Mineral Industry Surveys

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CHROMIUM IN JULY 2021

Reported consumption of chromium, on a gross weight basis, in July 2021 was essentially unchanged compared with revised reported consumption of chromium in June 2021 and decreased by 3% compared with consumption in July 2020. Reported consumer stocks were essentially unchanged compared with revised stocks in June 2021 and increased by 6% compared with those of July 2020 (tables 1, 2).

Stainless steel production decreased by 13% in July 2021 compared with production in June 2021 but increased by 32% compared with production in July 2020 (table 1). Year-to-date production through July 2021 increased by 20% compared with year-to-date production through July 2020. Government stockpile inventories for chromium metal were unchanged compared with those in June 2021 and decreased by 4% compared with those in July 2020. Government stockpile inventories of chromium ferroalloys were essentially unchanged compared with those in June 2021 and decreased by 12% compared with those of July 2020 (table 3).

Imports of chromite ore, chromium ferroalloys, stainless steel, and stainless steel scrap commonly fluctuate from month to month (table 1). However, stainless steel imports in both July 2021 and June 2021 were more than double those in May 2021. Stainless steel imports increased by 59% compared with those in July 2020 and year-to-date imports increased by 41% compared with year-to-date imports in 2020. The increase in stainless steel imports were likely owing to idling of some

