

Mineral Industry Surveys

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CHROMIUM IN APRIL 2020

Reported consumption of chromium, on a gross weight basis, in April 2020 decreased by 21% compared with reported consumption of chromium in March 2020, and decreased by 19% compared with reported consumption in April 2019. Consumer stocks decreased by 7% compared with those of the previous month and decreased by 28% compared with those of April 2019 (tables 1, 2).

Stainless steel production decreased by 25% in April 2020 compared with production in March 2020, and decreased by 37% compared with production in April 2019 (table 1). Government stockpile inventories for chromium metal have remained essentially unchanged since February 2018. Government stockpile inventories of ferroalloys were

unchanged compared with March 2020 and decreased by 7% compared with those of April 2019 (table 3).

Imports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel commonly fluctuate from month to month (table 1). In April 2020, imports of all grades of chromium ferroalloys decreased by 31% and 56% compared with imports of chromium ferroalloys in March 2020 and April 2019, respectively. Stainless steel imports in April 2020 were essentially unchanged compared with imports in March 2020 and decreased by 21% compared with those in April 2019 (fig. 1, table 1).

Exports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel also frequently fluctuate from month

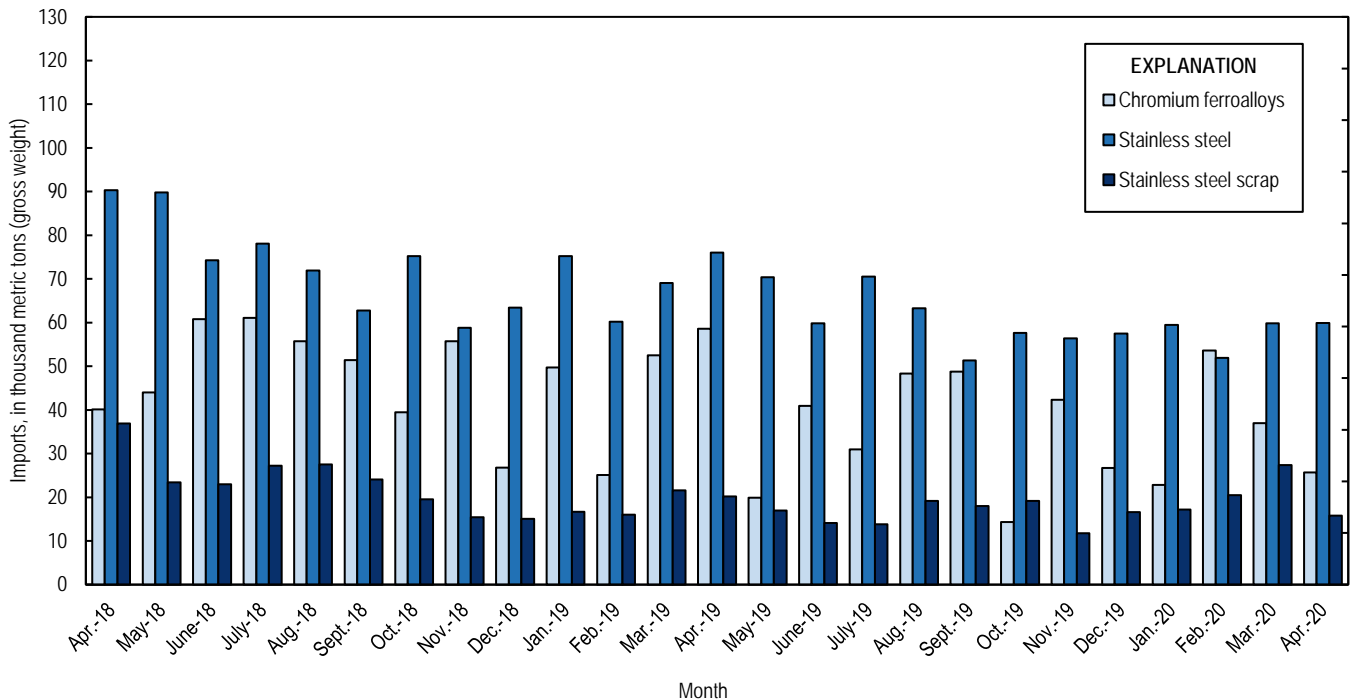


Figure 1. Chromium ferroalloys and stainless steel imports from April 2018 through April 2020. Source: U.S. Census Bureau.

to month (table 1, table 4). Exports of chromium ferroalloys increased by 11% in April 2020 compared with exports in March 2020 and decreased by 30% compared with exports in April 2019. Stainless steel exports in April 2020 decreased by 20% compared with exports in March 2020 (table 1) and decreased by 25% compared with those of April 2019.

