

# Mineral Industry Surveys

---

**For information, contact:**

Michael J. Magyar, Vanadium Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4964, Fax: (703) 648-7757  
E-mail: mmagyar@usgs.gov

Maria Arguelles (Data)  
Telephone: (703) 648-7990  
Fax: (703) 648-7992  
E-mail: marguell@usgs.gov

**Internet:** <http://minerals.usgs.gov/minerals>

## VANADIUM IN JANUARY 2007

Reported domestic consumption of vanadium in January 2007 was about 15% more than that of the previous month, and was about 14% more than that of January 2006, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 296 metric tons (t) at the beginning of 2007 and 354 t at the end of January.

According to Ryan's Notes (2007), U.S. ferrovanadium (FeV) prices ranged from \$15.722 to \$16.222 per pound of vanadium content in January, as compared with \$16.250 to \$16.889 in December. European FeV prices ranged from \$30.778 to \$31.778 per kilogram in January, as compared with \$33.000 to \$34.000 in December. Vanadium pentoxide ( $V_2O_5$ ) prices ranged from \$6.333 to \$6.722 per pound in January, as compared with \$6.000 to \$6.313 in December.

Xstrata Alloys Ltd. (Rustenburg, South Africa) agreed to an \$80 million, Black Economic Empowerment transaction with the Bakwena Ba Mogopa Traditional Community. The Community owned the property on which Xstrata's Rhovan vanadium facility was located. Under terms of the transaction, the Community would gain 26% participation in the integrated vanadium operation through a shared venture, subject to regulatory approval (Platts Metals Week, 2007).

### References Cited

Platts Metals Week, 2007, Xstrata Alloys to buy SA vanadium assets: Platts Metals Week, v. 78, no. 3, January 15, p. 11.  
Ryan's Notes, 2007, [untitled]: Ryan's Notes, v. 13, no. 6, February 5, p. 10.

TABLE 1  
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM<sup>1</sup>

(Kilograms, contained vanadium)

	2005		2006				2007	
	Consumption	Stocks	December		January-December		January	
			Consumption <sup>r</sup>	Stocks <sup>r</sup>	Consumption	Stocks	Consumption	Stocks
Ferrovandium <sup>2</sup>	3,630,000	343,000	267,000	247,000	3,350,000	247,000	273,000	275,000
Vanadium-aluminum alloy	W	W	W	W	W	W	W	W
Other <sup>3</sup>	281,000	27,700	26,300	48,100	298,000	48,100	62,400	79,400
Total	3,910,000	371,000	293,000	296,000	3,650,000	296,000	335,000	354,000

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

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

<sup>2</sup>Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

<sup>3</sup>Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2  
U.S. CONSUMPTION OF VANADIUM, BY END USE<sup>1</sup>

(Kilograms, contained vanadium)

	2005 <sup>r</sup>	2006		2007
		December	January-December	January
Steel:				
Carbon	1,170,000	78,400	931,000	69,800
High-strength low-alloy	974,000	78,200	1,020,000	92,900
Stainless and heat-resisting	60,000	5,060	60,700	5,110
Full alloy	1,010,000	77,100	1,020,000	92,400
Tool	408,000	27,300	322,000	34,000
Total steel	3,620,000	266,000	3,350,000	294,000
Superalloys	35,600	430	4,130	466
Miscellaneous and unspecified <sup>2</sup>	259,000	25,900	296,000	40,300
Grand total	3,910,000	292,000	3,650,000	335,000

<sup>r</sup>Revised.

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

<sup>2</sup>Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3  
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND  
VANADIUM METAL, INCLUDING WASTE AND SCRAP<sup>1</sup>