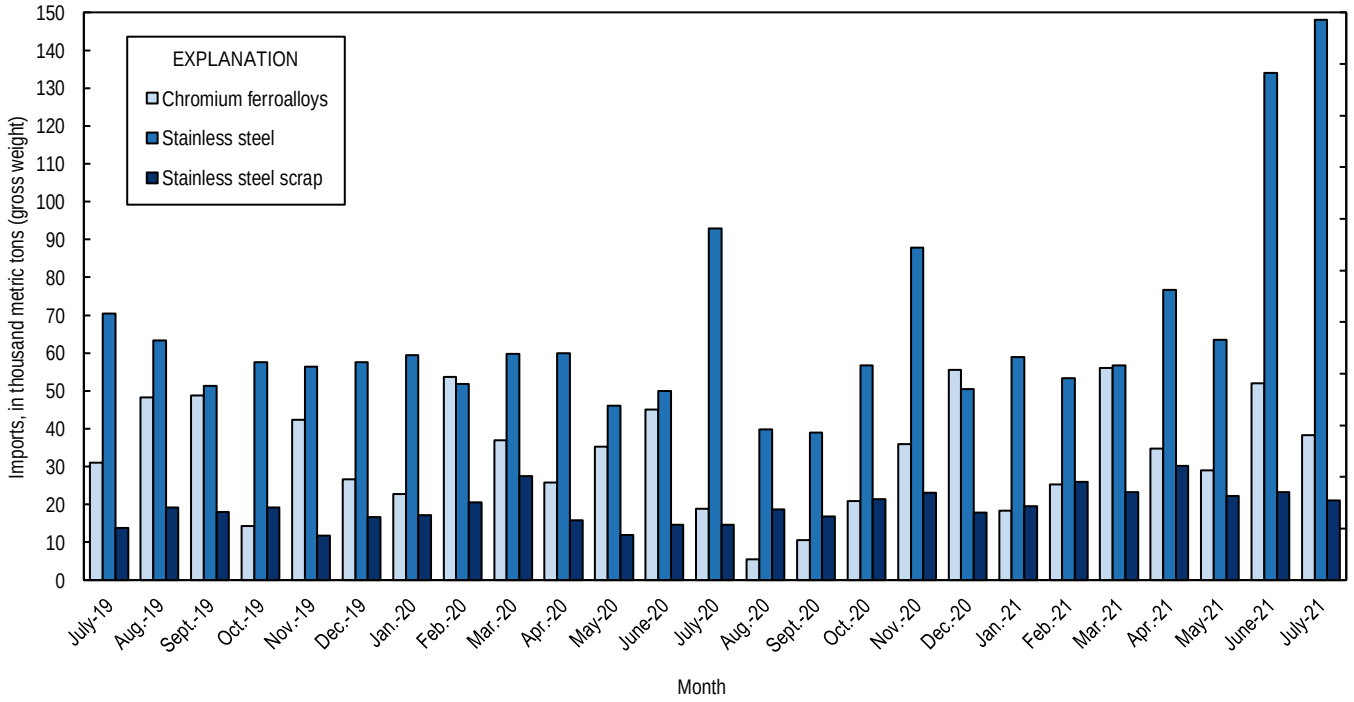

Figure 1. Chromium ferroalloys, stainless steel, and stainless steel scrap imports from July 2019 through July 2021. Source: U.S. Census Bureau.

U.S. stainless steel plants during the global Covid-19 pandemic in 2020 (IHS Markit Ltd, 2021).

Stainless steel scrap imports in July 2021 decreased by 9% compared with imports in June 2021 and increased by 44% compared with imports in July 2020. In July 2021, imports of all grades of chromium ferroalloys decreased by 26% compared with imports of chromium ferroalloys in June 2021 and doubled compared with those in in July 2020 (fig. 1, table 1).

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

Exports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel also frequently fluctuate from month to month (table 1, table 4). Exports of chromium ferroalloys more than tripled in July 2021 compared with exports in June 2021 and doubled compared with exports in July 2020. Stainless steel exports in July 2021 increased slightly compared with exports in June 2021 and increased by 28% compared with those of July 2020 (table 1).

The U.S. chromium metal (99% Cr) average price was $4.33 per pound in July 2021, a 14% increase from the average price in June 2021, and a 29% increase compared with the average price in July 2020. The U.S. high-carbon FeCr (62%–70% chromium) average price was 142.17 cents per pound of contained chromium in July 2021, a 5% increase from the average price in June 2021, and a 57% increase from the average price in July 2020 (fig. 2) (CRU Group, 2021).

Industry News

Tata Steel Mining Ltd. announced it signed an agreement with Jindal Stainless Ltd. to cooperatively mine the chromite ore situated between their respective mines in Sukinda, India. Final approval for the partnership would be required before mining could commence (Thomas, 2021).

References Cited

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Thomas, Trisha, 2021, Tata Steel Mining & JSL to jointly mine chromite in Odisha: Ultra News [Elanjipra, Kerala, India], July 19. (Accessed September 29, 2021, at https://ultra.news/t-t/53015/tata-steel-mining-jsl-to-jointly-mine-chromite-in-odisha.)

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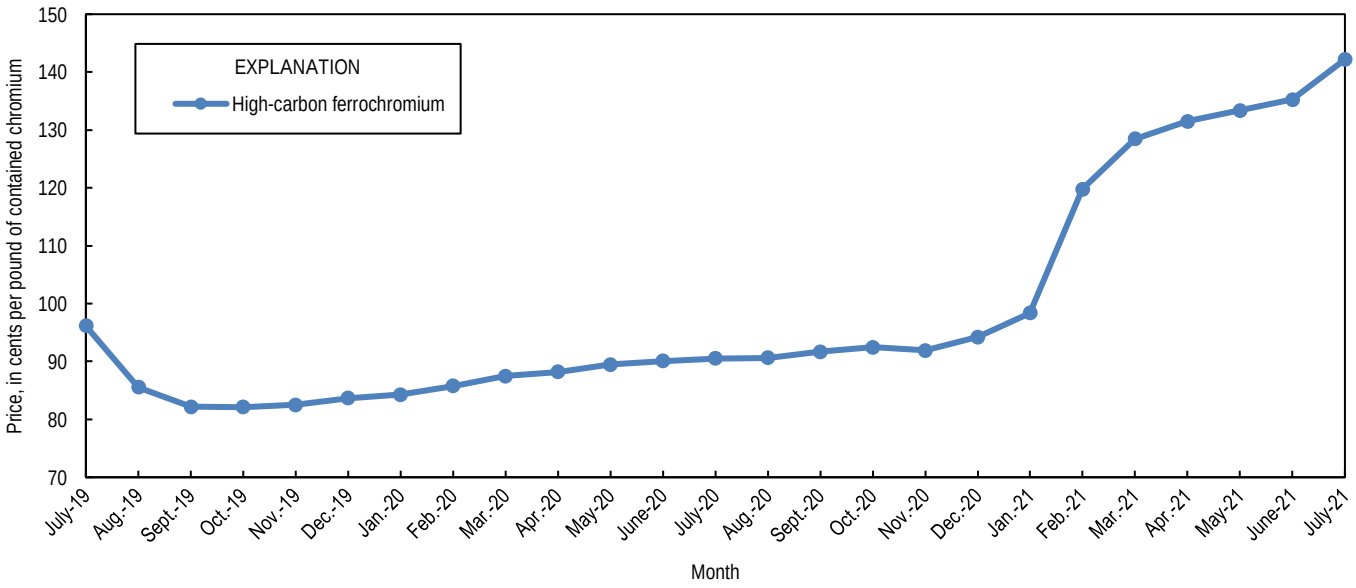

