

Mineral Industry Surveys

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CHROMIUM IN MARCH 2008

On the basis of gross weight, consumption of chromium ferroalloys and metal in March 2008 decreased slightly compared with revised consumption in February 2008; consumption in the first quarter 2008 decreased 8% compared with revised consumption in the first quarter 2007, 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 March 2008, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of March 2008, and U.S. foreign trade data for selected chromium-containing materials in February 2008.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2007	2008			
	January-December ²	January	February	March	January-March ²
Production:					
Stainless steel production ³	2,170,000	203,000	206,000	198,000	607,000
Components of U.S. supply:					
Stainless steel scrap receipts	953,000	81,700 ^r	79,500 ^r	79,400	240,000
Stainless steel scrap consumption	1,430,000	119,000	124,000 ^r	116,000	359,000
Imports for consumption:					
Chromite ore	145,000	2,110	35,400	(4)	37,500
Ferrochromium:					
More than 4% carbon	384,000	42,200	33,000	(4)	75,100
More than 3% carbon but not more than 4% carbon	267	160	--	(4)	160
More than 0.5%, but not more than 3% carbon	7,110	1,040	400	(4)	1,440
Not more than 0.5% carbon	31,700	2,090	1,610	(4)	3,690
Ferrochromium silicon	37,300	--	--	(4)	--
Total ferroalloy imports	460,000	45,500	35,000	(4)	80,400
Chromium metal ⁵	11,700	802	1,260	(4)	2,060
Stainless steel	809,000	68,500	71,800	(4)	140,000
Stainless steel scrap	118,000	14,000	9,780	(4)	23,800
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	447,000	34,300 ^r	36,100 ^r	35,300	106,000
Exports:					
Chromite ore	37,600	482	657	(4)	1,140
Chromium ferroalloys:					
High-carbon ferrochromium	24,700	904	1,380	(4)	2,280
Low-carbon ferrochromium	16,200	1,050	837	(4)	1,880
Ferrochromium silicon	328	92	--	(4)	92
Total ferroalloy exports	41,100	2,040	2,210	(4)	4,260
Chromium metal	1,210	96	30	(4)	127
Stainless steel	476,000	36,900	36,800	(4)	73,700
Stainless steel scrap	882,000	74,800	92,200	(4)	167,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	XX	12,300	11,300 ^r	11,800	XX
Government stockpile:					
Chromium ferroalloys	XX	153,000	146,000	142,000	XX
Chromium metal	XX	4,970	4,940	4,940	XX

^rRevised. XX Not applicable. -- Zero.

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

²May include revised data that are not broken out by specific month.

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.

⁴Data to be published in a subsequent issue.

⁵Includes waste and scrap and other.

TABLE 2

U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS
IN 2008^{1,2}

(Metric tons, gross weight unless otherwise noted)

	February ^f	March	January- March ³
Consumption by end use:			
Alloy uses:			
Steel:			
Carbon steel	306	311	912
High-strength low-alloy steel	253	262	767
Stainless and heat-resisting steel	30,400	29,300	88,000
Full alloy steel	1,370	1,730	4,910
Tool steel	416	416	1,250
Steel end use, not reported by grade	2,160	2,140	6,460
Superalloys	465	472	1,400
Other alloys and uses ⁴	703	709	2,110
Total	36,100	35,300	106,000
Total, chromium content	20,900	20,200	61,100
Consumption by material:			
Low-carbon ferrochromium	2,590	2,400	7,470
High-carbon ferrochromium	30,300	29,600	88,700
Ferrochromium silicon	W	W	W
Chromium metal ⁵	243	257	743
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	36,100	35,300	106,000
Total, chromium content	20,900	20,200	61,100
Consumer stocks:			
Low-carbon ferrochromium	1,790	1,860	XX
High-carbon ferrochromium	8,060	8,600	XX
Ferrochromium silicon	1,180	1,080	XX
Chromium metal	200	160	XX
Chromium-aluminum alloy	W	W	XX
Other chromium materials	W	W	XX
Total	11,300	11,800	XX
Total, chromium content	6,540	6,740	XX

^fRevised. 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 that are not broken out by specific month.

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

⁵Includes waste and scrap and other.

