Mineral Industry Surveys

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CHROMIUM IN APRIL 2021

Estimated consumption of chromium, on a gross weight basis, in April 2021 decreased by 4% compared with estimated consumption of chromium in March 2021, and decreased by 3% compared with consumption in April 2020. Estimated consumer stocks decreased by 33% compared with stocks in March 2021 and by 90% compared with those of April 2020 (tables 1, 2).

Stainless steel production increased by 3% in April 2021 compared with production in March 2021, and increased by 49% compared with production in April 2020 (table 1). Government stockpile inventories for chromium metal were unchanged compared with those in March 2021 and decreased by 4% compared with those in April 2020. Government stockpile inventories of ferroalloys decreased slightly compared with those in March 2021 and decreased by 13% compared with those of April 2020 (table 3).

Imports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel commonly fluctuate from month to month (table 1). In April 2021, imports of all grades of chromium ferroalloys decreased by 38% compared with imports of chromium ferroalloys in March 2021 and increased by 35% compared with those in in April 2020. Stainless steel imports in April 2021 increased by 35% compared with imports in March 2021 and increased by 28% compared with those in April 2020 (fig. 1, table 1).

Exports of chromite ore, chromium ferroalloys, chromium

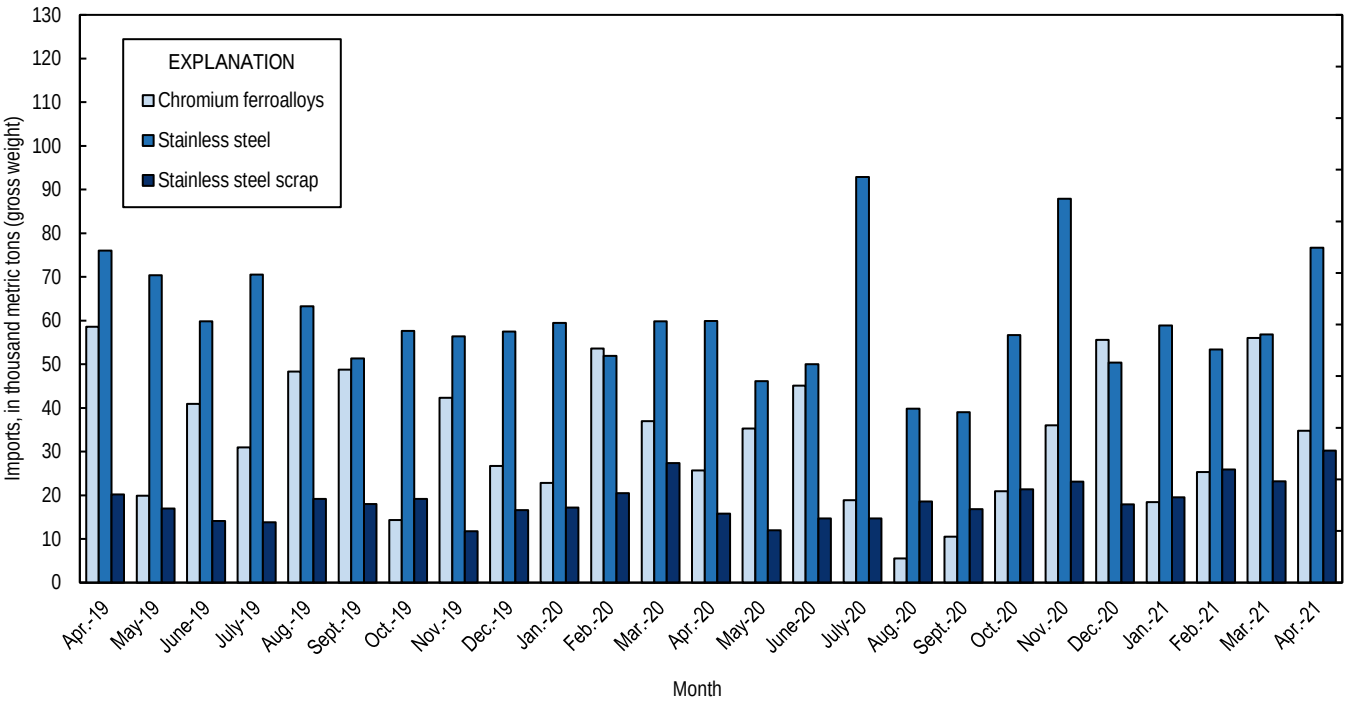

Figure 1. Chromium ferroalloys and stainless steel imports from April 2019 through April 2021. Source: U.S. Census Bureau.

metal, and stainless steel also frequently fluctuate from month to month (table 1, table 4). Exports of chromium ferroalloys decreased by 87% in April 2021 compared with exports in March 2021 and decreased by 76% compared with exports in April 2020. Stainless steel exports in April 2021 decreased by 11% compared with exports in March 2021 and increased by 23% compared with those of April 2020 (table 1).

