

Mineral Industry Surveys

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CHROMIUM IN JANUARY 2008

On the basis of gross weight, consumption of chromium ferroalloys and metal in January 2008 increased 5% compared with consumption in December 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 January 2008, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of January 2008, and U.S. foreign trade data for selected chromium-containing materials in December 2007.

$\label{eq:table 1} \textbf{TABLE 1} \\ \textbf{U.S. SALIENT CHROMIUM STATISTICS}^1$

(Metric tons, gross weight)

	2006		200)7		2008 January
	January-		December	Fourth	January- December ²	
	December	November		quarter		
Production:						
Stainless steel production ³	2,460,000	187,000	160,000	517,000	2,170,000	203,000
Components of U.S. supply:	_					
Stainless steel scrap receipts	1,050,000	74,100	70,600	223,000	953,000	81,600
Stainless steel scrap consumption	1,500,000	119,000	110,000	347,000	1,430,000	119,000
Imports for consumption:	_					
Chromite ore	150,000	33,200	12,200	49,000	145,000	(4)
Ferrochromium:	-					
More than 4% carbon	393,000	36,100	31,900	105,000	384,000	(4)
More than 3% carbon but not more than 4% carbon		131	136	267	267	(4)
More than 0.5%, but not more than 3% carbon	29	830	870	1,900	7,110	(4)
Not more than 0.5% carbon	28,100	2,290	3,360	8,220	31,700	(4)
Ferrochromium silicon	38,300	4,000	5,400	12,200	37,300	(4)
Total ferroalloy imports	459,000	43,300	41,700	127,000	460,000	(4)
Chromium metal ⁵	10,900	547	771	2,370	11,700	(4)
Stainless steel	872,000	58,200	57,700	176,000	809,000	(4)
Stainless steel scrap	180,000	10,000	12,800	32,400	118,000	(4)
Distribution of U.S. supply:	=					
Consumption, industry, chromium ferroalloys and metal	407,000 r	35,500	32,800	105,000	447,000	34,300
Exports:	=					
Chromite ore	53,900	525	534	7,400	37,600	(4)
Chromium ferroalloys:	_					
High-carbon ferrochromium	18,800	694 ^r	693	1,870	24,700	(4)
Low-carbon ferrochromium	16,600	873	725	2,050	16,200	(4)
Ferrochromium silicon	248	11	20	31	328	(4)
Total ferroalloy exports	35,700	1,580	1,440	3,950	41,100	(4)
Chromium metal	1,020	125	67	266	1,210	(4)
Stainless steel	410,000	34,100	37,300	110,000	476,000	(4)
Stainless steel scrap	1,350,000	83,100	82,800	245,000	882,000	(4)
Stocks at end of period:	=					
Consumer, industry, chromium ferroalloys and metal	XX	12,200	13,500	XX	XX	11,200
Government stockpile:	=					
Chromium ferroalloys	XX	162,000	155,000	XX	XX	153,000
Chromium metal	XX	5,030	4,970	XX	XX	4,970

^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.

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

(Metric tons, gross weight unless otherwise noted)

	20	2007		
		January-	2008	
	December	December	January	
Consumption by end use:				
Alloy uses:				
Steel:				
Carbon steel	293	4,160	295	
High-strength low-alloy steel	309	3,020	251	
Stainless and heat-resisting steel	27,200	376,000	28,200	
Full alloy steel	1,330	17,500	1,820	
Tool steel	378	5,090	416	
Steel end use, not reported by grade	2,150	25,700	2,160	
Superalloys	419	7,300	464	
Other alloys and uses ³	706	8,710	697	
Total	32,800	447,000	34,300	
Total, chromium content	19,200	262,000	20,000	
Consumption by material:	_			
Low-carbon ferrochromium	2,080	29,300	2,480	
High-carbon ferrochromium	28,000	380,000	28,800	
Ferrochromium silicon	W	W	W	
Chromium metal ⁴	204	3,840	243	
Chromite ore	W	W	W	
Chromium-aluminum alloy	W	W	W	
Other chromium materials	W	W	W	
Total	32,800	447,000	34,300	
Total, chromium content	19,200	262,000	20,000	
Consumer stocks:				
Low-carbon ferrochromium	1,770	XX	1,790	
High-carbon ferrochromium	10,400	XX	8,140	
Ferrochromium silicon	1,160	XX	970	
Chromium metal	143	XX	192	
Chromium-aluminum alloy	W	XX	W	
Other chromium materials	40 ^r	XX	34	
Total	13,500	XX	11,200	
Total, chromium content	7,940	XX	6,500	

^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.

