

Mineral Industry Surveys

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VANADIUM IN OCTOBER 2011

Reported domestic consumption of vanadium in October 2011 was slightly less than that of the previous month, and was slightly less than that of October 2010. Consumer stocks of vanadium, in all forms, were 204 metric tons (t) at the beginning of 2010 and 195 t at the end of October.

According to Ryan's Notes, U.S. ferrovanadium (FeV) prices ranged from \$14.663 to \$15.025 per pound of vanadium content in October, as compared with \$15.222 to \$15.478 in September. European FeV prices ranged from \$27.319 to \$27.925 per kilogram in October, as compared with \$27.750 to \$28.500 in September. Vanadium pentoxide (V₂O₅) prices ranged from \$6.500 to \$6.800 per pound in both September and October.

Denison Mines Corp. (Toronto, Ontario, Canada) announced \$15.5 million third quarter net earnings, compared with a \$5.5

million net loss in the same period of 2010. In the first 9 months of 2011, vanadium sales revenue was \$11.5 million from the sale of 817 t of V₂O₅, which included sales from current production as well as inventory available for sale. The company was expected to produce approximately 590 t of V₂O₅ in 2011 (Denison Mines Corp, 2011).

Reference Cited

Denison Mines Corp., 2011, Denison Mines Corp. reports third quarter 2011 results: Denison Mines Corp., November 3, 5 p. (Accessed December 16, 2011, at http://www.denisonmines.com/s/SiteResources/data/MediaArchive/pdfs/press_releases/2011/nov3-11pr.pdf.)

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

(Kilograms, contained vanadium)

	2010		2011				Consumption	Stocks, end of period	
	Consumption	Stocks	September		October				January–October
			Consumption	Stocks	Consumption	Stocks			
Ferrovandium ²	4,210,000	187,000	335,000 ^r	129,000	334,000	134,000	3,370,000	134,000	
Vanadium-aluminum alloy	W	W	(3)	(3)	(3)	(3)	(3)	(3)	
Other ⁴	815,000	61,600	(3)	(3)	(3)	(3)	(3)	(3)	
Total	5,030,000	248,000	409,000 ^r	191,000 ^r	397,000	195,000	4,060,000	195,000	

^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.

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)

	2010	2011		
		September	October	January–October
Steel:				
Carbon	843,000	54,500	53,900	566,000
High-strength low-alloy	W	W	W	W
Stainless and heat-resisting	120,000	5,110	5,110	51,300
Full alloy	2,030,000	172,000 ^r	172,000	1,710,000
Tool	W	W	W	W
Total steel	2,990,000	232,000 ^r	231,000	2,330,000
Superalloys	9,230	401	410	10,900
Miscellaneous and unspecified ²	252,000	W	W	W
Total consumption	5,030,000	409,000 ^r	397,000	4,060,000

^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, unless otherwise specified)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2010	9,200,000	\$20,200,000	9,660	\$434,000
2011:				
August	36,700	222,000	6,080	219,000
September, Germany	--	--	935	50,400
January–September	1,320,000	3,600,000	33,500	1,560,000
Exports:				
2010	11,900,000	33,300,000	21,200	671,000
2011:				
August	873,000	2,870,000	19,700	691,000
September:				
Brazil	11,500	300,000	--	--
Canada	157,000	435,000	--	--
China	2,500	32,500	--	--
Colombia	--	--	1,120	43,300
India	17,600	170,000	--	--
Korea, Republic of	11,800	154,000	7,820	302,000
Macao	20,000	55,300	--	--
Mexico	487,000	1,710,000	--	--
New Zealand	756	5,340	--	--
Panama	476	6,180	--	--
Saudi Arabia	414	5,390	--	--
Taiwan	18,700	63,000	--	--
United Kingdom	581	5,640	--	--
Total	728,000	2,940,000	8,940	345,000
January–September	7,420,000	25,800,000	76,300	2,490,000

-- 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, unless otherwise specified)

	Ferrovanadium		Vanadium pentoxide (anhydride) ²		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2010	1,340,000	\$41,100,000	4,000,000	\$53,700,000	167,000	\$3,330,000
2011:						
August	271,000	7,870,000	114,000	2,930,000	74,800	1,550,000
September:						
Austria	134,000	3,500,000	--	--	8,340	233,000
Canada	42,800	1,140,000	--	--	--	--
China	--	--	135,000	2,510,000	--	--
Germany	27	3,280	--	--	--	--
India	569	37,500	--	--	--	--
Korea, Republic of	184,000	5,900,000	--	--	--	--
South Africa	--	--	120,000	1,940,000	--	--
Taiwan	--	--	20,100	573,000	--	--
Total	361,000	10,600,000	275,000	5,020,000	8,340	233,000
January–September	1,530,000	44,000,000	2,220,000	35,500,000	679,000	13,200,000
Exports:						
2010	882,000	18,100,000	140,000	2,140,000	1,100,000	10,600,000
2011:						
August	23,500	491,000	--	--	5,440	50,000
September:						
Brazil	--	--	110	5,200	--	--
Canada	32,300	828,000	--	--	110	7,060
Colombia	190	8,140	--	--	--	--
Germany	--	--	--	--	3,370	30,000
Korea, Republic of	4,890	139,000	--	--	--	--
Mexico	--	--	396	11,800	--	--
Peru	5,210	123,000	--	--	--	--
Total	42,600	1,100,000	506	17,000	3,480	37,100
January–September	327,000	6,850,000	78,200	1,210,000	208,000	1,830,000

-- 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
2010	521,000	\$5,570,000	490,000	\$1,370,000	62,800,000	\$3,710,000
2011:						
August	177,000	162,000	--	--	48,500,000	1,320,000
September:						
Canada	127,000	76,000	--	--	34,200	41,000
Germany	--	--	--	--	64,200	20,800
Japan	--	--	--	--	37,000	18,500
Mexico	7,580	30,300	--	--	--	--
Total	135,000	106,000	--	--	135,000	80,300
January–September	1,050,000	1,370,000	75,000	367,000	176,000,000	4,780,000

-- 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, unless otherwise specified)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2010	48,200	\$608,000	158,000	\$4,050,000
2011:				
August	1,920	16,200	16,100	319,000
September:				
China	--	--	13,300	434,000
South Africa	--	--	16,400	369,000
Total	--	--	29,600	803,000
January–September	37,300	669,000	172,000	4,040,000

-- Zero.

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

Source: U.S. Census Bureau.