

Mineral Industry Surveys

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CHROMIUM IN JANUARY 2007

On the basis of gross weight, consumption of chromium ferroalloys and metal in January 2007 increased 15% compared with revised consumption in December 2006, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in January 2007, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of January 2007, and U.S. foreign trade data for selected chromium-containing materials in December 2006.

Update

The Defense National Stockpile Center (DNSC) announced that 12,164 metric tons (t) ferrochromium (6,804 t of high-carbon ferrochromium and 5,360 t of low-carbon ferrochromium) was sold in February at a value of \$12.3 million or \$0.459 per pound gross weight (Defense National Stockpile Center, 2007).

Reference Cited

Defense National Stockpile Center, 2007, Stockpile announces ferrochromium sales for February 2007: Defense National Stockpile Center, News Release DNSC-07-2834, March 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2005	2006				2007 January
	January- December	November	December	Fourth quarter	January- December ²	
Production:						
Stainless steel production ³	2,240,000	199,000	154,000	565,000	2,460,000 ⁴	219,000
Components of U.S. supply:						
Stainless steel scrap receipts	731,000	NA	NA	NA	NA	NA
Stainless steel scrap consumption	1,060,000	NA	NA	NA	NA	NA
Imports for consumption:						
Chromite ore	165,000	5,060	26,500	53,300	150,000	NA
Ferrochromium:						
More than 4% carbon	398,000	30,900	28,100	97,200	393,000	NA
More than 0.5%, but not more than 3% carbon	3,530	--	19	19	29	NA
Not more than 0.5% carbon	43,000	1,980	2,340	5,490	28,100	NA
Ferrochromium silicon	33,700	4,860	770	6,670	38,300	NA
Total ferroalloy imports	478,000	37,800	31,200	109,000	459,000	NA
Chromium metal ⁵	11,000	856	1,500	3,440	10,900	NA
Stainless steel	770,000	74,000	73,000	227,000	872,000	NA
Stainless steel scrap	111,000	11,700	12,800	38,600	180,000	NA
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	439,000	34,400	32,500 ^r	101,000	422,000	37,300
Exports:						
Chromite ore	42,600	22,700	286	23,400	53,900	NA
Chromium ferroalloys:						
High-carbon ferrochromium	30,700	421	2,060	3,100	18,800	NA
Low-carbon ferrochromium	5,460	2,110	5,310	8,860	16,600	NA
Ferrochromium silicon	147	25	--	25	248	NA
Total ferroalloy exports	36,300	2,560	7,380	12,000	35,700	NA
Chromium metal	1,020	85	62	242	1,020	NA
Stainless steel	371,000	30,800	30,500	93,200	410,000	NA
Stainless steel scrap	585,000	41,900	44,600	122,000	1,350,000	NA
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	XX	12,600	12,900 ^r	XX	XX	11,400
Government stockpile:						
Chromium ferroalloys	XX	387,000	334,000	XX	XX	334,000
Chromium metal	XX	5,280	5,280	XX	XX	5,280

¹Revised. NA Not available. XX Not applicable. -- Zero.

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

²May include revised data.

³Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

⁴Includes revised data that are not broken out by specific month.

⁵Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS^{1,2}

(Metric tons, gross weight unless otherwise noted)

	2006		2007 January
	December	January- December ³	
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	301	3,650	301
High-strength low-alloy steel	528	6,420	460
Stainless and heat-resisting steel	28,200 ^r	366,000	33,400
Full alloy steel	1,560	19,300	978
Electrical steel	W	W	W
Tool steel	374	4,870	454
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	601	9,620	733
Other alloys ⁴	50	635	64
Total	32,500 ^r	422,000	37,300
Total, chromium content	19,100 ^r	248,000	22,100
Consumption by material:			
Low-carbon ferrochromium	1,860	22,900	2,070
High-carbon ferrochromium	27,400 ^r	358,000	31,500
Ferrochromium silicon	2,830	36,200	3,280
Chromium metal	329	4,870	406
Chromite ore	W	W	W
Chromium-aluminum alloy	22	275	W
Other chromium materials	W	W	W
Total	32,500 ^r	422,000	37,300
Total, chromium content	19,100 ^r	248,000	22,100
Consumer stocks:			
Low-carbon ferrochromium	1,980 ^r	XX	2,010
High-carbon ferrochromium	9,520 ^r	XX	8,060
Ferrochromium silicon	1,140	XX	1,060
Chromium metal	197	XX	177
Chromite ore	W	XX	W
Chromium-aluminum alloy	23	XX	24
Other chromium materials	W	XX	W
Total	12,900 ^r	XX	11,400
Total, chromium content	7,700 ^r	XX	6,840

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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

²Includes estimates.

³May include revised data.

⁴Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS^{1,2}

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2006:			
January	312,000	169,000	6,190
February	308,000	166,000	5,590
March	276,000	145,000	5,590
April	275,000	145,000	5,590
May	271,000	139,000	5,280
June	270,000	139,000	5,280
July	270,000	137,000	5,280
August	267,000	137,000	5,280
September	265,000	135,000	5,280
October	263,000	133,000	5,280
November	255,000	132,000	5,280
December	229,000	118,000	5,280
2007:			
January	223,000	111,000	5,280

¹Data are rounded to no more than three significant digits.