In April 2021, the leading import sources for ferrochromium (FeCr) into the United States were, in descending order of quantity by gross weight, South Africa, Finland, and Germany (table 6), whereas the leading import sources for chromium metal were Russia, China, and France (table 7).

The U.S. chromium metal (99% Cr) average price was $3.50 per pound in April 2021, unchanged from the average price in March 2021, and a slight increase compared with the average price in April 2020. The U.S. high-carbon FeCr (62%–70% chromium) average price was 131.50 cents per pound of contained chromium in April 2021, a slight increase from the average price in March 2021, and a 49% increase from the average price in April 2020 (fig. 2) (CRU Group, 2021).

Industry News

Following acquisition of three chromite mining licenses in 2020, Tata Steel Mining Ltd. (India) announced it would increase ferrochromium capacity to 900 kilotons per year, twice the existing capacity (Backeberg, 2021).

Cleveland-Cliffs Inc. canceled a planned 2nd quarter maintenance outage at its Indiana Harbor No. 7 blast furnace. Instead, it submitted a notice to the Indiana Department of Environmental Management that it would install a new blowdown treatment system and monitoring points while keeping the plant operational (Shenk, 2021).

References Cited

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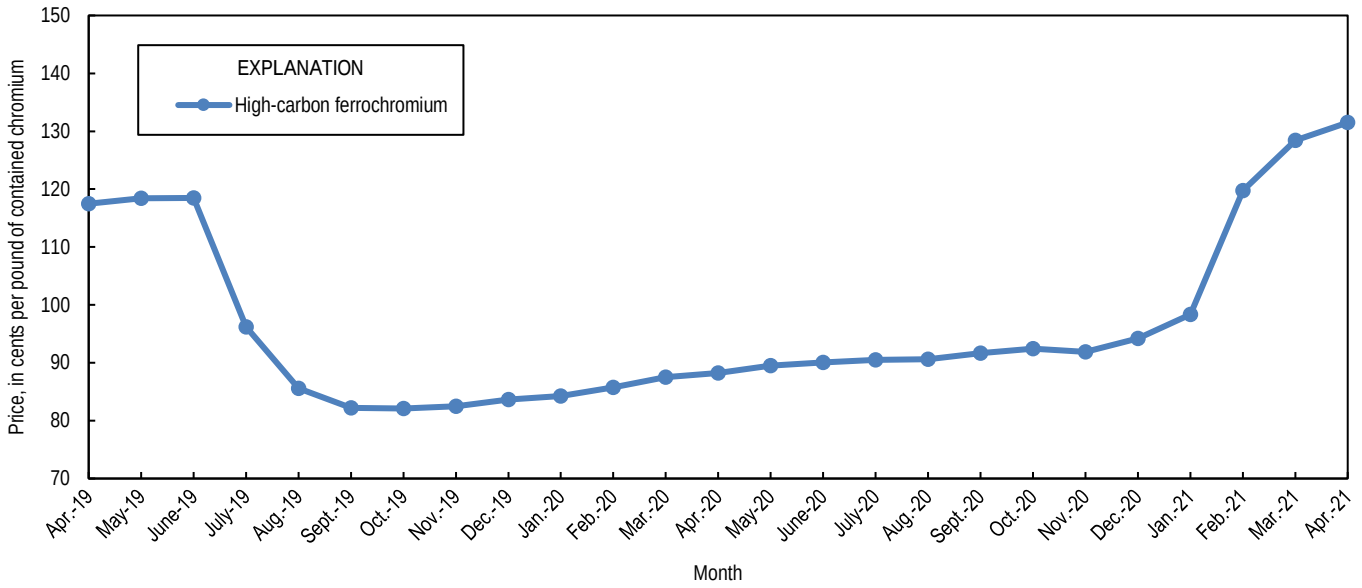

Figure 2. Average monthly prices for U.S. high-carbon ferrochromium from April 2019 through April 2021. Source: CRU Group.