³Includes cast irons, welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

⁴Includes waste and scrap and other.

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

(Metric tons)

	Chromium ferroalloys			
	High-carbon	Low-carbon		
	ferro-	ferro-	Chromium	
Period	chromium	chromium	metal	
2007:				
January	223,000	111,000	5,280	
February	215,000	108,000	5,280	
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	

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

Source: Defense National Stockpile Center.

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.

 $\label{eq:table 4} \textbf{U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL}^1$

	Chromi	Chromite ore		romium ferroalloys	2	Chromiur	n metal ³
	Gross	_	Gross	Chromium	_	Gross	
	weight	Value	weight	content	Value	weight	Value
Period	(metric tons)	(thousands)	(metric tons)	(metric tons)	(thousands)	(metric tons)	(thousands)
2006:							
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
2007:							
January	455	185	5,410	3,330	6,050	107	1,990
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

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

 $^{^2\}mbox{Includes low-}$ and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal, waste and scrap, and unwrought powders.

 ${\it TABLE 5} \\ {\it U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL}^1$

(Metric tons)

	2006		2007			
	January-				January-	
	December	October	November	December	December ²	
Chromite ore:						
Not more than 40%:						
Gross weight	117	20		17	52	
Chromic oxide content	45	7		6	19	
More than 40% but less than 46% chromic oxide:						
Gross weight	3,810	144	134	24	26,400	
Chromic oxide content	1,750	66	61	11	12,100	
46% or more chromic oxide:						
Gross weight	146,000	3,380	33,100	12,200	119,000	
Chromic oxide content	76,300	1,620	15,300	6,260	55,600	
Total, all grades:						
Gross weight	150,000	3,540	33,200	12,200	145,000	
Chromic oxide content	78,100	1,700	15,300	6,270	67,800	
Ferrochromium:						
Low-carbon: ³						
Not more than 0.5%:						
Gross weight	28,100	2,570	2,290	3,360	31,700	
Chromium content	19,300	1,770	1,570	2,300	21,000	
More than 0.5% but not more than 3%:						
Gross weight	29	200	830	870	7,110	
Chromium content	23	108	448	469	4,020	
Total, low-carbon:						
Gross weight	28,100	2,770	3,120	4,230	38,800	
Chromium content	19,300	1,880	2,020	2,770	25,100	
Medium-carbon: ⁴						
Gross weight			131	136	267	
Chromium content			71	73	144	
High-carbon: ⁵						
Gross weight	393,000	36,900	36,100	31,900	384,000	
Chromium content	230,000	22,100	21,900	18,600	217,000	
Total, all grades:						
Gross weight	421,000	39,600	39,300	36,300	423,000	
Chromium content	249,000	23,900	23,900	21,400	242,000	
Chromium metal:						
Unwrought powders	1,250	23	59	63	822	
Waste and scrap	90	72	66	17	357	
Other than waste and scrap and unwrought powders	9,540	953	422	691	10,500	
Total, all grades:	10,900	1,050	547	771	11,700	

⁻⁻ 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.

 $^{^4\}mathrm{Ferrrochromium}$ containing more than 3% carbon but not more than 4% carbon.

⁵Ferrrochromium containing more than 4% carbon.

