

# Mineral Industry Surveys

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## TUNGSTEN IN JUNE 2011

Total U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder, was 10% higher during January through June 2011 than net production during the same period in 2010. Total U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and other tungsten materials during January through June 2011 was 18% higher than consumption during the same period in 2010. These 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 of tungsten for January through May 2011 and full year 2010 totals by material are published in this issue.

### Prices

Selected prices from Metal Bulletin for June 2011 are listed below. U.S. ammonium paratungstate prices in dollars per

metric ton unit were converted from short-ton-unit prices and rounded to the nearest dollar. Prices for tungsten ore concentrates represent combined prices for wolframite and scheelite concentrates with a minimum tungsten trioxide (WO<sub>3</sub>) content of 65%. Concentrate prices in dollars per short ton unit were converted from metric-ton-unit prices and rounded to the nearest dollar.

Ammonium paratungstate, U.S. free market:

Low—\$336/metric ton unit WO<sub>3</sub> (\$305/short ton unit WO<sub>3</sub>)  
High—\$341/metric ton unit WO<sub>3</sub> (\$309/short ton unit WO<sub>3</sub>)

Concentrates:

Low—\$140/metric ton unit WO<sub>3</sub> (\$127/short ton unit WO<sub>3</sub>)  
High—\$160/metric ton unit WO<sub>3</sub> (\$145/short ton unit WO<sub>3</sub>)

TABLE 1  
U.S. SALIENT TUNGSTEN STATISTICS<sup>1</sup>

(Metric tons, tungsten content)

Period	Concentrate				Intermediate products				
	Reported consumption	Imports for consumption	Stocks, end of period		Reported scrap consumption	Net production <sup>4</sup>	Reported consumption <sup>5</sup>	Stocks, end of period	
			Industry <sup>2</sup>	U.S. Government <sup>3</sup>				Industry <sup>6</sup>	U.S. Government <sup>3</sup>
<b>2010:</b>									
June	(7)	246	W	17,700	415	756	959	708	169
July	(7)	221	W	17,000	(7)	667	929	689	169
August	(7)	366	W	17,000	(7)	788	935	704	169
September	(7)	172	W	17,000	506	752	898	762	171
October	(7)	246	W	17,000	366	728	854	828	171
November	(7)	236	W	17,000	(7)	700	865	804	171
December	(7)	214	W	17,000	(7)	680	876	669	171
January–December	4,840	2,740	W	17,000	5,800	8,310	10,800	669	171
<b>2011:</b>									
January	W	332	W	17,000	(8)	646	994	761	171
February	W	276	W	17,000	(8)	779	992	804	171
March	W	388	W	17,000	(8)	774	998	683	171
April	W	283	W	17,000	(8)	732	1,080	599	171
May	W	469	W	15,900	690	718	1,050	593	171
June	W	259	W	15,900	1,130	735	1,280	637	171
January–June	W	2,010	W	15,900	5,200	4,380	6,390	637	171

W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Reported by consumers.

<sup>3</sup>Data from the Defense Logistics Agency, DLA Strategic Materials. Data are uncommitted material only.

<sup>4</sup>Net production of tungsten metal powder and tungsten carbide powder.

<sup>5</sup>Includes estimates and scrap.

<sup>6</sup>Data for tungsten metal powder and tungsten carbide powder reported by producers.

<sup>7</sup>Withheld to avoid disclosing company proprietary data; included in "January–December."

<sup>8</sup>Withheld to avoid disclosing company proprietary data; included in "January–June."

TABLE 2  
U.S. PRODUCTION, CONSUMPTION, AND STOCKS OF  
AMMONIUM PARATUNGSTATE, BY MONTH<sup>1</sup>

(Metric tons, tungsten content)

Period	Production	Consumption	Stocks, end of period <sup>2</sup>
2010:			
June	W	952	147
July	W	(3)	130
August	W	(3)	W
September	W	1,010	122
October	W	848	112
November	W	(3)	W
December	W	(3)	62
January–December	W	10,300	62
2011:			
January	W	(4)	W
February	W	(4)	W
March	W	(4)	W
April	W	(4)	W
May	W	841	W
June	W	895	W
January–June	W	5,050	W

W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Producers and consumers.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included in "January–December."

