

Mineral Industry Surveys

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VANADIUM IN DECEMBER 2010

Reported domestic consumption of vanadium in December 2010 was 4% less than that of the previous month, and was 8% more than that of December 2009, according to the U.S. Geological Survey. Reported domestic consumption of vanadium in 2010 was 5% more than that of 2009. Consumer stocks of vanadium, in all forms, were 278 metric tons (t) at the beginning of 2010 and 206 t at yearend 2010.

Ryan's Notes U.S. ferrovanadium (FeV) prices ranged from \$12.571 to \$13.571 per pound of vanadium content in December, compared with \$10.857 to \$11.336 in November. European FeV prices ranged from \$29.143 to \$29.857 per kilogram in December, compared with \$22.000 to \$23.429 in November. Vanadium pentoxide (V₂O₅) prices ranged from \$6.214 to \$6.571 per pound in December, compared with \$5.500 to \$5.964 in November.

Metallurg Vanadium Corp. (Cambridge, OH) completed construction of a new 43,000-square-foot raw material storage

facility, at its Cambridge facility, as part of its long-term project to increase vanadium production at the site. According to the company, the \$6 million storage facility met all standards for safe containment of spent refinery catalyst, a raw material used in the production of FeV. Metallurg Vanadium is a subsidiary of AMG Advanced Metallurgical Group N.V., soon to be named AMG Vanadium, Inc. (Metallurg Vanadium Corp., 2010).

Reference Cited

Metallurg Vanadium Corp., 2010, Metallurg Vanadium completes construction of new raw material storage building, Metallurg Vanadium Corp., November 16. (Accessed February 16, 2011, at http://www.metallurgvanadium.com/news_rmsb2event.html.)

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

(Kilograms, contained vanadium)

	2009		2010					
	Consumption	Stocks	November		December		January-December	
			Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	4,030,000	227,000	361,000	157,000	341,000	154,000	4,160,000	XX
Vanadium-aluminum alloy	W	W	(3)	(3)	(3)	(3)	(3)	XX
Other ⁴	694,000	51,700	(3)	(3)	(3)	(3)	(3)	XX
Total	4,720,000	278,000	437,000	203,000	420,000	206,000	4,940,000	XX

W Withheld to avoid disclosing company proprietary data; included with "Other." XX Not applicable.

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.

³Withheld to avoid disclosing company proprietary data; included in "Total."

⁴Includes 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)

	2009	2010		
		November	December	January-December
Steel:				
Carbon	610,000	69,900 ^r	47,800	663,000
High-strength low-alloy	1,540,000	W	W	W
Stainless and heat-resisting	119,000	5,110	5,110	120,000
Full alloy	1,880,000	169,000	171,000	1,970,000
Tool	417,000	W	W	W
Total steel	4,570,000	244,000	224,000	2,750,000
Superalloys	5,410	454	343	5,310
Miscellaneous and unspecified ²	151,000	W	W	W
Total consumption	4,720,000	437,000	420,000	4,940,000

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total consumption."

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:				
2009	282,000	\$979,000	21,700	\$940,000
2010:				
October	1,900,000	4,270,000	2,400	50,500
November, Mexico	1,320,000	2,640,000	--	--
Year to date	7,500,000	16,300,000	9,660	434,000
Exports:				
2009	11,200,000	27,800,000	22,700	1,040,000
2010:				
October	930,000	2,500,000	3,000	165,000
November:				
Canada	739,000	1,910,000	--	--
China	306	9,000	--	--
Japan	11,000	322,000	--	--
Malaysia	199	2,590	--	--
Mexico	205,000	566,000	--	--
Netherlands	296	3,850	--	--
Total	956,000	2,810,000	--	--
Year to date	10,800,000	30,000,000	6,190	267,000

-- 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:						
2009	353,000	\$12,600,000	1,120,000	\$16,500,000	25,200	\$551,000
2010:						
October	84,400	2,610,000	315,000	4,260,000	--	--
November:						
Austria	15,300	460,000	--	--	8,380	233,000
Canada	36,700	1,100,000	--	--	--	--
China	--	--	8,480	227,000	--	--
Germany	535	38,400	--	--	--	--
Korea, Republic of	29,300	823,000	--	--	--	--
Russia	--	--	302,000	3,290,000	--	--
South Africa	--	--	20,500	557,000	66,700	1,170,000
Total	81,800	2,420,000	331,000	4,070,000	75,100	1,410,000
Year to date	1,280,000	39,100,000	3,800,000	50,700,000	127,000	2,630,000
Exports:						
2009	971,000	15,000,000	401,000	4,970,000	506,000	5,270,000
2010:						
October	56,800	1,270,000	8,700	142,000	36,600	477,000
November:						
Brazil	--	--	19,400	231,000	6,050	53,900
Canada	28,800	605,000	--	--	--	--
Germany	--	--	--	--	2,250	20,000
India	40,000	564,000	--	--	--	--
Korea, Republic of	2,320	93,300	--	--	--	--
Mexico	1,220	33,400	--	--	2,470	22,000
Netherlands	--	--	36,500	475,000	--	--
Russia	--	--	--	--	44,500	396,000
Total	72,300	1,300,000	55,900	706,000	55,200	491,000
Year to date	787,000	15,800,000	139,000	2,110,000	1,030,000	10,000,000

-- 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, unless otherwise specified)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity (gross weight)	Value
	2009	791,000	\$12,300,000	615,000	\$1,260,000	80,500,000
2010:						
October	6,090	31,200	47,000	98,500	19,200,000	510,000
November:						
Canada	12,200	8,960	34,900	95,000	14,700,000	249,000
Germany	--	--	12,300	951,000	47,800	5,240
Mexico	--	--	--	--	18,000	5,490
Total	12,200	8,960	47,200	1,050,000	14,800,000	260,000
Year to date	469,000	5,530,000	457,000	1,270,000	59,400,000	3,230,000

-- 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
2009	16,500	\$182,000	214,000	\$3,390,000
2010:				
October	5,380	54,900	6,640	226,000
November				
Austria	--	--	10	4,860
China	19	10,100	6,620	223,000
South Africa	--	--	11,100	167,000
Total	19	10,100	17,700	394,000
Year to date	34,000	452,000	145,000	3,580,000

-- Zero.

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

Source: U.S. Census Bureau.