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	
2007:			
March	204,000	98,900	5,280
April	191,000	94,900	5,280
May	177,000	91,300	5,280
June	177,000	86,700	5,280
July	177,000	86,700	5,150
August	170,000	92,200	5,150
September	113,000	61,000	5,150
October	108,000	60,500	5,090
November	104,000	57,800	5,030
December	99,400	55,400	4,970
2008:			
January	98,200	54,700	4,970
February	95,000	50,800	4,940
March	93,600	48,100	4,940

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 D-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 D-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 D-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)
2007:							
February	821	\$361	16,300	11,100	\$15,500	115	\$1,600
March	899	368	1,320	745	1,620	80	1,600
April	12,000	748	1,820	1,070	2,310	140	2,490
May	13,100	1,150	4,060	2,540	5,740	105	1,440
June	790	308	1,830	1,040	2,680	75	1,520
July	844	350	1,130	657	1,760	102	1,760
August	874	364	1,270	747	1,960	123	2,690
September	406	231	4,030	2,470	6,760	95	1,670
October	6,340	812	933	568	1,620	74	1,390
November	525	400	1,580	831	2,600	125	3,850
December	534	284	1,440	737	2,680	67	1,170
January-December	37,600	5,560	41,100	25,800	51,200	1,210	23,200
2008:							
January	482	255	2,040	957	4,470	96	1,600
February	657	424	2,210	905	3,650	30	845
January-February	1,140	678	4,260	1,860	8,120	127	2,440

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

²Includes low- 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)

	2007		2008		
	December	January- December ²	January	February	January- February
Chromite ore:					
Not more than 40%:					
Gross weight	17	52	--	--	--
Chromic oxide content	6	19	--	--	--
More than 40% but less than 46% chromic oxide:					
Gross weight	24	26,400	46	2,150	2,190
Chromic oxide content	11	12,100	21	984	1,010
46% or more chromic oxide:					
Gross weight	12,200	119,000	2,060	33,200	35,300
Chromic oxide content	6,260	55,600	956	17,000	17,900
Total, all grades:					
Gross weight	12,200	145,000	2,110	35,400	37,500
Chromic oxide content	6,270	67,800	977	18,000	18,900
Ferrochromium:					
Low-carbon: ³					
Not more than 0.5%:					
Gross weight	3,360	31,700	2,090	1,610	3,700
Chromium content	2,300	21,000	1,440	1,090	2,530
More than 0.5% but not more than 3%:					
Gross weight	870	7,110	1,040	400	1,440
Chromium content	469	4,020	702	216	918
Total, low-carbon:					
Gross weight	4,230	38,800	3,130	2,010	5,140
Chromium content	2,770	25,100	2,140	1,310	3,450
Medium-carbon: ⁴					
Gross weight	136	267	160	--	160
Chromium content	73	144	90	--	90
High-carbon: ⁵					
Gross weight	31,900	384,000	42,200	33,000	75,100
Chromium content	18,600	217,000	23,100	17,200	40,300
Total, all grades:					
Gross weight	36,300	423,000	45,500	35,000	80,400
Chromium content	21,400	242,000	25,400	18,500	43,900
Chromium metal:					
Unwrought powders	63	822	52	46	98
Waste and scrap	17	357	57	141	198
Other than waste and scrap and unwrought powders	691	10,500	694	1,070	1,760
Total, all grades:	771	11,700	802	1,260	2,060

-- Zero.

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

²May include revised data that are not broken out by specific month.

³Ferrochromium containing not more than 3% carbon.

⁴Ferrochromium containing more than 3% carbon but not more than 4% carbon.

⁵Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2008,
BY GRADE AND BY COUNTRY¹