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

(Metric tons, gross weight)

	2020	2021			
	January–December[p]	February	March	April	January–April[2]
Production, stainless steel[3]	2,140,000	199,000	215,000	221,000	844,000
Components of U.S. supply:					
Stainless steel scrap receipts	690,000 [r]	54,400 [r]	58,800 [r, e]	60,400 [e]	219,000 [e]
Stainless steel scrap consumption	1,040,000 [r]	82,300 [r]	89,000 [r, e]	91,400 [e]	334,000 [e]
Imports for consumption:					
Chromite ore	101,000	1,990	5,440	17,800	33,200
Ferrochromium:					
More than 4% carbon	310,000	15,500	47,500	32,600	106,000
More than 3% but not more than 4% carbon	212	6,500	55	27	6,580
More than 0.5% but not more than 3% carbon	3,360	644	488	--	1,130
Not more than 0.5% carbon	37,400	1,070	5,530	2,180	12,300
Ferrochromium silicon	15,800	1,640	2,400	--	8,580
Total ferroalloy imports	367,000	25,300	56,000	34,800	134,000
Chromium metal[4]	11,600 [r]	565	1,130	1,450	3,680
Stainless steel	694,000	53,400	56,800	76,700	246,000
Stainless steel scrap	219,000 [r]	25,900	23,200	30,200	98,700
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal[e]	335,000	27,100 [r]	27,100 [r]	26,000	107,000
Exports:					
Chromite ore	1,780 [r]	420	208	157	855
Chromium ferroalloys:					
High-carbon ferrochromium	949	50	60	7	141
Low-carbon ferrochromium	393	23	78	21	122
Ferrochromium silicon	238	39	71	--	110
Total ferroalloy exports	1,580	111	209	28	373
Chromium metal	379 [r]	30	47	25	145
Stainless steel	325,000 [r]	29,900	34,600	30,900	126,000
Stainless steel scrap	314,000 [r]	15,700	19,500	17,700	71,300
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal[e]	7,400	1,500 [r]	1,100 [r]	740	740
Government stockpile:					
Chromium ferroalloys	59,600	58,900	56,300	55,200	55,200
Chromium metal	3,750	3,690	3,690	3,690	3,690

[e]Estimated. [p]Preliminary. [r]Revised. -- Zero.

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

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

[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 waste and scrap and other.

TABLE 2
U.S. CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS[1]

(Metric tons, gross weight unless otherwise noted)

	2021		
	March	April	January–April[2]
Consumption by end use:			
Steel:			
Carbon steel	W	W	W
High-strength low-alloy steel[e]	150	140	590
Stainless and heat-resisting steel[e]	23,000 [r]	22,000	91,000
Unspecified steel[e, 3]	3,400	3,400	13,600
Superalloys[e]	250 [r]	200	950
Other alloys and uses[4]	W	W	W
Total[e]	27,120 [r]	26,000	107,360
Total, chromium content[e]	16,100 [r]	15,400	63,700
Consumption by material:			
Low-carbon ferrochromium[e]	1,800 [r]	1,700	7,100
High-carbon ferrochromium[e]	23,500 [r]	23,000	93,500
Ferrochromium silicon	W	W	W
Chromium metal[e]	150 [r]	140	590
Chromite ore	W	120 [e]	W
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total[e]	27,120 [r]	26,000	107,438
Total, chromium content[e]	16,100 [r]	15,400	63,700
Consumer stocks:			
Low-carbon ferrochromium[e]	500 [r]	300	300
High-carbon ferrochromium[e]	400 [r]	350	350
Ferrochromium silicon	W	W	W
Chromium metal[e]	20	20	20
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total[e]	1,100 [r]	740	740
Total, chromium content[e]	700 [r]	470	470

[e]Estimated. [r]Revised. W Withheld to avoid disclosing company proprietary data; included in "Total."

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

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

[3]Includes electrical, full alloy, tool, and unspecified steel end uses.

