



Mineral Industry Surveys

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VANADIUM IN APRIL 2003

Domestic consumption of vanadium in April 2003 was about 9% less than that of the previous month and was about 8% less than that of April 2002, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 189 metric tons at the beginning of 2003.

According to Ryan's Notes (2003b), the range for U.S. ferrovanadium prices during April was \$5.933 to \$6.250 per pound of vanadium content, as compared with \$5.413 to \$5.663 in March. European ferrovanadium ranged from \$12.761 to \$13.044 per kilogram of vanadium content in April as compared with \$12.556 to \$12.913 in March. In April, vanadium pentoxide prices ranged from \$2.617 to \$2.778 per pound, as compared with \$2.400 to \$2.613 in March.

Vanadium pentoxide shipments resumed from Russia into Europe at the end of April, as the dispute between the owners of the Tulachermet plant, Tula, Russia, was resolved (Metal Bulletin Research, Ferro-alloys Monthly, 2003). Combined with the resumption of production by Eastlink Ferro Alloys & Metals Ltd. at its Glossop, United Kingdom, facility (Ryan's Notes, 2003a), the two actions put downward pressure on

ferrovanadium prices in Europe. Ferrovanadium prices in the United States were stable.

In related news, U.S. producer Stratcor stated it would shut its Hot Springs, Arkansas, vanadium plant for 3 weeks in April due to delays in receiving feedstock from Venezuela. A national strike at the beginning of December sharply reduced production of vanadium-bearing residues at Venezuelan refineries. Refinery residues and fly ash from utilities are used as feedstock for the Hot Springs facility. Stratcor expected normal production to resume in May as the refineries, utilities, and port facilities in Venezuela had been operating normally for several months (Ryan's Notes, 2003a).

References Cited

- Metal Bulletin Research, Ferro-alloys Monthly, 2003, Slackness in EU ferrovanadium prices: Metal Bulletin Research, Ferro-alloys Monthly, no. 129, May 29, p. 15.
- Ryan's Notes, 2003a, Stratcor will shut its Hot Springs, AK vanadium plant: Ryan's Notes, v. 9, no. 17, April 28, p. 3.
- Ryan's Notes, 2003b, [untitled]: Ryan's Notes, v. 9, no. 18, May 5, p. 4.

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

(Kilograms, contained vanadium)

	2002 ^p		2003			
	Consumption	Stocks	March		April	
			Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	2,790,000	189,000	252,000 ^r	179,000 ^r	229,000	179,000
Vanadium-aluminum alloy	W	W	W	13,400	W	12,700
Other ³	351,000	20,200	31,200 ^r	5,890 ^r	28,400	5,890
Total	3,140,000	209,000	283,000 ^r	199,000 ^r	257,000	198,000

^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)

	2002 ^p	2003		
		March	April	Year to date ³
Steel:				
Carbon	878,000	63,900 ^r	58,600	257,000
High-strength low-alloy	W	W	W	W
Stainless and heat-resisting	36,600	2,060 ^r	2,110	8,910
Full alloy	754,000	76,400 ^r	62,900	268,000
Tool	265,000	22,900 ^r	22,200	89,500
Total steel	1,930,000	165,000 ^r	146,000	624,000
Superalloys	13,400	1,160 ^r	1,220	4,480
Miscellaneous and unspecified ²	1,190,000	117,000 ^r	110,000	424,000
Total consumption	3,140,000	283,000 ^r	257,000	1,050,000

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; included with

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

²Includes cast irons, high-strength low-alloy steel, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

³Includes revisions to prior month's data.

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:				
2002	97,500	\$206,000	32,300	\$1,270,000
2003:				
January	39,600	62,700	9,830	141,000
February	5,260	10,300	1,160	107,000
March:				
Canada	22,500	34,200	--	--
Germany	--	--	122	50,500
United Kingdom	--	--	4,990	41,700
Total	22,500	34,200	5,110	92,200
Year to date	67,400	107,000	16,100	340,000
Exports:				
2002	529,000	11,700,000	49,200	898,000
2003:				
January	87,300	1,150,000	39,100	2,100,000
February	92,000	1,090,000	18,400	348,000
March:				
Canada	61,800	630,000	--	--
France	872	20,400	--	--
Germany	--	--	5,400	54,800
Hong Kong	3,700	86,700	--	--
India	125	3,670	--	--
Japan	6,480	83,900	1,480	26,400
Korea, Republic of	2,680	27,300	13	2,800
Mexico	3,040	31,000	--	--
Singapore	204	5,990	--	--
United Kingdom	1,940	29,700	3,070	54,500
Total	80,800	919,000	9,960	139,000
Year to date	260,000	3,160,000	67,400	2,580,000

-- 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:						
2002	2,520,000	\$19,400,000	406,000	\$1,990,000	42,300	\$560,000
2003:						
January	152,000 ^r	1,050,000	44,000 ^r	161,000	--	--
February	119,000 ^r	890,000	77,000 ^r	313,000	--	--
March:						
Austria	18,000 ^r	133,000	--	--	--	--
Canada	36,700 ^r	278,000	--	--	--	--
Germany	--	--	525 ^r	15,600	9,670 ^r	125,000
Italy	--	--	--	--	45 ^r	2,340
South Africa	--	--	75,200 ^r	283,000	--	--
Total	54,700 ^r	411,000	75,700 ^r	299,000	9,720 ^r	128,000
Year to date	327,000 ^r	2,350,000	197,000 ^r	773,000	9,720 ^r	128,000
Exports:						
2002	142,000	1,550,000	91,200	568,000	203,000	1,700,000
2003:						
January	12,200	157,000	60,100	503,000	19,400	185,000
February	22,200	246,000	7,000	66,500	17,000	166,000
March:						
Canada	8,540	132,000	--	--	15,200	177,000
Estonia	12,700	161,000	--	--	--	--
Netherlands	49,900	681,000	--	--	--	--
Spain	--	--	5,890	54,900	--	--
Saudi Arabia	--	--	800	7,610	--	--
United Kingdom	74,900	918,000	--	--	--	--
Total	146,000	1,890,000	6,690	62,500	15,200	177,000
Year to date	180,000	2,300,000	73,700	632,000	51,600	528,000

^rRevised. -- 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)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2002	3,830,000	\$520,000	10,300,000	\$1,560,000	243,000,000	\$19,900,000
2003:						
January	37,100	2,480	792,000	139,000	4,540,000	254,000
February	--	--	531,000	93,100	575,000	72,300
March:						
Canada	75,200	11,600	552,000	110,000	691,000	91,500
United Kingdom	--	--	212,000	155,000	--	--
Total	75,200	11,600	765,000	265,000	691,000	91,500
Year to date	112,000	14,100	2,090,000	497,000	5,800,000	418,000

-- 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
2002	14,100	\$390,000	48,100	\$567,000
2003:				
January	--	--	100 ^r	3,710
February	--	--	24,800 ^r	97,700
March, Germany	--	--	9,850 ^r	50,700
Year to date	--	--	34,800 ^r	152,000

^rRevised. -- Zero.

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

Source: U.S. Census Bureau.