TABLE 6 U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE AND FERROCHROMIUM SILICON IN 2007, BY GRADE AND BY COUNTRY $^{\rm I}$

January-December ²						
Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Chromium content (metric tons)	Value ³ (thousands)			
_						
47	17	XX	\$23			
5	2	XX	4			
52	19	XX	26			
26,400	12,100	XX	2,180			
1	1	XX	3			
26,400	12,100	XX	2,180			
1	1	XX	3			
119,000	55,600	XX	20,400			
119,000	55,600	XX	20,400			
47	17	XX	23			
5	2	XX	4			
1	1	XX	3			
145,000	67,800	XX	22,600			
1	1	XX	3			
145,000	67,800	XX	22,700			
_						
23,600	XX	9,450	27,400			
13,700	XX	5,170	7,970			
37,300	XX	14,600	35,400			
	weight (metric tons) 47 5 52 26,400 1 26,400 119,000 119,000 47 5 1 145,000 145,000 23,600 13,700	Gross weight (metric tons) 47 17 5 5 2 52 19 26,400 12,100 1 1 26,400 12,100 1 1 119,000 55,600 119,000 55,600 47 17 5 2 11 145,000 67,800 145,000 23,600 XX 13,700 XX	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			

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.

TABLE 7 U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2007, BY GRADE AND BY COUNTRY $^{\rm I}$

		December			January-December ²			
	Gross	Chromium		Gross	Chromium			
	weight	content	Value ³	weight	content	Value ³		
Grade and country	(metric tons)	(metric tons)	(thousands)	(metric tons)	(metric tons)	(thousands)		
High-carbon ferrochromium: ⁴	,	,		,	,			
India	2,820	1,780	\$5,290	4,300	2,710	\$7,590		
Kazakhstan	10,700	7,470	24,800	107,000	74,400	162,000		
Mexico	20	14	39	40	28	71		
Netherlands				1,140	719	2,070		
Russia				18,500	11,600	22,600		
South Africa	18,200	9,170	18,700	233,000	116,000	178,000		
Sweden		<i>></i> ,170		41	28	105		
Switzerland				3,500	1,680	2,130		
Tajikistan				5,500	3	2,130		
				255				
Turkey	255	158	157		158	157		
United Kingdom				1	(5)	3		
Zimbabwe				17,100	10,200	23,700		
Total	31,900	18,600	49,000	384,000	217,000	398,000		
Medium-carbon ferrochromium, ⁶ Russia	136	73	73	267	144	143		
Low-carbon ferrochromium: ⁷								
More than 0.5% but not more than 3%:								
Kazakhstan				1,110	777	2,090		
South Africa	870	469	1,090	6,000	3,250	6,520		
Total	870	469	1,090	7,110	4,020	8,610		
Not more than 0.5% carbon:								
Brazil				5	3	10		
China				225	148	479		
France				6	4	21		
Germany	320	226	743	5,720	4,020	12,900		
Japan	421	280	638	5,620	3,760	10,100		
Kazakhstan	404	279	1,350	3,600	2,500	7,930		
Mexico	14	9	41	14	9	41		
Russia	2,200	1,500	7,280	15,500	10,000	32,600		
South Africa				718	427	1,050		
Sweden				218	153	622		
Turkey		3	14	13	8	40		
Total	3,360	2,300	10,100	31,700	21,000	65,800		
All grades:	3,300	2,300	10,100	31,700	21,000	05,800		
Brazil				5	3	10		
					148	10		
China				225		479		
France				6	4	21		
Germany	320	226	743	5,720	4,020	12,900		
India	2,820	1,780	5,290	4,300	2,710	7,590		
Japan	421	280	638	5,620	3,760	10,100		
Kazakhstan	11,100	7,750	26,200	111,000	77,700	172,000		
Mexico	33	23	80	53	37	112		
Netherlands				1,140	719	2,070		
Russia	2,330	1,570	7,350	34,300	21,800	55,300		
South Africa	19,000	9,640	19,800	239,000	119,000	185,000		
Sweden				258	181	728		
Switzerland				3,500	1,680	2,130		
Tajikistan				5	3	9		
Turkey	260	161	170	268	166	197		
United Kingdom				1	(5)	3		
Zimbabwe				17,100	10,200	23,700		
Total	36,300	21,400	60,200	423,000	242,000	473,000		
Saa footnotes at and of table	30,300	21,100	00,200	.23,000	212,000	.75,000		

See footnotes at end of table.

-- Zero.

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.

⁴Ferrrochromium containing more than 4% carbon.

 $^{^{1}\}mathrm{Data}$ are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

⁵Less than ½ unit.