Figure 2. Average monthly prices for U.S. high-carbon ferrochromium from July 2019 through July 2021. Source: CRU Group.

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

(Metric tons, gross weight)

	2020	2021			
	January–December	May	June	July	January–July[2]
Production, stainless steel[3]	2,140,000	215,000	218,000	189,000	1,470,000
Components of U.S. supply:					
Stainless steel scrap receipts	682,000	54,500	55,200 e	47,900 e	393,000 e
Stainless steel scrap consumption	1,040,000	82,400	83,400 e	72,400 e	605,000 e
Imports for consumption:					
Chromite ore	101,000	5,140	38,500	3,420	80,200
Ferrochromium:					
More than 4% carbon	310,000	24,600	32,500	37,400	200,000
More than 3% but not more than 4% carbon	212	--	--	--	6,580
More than 0.5% but not more than 3% carbon	3,360	325	--	--	1,460
Not more than 0.5% carbon	37,400	2,730	14,500	881	30,500
Ferrochromium silicon	15,800	1,350	4,970	--	14,900
Total ferroalloy imports	367,000	29,000	52,000	38,300	254,000
Chromium metal[4]	11,600	1,100	939	1,000	6,720
Stainless steel	694,000	63,500	134,000	148,000	591,000
Stainless steel scrap	219,000	22,300	23,200	21,100	165,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	350,000 r	26,100 r	26,100 r	26,200	183,000
Exports:					
Chromite ore	1,780	115	155	156	1,280
Chromium ferroalloys:					
High-carbon ferrochromium	949	81	65	192	479
Low-carbon ferrochromium	393	11	17	62	212
Ferrochromium silicon	238	2	--	20	132
Total ferroalloy exports	1,580	94	82	274	823
Chromium metal	379	66	86	15	312
Stainless steel	325,000	32,300	28,200	28,900	215,000
Stainless steel scrap	314,000	21,500	36,800	24,400	154,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	9,320 r	7,760 r	7,760 r	7,740	7,740
Government stockpile:					
Chromium ferroalloys	59,600	55,200	55,000	54,800	54,800
Chromium metal	3,750	3,690	3,690	3,690	3,690

eEstimated. 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]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		
	June	July	January–July[2]
Consumption by end use:			
Steel:			
Carbon steel	W	W	W
High-strength low-alloy steel	136 r	136	952
Stainless and heat-resisting steel	22,100 r	22,100	155,000
Unspecified steel[3]	3,350 r	3,350	23,500
Superalloys	204 r	204	1,430
Other alloys and uses[4]	W	W	W
Total	26,100 r	26,200	183,000
Total, chromium content	15,100 r	15,100	106,000
Consumption by material:			
Low-carbon ferrochromium	1,660 r	1,690	11,700
High-carbon ferrochromium	23,000 r	23,000	161,000
Ferrochromium silicon	W	W	W
Chromium metal	144 r	144	1,010
Chromite ore	141 r	141	987
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	26,100 r	26,200	183,000
Total, chromium content	15,100 r	15,100	106,000
Consumer stocks:			
Low-carbon ferrochromium	1,080 r	1,060	1,060
High-carbon ferrochromium	2,220 r	2,220	2,220
Ferrochromium silicon	W	W	W
Chromium metal	21 r	21	21
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	7,760 r	7,740	7,740
Total, chromium content	4,820 r	4,810	4,810

