

Mineral Industry Surveys

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VANADIUM IN DECEMBER 2008

Reported domestic consumption of vanadium in December 2008 was slightly less than that of the previous month, and was about 31% more than that of December 2007, according to the U.S. Geological Survey. Reported domestic consumption of vanadium in 2008 was 23% more than that of 2007. Consumer stocks of vanadium, in all forms, were 295 metric tons (t) at the beginning of 2008 and 310 t at the end of December 2008.

According to Ryan's Notes (2008), U.S. ferrovanadium (FeV) prices ranged from \$14.531 to \$15.250 per pound of vanadium content in December, as compared with \$19.643 to \$20.857 in November. European FeV prices ranged from \$27.875 to \$29.625 per kilogram in December, as compared with \$34.000 to \$36.000 in November. Vanadium pentoxide (V₂O₅) prices ranged from \$6.763 to \$7.188 per pound in December, as compared with \$8.400 to \$8.857 in November.

Windimurra Vanadium Limited's mine in Western Australia was delayed further owing to the late delivery of equipment and material and delays in approvals. According to the company, the project was expected to produce FeV in the second quarter of 2009. An additional A\$81 million was needed to cover more construction labor and an increase in various fixed costs associated with the extension (Windimurra Vanadium Limited, 2008).

References Cited

Ryan's Notes, 2008, [untitled]: Ryan's Notes, v. 14, no. 52, December 29, p. 9.
Windimurra Vanadium Limited, 2008, Market Update: Perth, Australia,
Windimurra Vanadium Limited, December 23, 3 p. (Accessed May 8, 2009,
at http://www.pmal.com.au/aurora/assets/user_content/File/081223%20Market%20Update.pdf.)

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

(Kilograms, contained vanadium)

	2007		2008					
	Consumption	Stocks	November		December		Year to date	
			Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	3,320,000	253,000	351,000	240,000	344,000	234,000	4,260,000	234,000
Vanadium-aluminum alloy	W	W	W	W	W	W	W	W
Other ³	809,000	42,400	51,200	87,700	62,600	76,100	832,000	76,100
Total	4,130,000	295,000	402,000	327,000	406,000	310,000	5,090,000	310,000

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		
		November	December	Year to date
Steel:				
Carbon	882,000	56,800	47,500	763,000
High-strength low-alloy	1,270,000	132,000	132,000	1,580,000
Stainless and heat-resisting	61,400	5,110	5,110	116,000
Full alloy	1,180,000	167,000	169,000	2,070,000
Tool	420,000	34,700	34,700	267,000
Total steel	3,810,000	396,000	389,000	4,800,000
Superalloys	7,180	391	34	4,910
Miscellaneous and unspecified ²	314,000	5,560	17,300	285,000
Total consumption	4,130,000	402,000	406,000	5,090,000

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, Greece	19,500	92,200	--	--
November:				
China	--	--	33	15,300
Greece	37,700	181,000	--	--
Total	37,700	181,000	33	15,300
Year to date	591,000	2,630,000	3,910	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:				
Brazil	1,350	23,700	--	--
Canada	342,000	935,000	--	--
Japan	1,840	9,200	12,400	713,000
Mexico	1,120,000	3,470,000	--	--
Singapore	1,210	35,500	--	--
Total	1,460,000	4,480,000	12,400	713,000
Year to date	20,600,000	71,800,000	53,900	3,530,000

-- 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:						
Austria	15,700	991,000	50	6,000	--	--
Canada	43,000	3,190,000	--	--	--	--
China	--	--	17,000	993,000	--	--
Germany	209	20,000	--	--	--	--
Korea, Republic of	27,400	1,320,000	--	--	--	--
Russia	--	--	132,000	3,520,000	--	--
South Africa	--	--	50,000	1,610,000	--	--
Taiwan	--	--	--	--	--	--
United Kingdom	--	--	--	--	--	--
Total	86,300	5,520,000	199,000	6,130,000	--	--
Year to date	2,710,000	153,000,000	3,620,000	113,000,000	135,000	3,810,000
Exports:						
2007	206,000	5,810,000	327,000	5,460,000	626,000	7,530,000
2008:						
October	41,200	1,800,000	--	--	197,000	1,850,000
November:						
Australia	326	10,900	--	--	--	--
Canada	12,200	533,000	--	--	363	8,190
Germany	--	--	--	--	10,700	163,000
Korea, Republic of	--	--	--	--	1,000	8,940
Mexico	807	26,900	--	--	--	--
Taiwan	--	--	--	--	892	8,440
Trinidad and Tobago	--	--	--	--	845	4,000
Total	13,300	570,000	--	--	13,800	192,000
Year to date	277,000	12,400,000	217,000	5,100,000	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:				
Canada	--	--	53,300	47,000
Mexico	187,000	2,190,000	--	--
Total	187,000	2,190,000	53,300	47,000
Year to date	948,000	15,600,000	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, India	18	4,160	5	14,400
November, India	--	--	324	6,580
Year to date	154	63,900	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.