<sup>4</sup>Withheld to avoid disclosing company proprietary data; included in "January–June."

TABLE 3  
U.S. PRODUCTION AND STOCKS OF TUNGSTEN PRODUCTS<sup>1</sup>

(Metric tons, tungsten content)

Product <sup>3</sup>	Net production <sup>2</sup>				Stocks at end of period		
	2010	2011			2010	2011	
		May	June	January–June <sup>4</sup>		May	June
Metal powder	4,100	320	288	2,000	341	316	346
Tungsten carbide powder	4,210	398	447	2,390	328	277	291
Total	8,310	718	735	4,380	669	593	637

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Receipts plus gross production less quantity used to make other products in table.

<sup>3</sup>Data for cast and crystalline tungsten carbide powder and tungsten chemicals are withheld to avoid disclosing company proprietary data; not included in "Total."

<sup>4</sup>May include revisions to previously published data.

TABLE 4  
U.S. REPORTED CONSUMPTION OF TUNGSTEN, BY END USE<sup>1, 2, 3</sup>

(Metric tons, tungsten content)

End use	2011		
	May	June	January–June <sup>4</sup>
Steels	6	6	36
Superalloys	W	W	W
Other alloys (excludes steels and superalloys) <sup>5</sup>	W	W	W
Cemented carbides <sup>6</sup>	579	575	3,460
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	466	700	2,900
Total	1,050	1,280	6,390

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Does not include materials used in making primary tungsten products.

<sup>3</sup>Includes estimates.

<sup>4</sup>May include revisions to previously published data.

<sup>5</sup>Includes welding and hard-facing rods and materials, wear- and corrosion-resistant alloys, and nonferrous alloys.

<sup>6</sup>Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

TABLE 5  
U.S. REPORTED CONSUMPTION AND CONSUMER STOCKS OF TUNGSTEN MATERIALS<sup>1</sup>

(Metric tons, tungsten content)

Period	Ferro- tungsten	Tungsten metal powder	Tungsten carbide powder	Tungsten scrap	Other tungsten materials <sup>2</sup>	Total
<b>Consumption:</b>						
<b>2010:</b>						
June	10	W	492	W	6	959
July	10	W	491	W	6	929
August	10	W	492	W	6	935
September	10	W	491	W	6	898
October	10	W	493	W	6	854
November	9	W	493	W	6	865
December	10	W	491	W	6	876
January–December	119	W	5,890	W	75	10,800
<b>2011:</b>						
January	10	W	569	W	6	994
February	10	W	567	W	6	992
March	10	W	570	W	6	998
April	10	W	565	W	6	1,080
May	10	W	571	W	6	1,050
June	10	W	567	W	6	1,280
January–June	60	W	3,410	W	37	6,390
<b>Stocks:</b>						
<b>2010:</b>						
June	21	49	415	67	10	562
July	22	50	414	65	10	561
August	22	51	413	66	10	562
September	22	50	413	56	10	552
October	23	51	413	56	10	553
November	23	52	413	60	10	558
December	22	54	413	61	10	561
<b>2011:</b>						
January	22	51	413	67	10	562
February	22	52	413	63	10	560
March	22	50	414	54	10	549
April	22	46	413	61	10	552
May	22	43	413	65	10	553
June	22	41	413	70	10	556

W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Includes estimates.

<sup>2</sup>Includes tungsten chemicals.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF TUNGSTEN, BY COUNTRY<sup>1</sup>

(Metric tons, tungsten content)