rRevised. 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:			
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
May	27,700	27,500	3,690
June	27,500	27,500	3,690
July	27,300	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:							
July	96	$68	133	71	$180	47	$1,780
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	1,040	1,580	893	2,280	379	9,970
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
May	115	106	94	59	155	66	1,200
June	155	86	82	43	142	86	1,200
July	156	104	274	147	529	15	406
January–July[4]	1,280	890	823	439	1,490	312	5,960

[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	June	July	January–July[2]
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	3,600	2,590	107	8,840
Chromic oxide content	909	544	41	1,900
More than 40% but less than 46% chromic oxide:				
Gross weight	11,000	855	312	8,590
Chromic oxide content	4,780	367	139	3,750
46% or more chromic oxide:				
Gross weight	86,300	35,000	3,000	62,800
Chromic oxide content	77,500	34,500	1,400	53,500
Total, all grades:				
Gross weight	101,000	38,500	3,420	80,200
Chromic oxide content	83,200	35,400	1,580	59,200
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5% carbon:				
Gross weight	37,400	14,500	881	30,500
Chromium content	25,200	10,000	668	21,500
More than 0.5% but not more than 3% carbon:				
Gross weight	3,360	--	--	1,460
Chromium content	2,260	--	--	1,000
Total, low-carbon:				
Gross weight	40,800	14,500	881	31,900
Chromium content	27,400	10,000	668	22,500
Medium-carbon:[4]				
Gross weight	212	--	--	6,580
Chromium content	116	--	--	3,360
High-carbon:[5]				
Gross weight	310,000	32,500	37,400	200,000
Chromium content	169,000	18,800	19,000	110,000
Total, all grades:				
Gross weight	351,000	47,000	38,300	239,000
Chromium content	196,000	28,800	19,700	136,000
Chromium metal:				
Unwrought powders	9,730	889	993	5,780
Waste and scrap	168	9	--	54
Other than waste and scrap and unwrought powders	1,740	40	10	882
Total, all grades	11,600	939	1,000	6,720

-- 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	July			January–July[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	190	136	$261	3,160	2,230	$4,080
Finland	5,010	2,660	5,620	19,500	10,300	19,100
Germany	--	--	--	9	6	18
India	--	--	--	1,320	811	1,160
Kazakhstan	20	13	37	35,400	24,500	57,300
Russia	--	--	--	781	533	931
South Africa	26,600	13,000	31,600	115,000	56,000	115,000
Sweden	--	--	--	10,900	7,210	15,700
Turkey	490	319	570	3,810	2,510	5,520
Zimbabwe	5,090	2,860	4,550	10,500	5,870	8,310
Total	37,400	19,000	42,600	200,000	110,000	228,000
Medium-carbon ferrochromium:[5]						
China	--	--	--	5	3	2
Russia	--	--	--	77	41	63
South Africa	--	--	--	6,500	3,310	5,340
Total	--	--	--	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	--	--	--	1,140	807	3,360
Total	--	--	--	1,460	1,000	3,790
Not more than 0.5% carbon:						
Belgium	--	--	--	368	287	1,160
Brazil	5	4	22	897	562	1,360
China	25	15	78	25	15	78
Germany	691	537	2,200	4,810	3,730	15,500
Japan	80	56	301	857	604	3,060
Kazakhstan	3	2	12	8,130	5,860	25,300
Russia	25	19	81	14,200	9,600	38,800
Turkey	50	34	160	1,170	804	2,600
United Kingdom	2	1	16	2	1	16
Total	881	668	2,870	30,500	21,500	87,900
All grades:						
Albania	190	136	261	3,160	2,230	4,080
Belgium	--	--	--	368	287	1,160
Brazil	5	4	22	1,210	759	1,800
China	25	15	78	30	18	80
Finland	5,010	2,660	5,620	19,500	10,300	19,100
Germany	691	537	2,200	4,820	3,730	15,500
India	--	--	--	1,320	811	1,160
Japan	80	56	301	857	604	3,060
Kazakhstan	22	16	50	44,700	31,200	86,000
Russia	25	19	81	15,100	10,200	39,800
South Africa	26,600	13,000	31,600	121,000	59,400	121,000
Sweden	--	--	--	10,900	7,210	15,700
Turkey	540	353	730	4,980	3,310	8,120
United Kingdom	2	1	16	2	1	16
Zimbabwe	5,090	2,860	4,550	10,500	5,870	8,310
Total	38,300	19,700	45,500	239,000	136,000	325,000

