4
Mexico	--	--	--	(4)	3	3	98
Netherlands	--	--	--	--	(4)	(4)	43
Norway	--	--	--	--	--	--	3
Peru	--	--	--	--	(4)	(4)	4
Philippines	--	--	--	--	--	--	12
Russia	--	--	--	--	--	--	3
Singapore	--	--	1	(4)	3	4	33
South Africa	--	--	(4)	15	--	15	110
Spain	--	--	--	(4)	--	(4)	47
Sweden	--	--	--	--	2	2	274
Switzerland	--	--	--	3	(4)	3	14
Taiwan	--	--	11	(4)	17	28	348
Thailand	--	--	--	--	--	--	4
Turkey	--	--	(4)	1	--	1	5
United Kingdom	--	--	10	17	7	34	711
Venezuela	--	--	7	(4)	--	7	48
Yemen	--	--	--	--	--	--	41
Yugoslavia	--	--	--	--	--	--	5
Other	--	--	(4)	(4)	1	1	13
Total	--	64	94	88	79	324	4,700
Total, year to date	44	735	686	1,440	1,800	4,700	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 November 2005 totaled 70 metric tons, tungsten content, to give a year-to-date total of 691 metric tons, tungsten content.

Source: U.S. Census Bureau.