

Mineral Industry Surveys

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CHROMIUM IN DECEMBER 2011

On the basis of gross weight, consumption of chromium ferroalloys and metal in December 2011 was about the same as consumption in November 2011. Consumption in December 2011 increased by 22% compared with consumption in December 2010.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of

chromium materials in December 2011, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of December 2011, and U.S. foreign trade data for selected chromium-containing materials in November 2011.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2010	2011			
	January– December ²	October	November	December	January– December ²
Production:					
Stainless steel production ³	2,200,000	140,000	154,000	164,000	2,070,000
Components of U.S. supply:					
Stainless steel scrap receipts	846,000	74,500	71,900 ^r	63,800	796,000
Stainless steel scrap consumption	1,280,000	107,000	110,000 ^r	95,500	1,190,000
Imports for consumption:					
Chromite ore	139,000	5,500	40,000	(4)	183,000 ⁵
Ferrochromium:					
More than 4% carbon	454,000	50,300	14,500	(4)	438,000 ⁵
More than 3% but not more than 4% carbon	1,170	--	20	(4)	1,510 ⁵
More than 0.5% but not more than 3% carbon	2,370	--	100	(4)	393 ⁵
Not more than 0.5% carbon	49,900	4,720	1,300	(4)	48,600 ⁵
Ferrochromium silicon	17,000	3,300	--	(4)	16,400 ⁵
Total ferroalloy imports	524,000	58,300	16,000	(4)	505,000 ⁵
Chromium metal ⁶	13,000	1,170	930	(4)	12,400 ⁵
Stainless steel	585,000	47,700	41,500	(4)	563,000 ⁵
Stainless steel scrap	195,000	9,390	13,300	(4)	158,000 ⁵
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	411,000	34,200	34,300 ^r	34,300	425,000
Exports:					
Chromite ore	4,420	370	615	(4)	4,780 ⁵
Chromium ferroalloys:					
High-carbon ferrochromium	6,530	111	321	(4)	4,070 ⁵
Low-carbon ferrochromium	2,490	32	56	(4)	940 ⁵
Ferrochromium silicon	106	--	--	(4)	4 ⁵
Total ferroalloy exports	9,130	143	377	(4)	5,020 ⁵
Chromium metal	597	73	31	(4)	512 ⁵
Stainless steel	508,000	40,200	34,900	(4)	516,000 ⁵
Stainless steel scrap	937,000	46,300	49,700	(4)	597,000 ⁵
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	8,110	10,600	10,400	10,300	10,300
Government stockpile:					
Chromium ferroalloys	154,000	150,000	150,000	150,000	150,000
Chromium metal	4,430	4,240	4,230	4,230	4,230

^rRevised. -- 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(s).

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.

⁵January through November data only.

⁶Includes 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)

	2011		
	November	December	January– December ³
Consumption by end use:			
Steel:			
Carbon steel	318	324	3,800
High-strength low-alloy steel	238	214	2,710
Stainless and heat-resisting steel	29,700	29,700	367,000
Unspecified steel ⁴	3,590 ^r	3,600	45,000
Superalloys	410 ^r	413	5,110
Other alloys and uses ⁵	109	107	1,310
Total	34,300 ^r	34,300	425,000
Total, chromium content	20,000 ^r	20,000	248,000
Consumption by material:			
Low-carbon ferrochromium	2,330 ^r	2,330	28,800
High-carbon ferrochromium	29,500 ^r	29,500	366,000
Ferrochromium silicon	W	W	W
Chromium metal	227 ^r	227	2,860
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	34,300 ^r	34,300	425,000
Total, chromium content	20,000 ^r	20,000	248,000
Consumer stocks:			
Low-carbon ferrochromium	1,660 ^r	1,660	1,660
High-carbon ferrochromium	7,860 ^r	7,800	7,800
Ferrochromium silicon	W	W	W
Chromium metal	158	162	162
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	10,400	10,300	10,300
Total, chromium content	6,170 ^r	6,150	6,150

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total."

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(s).

⁴Includes electrical, full alloy, tool, and unspecified steel end uses.

⁵Includes cast irons, 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	
2010:			
December	95,400	59,000	4,430
2011:			
January	95,400	59,000	4,430
February	95,400	59,000	4,430
March	95,400	57,400	4,430
April	95,400	57,400	4,390
May	94,100	56,200	4,290
June	94,100	56,200	4,290
July	94,100	55,700	4,270
August	94,100	55,600	4,270
September	95,200	55,100	4,240
October	95,200	54,900	4,240
November	95,200	54,600	4,230
December	95,200	54,300	4,230

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

²These Government stocks are reported by the Defense Logistics Agency, DLA Strategic Materials 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 Logistics Agency, DLA Strategic Materials.

