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Mineral Industry Surveys

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CHROMIUM IN OCTOBER 2007

On the basis of gross weight, consumption of chromium ferroalloys and metal in October 2007 increased by 12% compared with revised consumption in September 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 October 2007, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of October 2007, and U.S. foreign trade data for selected chromium-containing materials in September 2007.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2006	2007				
	January-December	August	September	Third quarter	October	January-October[2]
Production:						
Stainless steel production[3]	2,460,000	147,000	128,000	426,000	170,000	1,820,000 [4]
Components of U.S. supply:						
Stainless steel scrap receipts	1,050,000	71,400	73,500	217,000	78,100	808,000
Stainless steel scrap consumption	1,500,000	113,000	111,000	338,000	119,000	1,200,000
Imports for consumption:						
Chromite ore	150,000	35,800	1,750	42,900	(5)	96,300 [6]
Ferrochromium:						
More than 4% carbon	393,000	29,000	31,000	78,300	(5)	279,000 [6]
More than 0.5%, but not more than 3% carbon	29	200	--	714	(5)	5,210 [6]
Not more than 0.5% carbon	28,100	1,930	3,740	7,420	(5)	23,400 [6]
Ferrochromium silicon	38,300	6,430	--	17,300	(5)	30,600 [6]
Total ferroalloy imports	459,000	37,600	34,700	104,000	(5)	338,000 [6]
Chromium metal[7]	10,900	1,290	849	3,340	(5)	7,700 [6]
Stainless steel	872,000	66,400	58,100	198,000	(5)	633,000 [6]
Stainless steel scrap	180,000	5,550	4,230	15,200	(5)	85,400 [6]
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	553,000	35,400	31,600	104,000	35,400	363,000
Exports:						
Chromite ore	53,900	874	406	2,120	(5)	30,200 [6]
Chromium ferroalloys:						
High-carbon ferrochromium	18,800	533	2,870	4,270	(5)	22,800 [6]
Low-carbon ferrochromium	16,600	715	1,160	2,120	(5)	14,100 [6]
Ferrochromium silicon	248	19	4	43	(5)	297 [6]
Total ferroalloy exports	35,700	1,270	4,030	6,430	(5)	37,200 [6]
Chromium metal	1,020	123	95	320	(5)	942 [6]
Stainless steel	410,000	35,100	31,800	102,000	(5)	366,000 [6]
Stainless steel scrap	506,000	69,200	68,900	209,000	(5)	637,000 [6]
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	XX	12,500	12,100	XX	11,800	XX
Government stockpile:						
Chromium ferroalloys	XX	262,000	174,000	XX	169,000	XX
Chromium metal	XX	5,150	5,150	XX	5,090	XX

XX Not applicable. -- Zero.

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

[2]May include revised data.

[3]Data 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.

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

[5]Data to be published in a subsequent issue.

[6]Includes January to September data.

[7]Includes waste and scrap and other.

TABLE 2

U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN 2007 [1, 2]

(Metric tons, gross weight unless otherwise noted)

	September	October	January-October[3]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	319	552	3,550
High-strength low-alloy steel	499	500	4,760
Stainless and heat-resisting steel	27,600	30,900	319,000
Full alloy steel	1,320	1,640	15,000
Electrical steel	W	W	W
Tool steel	413	426	4,310
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	517	393	6,440
Other alloys[4]	36	39	356
Total	31,600	35,400	363,000
Total, chromium content	18,500	20,600	212,000
Consumption by material:			
Low-carbon ferrochromium	1,850	1,900	19,600
High-carbon ferrochromium	26,900	30,700	311,000
Ferrochromium silicon	W	W	W
Chromium metal	293	199	3,390
Chromite ore	W	W	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	31,600	35,400	363,000
Total, chromium content	18,500	20,600	212,000
Consumer stocks:			
Low-carbon ferrochromium	1,870	1,900	XX
High-carbon ferrochromium	8,960	8,740	XX
Ferrochromium silicon	991	902	XX
Chromium metal	165	161	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	W	W	XX
Other chromium materials	15	14	XX
Total	12,100	11,800	XX
Total, chromium content	7,100	6,930	XX

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

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

[2]Includes estimates.