-- 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	July		January–July[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
Belgium	--	--	3	$88
China	161	$1,240	642	5,140
France	229	1,890	1,300	9,500
Germany	17	103	435	2,460
India	20	168	98	850
Japan	(4)	21	1	42
Korea, Republic of	--	--	1	22
Russia	319	2,110	2,120	13,200
Spain	--	--	46	223
United Kingdom	247	2,350	1,140	10,400
Total	993	7,880	5,780	42,000
Waste and scrap:				
Canada	--	--	18	67
Germany	--	--	1	10
Japan	--	--	5	35
Liechtenstein	--	--	1	6
Taiwan	--	--	1	15
United Kingdom	--	--	27	158
Total	--	--	54	291
Other than waste and scrap and unwrought powders:				
Canada	--	--	(4)	7
China	1	114	13	450
Germany	3	284	12	634
Italy	(4)	10	2	40
Japan	(4)	11	4	197
Liechtenstein	--	--	(4)	18
Malaysia	(4)	4	(4)	16
Netherlands	--	--	(4)	7
Russia	--	--	710	4,440
South Africa	--	--	13	99
Spain	--	--	93	446
Taiwan	--	--	(4)	49
United Kingdom	5	61	35	437
Total	10	483	882	6,840
All grades:				
Belgium	--	--	3	88
Canada	--	--	18	74
China	162	1,350	655	5,590
France	229	1,890	1,300	9,500
Germany	20	387	448	3,110
India	20	168	98	850
Italy	(4)	10	2	40
Japan	1	31	10	274
Korea, Republic of	--	--	1	22
Liechtenstein	--	--	2	25
Malaysia	(4)	4	(4)	16
Netherlands	--	--	(4)	7
Russia	319	2,110	2,830	17,700
South Africa	--	--	13	99
Spain	--	--	139	668
Taiwan	--	--	1	63
United Kingdom	252	2,410	1,200	11,000
Total	1,000	8,370	6,720	49,100

-- 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	July		January–July[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Exports:				
Ingot	1,080	$6,680	10,600	$54,900
Flat-rolled (width > 600 mm)	17,800	60,000	127,000	397,000
Flat-rolled (width < 600 mm)	4,160	27,000	34,100	200,000
Bars and rods in irregular coils	230	730	1,280	6,500
Other bars and rods	1,800	19,700	14,700	153,000
Wire	781	12,000	5,360	69,700
Tubes, pipes, hollow profiles	3,110	29,300	21,800	203,000
Total	28,900	155,000	215,000	1,080,000
Stainless steel scrap	24,400	29,900	154,000	167,000
Grand total	53,300	185,000	369,000	1,250,000
Imports:				
Ingot	81,500	99,300	223,000	393,000
Flat-rolled (width > 600 mm)	34,100	92,700	165,000	430,000
Flat-rolled (width < 600 mm)	5,560	20,400	32,700	111,000
Bars and rods in irregular coils	3,640	13,600	19,400	70,300
Other bars and rods	10,600	45,300	69,500	278,000
Wire	3,940	17,400	23,600	99,100
Tubes, pipes, hollow profiles	8,600	50,100	57,300	337,000
Total	148,000	339,000	591,000	1,720,000
Stainless steel scrap	21,100	30,000	165,000	216,000
Grand total	169,000	369,000	756,000	1,930,000

[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 incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.