Grade and country	February			January-February 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						
China	--	--	--	20	13	\$67
India	3,980	2,380	\$5,990	20,500	12,700	29,400
Italy	159	100	260	159	100	260
Kazakhstan	122	84	311	358	230	455
Russia	--	--	--	1,420	903	3,390
South Africa	22,700	11,200	24,100	46,700	23,000	49,900
Sweden	200	117	303	219	130	349
Zimbabwe	5,850	3,340	11,200	5,850	3,340	11,200
Total	33,000	17,200	42,200	75,100	40,300	95,000
Medium-carbon ferrochromium, ⁵ Russia	--	--	--	160	90	152
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3%:						
Russia	--	--	--	1,040	702	3,490
South Africa	400	216	619	400	216	619
Total	400	216	619	1,440	918	4,110
Not more than 0.5% carbon:						
Germany	200	140	533	600	419	1,190
Japan	124	82	177	481	319	685
Kazakhstan	104	69	149	104	69	149
Russia	876	608	3,190	2,190	1,520	8,490
South Africa	267	166	411	267	166	411
Sweden	38	27	203	57	41	291
Total	1,610	1,090	4,660	3,700	2,530	11,200
All grades:						
China	--	--	--	20	13	67
Germany	200	140	533	600	419	1,190
India	3,980	2,380	5,990	20,500	12,700	29,400
Italy	159	100	260	159	100	260
Japan	124	82	177	481	319	685
Kazakhstan	227	153	459	462	299	604
Russia	876	608	3,190	4,810	3,210	15,500
South Africa	23,300	11,600	25,100	47,300	23,300	50,900
Sweden	238	145	506	276	172	640
Zimbabwe	5,850	3,340	11,200	5,850	3,340	11,200
Total	35,000	18,500	47,500	80,400	43,900	110,000

-- 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 more than 3% carbon but not more than 4% carbon.

⁶Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2008,
BY GRADE AND BY COUNTRY¹

Grade and country	February		January-February ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	--	--	17	\$23
France	14	\$30	14	30
Germany	1	51	1	51
Russia	2	67	36	257
United Kingdom	29	370	29	436
Total	46	517	98	797
Waste and scrap:				
China	20	64	20	64
Germany	(4)	10	(4)	10
Malaysia	23	190	23	190
Mexico	98	280	144	501
Singapore	--	--	10	100
Total	141	544	198	865
Other than waste and scrap and unwrought powders:				
China	313	2,470	405	3,240
France	247	2,780	476	5,050
Germany	(4)	21	1	108
India	42	57	42	57
Italy	(4)	7	(4)	7
Japan	1	37	2	56
Russia	264	2,480	570	4,980
United Kingdom	201	1,860	267	2,480
Total	1,070	9,700	1,760	16,000
All grades:				
China	333	2,530	443	3,330
France	261	2,810	490	5,080
Germany	2	81	2	168
India	42	57	42	57
Italy	(4)	7	(4)	7
Japan	1	37	2	56
Malaysia	23	190	23	190
Mexico	98	280	144	501
Russia	266	2,540	606	5,240
Singapore	--	--	10	100
United Kingdom	231	2,230	296	2,920
Total	1,260	10,800	2,060	17,600

-- 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 8
U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN 2008¹

Stainless steel product	February		January-February	
	Gross weight (metric tons)	Value ² (thousands)	Gross weight (metric tons)	Value ² (thousands)
Exports:				
Ingot	1,570	\$14,600	2,850	\$25,800
Flat-rolled (width > 600 mm)	20,400	72,000	41,500	147,000
Flat-rolled (width < 600 mm)	6,240	33,800	13,000	102,000
Bars and rods in irregular coils	1,010	4,820	1,250	6,590
Other bars and rods	3,340	23,600	6,130	43,500
Wire	696	5,240	1,360	10,100
Tubes, pipes, hollow profiles	3,560	30,200	7,610	60,800
Total	36,800	184,000	73,700	396,000
Stainless steel scrap	92,200	117,000	167,000	219,000
Grand total	129,000	301,000	241,000	615,000
Imports:				
Ingot	12,100	52,700	22,900	103,000
Flat-rolled (width > 600 mm)	34,600	129,000	66,600	246,000
Flat-rolled (width < 600 mm)	4,090	20,200	8,110	44,800
Bars and rods in irregular coils	1,970	9,010	4,060	18,800
Other bars and rods	8,470	46,800	15,900	87,600
Wire	3,060	18,800	6,110	38,100
Tubes, pipes, hollow profiles	7,520	63,800	16,600	142,000
Total	71,800	340,000	140,000	680,000
Stainless steel scrap	9,780	17,800	23,800	39,700
Grand total	81,600	358,000	164,000	720,000

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.

Source: U.S. Census Bureau.