

Mineral Industry Surveys

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VANADIUM IN DECEMBER 2007

Reported domestic consumption of vanadium in December 2007 was about 3% less than that of the previous month, and was about 6% more than that of December 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 296 t at the end of December 2007.

According to Ryan's Notes (2008), U.S. ferrovanadium (FeV) prices ranged from \$18.321 to \$18.821 per pound of vanadium content in December, as compared with \$18.750 to \$19.250 in November. European FeV prices ranged from \$36.000 to \$37.000 per kilogram in December, as compared with \$37.188 to \$38.063 in November. Vanadium pentoxide (V₂O₅) prices ranged from \$7.200 to \$7.586 per pound in December, as compared with \$7.200 to \$7.700 in November.

FeV producers negotiating next year's contracts argued that demand was strong and that downward pressure on prices was the result of manipulation by traders. A V₂O₅ producer stated

that although volume was low, Chinese prices were holding at \$7.45 to \$7.50 per pound and that traders were attempting to force prices lower. One trader reportedly stated he had conducted business as low as \$7.15 per pound and suggested prices could drop to 7-month lows at \$7.05 per pound. However, a second trader suggested that prices could surge based on a possible supply shortfall from China. He felt that Chinese producers were holding material back based on the strong RMB versus the dollar and the anticipation of a proposed 5% export tax on V₂O₅, which could start in January 2008 (Metal Bulletin, 2007).

References Cited

Metal Bulletin, 2007, FeV market split as producers blame traders for three-month lows: Metal Bulletin, no. 9025, December 10, p. 16.
Ryan's Notes, 2008, [untitled]: Ryan's Notes, v. 14, no. 1, January 3, p. 9.

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

(Kilograms, contained vanadium)

	2006 ^P		2007					
	Consumption	Stocks	November		December		Year to date	
			Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	3,350,000	247,000	249,000	268,000	231,000	253,000	3,280,000	253,000
Vanadium-aluminum alloy	W	W	W	W	W	W	W	W
Other ³	298,000	48,100	70,000	43,900	77,700	42,600	809,000	42,600
Total	3,650,000	296,000	319,000	312,000	309,000	296,000	4,090,000	296,000

^PPreliminary. 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)

	2006 ^P	2007		
		November	December	Year to date
Steel:				
Carbon	931,000	54,900	81,300	829,000
High-strength low-alloy	1,020,000	106,000	78,200	1,140,000
Stainless and heat-resisting	60,700	5,120	5,120	56,300
Full alloy	1,020,000	95,400	90,700	1,070,000
Tool	322,000	32,200	21,400	399,000
Total steel	3,350,000	294,000	277,000	3,490,000
Superalloys	4,130	438	482	6,660
Miscellaneous and unspecified ²	296,000	24,200	31,900	282,000
Total consumption	3,650,000	319,000	309,000	3,780,000

^PPreliminary.

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:				
2006	102,000	\$312,000	121,000	\$5,270,000
2007:				
October	--	--	--	--
November:				
Mexico	236,000	625,000	--	--
Total	236,000	625,000	--	--
Year to date	1,050,000	1,800,000	--	--
Exports:				
2006	17,000,000	54,500,000	491,000	13,200,000
2007:				
October	1,910,000	5,730,000	--	--
November:				
Australia	852	11,100	--	--
Canada	715,000	2,110,000	--	--
Italy	534	12,100	--	--
Korea, Republic of	610	7,940	--	--
Mexico	1,320,000	3,700,000	--	--
Netherlands	3,240	40,700	--	--
Singapore	29,700	184,000	--	--
Total	2,070,000	6,060,000	--	--
Year to date	20,300,000	68,300,000	--	--

-- 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:						
2006	2,140,000	\$90,500,000	1,920,000	\$45,200,000	129,000	\$3,370,000
2007:						
October	137,000	5,240,000	223,000	4,170,000	13,900	446,000
November:						
Austria	15,700	639,000	--	--	--	--
Canada	31,900	1,220,000	--	--	--	--
China	--	--	65,000	1,350,000	--	--
Czech Republic	32,200	1,330,000	--	--	--	--
Germany	666	58,200	--	--	--	--
Japan	--	--	336	30,000	--	--
Korea, Republic of	107,000	3,960,000	--	--	--	--
Russia	--	--	94,300	1,410,000	--	--
South Africa	--	--	61,400	1,910,000	--	--
Total	188,000	7,210,000	221,000	4,700,000	--	--
Year to date	2,030,000	74,400,000	2,220,000	44,200,000	36,500	1,140,000
Exports:						
2006	515,000	11,400,000	341,000	7,150,000	832,000	7,780,000
2007:						
October	15,400	518,000	8,380	274,000	115,000	1,770,000
November:						
Canada	10,100	344,000	--	--	459	4,620
Germany	--	--	1,340	23,800	25,100	288,000
India	--	--	7,880	86,100	--	--
Mexico	432	10,800	--	--	--	--
Netherlands	--	--	--	--	628	5,590
Sierra Leone	--	--	--	--	1,240	11,100
Total	7,740	355,000	9,220	110,000	27,400	309,000
Year to date	144,000	5,380,000	288,000	4,730,000	579,000	7,110,000

-- 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
2006	637,000	\$7,320,000	1,140,000	\$1,130,000
2007:				
October	114,000	1,320,000	51,200	87,600
November:				
Canada	--	--	54,300	75,100
Mexico	14,600	92,200	--	--
Total	14,600	92,200	54,300	75,100
Year to date	903,000	9,020,000	631,000	904,000

-- 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
2006	16	\$26,700	115,000	\$3,330,000
2007:				
October	2	11,100	66,500	582,000
November:				
China	--	--	5,600	198,000
Total	--	--	5,600	198,000
Year to date	80,200	783,000	200,000	3,380,000

-- Zero.

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

Source: U.S. Census Bureau.