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
<b>Imports for consumption:</b>				
2005	1,010	\$15,500	54,800	\$3,800,000
2006:				
October	--	--	107	78,200
November	--	--	18,400	630,000
December, Germany	--	--	881	176,000
January-December	102,000	312,000	121,000	5,270,000
<b>Exports:</b>				
2005	15,100,000 <sup>r</sup>	45,600,000 <sup>r</sup>	293,000	16,400,000
2006:				
October	1,440,000	5,770,000	35,200	1,250,000
November	2,000,000	7,670,000	7,210	249,000
December:				
Australia	--	--	896	47,000
Austria	--	--	3,830	104,000
Belgium	17,600	518,000	--	--
Brazil	6,730	34,500	--	--
Canada	554,000	1,620,000	--	--
China	3,910	15,400	--	--
Germany	--	--	7,260	144,000
India	15,400	82,300	--	--
Italy	306	9,000	--	--
Japan	21,300	528,000	5,570	164,000
Mexico	301,000	870,000	--	--
Norway	--	--	15,500	360,000
Saudia Arabia	--	--	980	95,600
South Africa	6,190	32,900	--	--
United Kingdom	--	--	4,990	166,000
Total	927,000	3,720,000	39,000	1,080,000
Year to date	17,000,000	54,500,000	491,000	13,200,000

<sup>r</sup>Revised. -- Zero.

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

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND  
OTHER OXIDES AND HYDROXIDES OF VANADIUM<sup>1</sup>

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) <sup>2</sup>		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Imports for consumption:</b>						
2005	11,900,000 <sup>r</sup>	\$131,000,000	1,370,000 <sup>r</sup>	\$52,900,000	186,000 <sup>r</sup>	\$6,540,000 <sup>r</sup>
2006:						
October	179,000	6,920,000	121,000	2,520,000	2,360	10,400
November	156,000	5,930,000	115,000	2,670,000	--	--
December:						
Austria	16,000	579,000	4,150	111,000	--	--
Canada	15,000	541,000	--	--	--	--
China	--	--	41,800	943,000	--	--
Czech Republic	146,000	5,410,000	--	--	--	--
Israel	--	--	--	--	8,380	142,000
Japan	--	--	279	24,500	--	--
Korea, Republic of	17,100	550,000	--	--	--	--
Russia	--	--	56,800	782,000	--	--
South Africa	--	--	59,400	1,030,000	13,800	217,000
Total	194,000	7,080,000	162,000	2,890,000	22,200	359,000
January-December	2,140,000	90,500,000	1,920,000	45,200,000	129,000	3,370,000
<b>Exports:</b>						
2005	504,000 <sup>r</sup>	19,300,000 <sup>r</sup>	254,000 <sup>r</sup>	5,470,000 <sup>r</sup>	899,000 <sup>r</sup>	15,400,000 <sup>r</sup>
2006:						
October	10,100	386,000	68,000	1,440,000	70,600	691,000
November	9,650	362,000	28,300	561,000	15,400	230,000
December:						
Mexico	2,370	120,000	--	--	--	--
Netherlands	--	--	--	--	9,220	150,000
Peru	1,330	73,200	--	--	--	--
Trinidad and Tobago	--	--	2,900	68,300	--	--
Total	3,710	193,000	2,900	68,300	9,220	150,000
January-December <sup>3</sup>	389,000	11,400,000	341,000	7,150,000	832,000	7,780,000

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>May include catalysts containing vanadium pentoxide.

<sup>3</sup>May include revisions to previous months data.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG<sup>1</sup>

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)	
	Quantity	Value	Quantity	Value
2005	1,060,000 <sup>r</sup>	\$9,820,000	1,200,000 <sup>r</sup>	\$1,100,000
2006:				
October	100,000	1,120,000	108,000	77,300
November	63,600	747,000	80,500	87,200
December:				
Canada	--	--	62,600	78,000
Mexico	200,000	2,360,000	--	--
Total	200,000	2,360,000	62,600	78,000
January-December	637,000	7,320,000	1,140,000	1,130,000

<sup>r</sup>Revised. -- Zero.

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

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS<sup>1</sup>

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2005	35,000	\$77,000	85,100 <sup>r</sup>	\$2,800,000
2006:				
October	--	--	5,590	149,000
November	--	--	5,850	177,000
December:				
Germany	--	--	5,770	156,000
Japan	--	--	25	5,560
South Africa	--	--	2,400	114,000
Total	--	--	8,190	276,000
January-December	16	26,700	115,000	3,330,000

<sup>r</sup>Revised. -- Zero.

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

Source: U.S. Census Bureau.