

Mineral Industry Surveys

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VANADIUM IN OCTOBER 2006

Reported domestic consumption of vanadium in October 2006 was about 1% more than that of the previous month, and was about the same as that of October 2005, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 361 metric tons (t) at the beginning of 2006 and 288 t at the end of October.

According to Ryan's Notes (2006), U.S. ferrovanadium (FeV) prices ranged from \$17.306 to \$18.056 per pound of vanadium content in October, as compared with \$17.722 to \$18.472 in September. European FeV prices ranged from \$37.111 to \$38.111 per kilogram in October, as compared with \$39.222 to \$40.556 in September. Vanadium pentoxide (V₂O₅) prices ranged from \$7.400 to \$7.822 per pound in October, as compared with \$7.500 to \$8.000 in September.

Noble Group Ltd., Hong Kong, acquired a 10% equity share in the Windimurra Mine, Australia, for \$16.3 million. In

addition, Noble also announced a sales and marketing agreement under which Noble agreed to purchase the entire vanadium output of Windimurra during the first 7 years of operation for the cash cost of production. Noble will exclusively handle all marketing and distribution of Windimurra vanadium products worldwide. Windimurra's plant is expected to have a design capacity of about 9,000 metric tons per year (t/yr) of V₂O₅, which will be converted into about 6,200 t/yr of FeV (Platts Metals Week, 2006).

References Cited

Platts Metals Week, 2006, Noble invests \$16.3 million in Windimurra vanadium mine: Platts Metals Week, v. 77, no. 40, October 2, p. 5.
Ryan's Notes, 2006, [untitled]: Ryan's Notes, v. 12, no. 44, November 6, p. 10.

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

(Kilograms, contained vanadium)

	2005 ^p		2006			
			September		October	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	3,430,000	335,000	272,000 ^r	286,000 ^r	272,000	258,000
Vanadium-aluminum alloy	W	W	W	W	W	W
Other ³	260,000	25,700	30,900	13,600	34,100	30,800
Total	3,690,000	361,000	303,000 ^r	300,000 ^r	306,000	288,000

^pPreliminary. ^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)

	2005 ^p	2006		
		September	October	Year to date
Steel:				
Carbon	902,000	73,700 ^r	76,800	795,000
High-strength low-alloy	1,060,000	86,200	78,300	858,000
Stainless and heat-resisting	59,900	5,060	5,060	50,600
Full alloy	1,000,000	86,500 ^r	82,100	865,000
Tool	401,000	20,300	29,600	267,000
Total steel	3,430,000	272,000 ^r	272,000	2,840,000
Superalloys	9,610	326	353	3,480
Miscellaneous and unspecified ²	253,000	30,700	33,900	242,000
Total consumption	3,690,000	303,000 ^r	306,000	3,080,000

^pPreliminary. ^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:				
2005	1,010	\$15,500	54,800	\$3,800,000
2006:				
July	--	--	281	51,400
August	--	--	33,800	1,200,000
September, Germany	--	--	99	69,800
Year to date	102,000	312,000	101,000	4,390,000
Exports:				
2005	14,100,000	42,000,000	293,000	1,640,000
2006:				
July	1,170,000	4,850,000	26,200	757,000
August	966,000	3,320,000	509,000	11,900,000
September:				
Australia	--	--	440	21,600
Belgium	21,700	125,000	--	--
Brazil	5,390	29,200	--	--
Canada	361,000	1,170,000	193	5,900
China	49,500	251,000	--	--
Dominican Republic	4	8,300	--	--
Germany	22	4,210	10,800	163,000
India	25,000	112,000	--	--
Japan	79,000	726,000	18,100	509,000
Korea, Republic of	726	3,080	--	--
Mexico	735,000	2,080,000	--	--
Thailand	66,500	340,000	--	--
United Kingdom	34,600	202,000	43,100	1,440,000
Total	1,380,000	5,050,000	72,600	2,140,000
Year to date	12,600,000	37,400,000	410,000	10,600,000

-- 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:						
2005	12,000,000	\$131,000,000	1,410,000	\$52,900,000	213,000	\$6,540,000
2006:						
July	12,000,000	131,000,000	1,410,000	52,900,000	--	--
August	204,000	8,310,000	199,000	4,390,000	--	--
September:						
Austria	16,100	662,000	4,140	119,000	--	--
Canada	37,400	2,130,000	--	--	--	--
China	--	--	34,000	1,010,000	--	--
Czech Republic	48,400	2,030,000	--	--	--	--
Japan	--	--	182	29,900	--	--
Korea, Republic of	30,700	1,170,000	--	--	--	--
South Africa	--	--	69,800	1,260,000	--	--
Total	133,000	6,000,000	108,000	2,420,000	--	--
Year to date	1,560,000	68,500,000	1,530,000	37,100,000	105,000	2,900,000
Exports:						
2005	500,000	19,100,000	247,000	5,340,000	822,000	14,500,000
2006:						
July	22,100	654,000	1,650	25,900	94,500	719,000
August	37,600	947,000	31,400	596,000	88,200	785,000
September:						
Belgium	--	--	18,000	348,000	--	--
Canada	19,600	432,000	--	--	61,600	551,000
Netherlands	59,700	2,270,000	--	--	9,250	149,000
Total	79,300	2,700,000	18,000	970,000	70,800	700,000
Year to date	365,000	10,500,000	242,000	5,080,000	737,000	6,700,000

-- 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
2005	1,060,000	\$9,820,000	1,200,000	\$1,100,000
2006:				
July	--	--	93,300	98,800
August	--	--	77,400	90,100
September:				
Canada	--	--	127,000	95,600
Mexico	145,000	1,650,000	--	--
Total	145,000	1,650,000	127,000	95,600
Year to date	274,000	3,090,000	893,000	890,000

-- 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
2005	35,000	\$77,000	91,700	\$2,800,000
2006:				
July	--	--	9,420	170,000
August	--	--	6,260	172,000
September, Austria	--	--	299	5,370
Year to date	16	25,800	95,400	2,730,000

-- Zero.

Source: U.S. Census Bureau.