²These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL¹

Period	Chromite ore		Chromium ferroalloys ²			Chromium metal ³	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2005:							
December	515	\$203	671	408	\$923	125	\$1,930
January-December	42,600	9,940	36,300	23,700	38,900	1,020	16,900
2006:							
January	462	199	1,100	676	1,300	69	1,600
February	1,830	344	739	447	893	85	2,100
March	618	285	733	447	936	140	2,350
April	331	163	708	403	982	43	1,370
May	1,080	277	1,710	937	1,670	58	1,440
June	8,160	825	6,300	3,750	5,660	66	1,380
July	8,780	725	8,570	5,170	7,060	95	1,800
August	6,940	5,550	2,380	1,410	3,000	109	2,270
September	2,280	309	1,440	801	2,060	109	1,910
October	445	157	2,050	1,240	2,360	95	1,830
November	22,700	1,240	2,560	1,610	3,650	85	1,720
December	286	116	7,380	4,410	8,550	62	1,490
January-December	53,900	10,200	35,700	21,300	38,100	1,020	21,300

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

²Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL¹

(Metric tons)

	2005	2006			January- December ²
	January- December	October	November	December	
Chromite ore:					
Not more than 40%:					
Gross weight	36	46	--	63	117
Chromic oxide content	11	18	--	25	45
More than 40% but less than 46% chromic oxide:					
Gross weight	29,700	24	48	72	3,810
Chromic oxide content	13,700	11	22	33	1,750
46% or more chromic oxide:					
Gross weight	135,000	21,700	5,010	26,400	146,000
Chromic oxide content	63,600	10,500	2,320	12,400	76,300
Total, all grades:					
Gross weight	165,000	21,700	5,060	26,500	150,000
Chromic oxide content	77,300	10,600	2,340	12,400	78,100
Ferrochromium:					
Low-carbon: ³					
Not more than 0.5%:					
Gross weight	43,000	1,170	1,980	2,340	28,100
Chromium content	29,300	816	1,370	1,600	19,300
More than 0.5% but not more than 3%:					
Gross weight	3,530	--	--	19	29
Chromium content	2,300	--	--	16	23
Total, low-carbon:					
Gross weight	46,600	1,170	1,980	2,360	28,100
Chromium content	31,600	816	1,370	1,610	19,300
High-carbon: ⁴					
Gross weight	398,000	38,200	30,900	28,100	393,000
Chromium content	232,000	20,300	18,600	15,400	230,000
Total, all grades:					
Gross weight	444,000	39,300	32,900	30,500	421,000
Chromium content	264,000	21,100	20,000	17,000	249,000
Chromium metal:					
Unwrought powders	1,050	163	108	106	1,250
Waste and scrap	57	--	5	23	90
Other than waste and scrap and unwrought powders	9,850	927	743	1,370	9,540
Total, all grades	11,000	1,090	856	1,500	10,900

-- Zero.

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

²May include revised data.

³Ferrochromium containing not more than 3% carbon.

⁴Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE AND FERROCHROMIUM SILICON IN 2006,
BY GRADE AND BY COUNTRY¹

Grade and country	January-December ²			Value ³ (thousands)
	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Chromium content (metric tons)	
Chromite ore:				
Not more than 40% chromic oxide:				
Canada	8	2	XX	\$3
China	109	43	XX	14
Total	117	45		17
More than 40% but less than 46% chromic oxide,				
South Africa	3,810	1,750	XX	674
46% or more chromic oxide:				
Canada	19	9	XX	7
Korea, Republic of	22	12		9
South Africa	146,000	76,300	XX	22,800
Total	146,000	76,300	XX	22,800
All grades:				
Canada	27	11	XX	10
China	109	43		14
Korea, Republic of	22	12	XX	9
South Africa	150,000	78,100	XX	23,500
Total	150,000	78,100	XX	23,500
Ferrochromium silicon:				
Finland	57	XX	28	20
Kazakhstan	25,000	XX	10,700	23,200
Russia	8,740	XX	3,620	5,680
South Africa	4,480	XX	1,590	3,340
Total	38,300	XX	15,900	32,200

XX Not applicable.