In April 2020, the leading import sources for ferrochromium (FeCr) into the United States were, in descending order of quantity by gross weight, Russia, Kazakhstan, and India (table 6), whereas the leading import sources for chromium metal were Russia, the United Kingdom, and France (table 7).

The U.S. chromium metal (99% Cr) average price was \$3.417 per pound in April 2020, a slight decrease from the average price in March 2020, and a 25% decrease compared with the average price in April 2019 (CRU Group, 2020b). The U.S. high-carbon FeCr (62%–70% chromium) average price was 88.222 cents per pound of contained chromium in April 2020, essentially unchanged the average price in March 2020, and a 25% decrease from the average price in April 2019 (fig. 2) (CRU Group, 2020b).

Industry News

Mines in South Africa were given permission to resume operations up to 50% of capacity in mid-April despite the 21-day lockdown that began on March 26 to help prevent the spread of COVID-19 in South Africa. The change in restrictions was in response to the potential instability of deep mines if left unmonitored, such as chromite mines that are located almost 4 kilometers below ground. However, operations were required to have the ability to screen employees for COVID-19 symptoms and provide quarantine facilities, as well as travel arrangements when necessary (CRU Group, 2020a). As a result, Jubilee Metals Group Plc announced it would resume operations according to the

revised lockdown guidelines at its Inyoni Surface PGM and Chrome Operation (Jubilee Metals Group Plc, 2020).

During the same time period, ArcelorMittal South Africa Ltd., a subsidiary of Luxembourg-based ArcelorMittal S.A. that produces steel products like stainless steel, announced force majeure to customers and suppliers, also in response to the 21-day COVID-19 lockdown in South Africa that began in March (Mir, 2020).

References Cited

- CRU Group, 2020a, Chrome monitor—South Africa allows partial resumption of mining: CRU Group, April 17. (Accessed April 27, 2020, via <http://www.crugroup.com/>.)
- CRU Group, 2020b, CRU prices_chrome_historical_data_01-may-2020-april-avg: CRU Group, May 1. (Accessed May 4, 2020, via <http://www.crugroup.com/>.)
- Jubilee Metals Group Plc, 2020, Update on operations during lockdown in South Africa: London, United Kingdom, Jubilee Metals Group Plc, April 17. (Accessed May 15, 2020, at <https://jubileemetalsgroup.com/investors/rns/update-on-operations-during-lockdown-in-south-africa/>.)
- Mir, Fawad, 2020, ArcelorMittal South Africa declares force majeure, cuts employee salaries: New York, NY, S&P Global Market Intelligence, April 6. (Accessed April 17, 2020, via <https://www.spglobal.com/en/>.)

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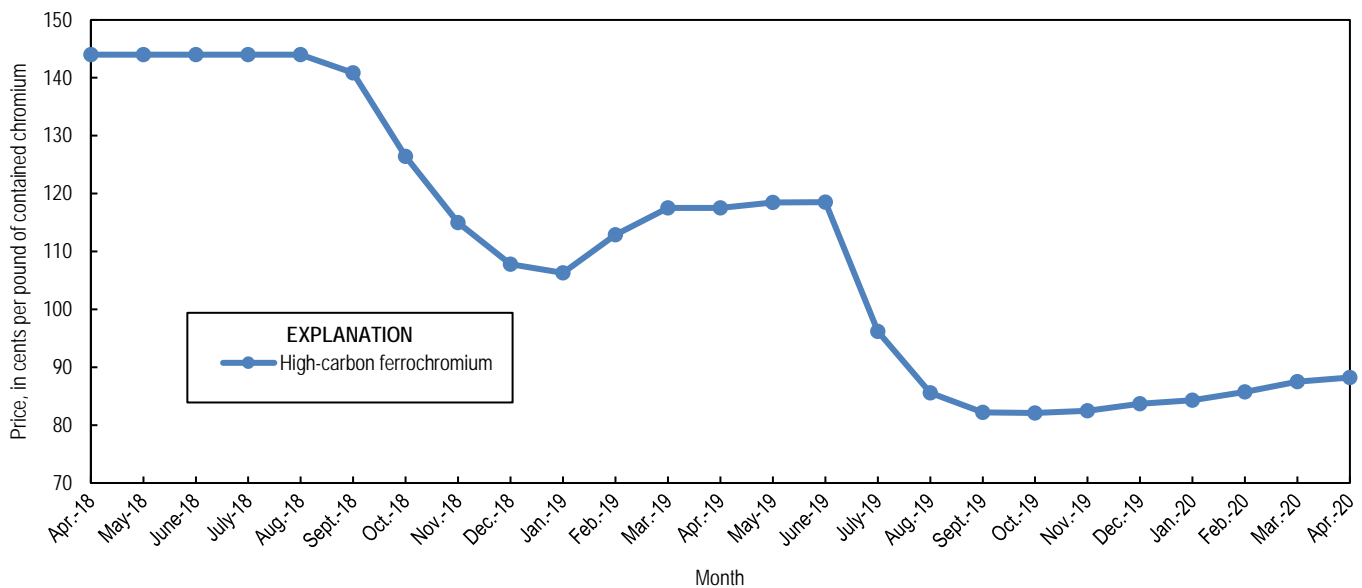


