

Mineral Industry Surveys

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VANADIUM IN SEPTEMBER 2004

Reported domestic consumption of vanadium in September 2004 was about 1% less than that of the previous month and was about 24% more than that of September 2003, according to the U.S. Geological Survey. Year-to-date consumption of vanadium from January through September was about 20% more than during the same period in 2003. Consumer stocks of vanadium, in all forms, were 238 metric tons (t) at the beginning of 2004 and 231 t at the end of September.

According to Ryan's Notes (2004), U.S. ferrovanadium (FeV) prices ranged from \$10.650 to \$11.025 per pound of vanadium content in September, as compared with \$10.356 to \$11.022 in August. European FeV prices ranged from \$23.563 to \$24.563 per kilogram in September, as compared with \$18.944 to \$19.944 in August. Vanadium pentoxide (V₂O₅) prices ranged from \$5.063 to \$5.344 per pound in September as compared with \$4.589 to \$5.056 in August.

European ferrovanadium and vanadium pentoxide prices firmed in September, driven by strong demand in the European market and limited supplies of material. Vanadium pentoxide exports from China reportedly were reduced in September owing to strong Chinese demand. Business at Russian producer Tulachermet-Vanadium (Tula) returned to normal in the

beginning of September after maintenance and repairs reduced output by about 40% in July and August. An agent for Tula stated the company was sold out through the end of October and was looking for additional raw material to increase production to meet spot demand. Austrian producer Treibacher Industrie AG reported it was sold out through the fourth quarter (Metal Bulletin, 2004).

Vanadium producer Strategic Minerals Corp. (Stratcor) announced it had no plans to revive publishing its price for ferrovanadium. The Danbury, CT-based company suspended the published price in mid-January 2004, amid some of the most volatile pricing in memory. Ferrovanadium prices have calmed since then, but recent restrained market conditions in Europe have pushed prices higher (American Metal Market, 2004).

References Cited

- American Metal Market, 2004, Ferrovanadium's volatility keeps Stratcor price on ice: American Metal Market, v. 112, no. 37-5, September 17, p. 1.
- Metal Bulletin, 2004, Vanadium prices climb on growing market tightness: Metal Bulletin, no. 8860, September 20, p. 24.
- Ryan's Notes, 2004, [untitled]: Ryan's Notes, v. 10, no. 40, October 4, p. 4.

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

(Kilograms, contained vanadium)

	2003		2004			
	Consumption	Stocks	August		September	
			Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	2,770,000 ^r	201,000	295,000 ^r	215,000 ^r	290,000	219,000
Vanadium-aluminum alloy	W	W	W	W	W	W
Other ³	188,000 ^r	37,400	17,600	8,510	21,000	11,900
Total	2,960,000 ^r	238,000	313,000 ^r	224,000	311,000	231,000

^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)

	2003 ^r	2004		
		August	September	Year to date ²
Steel:				
Carbon	783,000	80,100 ^r	77,600	716,000
High-strength low-alloy	924,000	99,000	95,400	869,000
Stainless and heat-resisting	64,500	5,360	5,360	48,300
Full alloy	799,000	91,500	91,500	788,000
Tool	143,000	18,800	19,700	146,000
Total steel	2,710,000	295,000 ^r	290,000	2,570,000
Superalloys	10,000	553	880	5,900
Miscellaneous and unspecified ³	235,000	17,300	20,700	153,000
Total consumption	2,960,000	313,000 ^r	311,000	2,730,000

^rRevised. W Withheld to avoid disclosing company proprietary data.

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

²Includes revisions to prior months' data.

³Includes 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:				
2003	232,000	\$425,000	186,000	\$2,850,000
2004:				
June	--	--	1,510	104,000
July	9	5,710	83	45,300
August:				
Germany	58	2,800	9,850	303,000
Total	58	2,800	9,850	303,000
Year to date	19,100	62,600	28,500	1,430,000
Exports:				
2003	6,710,000	16,700,000	201,000	3,910,000
2004:				
June	1,080,000	2,300,000	25,900	429,000
July	380,000	990,000	28,800	516,000
August:				
Belgium	--	--	3,000	61,300
Brazil	--	--	2,000	25,600
Canada	298,000	647,000	--	--
Japan	5,730	24,300	5,000	132,000
Mexico	286,000	540,000	--	--
Singapore	6,030	37,200	--	--
Spain	4,240	55,100	--	--
Thailand	10,700	50,200	--	--
United Kingdom	22,100	108,000	16,800	325,000
Total	633,000	1,460,000	26,800	544,000
Year to date	5,380,000	11,800,000	188,000	3,220,000

-- 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:						
2003	1,360,000	\$14,300,000	474,000	\$3,610,000	38,700	\$769,000
2004:						
June	301,000	6,790,000	89,800	805,000	--	--
July	246,000	5,220,000	13,200	169,000	4,450	75,400
August:						
Canada	15,400	102,000	--	--	--	--
Czech Republic	107,000	2,690,000	--	--	--	--
South Africa	--	--	100,000	773,000	--	--
Swaziland	63,100	961,000	--	--	--	--
Taiwan	--	--	7,260	143,000	--	--
Total	186,000	3,750,000	107,000	915,000	--	--
Year to date	2,090,000	40,300,000	824,000	6,210,000	113,000	1,440,000
Exports:						
2003	397,000	5,420,000	185,000	1,540,000	284,000	2,450,000
2004:						
June	5,950	258,000	--	--	57,300	391,000
July	15,600	235,000	1,000	12,500	56,500	455,000
August:						
Australia	--	--	2,770	26,300	--	--
Canada	--	--	--	--	16,700	165,000
China	--	--	--	--	--	--
Mexico	--	--	1,000	12,500	--	--
New Zealand	--	--	587	10,400	--	--
South Africa	--	--	--	--	32,000	148,000
Total	--	--	4,360	49,300	48,700	313,000
Year to date	125,000	2,860,000	224,000	1,760,000	462,000	3,410,000

-- 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, RESIDUES, AND 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
2003	4,940,000	\$3,030,000	14,300,000	\$3,140,000	369,000,000	\$6,190,000
2004:						
June	120,000	295,000	679,000	117,000	58,900,000	1,540,000
July	396,000	918,000	966,000	225,000	28,800,000	1,030,000
August:						
Canada	--	--	607,000	91,300	10,900,000	782,000
Germany	--	--	--	--	16,800	28,400
Guatemala	81,400	46,000	--	--	--	--
Mexico	207,000	489,000	--	--	--	--
Total	288,000	535,000	607,000	91,300	10,900,000	811,000
Year to date	3,050,000	5,520,000	9,290,000	1,680,000	139,000,000	6,130,000

-- 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
2003	--	--	72,900	\$902,000
2004:				
June	--	--	6,300	67,400
July	500	\$19,100	707	34,300
August:				
Germany	--	--	12	9,180
South Africa	--	--	6,270	61,500
Total	--	--	6,280	70,700
Year to date	500	19,100	51,300	778,000

-- Zero.

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

Source: U.S. Census Bureau.