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

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2006, BY GRADE AND BY COUNTRY¹

Grade and country	December			January-December ²		
	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)
High-carbon ferrochromium:⁴						
India	28	17	\$17	70	51	\$51
Kazakhstan	57	40	89	98,800	68,800	85,300
Russia	2,820	1,800	1,980	44,400	28,600	30,000
South Africa	14,500	7,200	8,670	190,000	97,000	114,000
Sweden	--	--	--	557	374	633
Tajikistan	--	--	--	119	82	166
Zimbabwe	10,600	6,320	8,400	59,000	34,600	43,000
Total	28,100	15,400	19,200	393,000	230,000	273,000
Low-carbon ferrochromium:⁵						
More than 0.5% but not more than 3%:						
China	--	--	--	10	7	16
South Africa	19	16	20	19	16	20
Total	19	16	20	29	23	35
Not more than 0.5% carbon:						
Brazil	--	--	--	19	14	47
China	60	42	126	710	475	1,220
Germany	318	222	649	5,910	4,140	12,700
Japan	228	157	689	2,770	1,920	8,800
Kazakhstan	--	--	--	3,330	2,310	4,730
Mexico	--	--	--	20	13	65
Russia	1,730	1,180	2,550	13,400	9,300	18,700
South Africa	--	--	--	1,800	1,060	1,410
Sweden	--	--	--	35	25	121
Turkey	--	--	--	102	65	276
Total	2,340	1,600	4,010	28,100	19,300	48,000
All grades:						
Brazil	--	--	--	19	14	47
China	60	42	126	720	481	1,240
Germany	318	222	649	5,910	4,140	12,700
India	28	17	17	70	51	51
Japan	228	157	689	2,770	1,920	8,800
Kazakhstan	57	40	89	102,000	71,100	90,000
Mexico	--	--	--	20	13	65
Russia	4,550	2,980	4,530	57,700	37,900	48,600
South Africa	14,600	7,210	8,690	192,000	98,100	115,000
Sweden	--	--	--	592	399	754
Tajikistan	--	--	--	119	82	166
Turkey	--	--	--	102	65	276
Zimbabwe	10,600	6,320	8,400	59,000	34,600	43,000
Total	30,500	17,000	23,200	421,000	249,000	321,000

-- Zero.

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

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Ferrochromium containing more than 4% carbon.

⁵Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2006, BY GRADE AND BY COUNTRY¹

Grade and country	December		January-December ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
Canada	--	--	3	\$22
China	--	--	221	2,940
France	1	\$10	6	40
Germany	--	--	29	350
Japan	4	145	139	5,520
Netherlands	--	--	6	31
Russia	43	374	643	6,120
Spain	--	--	19	96
Sweden	--	--	1	4
United Kingdom	57	408	180	1,900
Total	106	938	1,250	17,000
Waste and scrap:				
France	1	4	1	4
Germany	--	--	11	236
Japan	12	16	24	233
Singapore	--	--	43	315
Taiwan	--	--	1	29
United Kingdom	10	47	10	47
Total	23	68	90	864
Other than waste and scrap and unwrought powders:				
China	246	1,590	2,490	16,200
France	266	2,710	2,530	22,700
Germany	10	280	57	1,190
Japan	--	--	24	100
Malaysia	--	--	6	24
Netherlands	--	--	24	131
Russia	811	5,390	2,750	18,300
Singapore	--	--	(4)	7
Spain	--	--	236	1,290
Taiwan	--	--	1	5
United Kingdom	38	323	1,420	11,100
Total	1,370	10,300	9,540	71,100
All grades:				
Canada	--	--	3	22
China	246	1,590	2,710	19,100
France	268	2,720	2,540	22,800
Germany	10	280	97	1,770
Japan	15	161	187	5,850
Malaysia	--	--	6	24
Netherlands	--	--	30	162
Russia	855	5,760	3,400	24,400
Singapore	--	--	43	322
Spain	--	--	255	1,390
Sweden	--	--	1	4
Taiwan	--	--	2	34
United Kingdom	105	779	1,610	13,100
Total	1,500	11,300	10,900	89,000

-- Zero.

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

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 9
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2006¹

Stainless steel product	December		January-December	
	Gross weight (metric tons)	Value ² (thousands)	Gross weight (metric tons)	Value ² (thousands)
Exports:				
Ingot	1,060	\$8,730	11,600	\$59,600
Flat-rolled (width > 600 mm)	15,800	52,600	180,000	518,000
Flat-rolled (width < 600 mm)	6,670	39,800	95,300	400,000
Bars and rods in irregular coils	1,550	6,750	11,600	49,900
Other bars and rods	2,260	20,300	32,300	217,000
Wire	496	4,360	7,080	51,700
Tubes, pipes, hollow profiles	2,690	20,100	72,400	279,000
Total	30,500	153,000	410,000	1,580,000
Stainless steel scrap	44,600	69,800	1,350,000 ³	716,000
Grand total	75,100	222,000	1,760,000	2,290,000
Imports:				
Ingot	12,600	48,900	130,000	411,000
Flat-rolled (width > 600 mm)	28,800	104,000	406,000	1,170,000
Flat-rolled (width < 600 mm)	3,820	18,600	45,100	184,000
Bars and rods in irregular coils	3,100	13,100	28,600	93,400
Other bars and rods	9,240	42,800	101,000	430,000
Wire	3,930	21,100	44,300	209,000
Tubes, pipes, hollow profiles	11,400	76,400	117,000	713,000
Total	73,000	325,000	872,000	3,210,000
Stainless steel scrap	12,800	12,500	180,000	209,000
Grand total	85,700	337,000	1,050,000	3,420,000

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

²Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

³Submitted to the U.S. Census Bureau for investigation.

Source: U.S. Census Bureau.