

Mineral Industry Surveys

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VANADIUM IN OCTOBER 2012

Reported domestic consumption of vanadium in October 2012 was 5% less than that of the previous month, and was slightly less than that of October 2011. Consumer stocks of vanadium, in all forms, were 185 metric tons (t) at the beginning of 2012 and 245 t at the end of October.

According to Ryan's Notes, U.S. ferrovanadium (FeV) prices ranged from \$13.333 to \$15.778 per pound of vanadium content in October, as compared with \$13.700 to \$15.725 in September. European FeV prices ranged from \$23.722 to \$24.722 per kilogram in October, as compared with \$24.625 to \$25.625 in September. Vanadium pentoxide (V₂O₅) prices ranged from \$6.500 to \$7.000 per pound in both September and October.

Midwest Vanadium Pty Ltd.'s Windimurra project continued to ramp up annual production to a capacity of 6,300 t of contained vanadium for 2013. Following construction and commissioning completion in late 2011 and the first FeV production in January 2012, the Windimurra project achieved its first shipment of FeV in May 2012. The Windimurra project was operated by Atlantic Ltd.'s wholly owned subsidiary Midwest Vanadium and is approximately 600 kilometers north of Perth, in Western Australia (Atlantic Ltd., 2012, p. 6)

Reference Cited

Atlantic Ltd., 2012, Annual report 2012: Perth, Western Australia, Australia, Atlantic Ltd., October 31, 108 p.

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

(Kilograms, contained vanadium)

	2011		2012					
	Consumption	Stocks	September		October		January–October	
			Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	4,240,000	122,000	328,000	163,000	320,000	169,000	3,320,000	169,000
Vanadium-aluminum alloy and other forms ³	882,000	63,300	70,700	84,700	60,300	75,900	695,000	75,900
Total	5,120,000	185,000	398,000	247,000	380,000	245,000	4,020,000	245,000

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 vanadium-aluminum alloy, other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, and other specialty chemicals.

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE¹

(Kilograms, contained vanadium)

	2011	2012		
		September	October	January–October
Steel:				
Carbon	677,000	49,300	47,400	553,000
Full alloy	2,120,000	174,000	168,000	1,720,000
High-strength low-alloy	W	W	W	W
Stainless and heat resisting	61,500	5,110	5,110	51,300
Tool	W	W	W	W
Total steel	2,860,000	229,000	221,000	2,330,000
Superalloys	15,300	478	474	4,520
Miscellaneous and unspecified ²	W	W	W	W
Total	5,120,000	398,000	380,000	4,020,000

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

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:				
2011	278,000	\$1,210,000	43,900	\$1,930,000
2012:				
September	--	--	22,500	743,000
October:				
Germany	--	--	18,600	617,000
Netherlands	5,310	30,500	--	--
Total	5,310	30,500	18,600	617,000
January–October	95,600	641,000	132,000	4,210,000
Exports:				
2011	920,000	6,930,000	102,000	3,340,000
2012:				
September	1,770,000	4,780,000	--	--
October:				
Canada	227,000	530,000	--	--
India	18,000	149,000	--	--
Japan	2,540	33,100	5,060	135,000
Kuwait	8,170	25,500	--	--
Mexico	2,140,000	5,430,000	--	--
Total	2,400,000	6,170,000	5,060	135,000
January–October	19,600,000	53,900,000	15,900	442,000

-- 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:						
2011	2,220,000	\$64,600,000	2,800,000	\$45,800,000	886,000	\$17,400,000
2012:						
September	356,000	9,030,000	98,000	1,390,000	8,370	188,000
October:						
Austria	28,600	804,000	--	--	8,370	183,000
Canada	85,900	2,210,000	--	--	--	--
China	--	--	71,400	899,000	--	--
Czech Republic	195,000	4,820,000	--	--	--	--
Korea, Republic of	61,300	1,630,000	39,400	452,000	--	--
South Africa	--	--	96,700	1,630,000	--	--
Taiwan	--	--	20,300	434,000	--	--
Total	371,000	9,460,000	228,000	3,420,000	8,370	183,000
January–October	3,630,000	94,200,000	1,400,000	23,700,000	896,000	12,600,000
Exports:						
2011	314,000	9,970,000	88,700	1,410,000	254,000	2,390,000
2012:						
September	181	5,830	14,400	249,000	25,300	212,000
October:						
Brazil	--	--	--	--	3,810	53,900
Canada	24,400	644,000	--	--	--	--
China	--	--	--	--	5,200	86,600
Colombia	213	8,130	--	--	--	--
Mexico	--	--	--	--	1,000	16,900
Peru	43,000	871,000	--	--	--	--
Saudi Arabia	--	--	16,100	286,000	--	--
Total	67,600	1,520,000	16,100	286,000	10,010	157,000
January–October	384,000	9,400,000	52,700	982,000	223,000	2,600,000

-- 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
	2011	1,420,000	\$1,570,000	89,600	\$479,000	189,000,000
2012:						
September	85,600	286,000	89,400	11,900	126,000	445,000
October:						
Australia	--	--	--	--	247,000	102,000
Austria	--	--	--	--	7,440	104,000
Canada	167,000	627,000	36,000	2,970	67,800	39,700
Mexico	66,300	702,000	--	--	10,200	10,200
Netherlands	1,190	74,000	--	--	--	--
South Africa	--	--	--	--	20,000	269,000
Total	235,000	1,400,000	36,000	2,970	352,000	524,000
January–October	1,460,000	5,060,000	175,000	141,000	107,000,000	12,800,000

-- 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
2011	42,200	\$738,000	303,000	\$7,400,000
2012:				
September	54	10,000	6,630	204,000
October:				
Austria	--	--	568	105,000
China	4,800	55,200	6,640	201,000
India	11	11,000	--	--
Japan	--	--	83	8,110
South Africa	--	--	24,100	359,000
United Kingdom	--	--	3,370	67,000
Total	4,820	66,200	34,700	741,000
January–October	24,100	321,000	259,000	5,860,000

-- Zero.

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

Source: U.S. Census Bureau.