

Mineral Industry Surveys

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CHROMIUM IN MAY 2020

Reported consumption of chromium, on a gross weight basis, in May 2020 was essentially unchanged compared with reported consumption of chromium in April 2020, and decreased by 18% compared with reported consumption in May 2019. Consumer stocks were essentially unchanged compared with those of the previous month and decreased by 32% compared with those of May 2019 (tables 1, 2).

Stainless steel production increased by 5% in May 2020 compared with production in April 2020, and decreased by 24% compared with production in May 2019 (table 1). Government stockpile inventories for chromium metal have remained essentially unchanged since February 2017. Government stockpile inventories of ferroalloys decreased

slightly compared with those in April 2020 and decreased by 7% compared with those of May 2019 (table 3).

Imports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel commonly fluctuate from month to month (table 1). In May 2020, imports of all grades of chromium ferroalloys increased by 38% and 78% compared with imports of chromium ferroalloys in April 2020 and May 2019, respectively. Stainless steel imports in May 2020 decreased by 23% compared with imports in April 2020 and decreased by 34% compared with those in May 2019 (fig. 1, table 1).

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

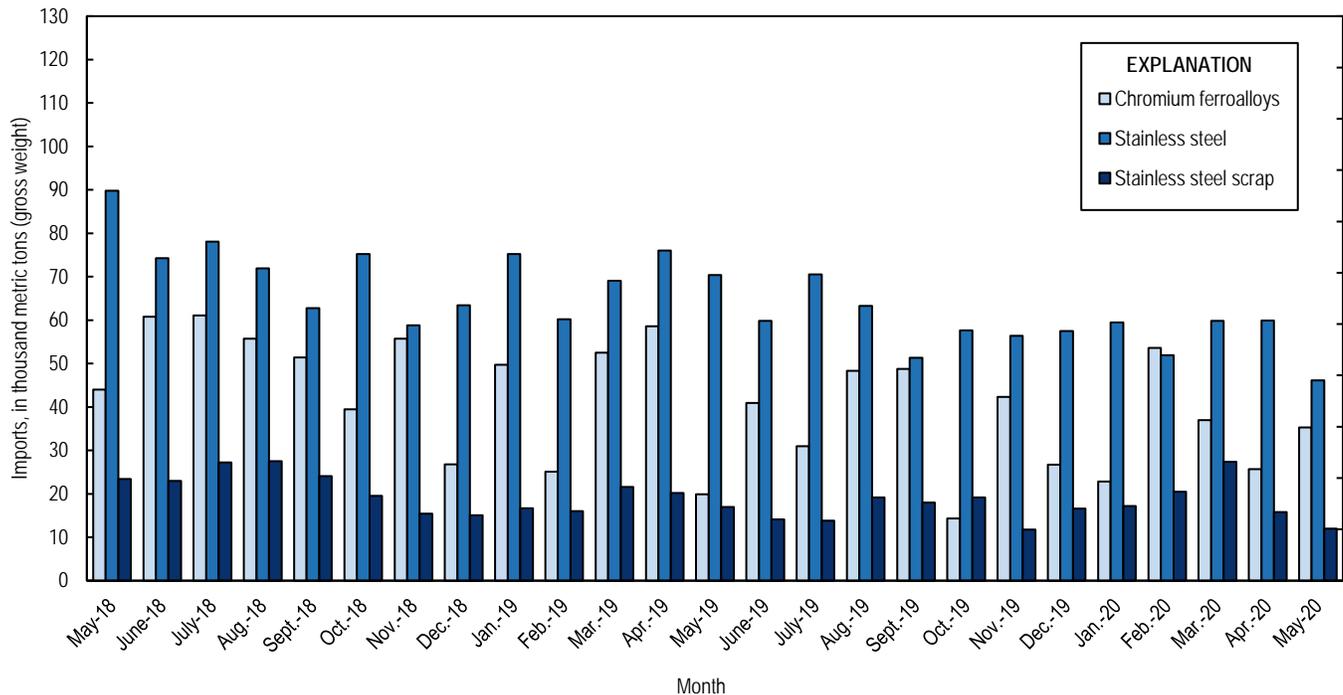


Figure 1. Chromium ferroalloys and stainless steel imports from May 2018 through May 2020. Source: U.S. Census Bureau.

to month (table 1, table 4). Exports of chromium ferroalloys decreased by 28% in May 2020 compared with exports in April 2020 and increased by 79% compared with exports in May 2019. Stainless steel exports in May 2020 decreased by 12% compared with exports in April 2020 (table 1) and decreased by 54% compared with those of May 2019.