[4]Includes 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]

(metric tons)

	Chromium ferroalloys		
	High-carbon ferro-chromium	Low-carbon ferro-chromium	Chromium metal
2020:			
April	36,700	27,100	3,850
May	36,000	26,800	3,850
June	35,700	26,800	3,840
July	35,100	26,800	3,840
August	33,900	26,800	3,830
September	33,900	26,800	3,830
October	33,900	26,800	3,830
November	33,900	26,800	3,790
December	33,000	26,600	3,750
2021:			
January	33,000	26,600	3,750
February	32,400	26,500	3,690
March	28,800	27,500	3,690
April	27,700	27,500	3,690

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

Source: Defense Logistics Agency, DLA Strategic Materials.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

	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)
2020:							
April	115	$83	118	61	$182	31	$550
May	155	90	85	41	106	35	1,050
June	210 r	131 r	56	34	72	33	529
July	96	68	133	71	180	47 r	1,780 r
August	305	97	149	90	233	42	927
September	19	8	208	115	324	33	727
October	139	120	260	157	316	23	942
November	59	45	83	51	141	22	580
December	222	136	252	133	306	16	531
January–December[4]	1,780 r	1,040 r	1,580	893	2,280	379 r	9,970 r
2021:							
January	70	55	24	15	43	44	1,050
February	420	264	111	58	169	30	650
March	208	147	209	100	401	47	783
April	157	128	28	17	54	25	659
January–April[4]	855	594	373	190	667	145	3,150

rRevised.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes low- and high-carbon ferrochromium and ferrochromium silicon.
[3]Includes chromium metal, waste and scrap, and unwrought powders.
[4]May 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 METAL[1]

(Metric tons)

	2020	2021		
	January–December	March	April	January–April[2]
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	3,600	1,770	1,810	5,380
Chromic oxide content	909	374	372	1,120
More than 40% but less than 46% chromic oxide:				
Gross weight	11,000	2,100	583	5,650
Chromic oxide content	4,780	905	254	2,460
46% or more chromic oxide:				
Gross weight	86,300	1,570	15,400	22,100
Chromic oxide content	77,500	1,550	12,400	16,400
Total, all grades:				
Gross weight	101,000	5,440	17,800	33,200
Chromic oxide content	83,200	2,830	13,000	20,000
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5% carbon:				
Gross weight	37,400	5,530	2,180	12,300
Chromium content	25,200	3,910	1,610	8,800
More than 0.5% but not more than 3% carbon:				
Gross weight	3,360	488	--	1,130
Chromium content	2,260	347	--	774
Total, low-carbon:				
Gross weight	40,800	6,020	2,180	13,500
Chromium content	27,400	4,250	1,610	9,570
Medium-carbon:[4]				
Gross weight	212	55	27	6,580
Chromium content	116	29	14	3,360
High-carbon:[5]				
Gross weight	310,000	47,500	32,600	106,000
Chromium content	169,000	27,100	16,400	58,900
Total, all grades:				
Gross weight	351,000	53,600	34,800	126,000
Chromium content	196,000	31,400	18,000	71,800
Chromium metal:				
Unwrought powders	9,730 r	981	1,210	3,110
Waste and scrap	168	--	34	44
Other than waste and scrap and unwrought powders	1,740 r	151	213	519
Total, all grades	11,600 r	1,130	1,450	3,680

rRevised. -- Zero.

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

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

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

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

[5]Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2021, BY GRADE AND COUNTRY OR LOCALITY[1]

Grade and country or locality	April			January–April[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	459	336	$564	2,300	1,600	$2,890
Finland	8,000	4,230	6,730	9,500	5,030	7,920
India	357	232	318	1,050	647	898
Kazakhstan	19	13	36	19,800	13,700	28,100
Russia	--	--	--	781	533	931
South Africa	23,200	11,300	19,400	57,200	27,800	48,900
Sweden	486	328	673	9,580	6,370	14,100
Turkey	--	--	--	200	124	229
Zimbabwe	--	--	--	5,450	3,010	3,760
Total	32,600	16,400	27,700	106,000	58,900	108,000
Medium-carbon ferrochromium:[5]						
China	5	3	2	5	3	2
Russia	22	12	33	77	41	63
South Africa	--	--	--	6,500	3,310	5,340
Total	27	14	36	6,580	3,360	5,410
Low-carbon ferrochromium:[6]						
More than 0.5% but not more than 3% carbon						
Brazil	--	--	--	318	197	436
Kazakhstan	--	--	--	814	577	2,280
Total	--	--	--	1,130	774	2,720
Not more than 0.5% carbon:						
Belgium	--	--	--	368	287	1,160
Brazil	21	13	47	842	528	1,240
Germany	1,140	883	3,670	2,860	2,210	9,180
Japan	220	155	769	398	283	1,460
Kazakhstan	--	--	--	3,000	2,160	8,170
Russia	796	564	2,330	3,890	2,660	10,300
Turkey	--	--	--	966	666	2,040
Total	2,180	1,610	6,820	12,300	8,800	33,600
All grades:						
Albania	459	336	564	2,300	1,600	2,890
Belgium	--	--	--	368	287	1,160
Brazil	21	13	47	1,160	725	1,680
China	5	3	2	5	3	2
Finland	8,000	4,230	6,730	9,500	5,030	7,920
Germany	1,140	883	3,670	2,860	2,210	9,180
India	357	232	318	1,050	647	898
Japan	220	155	769	398	283	1,460
Kazakhstan	19	13	36	23,600	16,500	38,500
Russia	818	576	2,370	4,750	3,240	11,300
South Africa	23,200	11,300	19,400	63,700	31,200	54,200
Sweden	486	328	673	9,580	6,370	14,100
Turkey	--	--	--	1,170	790	2,270
Zimbabwe	--	--	--	5,450	3,010	3,760
Total	34,800	18,000	34,600	126,000	71,800	149,000

