

Mineral Industry Surveys

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VANADIUM IN JANUARY 2009

Reported domestic consumption of vanadium in January 2009 was about 9% less than that of the previous month, and was about 5% less than that of January 2008, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 308 metric tons at both the beginning and end of January 2009.

According to Ryan's Notes (2009), U.S. ferrovanadium (FeV) prices ranged from \$12.513 to \$13.000 per pound of vanadium content in January 2009, as compared with \$14.531 to \$15.250 in December 2008. European FeV prices ranged from \$25.600 to \$26.875 per kilogram in January, as compared with \$27.875 to \$29.625 in December. Vanadium pentoxide (V_2O_5) prices ranged from \$5.688 to \$6.188 per pound in January, as compared with \$6.763 to \$7.188 in December.

Strategic Minerals Corp. Inc. (Stratcor) announced the reopening of its V_2O_5 production facility in Hot Springs, AR, after a shutdown of approximately 6 weeks. The plant is capable of producing approximately 5,400 metric tons per year of high-

purity V_2O_5 but as of January was operating at 60% to 70% of capacity (Metal-Pages, Ltd., 2009).

Stratcor also announced that the vanadium plant of its subsidiary, Vametco, in Brits, South Africa, was expected to remain closed until March (Metal-Pages Ltd., 2009). The Brits plant is a fully-integrated facility that processes ore to produce nitrided vanadium, an alloy containing 76% to 81% vanadium. Stratcor markets the product under the trade name Nitrovan as a replacement for FeV (Metal-Pages Ltd., 2008).

References Cited

- Metal-Pages Ltd., 2008, Stratcor's Vametco subsidiary reduces power use at vanadium plant: Metal-Pages Ltd., April 30. (Accessed September 4, 2009, via <http://www.metalpages.com/news>.)
Metal-Pages Ltd., 2009, Stratcor reopens US vanadium pentoxide operations: Metal-Pages Ltd., January 27. (Accessed September 4, 2009, via <http://www.metalpages.com/news>.)
Ryan's Notes, 2009, [untitled]: Ryan's Notes, v. 15, no. 4, January 26, p. 10.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM¹

(Kilograms, contained vanadium)

	2007		2008				2009	
	Consumption	Stocks	December		January-December		January	
			Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	3,320,000	253,000	333,000 ^r	231,000 ^r	4,030,000 ^r	231,000 ^r	332,000	234,000
Vanadium-aluminum alloy	W	W	W	W	W	W	W	W
Other ³	809,000	42,400	60,900 ^r	76,400 ^r	817,000 ^r	76,400 ^r	59,000	74,300
Total	4,130,000	295,000	394,000 ^r	308,000 ^r	4,850,000 ^r	308,000 ^r	391,000	308,000

^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Other."

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

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

³Includes 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 USE¹

(Kilograms, contained vanadium)

	2007	2008		2009
		December	January-December	January
Steel:				
Carbon	882,000	47,000 ^r	760,000 ^r	47,100
High-strength low-alloy	1,270,000	128,000 ^r	1,540,000 ^r	128,000
Stainless and heat-resisting	61,400	5,110	116,000	5,110
Full alloy	1,180,000	163,000 ^r	2,000,000 ^r	161,000
Tool	420,000	34,700	151,000 ^r	34,700
Total steel	3,810,000	378,000 ^r	4,570,000 ^r	377,000
Superalloys	7,180	164 ^r	2,490 ^r	159
Miscellaneous and unspecified ²	314,000	15,700 ^r	275,000 ^r	13,900
Total consumption	4,130,000	394,000 ^r	4,850,000 ^r	391,000

^rRevised.

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

²Includes 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 SCRAP¹

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2007	1,110,000	\$2,110,000	3,620	\$198,000
2008:				
October	19,500	92,200	--	--
November	37,700	181,000	33	15,300
December:				
China	--	--	38	19,000
Germany	--	--	646	67,800
Greece	19,000	86,200	--	--
Netherlands	8,020	39,900	--	--
Total	27,000	126,000	684	86,800
Year to date	618,000	2,760,000	4,600	322,000
Exports:				
2007	21,100,000	72,700,000	49,400	2,690,000
2008:				
October	2,080,000	7,550,000	13,800	923,000
November	1,460,000	4,480,000	12,400	713,000
December:				
Brazil	752	21,800	--	--
Canada	291,000	775,000	--	--
Israel	1,170	16,700	--	--
Japan	2,130	8,420	3,190	208,000
Korea	1,290	12,500	--	--
Mexico	966,000	2,820,000	--	--
Singapore	1,320	38,700	--	--
United Kingdom	22,800	669,000	--	--
Total	1,290,000	4,360,000	3,190	208,000
Year to date	21,900,000	76,200,000	57,100	3,740,000

-- Zero.

¹Data 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 VANADIUM¹

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) ²		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2007	2,220,000	\$81,300,000	2,390,000	\$46,800,000	41,900	\$1,400,000
2008:						
October	176,000	10,700,000	143,000	6,540,000	--	--
November	86,300	5,520,000	199,000	6,130,000	--	--
December:						
Austria	--	--	--	--	8,380	511,000
Canada	68,400	3,890,000	--	--	--	--
China	--	--	25,500	1,110,000	--	--
Germany	157	17,500	--	--	--	--
Korea, Republic of	26,000	1,020,000	--	--	--	--
Russia	--	--	--	--	--	--
South Africa	--	--	56,500	1,210,000	--	--
Taiwan	--	--	--	--	--	--
United Kingdom	--	--	--	--	--	--
Total	94,600	4,930,000	81,900	2,320,000	8,380	511,000
Year to date	2,800,000	159,000,000	3,700,000	115,000,000	144,000	4,320,000
Exports:						
2007	206,000	5,810,000	327,000	5,460,000	626,000	7,530,000
2008:						
October	41,200	1,800,000	100	6,170	197,000	1,850,000
November	13,300	570,000	30,800	524,000	13,800	192,000
December:						
Brazil	--	--	--	--	2,730	39,100
Canada	3,990	166,000	--	--	--	--
Germany	--	--	968	23,000	--	--
Total	3,990	166,000	968	23,000	2,730	39,100
Year to date	281,000	12,600,000	249,000	5,650,000	1,040,000	11,300,000

-- Zero.

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

²May include catalysts containing vanadium pentoxide.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG¹

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)	
	Quantity	Value	Quantity	Value
2007	1,000,000	\$9,960,000	641,000	\$913,000
2008:				
October	218,000	5,730,000	43,500	38,300
November	187,000	2,190,000	53,300	47,000
December, Mexico	95,700	2,420,000	--	--
Year to date	1,040,000	18,000,000	601,000	795,000

-- Zero.

¹Data 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 CHEMICALS¹

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2007	80,200	\$783,000	211,000	\$3,550,000
2008:				
October	18	4,160	5	14,400
November	--	--	324	6,580
December, China	2,010	55,500	304	6,810
Year to date	2,160	119,000	187,000	4,230,000

-- Zero.

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

Source: U.S. Census Bureau.