⁶Ferrrochromium containing more than 3% carbon but not more than 4% carbon.

⁷Ferrochromium containing not more than 3% carbon.

TABLE 8 $\mbox{U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2007, } \\ \mbox{BY GRADE AND BY COUNTRY}^1$

	Dece		January-December ²		
	Gross weight	Value ³	Gross weight	Value ³	
Grade and country	(metric tons)	(thousands)	(metric tons)	(thousands)	
Unwrought powders:	=				
China	22	\$880	143	\$3,110	
France			8	68	
Germany	(4)	2	42	271	
Japan	_ 4	183	52	1,880	
Russia	36	261	287	2,570	
Singapore			1	11	
Spain			31	171	
United Kingdom	(4)	66	258	2,410	
Total	63	1,390	822	10,500	
Waste and scrap:					
Germany			18	102	
Japan			35	294	
Korea, Republic of			(4)	8	
Malaysia			11	47	
Mexico	17	72	271	1,420	
Singapore	- 		7	124	
Taiwan	- 		16	198	
Total	17	72	357	2,200	
Other than waste and scrap and unwrought powders:	= -			· · · · · · · · · · · · · · · · · · ·	
China	- 75	774	1,860	15,100	
France	247	2,480	2,610	23,500	
Germany	(4)	53	144	1,860	
Hong Kong	- 		(4)		
Italy	- 		(4)	19	
Japan	1	19	22	223	
Russia	200	1,690	4,070	29,200	
Switzerland	- 		(4)	5	
United Kingdom	- 167	1,390	1,810	14,700	
Total	691	6,410	10,500	84,700	
All grades:	=		· · · · · · · · · · · · · · · · · · ·		
China	- 97	1,650	2,000	18,200	
France	247	2,480	2,620	23,600	
Germany	- (4)	56	205	2,230	
Hong Kong	- '		(4)	8	
Italy	- 		(4)	19	
Japan	- 5	201	108	2,400	
Korea, Republic of	- 		(4)		
Malaysia	- 		11	47	
Mexico	- 17	72	271	1,420	
Russia	237	1,960	4,350	31,800	
Singapore			7	135	
Spain	- 		31	171	
Switzerland	- 		(4)	5	
Taiwan	- 		16	198	
United Kingdom	167	1,460	2,070	17,100	
C.m.Ca Isinguoni	107	1,100	2,070	17,100	

⁻⁻ 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.

 $\label{eq:table 9} \text{U.S. STAINLESS STEEL TRADE, BY PRODUCT, IN } 2007^1$

	Decen	December		January-December		
	Gross weight	Value ²	Gross weight	Value ²		
Stainless steel product	(metric tons)	(thousands)	(metric tons)	(thousands)		
Exports:						
Ingot	1,380	\$8,510	15,600	\$98,500		
Flat-rolled (width > 600 mm)	21,500	61,500	266,000	791,000		
Flat-rolled (width < 600 mm)	7,350	36,100	94,800	501,000		
Bars and rods in irregular coils	232	1,510	7,310	37,300		
Other bars and rods	2,670	20,500	38,000	279,000		
Wire	466	3,600	8,600	61,800		
Tubes, pipes, hollow profiles	3,690	28,000	45,800	339,000		
Total	37,300	160,000	476,000	2,110,000		
Stainless steel scrap	82,800	117,000	882,000	1,620,000		
Grand total	120,000	277,000	1,360,000	3,730,000		
Imports:						
Ingot	9,470	41,700	129,000	628,000		
Flat-rolled (width > 600 mm)	25,000	86,500	337,000	1,430,000		
Flat-rolled (width < 600 mm)	3,080	15,900	43,000	234,000		
Bars and rods in irregular coils	1,790	8,520	27,700	138,000		
Other bars and rods	7,870	45,100	101,000	564,000		
Wire	2,940	17,900	42,200	273,000		
Tubes, pipes, hollow profiles	7,520	61,600	129,000	1,030,000		
Total	57,700	277,000	809,000	4,300,000		
Stainless steel scrap	12,800	29,800	118,000	198,000		
Grand total	70,400	307,000	927,000	4,500,000		

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.