[3]May include revised data.

[4]Includes 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:			
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
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	104,000	57,800	5,030

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

[2]These 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 METAL[1]

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)
2006:							
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
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
January-September	30,200	4,070	37,200	23,700	44,300	942	16,800

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

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

[3]Includes 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 METAL[1]

(Metric tons)

	2006	2007			
	January-December[2]	July	August	September	January-September[2]
Chromite ore:					
Not more than 40%:					
Gross weight	117	--	10	--	15
Chromic oxide content	45	--	4	--	6
More than 40% but less than 46% chromic oxide:					
Gross weight	3,810	48	10	--	26,100
Chromic oxide content	1,750	22	4	--	12,000
46% or more chromic oxide:					
Gross weight	146,000	5,380	35,800	1,750	70,100
Chromic oxide content	76,300	2,500	16,500	805	32,500
Total, all grades:					
Gross weight	150,000	5,420	35,800	1,750	96,300
Chromic oxide content	78,100	2,520	16,500	805	44,500
Ferrochromium:					
Low-carbon:[3]					
Not more than 0.5%:					
Gross weight	28,100	1,750	1,930	3,740	23,400
Chromium content	19,300	1,210	1,340	1,920	15,400
More than 0.5% but not more than 3%:					
Gross weight	29	514	200	--	5,210
Chromium content	23	358	108	--	3,000
Total, low-carbon:					
Gross weight	28,100	2,260	2,130	3,740	28,700
Chromium content	19,300	1,560	1,440	1,920	18,400
High-carbon:[4]					
Gross weight	393,000	18,400	29,000	31,000	279,000
Chromium content	230,000	11,300	14,900	16,000	155,000
Total, all grades:					
Gross weight	421,000	20,600	31,200	34,700	308,000
Chromium content	249,000	12,800	16,400	17,900	173,000
Chromium metal:					
Unwrought powders	1,250	15	22	63	678
Waste and scrap	90	15	57	35	202
Other than waste and scrap and unwrought powders	9,540	1,170	1,210	751	8,460
Total, all grades:	10,900	1,200	1,290	849	9,340

-- Zero.

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

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2007,
BY GRADE AND BY COUNTRY[1]

Grade and country	September			January-September[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	--	--	--	463	283	$460
Kazakhstan	216	140	$289	62,300	43,600	71,300
Mexico	--	--	--	20	14	32
Russia	1,070	672	1,660	15,100	9,480	16,500
South Africa	29,700	15,200	29,000	187,000	92,800	136,000
Sweden	--	--	--	41	28	105
Switzerland	--	--	--	3,500	1,680	2,130
Tajikistan	--	--	--	5	3	9
Zimbabwe	--	--	--	11,100	6,620	13,300
Total	31,000	16,000	31,000	279,000	155,000	240,000
Low-carbon ferrochromium:[5]						
Not more than 0.5% carbon:						
Brazil	--	--	--	5	3	10
China	--	--	--	225	148	479
France	6	4	21	6	4	21
Germany	540	380	1,180	4,760	3,340	10,900
Japan	657	438	1,100	3,900	2,620	7,470
Kazakhstan	--	--	--	1,700	1,190	2,870
Russia	2,530	1,100	4,380	12,000	7,550	21,500
South Africa	--	--	--	718	427	1,050
Sweden	--	--	--	161	112	370
Turkey	--	--	--	8	5	26
Total	3,740	1,920	6,680	23,400	15,400	44,600
More than 0.5% but not more than 3%:						
Kazakhstan	--	--	--	1,110	777	2,090
South Africa	--	--	--	4,100	2,220	4,100
Total	--	--	--	5,210	3,000	6,190
All grades:						
Brazil	--	--	--	5	3	10
China	--	--	--	225	148	479
France	6	4	21	6	4	21
Germany	540	380	1,180	4,760	3,340	10,900
India	--	--	--	463	283	460
Japan	657	438	1,100	3,900	2,620	7,470
Kazakhstan	216	140	289	65,100	45,600	76,200
Mexico	--	--	--	20	14	32
Russia	3,610	1,770	6,040	27,000	17,000	38,000
South Africa	29,700	15,200	29,000	192,000	95,400	142,000
Sweden	--	--	--	201	140	475
Switzerland	--	--	--	3,500	1,680	2,130
Tajikistan	--	--	--	5	3	9
Turkey	--	--	--	8	5	26
Zimbabwe	--	--	--	11,100	6,620	13,300
Total	34,700	17,900	37,700	308,000	173,000	291,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown. Chromium ferroalloys comprise ferrochromium and ferrochromium silicon.