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)
2010:							
October	213	\$126	779	443	\$1,070	54	\$1,850
November	611	349	859	304	1,240	51	1,390
December	837	457	532	287	783	51	1,580
January–November	3,580	2,170	8,600	3,970	12,100	546	16,800
January–December ⁴	4,420	2,620	9,130	4,250	12,900	597	18,400
2011:							
January	137	154	730	331	1,040	17	614
February	160	111	384	175	584	27	851
March	381	250	282	158	533	61	1,680
April	618	411	444	236	733	80	1,560
May	318	182	831	363	1,050	49	1,050
June	216	161	693	297	803	38	978
July	375	250	294	112	517	38	1,120
August	846	513	287	159	396	31	937
September	739	491	554	281	793	66	1,150
October	370	273	143	72	212	73	1,820
November	615	394	377	151	496	31	805
January–November	4,780	3,190	5,020	2,340	7,160	512	12,600

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.

⁴May include revised data that are not broken out by specific month(s).

Source: U.S. Census Bureau.

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

(Metric tons)

	2010	2011		
	January– December ²	October	November	January– November
Chromite ore:				
Not more than 40%:				
Gross weight	--	--	--	151
Chromic oxide content	--	--	--	78
More than 40% but less than 46% chromic oxide:				
Gross weight	65,400	3,000	--	27,900
Chromic oxide content	29,900	1,330	--	12,600
46% or more chromic oxide:				
Gross weight	73,700	2,500	40,000	155,000
Chromic oxide content	34,300	1,170	19,000	86,200
Total, all grades:				
Gross weight	139,000	5,500	40,000	183,000
Chromic oxide content	64,100	2,500	19,000	98,900
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5%:				
Gross weight	49,900	4,720	1,300	48,600
Chromium content	34,300	3,260	908	33,600
More than 0.5% but not more than 3%:				
Gross weight	2,370	--	100	393
Chromium content	1,450	--	56	224
Total, low-carbon:				
Gross weight	52,300	4,720	1,400	49,000
Chromium content	35,700	3,260	963	33,800
Medium-carbon: ⁴				
Gross weight	1,170	--	20	1,510
Chromium content	697	--	14	855
High-carbon: ⁵				
Gross weight	454,000	50,300	14,500	438,000
Chromium content	261,000	29,500	7,660	249,000
Total, all grades:				
Gross weight	507,000	55,000	16,000	488,000
Chromium content	297,000	32,800	8,640	284,000
Chromium metal:				
Unwrought powders	1,860	132	143	2,500
Waste and scrap	544	43	40	537
Other than waste and scrap and unwrought powders	10,600	997	747	9,400
Total, all grades:	13,000	1,170	930	12,400

-- 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(s).

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 2011, BY GRADE AND COUNTRY¹

Grade and country	November			January–November 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						
Albania	489	306	\$704	7,520	4,810	\$11,200
China	--	--	--	3	2	9
Finland	--	--	--	214	111	212
India	517	314	727	13,100	7,910	19,000
Kazakhstan	247	170	415	105,000	73,100	171,000
Portugal	--	--	--	501	323	719
Russia	328	230	546	30,300	20,100	52,800
South Africa	11,200	5,460	10,500	240,000	118,000	245,000
Sweden	1,330	900	2,830	10,300	6,840	20,700
Turkey	280	186	517	6,720	4,360	12,900
Zimbabwe	--	--	--	23,800	13,900	37,000
Total	14,500	7,660	16,600	438,000	249,000	570,000
Medium-carbon ferrochromium:⁵						
Belgium	--	--	--	(6)	(6)	4
India	--	--	--	95	54	105
Russia	--	--	--	1,390	786	1,020
Turkey	20	14	64	20	14	64
Total	20	14	64	1,510	855	1,200
Low-carbon ferrochromium:⁷						
More than 0.5% but not more than 3% carbon:						
Russia	--	--	--	40	31	150
South Africa	100	56	221	353	193	762
Total	100	56	221	393	224	912
Not more than 0.5% carbon:						
Albania	--	--	--	284	197	593
Belgium	--	--	--	61	41	266
Brazil	--	--	--	1,220	729	3,170
China	--	--	--	708	466	2,460
Germany	440	309	2,200	6,470	4,530	31,300
Japan	260	181	1,330	2,560	1,790	13,000
Kazakhstan	--	--	--	6,700	4,700	19,600
Netherlands	--	--	--	17	11	61
Russia	495	346	1,830	27,800	19,200	90,700
South Africa	--	--	--	20	11	61
Sweden	--	--	--	20	14	103
Turkey	100	71	340	2,750	1,960	9,340
Total	1,300	908	5,700	48,600	33,600	171,000
All grades:						
Albania	489	306	704	7,800	5,000	11,800
Belgium	--	--	--	61	41	269
Brazil	--	--	--	1,220	729	3,170
China	--	--	--	711	468	2,470
Finland	--	--	--	214	111	212
Germany	440	309	2,200	6,470	4,530	31,300
India	517	314	727	13,200	7,970	19,100
Japan	260	181	1,330	2,560	1,790	13,000
Kazakhstan	247	170	415	112,000	77,800	191,000
Netherlands	--	--	--	17	11	61
Portugal	--	--	--	501	323	719
Russia	823	576	2,380	59,600	40,000	145,000
South Africa	11,300	5,520	10,700	240,000	118,000	245,000
Sweden	1,330	900	2,830	10,300	6,850	20,800
Turkey	401	271	920	9,500	6,340	22,300
Zimbabwe	--	--	--	23,800	13,900	37,000
Total	16,000	8,630	22,600	488,000	284,000	743,000

