

Mineral Industry Surveys

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TUNGSTEN IN DECEMBER 2007

On the basis of preliminary data, U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder, in 2007 was 5% higher than that produced in 2006, according to the U.S. Geological Survey. U.S. net production of intermediate tungsten products during the quarter ending December 31, 2007, was 5% lower than net production during the quarter ending September 30, 2007.

Total U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and tungsten chemicals in 2007 was slightly greater than reported consumption in 2006. U.S. reported consumption of these materials during the quarter ending December 31, 2007, was slightly less than that consumed during the quarter ending September 30, 2007. The materials were used to make alloys, cemented carbides, mill products, and other products, such as catalysts and pigments.

Data for U.S. imports and exports for September through November 2007 and November year-to-date 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, 2008, 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				Intermediate products				
	Reported consumption	Imports for consumption	Stocks, end of period		Reported scrap consumption	Net production ⁴	Reported consumption ⁵	Stocks, end of period	
			Industry ²	U.S. Government ³				Industry ⁶	U.S. Government ³
2006:									
December	W	289	W	22,900	353	646	960	827	266
January-December	W	2,290	XX	XX	4,370	8,060	12,000	XX	XX
2007:									
January	W	266	W	22,900	439	659	1,020	872	266
February	W	322	W	22,400	317	649	1,020	844	266
March	W	420	W	22,200	433	862	1,030	809	266
April	W	152	W	22,200	385	789	1,020	746	266
May	W	558	W	19,200	252	681	1,030	763	266
June	W	359	W	22,100	431	724	1,020	810	266
July	W	344	W	21,400	333	550	1,020	697	266
August	W	315	W	21,400	317	694	1,030	801	268
September	W	344	W	21,300	263	837	1,020	781	268
October	W	299	W	21,300	502	614	1,020	795	268
November	W	315	W	21,200	355	659	1,010	746	235
December	W	189	W	21,200	287	702	1,000	826	235
Total	W	3,880	XX	XX	4,320	8,420	12,200	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. Data through June 2007 include material committed for sale pending shipment; data after June 2007 are uncommitted material only.

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
2006:			
December	W	866	W
January-December	W	11,300	XX
2007:			
January	W	941	98
February	W	886	83
March	W	1,140	37
April	W	(3)	101
May	W	(3)	110
June	W	1,230	94
July	W	(3)	W
August	W	1,050	W
September	W	1,100	W
October	W	1,010	W
November	W	958	W
December	W	(3)	83
Total	W	12,000	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		
	2007			Year to date	2007		
	2006	November	December		2006	November	December
Metal powder	3,260	335	327	3,890	411	373	408
Tungsten carbide powder	4,800	324	375	4,530	415	373	418
Total	8,060	659	702	8,420	827	746	826

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	2007		
	November	December	Year to date
Steels	23	23	273
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) ⁴	W	W	W
Cemented carbides ⁵	543	533	6,530
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	446	447	5,430
Total	1,010	1,000	12,200

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:						
2006:						
December	20	W	534	W	6	960
January-December	245	W	6,490	W	72	12,000
2007:						
January	20	W	538	W	6	1,020
February	21	W	532	W	6	1,020
March	20	W	536	W	6	1,030
April	19	W	531	W	6	1,020
May	19	W	540	W	6	1,030
June	20	W	535	W	6	1,020
July	20	W	532	W	6	1,020
August	20	W	534	W	6	1,030
September	20	W	528	W	6	1,020
October	20	W	533	W	6	1,020
November	20	W	529	W	6	1,010
December	20	W	523	W	6	1,000
January-December	236	W	6,390	W	72	12,200
Stocks:						
2006:						
December	18	26	355	34	9	442
2007:						
January	19	28	361	36	9	452
February	17	28	356	31	9	441
March	19	14	353	38	9	433
April	18	13	360	36	9	436
May	18	13	360	34	9	434
June	17	12	357	33	9	428
July	17	14	356	28	9	423
August	16	13	349	27	9	414
September	14	13	352	27	9	415
October	16	13	359	28	9	425
November	15	13	356	27	9	419
December	14	13	356	30	9	421