[2]May include revised data.

[3]Customs 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.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2007,
BY GRADE AND BY COUNTRY[1]

Grade and country	September		January-September[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	3	$27	118	$2,200
France	3	25	8	68
Germany	24	168	42	262
Japan	3	122	41	1,410
Russia	--	--	199	1,980
Singapore	--	--	1	11
Spain	16	86	31	171
United Kingdom	14	159	238	2,060
Total	63	587	678	8,160
Waste and scrap:				
Germany	--	--	18	102
Japan	13	16	28	207
Korea, Republic of	--	--	(4)	8
Mexico	23	92	149	726
Singapore	--	--	4	102
Taiwan	--	--	2	28
Total	36	108	202	1,170
Other than waste and scrap and unwrought powders:				
China	120	1,100	1,600	12,900
France	171	1,470	1,940	17,300
Germany	(4)	21	76	1,310
Hong Kong	--	--	(4)	8
Italy	--	--	1	22
Japan	1	17	19	155
Netherlands	--	--	7	31
Russia	242	2,310	3,620	25,300
Switzerland	--	--	(4)	5
Taiwan	--	--	5	9
United Kingdom	216	1,790	1,190	9,470
Total	751	6,710	8,460	66,500
All grades:				
China	123	1,130	1,720	15,100
France	174	1,490	1,950	17,400
Germany	25	189	136	1,670
Hong Kong	--	--	(4)	8
Italy	--	--	1	22
Japan	16	156	88	1,770
Korea, Republic of	--	--	(4)	8
Mexico	23	92	149	726
Netherlands	--	--	7	31
Russia	242	2,310	3,820	27,300
Singapore	--	--	5	113
Spain	16	86	31	171
Switzerland	--	--	(4)	5
Taiwan	--	--	6	38
United Kingdom	230	1,950	1,430	11,500
Total	849	7,410	9,340	75,800

-- Zero.

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

[2]May include revised data.

[3]Customs 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.

[4]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2007[1]

Stainless steel product	September		January-September	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	1,480	$7,510	11,300	$74,900
Flat-rolled (width > 600 mm)	16,800	51,700	204,000	609,000
Flat-rolled (width < 600 mm)	5,730	30,100	73,500	396,000
Bars and rods in irregular coils	412	1,730	6,360	32,100
Other bars and rods	2,840	21,600	29,300	214,000
Wire	750	5,460	6,670	47,400
Tubes, pipes, hollow profiles	3,810	27,500	34,200	252,000
Total	31,800	146,000	366,000	1,620,000
Stainless steel scrap	68,900	91,500	637,000	1,260,000
Grand total	101,000	237,000	1,000,000	2,880,000
Imports:				
Ingot	7,800	37,100	98,900	493,000
Flat-rolled (width > 600 mm)	23,900	104,000	268,000	1,190,000
Flat-rolled (width < 600 mm)	3,470	16,700	32,900	181,000
Bars and rods in irregular coils	2,150	11,300	22,200	112,000
Other bars and rods	6,400	38,900	76,900	431,000
Wire	3,110	20,700	32,500	213,000
Tubes, pipes, hollow profiles	11,200	85,600	102,000	790,000
Total	58,100	315,000	633,000	3,400,000
Stainless steel scrap	4,230	4,780	85,400	134,000
Grand total	62,300	320,000	719,000	3,540,000

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

[2]Export 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.