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium from April 2018 through April 2020. Source: CRU Group.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2019	2020			
	January– December ^p	February	March	April	January– April ²
Production, stainless steel ³	2,590,000	207,000	199,000	148,000	775,000
Components of U.S. supply:					
Stainless steel scrap receipts	810,000	80,000 ^e	80,000 ^e	80,000 ^e	320,000 ^e
Stainless steel scrap consumption	1,240,000	110,000 ^e	120,000 ^{e, f}	120,000 ^e	470,000 ^e
Imports for consumption:					
Chromite ore	152,000	8,540	750	1,370	12,600
Ferrochromium:					
More than 4% carbon	393,000	50,200	31,800	15,500	111,000
More than 3% but not more than 4% carbon	1,210	--	10	37	48
More than 0.5% but not more than 3% carbon	2,090	628	133	311	1,740
Not more than 0.5% carbon	44,300 ^f	2,790	2,030	8,730	19,000
Ferrochromium silicon	17,600	--	3,020	1,050	7,580
Total ferroalloy imports	458,000 ^f	53,600	37,000	25,700	139,000
Chromium metal ⁴	14,400	1,090	1,320	2,190	6,140
Stainless steel	767,000 ^f	51,900	59,800	59,900	231,000
Stainless steel scrap	204,000	20,500	27,400	15,800	80,900
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	389,000 ^f	33,400 ^f	34,200 ^f	26,900	126,000
Exports:					
Chromite ore	2,300	176	140	115	578
Chromium ferroalloys:					
High-carbon ferrochromium	1,300 ^f	22	46	40	171
Low-carbon ferrochromium	437	44	60	38	144
Ferrochromium silicon	22	--	--	40	40
Total ferroalloy exports	1,760 ^f	66	106	118	355
Chromium metal	431 ^f	24	35	31	127
Stainless steel	436,000 ^f	29,600	31,400	25,200	120,000
Stainless steel scrap	469,000 ^f	49,900	25,000	15,700	126,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	7,530 ^f	7,490 ^f	7,770 ^f	7,250	7,250
Government stockpile:					
Chromium ferroalloys	66,100	64,500	63,700	63,700	63,700
Chromium metal	3,850	3,850	3,850	3,850	3,850

^eEstimated. ^pPreliminary. ^fRevised. -- 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.

⁴Includes 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)

	2020		
	March	April	January– April ³
Consumption by end use:			
Steel:			
Carbon steel	W	W	W
High-strength low-alloy steel	148	130	541
Stainless and heat-resisting steel	30,100 ^r	22,900	110,000
Unspecified steel ⁴	3,360 ^r	3,360	13,500
Superalloys	211 ^r	211	847
Other alloys and uses ⁵	W	W	W
Total	34,200 ^r	26,900	126,000
Total, chromium content	19,600 ^r	15,400	72,400
Consumption by material:			
Low-carbon ferrochromium	1,900 ^r	1,630	7,220
High-carbon ferrochromium	30,500 ^r	23,800	112,000
Ferrochromium silicon	W	W	W
Chromium metal	144 ^r	144	576
Chromite ore	129	129	502
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	34,200 ^r	26,900	126,000
Total, chromium content	19,600 ^r	15,400	72,400
Consumer stocks:			
Low-carbon ferrochromium	754 ^r	723	723
High-carbon ferrochromium	2,570 ^r	2,090	2,090
Ferrochromium silicon	W	W	W
Chromium metal	22 ^r	22	22
Chromium-aluminum alloy	W	W	W
Other chromium materials ⁶	4,110	4,110	4,110
Total	7,770 ^r	7,250	7,250
Total, chromium content	4,000 ^r	3,690	3,690

^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.