-- Zero.

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

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

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

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

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2021,
BY GRADE AND BY COUNTRY OR LOCALITY[1]

Grade and country or locality	April		January–April[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
Belgium	--	--	3	$88
China	210	$1,820	357	3,080
France	209	1,370	686	4,360
Germany	89	440	228	1,180
India	--	--	39	330
Russia	530	3,260	1,210	7,180
Spain	--	--	46	223
United Kingdom	168	1,500	544	4,790
Total	1,210	8,400	3,110	21,200
Waste and scrap:				
Canada	13	35	18	67
Germany	--	--	1	10
Japan	4	17	5	32
Liechtenstein	--	--	1	6
Taiwan	--	--	1	15
United Kingdom	18	104	18	104
Total	34	156	44	234
Other than waste and scrap and unwrought powders:				
Canada	--	--	(4)	7
China	10	167	11	252
Germany	7	129	8	258
Japan	(4)	18	3	145
Liechtenstein	(4)	8	(4)	18
Malaysia	--	--	(4)	4
Netherlands	--	--	(4)	7
Russia	195	1,380	458	2,870
Spain	--	--	23	111
Taiwan	--	--	(4)	9
United Kingdom	--	--	15	170
Total	213	1,710	519	3,850
All grades:				
Belgium	--	--	3	88
Canada	13	35	18	74
China	220	1,990	368	3,340
France	209	1,370	686	4,360
Germany	96	569	237	1,440
India	--	--	39	330
Japan	4	35	8	177
Liechtenstein	(4)	8	2	25
Malaysia	--	--	(4)	4
Netherlands	--	--	(4)	7
Russia	725	4,650	1,670	10,000
Spain	--	--	69	334
Taiwan	--	--	1	24
United Kingdom	187	1,610	577	5,060
Total	1,450	10,300	3,680	25,300

-- Zero.

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

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

[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. STAINLESS STEEL TRADE, BY PRODUCT, IN 2021[1]

Stainless steel product	April		January–April[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Exports:				
Ingot	837	$6,170	3,030	$21,700
Flat-rolled (width > 600 mm)	18,500	57,900	77,800	233,000
Flat-rolled (width < 600 mm)	5,140	30,900	20,400	118,000
Bars and rods in irregular coils	163	735	847	4,490
Other bars and rods	2,240	23,100	8,590	84,900
Wire	780	12,100	3,090	37,300
Tubes, pipes, hollow profiles	3,270	32,700	11,800	111,000
Total	30,900	164,000	126,000	610,000
Stainless steel scrap	17,700	21,100	71,300	82,200
Grand total	48,600	185,000	197,000	692,000
Imports:				
Ingot	22,100	49,000	64,300	213,000
Flat-rolled (width > 600 mm)	23,000	59,100	76,500	191,000
Flat-rolled (width < 600 mm)	4,940	16,700	17,300	57,400
Bars and rods in irregular coils	2,700	9,400	9,010	31,600
Other bars and rods	11,100	43,600	36,000	140,000
Wire	3,440	14,300	12,300	49,900
Tubes, pipes, hollow profiles	9,390	55,100	30,400	177,000
Total	76,700	247,000	246,000	859,000
Stainless steel scrap	30,200	42,200	98,700	123,000
Grand total	107,000	289,000	344,000	982,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]May include revised data that are not broken out by specific month(s).
[3]Export 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 costs incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.