-- Zero.

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

TABLE 6—Continued

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2011, BY GRADE AND COUNTRY¹

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

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% but not more than 4% carbon.

⁶Less than ½ unit.

⁷Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2011, BY GRADE AND BY COUNTRY¹

Grade and country	November		January–November ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	84	\$1,250	1,550	\$22,200
France	38	728	228	4,240
Germany	--	--	12	524
India	--	--	4	55
Japan	--	--	5	205
Russia	20	258	435	5,510
United Kingdom	1	26	262	4,010
Total	143	2,260	2,500	36,700
Waste and scrap:				
Germany	--	--	12	200
Japan	--	--	1	100
Mexico	27	84	508	1,470
Singapore	--	--	3	54
United Kingdom	13	121	13	121
Total	40	205	537	1,940
Other than waste and scrap and unwrought powders:				
China	60	856	1,470	20,000
France	248	3,690	1,970	31,400
Germany	1	101	98	1,940
Italy	--	--	(4)	10
Japan	--	--	14	319
Liechtenstein	--	--	(4)	11
Netherlands	--	--	57	784
Russia	250	3,210	3,160	42,900
United Kingdom	188	2,810	2,630	38,200
Total	757	10,700	9,400	136,000
All grades:				
China	129	1,900	2,880	40,100
France	247	3,970	1,910	31,200
Germany	2	100	121	2,570
India	--	--	4	55
Italy	(4)	10	(4)	10
Japan	2	155	19	624
Liechtenstein	--	--	(4)	11
Mexico	43	102	481	1,390
Netherlands	--	--	57	784
Russia	430	5,680	3,330	45,000
Singapore	--	--	3	54
United Kingdom	320	4,700	2,700	39,400
Total	1,170	16,600	11,500	161,000

-- 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(s).

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 2011¹

Stainless steel product	November		January–November	
	Gross weight (metric tons)	Value ² (thousands)	Gross weight (metric tons)	Value ² (thousands)
Exports:				
Ingot	1,810	\$9,670	67,400	\$145,000
Flat-rolled (width > 600 mm)	17,600	56,700	272,000	1,030,000
Flat-rolled (width < 600 mm)	6,570	26,700	72,200	317,000
Bars and rods in irregular coils	376	1,470	15,000	89,200
Other bars and rods	3,910	34,100	37,500	299,000
Wire	1,270	9,470	13,500	102,000
Tubes, pipes, hollow profiles	3,460	32,100	38,500	353,000
Total	34,900	170,000	516,000	2,330,000
Stainless steel scrap	49,700	75,400	597,000	873,000
Grand total	84,700	246,000	1,110,000	3,200,000
Imports:				
Ingot	9,390	35,300	124,000	474,000
Flat-rolled (width > 600 mm)	19,500	60,100	279,000	953,000
Flat-rolled (width < 600 mm)	2,410	12,000	41,200	187,000
Bars and rods in irregular coils	2,370	10,900	23,100	109,000
Other bars and rods	240	1,620	3,710	23,200
Wire	228	1,900	4,010	30,600
Tubes, pipes, hollow profiles	7,350	57,700	88,400	683,000
Total	41,500	180,000	563,000	2,460,000
Stainless steel scrap	13,300	18,300	158,000	280,000
Grand total	54,900	198,000	721,000	2,740,000

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

²Export value is free alongside ship. 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.