⁶Includes chromite ore as foundry sand

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS¹

(metric tons)

	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2019:			
April	41,000	27,400	3,850
May	39,900	27,400	3,850
June	39,900	27,400	3,850
July	39,900	27,400	3,850
August	39,900	27,400	3,850
September	39,600	27,400	3,850
October	39,600	27,400	3,850
November	38,700	27,400	3,850
December	38,700	27,400	3,850
2020:			
January	37,800	27,400	3,850
February	37,100	27,400	3,850
March	36,700	27,100	3,850
April	36,700	27,100	3,850

¹Data 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 METAL¹

	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)
2019:							
April	199	\$226	169	78	\$256	28	\$1,190
May	251	192	47	28	87	70	2,460
June	220	177	90	54	158	37	844
July	269	217	95	53	160	42	971
August	382	356	38	23	78	44	1,370
September	218	152	30	18	40	25	649
October	61	56	328	184	525	39	1,340
November	141	110	179	107	319	23	889
December	120	86	83	50	107	31	718
January–December ⁴	2,300	1,940	1,760	942	2,810	431	13,100
2020:							
January	147	82	66	36	91	37	733
February	176	104	66	40	118	24	658
March	140	79	106	63	207	35	972
April	115	83	118	61	182	31	550
January–April ⁴	578	349	355	200	598	127	2,910

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)

	2019	2020		
	January– December	March	April	January– April ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	973	137	156	850
Chromic oxide content	360	48	61	195
More than 40% but less than 46% chromic oxide:				
Gross weight	4,170	564	1,150	2,940
Chromic oxide content	1,810	245	493	1,270
46% or more chromic oxide:				
Gross weight	147,000	49	64	8,790
Chromic oxide content	90,400	25	32	5,440
Total, all grades:				
Gross weight	152,000	750	1,370	12,600
Chromic oxide content	92,500	318	586	6,900
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	44,300 ^r	2,030	8,730	19,000
Chromium content	30,900 ^r	1,440	5,830	12,800
More than 0.5% but not more than 3% carbon:				
Gross weight	2,090	133	311	1,740
Chromium content	1,330	81	192	1,130
Total, low-carbon:				
Gross weight	46,400 ^r	2,160	9,050	20,700
Chromium content	32,200 ^r	1,520	6,020	13,900
Medium-carbon: ⁴				
Gross weight	1,210	10	37	48
Chromium content	802	8	20	28
High-carbon: ⁵				
Gross weight	393,000	31,800	15,500	111,000
Chromium content	215,000	17,700	10,500	62,900
Total, all grades:				
Gross weight	440,000 ^r	34,000	24,600	131,000
Chromium content	248,000 ^r	19,200	16,500	76,900
Chromium metal:				
Unwrought powders	11,500	1,160	1,840	5,100
Waste and scrap	221	9	50	81
Other than waste and scrap and unwrought powders	2,680	147	298	964
Total, all grades	14,400	1,320	2,190	6,140

^rRevised.

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 2020, BY GRADE AND COUNTRY OR LOCALITY¹