Period and country of origin	Ores and concentrates	Ammonium tungstates	Ferro-tungsten	Metal powder	Tungsten carbide powder	Other <sup>2</sup>	Total	Total, year to date
2010	2,740	2,510	357	1,340	1,610	2,430	11,000	XX
2011:								
March	388	147	16	100	132	136	919	2,930
April	283	184	--	118	167	278	1,030	3,960
May:								
Austria	--	--	--	--	--	7	7	62
Belgium	--	--	--	--	4	--	4	13
Bolivia	93	--	--	--	--	--	93	344
Brazil	--	--	--	--	--	(3)	(3)	11
Canada	--	--	--	36	16	(3)	52	206
China	--	372	31	39	86	204	732	2,450
Czech Republic	--	--	--	--	--	(3)	(3)	21
France	--	--	--	--	1	--	1	8
Germany	--	--	--	25	19	1	45	243
Hungary	--	--	--	--	--	1	1	3
India	--	--	--	--	--	3	3	9
Israel	--	--	--	33	15	(3)	48	129
Japan	--	--	--	4	--	2	7	119
Korea, Republic of	--	--	--	21	(3)	--	22	169
Luxembourg	--	--	--	--	--	(3)	(3)	3
Mongolia	47	--	--	--	--	--	47	198
Peru	27	--	--	--	--	--	27	191
Portugal	42	--	--	--	--	--	42	260
Russia	--	--	--	--	--	13	13	19
Rwanda	--	--	--	--	--	--	--	11
Singapore	--	--	--	(3)	--	1	2	9
Spain	39	--	--	--	--	--	39	206
Thailand	13	--	--	--	--	--	13	38
Uganda	--	--	--	--	--	--	--	10
United Kingdom	--	--	--	(3)	(3)	1	1	11
Vietnam	206	--	--	--	31	--	238	645
Other	2	--	--	--	--	1	3	7
Total	469	372	31	158	173	236	1,440	5,400
January–May	1,750	1,020	165	595	743	1,130	5,400	XX

XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes 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.

<sup>3</sup>Less than ½ unit.

Note: Imports of waste and scrap in May 2011 totaled 93 metric tons, tungsten content, to give a year-to-date total of 481 metric tons, tungsten content.

Source: U.S. Census Bureau.

TABLE 7  
U.S. EXPORTS OF TUNGSTEN, BY COUNTRY<sup>1</sup>

(Metric tons, tungsten content)

Period and country of destination	Ores and concentrates <sup>2</sup>	Ammonium tungstates	Metal powder <sup>2</sup>	Tungsten carbide powder	Other <sup>3</sup>	Total	Total, year to date
2010	276	538	803	1,220	875	3,710	XX
2011:							
March	3	88	56	126	125	398	1,039
April	3	27	67	145	91	332	1,371
May:							
Australia	--	--	1	2	(4)	3	19
Austria	--	--	16	17	--	33	140
Belgium	--	--	--	(4)	(4)	(4)	125
Brazil	1	--	2	(4)	2	5	37
Canada	--	--	12	7	38	57	248
Chile	--	--	--	--	--	--	3
China	--	--	3	(4)	2	5	33
Costa Rica	--	--	--	--	1	1	6
Czech Republic	--	--	--	--	3	3	10
France	(4)	--	9	4	4	17	35
Germany	--	26	10	19	11	66	397
Hong Kong	--	--	--	1	(4)	1	6
India	1	--	(4)	--	(4)	2	14
Indonesia	--	--	(4)	2	4	5	12
Israel	--	--	(4)	--	2	2	14
Italy	--	--	--	(4)	(4)	(4)	3
Japan	--	--	3	(4)	21	24	107
Korea, Republic of	--	--	(4)	1	(4)	1	5
Malaysia	--	--	(4)	--	--	(4)	7
Mexico	(4)	--	1	1	12	14	55
Netherlands	--	--	--	4	(4)	4	15
Peru	--	--	(4)	--	--	(4)	3
Saudi Arabia	--	--	--	--	--	--	19
Singapore	--	--	1	2	5	8	27
South Africa	--	--	3	1	(4)	3	11
Switzerland	--	29	--	3	--	31	106
Taiwan	--	--	2	2	1	5	27
Thailand	--	--	1	--	--	1	4
United Kingdom	--	--	--	45	(4)	45	193
Venezuela	--	--	--	1	(4)	1	9
Other	--	--	3	1	4	7	26
Total	2	55	66	112	110	344	1,720
January–May	15	339	254	531	578	1,720	XX

XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Tungsten content estimated from reported gross weight.

<sup>3</sup>Includes unwrought tungsten, including bars and rods obtained simply by sintering, wrought tungsten, ferrotungsten, and other tungstates. Tungsten content estimated in part.

<sup>4</sup>Less than ½ unit.

Note: Estimated exports of waste and scrap in May 2011 totaled 194 metric tons, tungsten content, to give a year-to-date total of 889 metric tons, tungsten content.

Source: U.S. Census Bureau.