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
2006	2,290	2,900	265	1,740	1,600	1,770	10,600	XX
2007:								
September	344	193	8	53	67	211	877	9,080
October	299	18	30	114	112	81	654	9,740
November:								
Austria	--	--	--	--	(3)	2	2	25
Belgium	--	--	--	(3)	(3)	1	1	9
Bolivia	32	--	--	--	--	--	32	1,150
Brazil	82	--	--	--	--	--	82	216
Canada	44	--	--	6	19	(3)	69	1,080
China	--	239	23	43	45	60	409	4,400
Czech Republic	--	--	--	--	--	(3)	(3)	5
France	--	--	--	--	--	(3)	(3)	12
Germany	1	17	--	18	5	9	51	851
Hong Kong	--	--	--	--	--	1	1	11
Hungary	--	--	--	--	--	(3)	(3)	4
India	--	--	--	--	8	2	9	46
Ireland	--	--	--	--	--	--	--	6
Israel	--	--	--	50	20	1	71	688
Italy	--	--	--	--	(3)	--	(3)	11
Japan	--	--	--	1	--	1	2	47
Korea, Republic of	--	--	--	15	(3)	(3)	15	171
Mexico	--	--	--	--	--	(3)	(3)	31
Mongolia	--	--	--	--	--	--	--	77
Netherlands	--	--	--	--	--	(3)	(3)	36
Peru	37	--	--	--	--	--	37	382
Portugal	93	--	--	--	--	--	93	671
Russia	--	--	--	--	--	20	20	144
Rwanda	11	--	--	--	--	--	11	270
Singapore	--	--	--	--	--	5	5	30
South Africa	--	--	--	--	--	--	--	14
Sweden	--	--	--	--	26	(3)	26	49
Thailand	15	--	--	--	--	--	15	142
Uganda	--	--	--	--	--	--	--	14
United Kingdom	--	--	--	--	--	(3)	(3)	21
Uzbekistan	--	--	--	--	--	--	--	64
Vietnam	--	--	--	--	--	--	--	10
Other	--	--	--	--	--	(3)	(3)	4
Total	315	256	23	133	124	104	954	10,700
Total, year to date	3,690	2,410	270	1,400	1,360	1,560	10,700	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 2007 totaled 146 metric tons, tungsten content, to give a year-to-date total of 1,280 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
2006	130	350	959	1,010	2,670	5,130	XX
2007:							
September	17	82	62	91	72	324	3,310
October	1	50	150	117	117	435	3,740
November:							
Australia	--	--	(4)	2	1	3	33
Austria	--	--	--	2	--	2	4
Bolivia	--	--	--	--	--	--	17
Brazil	--	--	1	7	1	8	57
Canada	--	--	6	12	15	33	362
Chile	--	--	(4)	--	--	(4)	3
China	--	--	--	(4)	(4)	1	63
Colombia	--	--	--	--	(4)	(4)	4
Costa Rica	--	--	--	--	(4)	(4)	4
Czech Republic	--	--	--	--	2	2	76
Denmark	--	--	--	--	--	--	9
France	--	--	1	15	(4)	16	163
Germany	--	--	35	31	18	84	1,530
Hungary	--	--	--	--	3	3	18
India	--	1	(4)	(4)	(4)	2	35
Ireland	(4)	--	--	--	(4)	(4)	7
Israel	--	--	(4)	--	1	1	44
Italy	--	--	1	--	(4)	1	19
Japan	--	--	1	(4)	3	4	118
Korea, Republic of	--	--	(4)	1	--	1	11
Luxembourg	--	--	--	(4)	--	(4)	2
Malaysia	--	--	--	(4)	(4)	(4)	13
Mexico	--	--	33	1	9	42	345
Netherlands	--	--	--	--	1	1	108
Peru	--	--	1	--	--	1	9
Philippines	--	--	--	--	(4)	(4)	13
Singapore	--	--	5	(4)	(4)	5	54
South Africa	--	--	--	10	(4)	10	81
Spain	--	--	(4)	--	1	1	18
Sweden	--	--	(4)	--	2	2	93
Switzerland	--	--	(4)	--	(4)	(4)	7
Taiwan	(4)	2	6	2	(4)	11	120
United Kingdom	(4)	--	1	26	1	28	503
Venezuela	--	--	--	5	--	5	44
Other	--	--	3	(4)	(4)	4	20
Total	(4)	3	94	115	58	270	4,010
Total, year to date	108	635	978	1,160	1,130	4,010	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 2007 totaled 132 metric tons, tungsten content, to give a year-to-date total of 1,520 metric tons, tungsten content.

Source: U.S. Census Bureau.