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	688	453	\$823	1,540	1,020	\$1,770
Brazil	--	--	--	1,370	757	1,070
India	1,590	959	1,340	3,840	2,310	3,170
Kazakhstan	2,440	1,690	2,420	24,800	17,200	27,100
Russia	10,500	7,200	11,800	13,500	8,730	14,100
South Africa	125	64	71	57,000	27,900	45,600
Turkey	152	98	156	543	355	571
Zimbabwe	--	--	--	8,110	4,660	5,150
Total	15,500	10,500	16,600	111,000	62,900	98,500
Medium-carbon ferrochromium:⁵						
Russia	37	20	59	37	20	59
United Kingdom	--	--	--	10	8	23
Total	37	20	59	48	28	82
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3% carbon						
Brazil	216	134	377	1,020	631	1,700
India	95	59	178	95	59	178
Kazakhstan	--	--	--	506	358	1,290
Russia	--	--	--	120	85	284
Total	311	192	555	1,740	1,130	3,460
Not more than 0.5% carbon:						
Belgium	392	173	834	1,100	652	3,230
Brazil	--	--	--	371	231	611
China	--	--	--	9	6	29
Germany	606	414	1,990	1,470	1,010	4,730
India	96	60	179	296	190	583
Japan	60	43	238	319	229	1,250
Kazakhstan	2,150	1,540	4,970	4,580	3,280	11,300
Russia	5,310	3,510	10,900	10,500	6,920	21,400
Turkey	128	89	356	351	248	985
Total	8,730	5,830	19,400	19,000	12,800	44,100
All grades:						
Albania	688	453	823	1,540	1,020	1,770
Belgium	392	173	834	1,100	652	3,230
Brazil	216	134	377	2,760	1,620	3,380
China	--	--	--	9	6	29
Germany	606	414	1,990	1,470	1,010	4,730
India	1,780	1,080	1,690	4,230	2,550	3,930
Japan	60	43	238	319	229	1,250
Kazakhstan	4,590	3,240	7,380	29,900	20,800	39,700
Russia	15,900	10,700	22,700	24,200	15,800	35,800
South Africa	125	64	71	57,000	27,900	45,600
Turkey	279	187	512	895	603	1,560
United Kingdom	--	--	--	10	8	23
Zimbabwe	--	--	--	8,110	4,660	5,150
Total	24,600	16,500	36,600	131,000	76,900	146,000

-- 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.

⁴Ferrochromium containing more than 4% carbon.

⁵Ferrochromium containing more than 3% carbon but not more than 4% carbon.

⁶Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2020,
BY GRADE AND BY COUNTRY OR LOCALITY¹

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	--	--	10	\$56
China	118	\$1,050	521	4,980
Estonia	--	--	10	75
France	382	3,110	1,010	8,830
Germany	76	640	228	1,760
India	--	--	57	515
Japan	(4)	19	(4)	21
Russia	753	4,910	2,010	12,900
Spain	23	119	71	363
Switzerland	--	--	20	149
United Kingdom	490	4,770	1,160	11,900
Total	1,840	14,600	5,100	41,600
Waste and scrap:				
Canada	4	18	15	43
Japan	--	--	6	49
United Kingdom	46	250	61	330
Total	50	267	81	423
Other than waste and scrap and unwrought powders:				
China	(4)	20	21	216
France	--	--	(4)	4
Germany	(4)	3	27	213
Japan	2	53	3	136
Malaysia	--	--	(4)	25
Russia	229	1,460	769	4,120
Spain	19	97	19	97
United Kingdom	48	494	124	1,170
Total	298	2,120	964	5,980
All grades:				
Belgium	--	--	10	56
Canada	4	18	15	43
China	118	1,070	543	5,190
Estonia	--	--	10	75
France	382	3,110	1,010	8,830
Germany	76	643	255	1,970
India	--	--	57	515
Japan	2	72	9	206
Malaysia	--	--	(4)	25
Russia	982	6,370	2,780	17,000
Spain	42	216	90	460
Switzerland	--	--	20	149
United Kingdom	585	5,510	1,350	13,400
Total	2,190	17,000	6,140	48,000

-- 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 2020¹

Stainless steel product	April		January–April ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	1,380	\$7,320	5,070	\$31,000
Flat-rolled (width > 600 mm)	15,500	42,000	72,400	198,000
Flat-rolled (width < 600 mm)	3,660	22,000	19,200	108,000
Bars and rods in irregular coils	252	1,160	871	4,480
Other bars and rods	2,300	25,900	10,000	109,000
Wire	473	8,800	2,780	40,300
Tubes, pipes, hollow profiles	1,630	21,400	9,180	109,000
Total	25,200	129,000	120,000	599,000
Stainless steel scrap	15,700	12,000	126,000	80,300
Grand total	40,900	141,000	245,000	680,000
Imports:				
Ingot	11,800	40,800	37,000	158,000
Flat-rolled (width > 600 mm)	20,200	46,900	82,400	197,000
Flat-rolled (width < 600 mm)	2,840	11,600	15,200	59,600
Bars and rods in irregular coils	3,100	9,060	11,400	38,600
Other bars and rods	10,000	38,500	36,100	143,000
Wire	2,750	12,600	11,800	53,900
Tubes, pipes, hollow profiles	9,180	55,400	37,100	269,000
Total	59,900	215,000	231,000	919,000
Stainless steel scrap	15,800	13,300	80,900	71,300
Grand total	75,700	228,000	312,000	990,000

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).

³Export 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.