In May 2020, the leading import sources for ferrochromium (FeCr) into the United States were, in descending order of quantity by gross weight, South Africa, 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 \$3.350 per pound in May 2020, a slight decrease from the average price in April 2020, and a 25% decrease compared with the average price in May 2019 (CRU Group, 2020). The U.S. high-carbon FeCr (62%–70% chromium) average price was 89.500 cents per pound of contained chromium in May 2020, slightly more than the average price in April 2020, and a 24% decrease from the average price in May 2019 (fig. 2) (CRU Group, 2020).

Industry News

Glencore-Merafe Chrome Venture, a joint venture between Glencore plc (Switzerland) and Merafe Resources Ltd. (South Africa), resumed operations at its Lion ferrochromium smelter and Eastern Chrome mine in South Africa following the 21-day lockdown that began on March 26 in response to the COVID-19 pandemic. However, the Boshhoek, Rustenburg, Wonderkop, and Lydenburg ferrochromium smelters as well as the Kroondal chromite mine were not set to restart owing to market conditions that were present prior to the COVID-19 shutdown (Merafe Resources Ltd., 2020).

Jubilee Metals Group Plc (Jubilee Metals) announced operations at its Windsor platinum-group metals (PGM) and chromite mine restarted following the 21-day lockdown in South Africa (Haill, 2020). Full production was expected to occur rapidly. Jubilee Metals also announced a deal to move

its fine chromite plant from the Dilokong Chrome Mine (DCM), a joint venture between Jubilee Metals, Sinosteel (China) and Samancor Chrome Holdings Pty. Ltd. (South Africa) to its Inyoni and Windsor chromite processing facilities. The agreement terminated the DCM joint venture fine chromite operations but kept the rights for Jubilee to process DCM tailings to recover PGMs (Jubilee Group Metals Plc, 2020). However, Jubilee indicated there were no immediate plans to restart mining the DCM.

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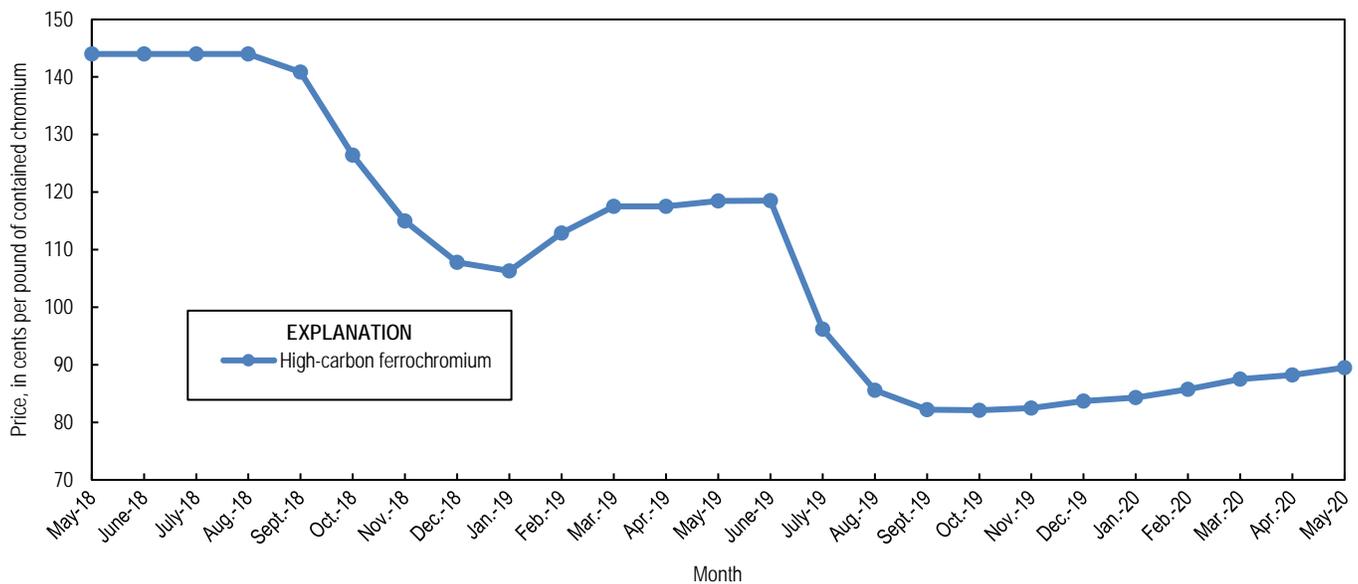


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium from May 2018 through May 2020. Source: CRU Group.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2019	2020			
	January– December ^p	March	April	May	January– May ²
Production, stainless steel ³	2,590,000	199,000	148,000	155,000	930,000
Components of U.S. supply:					
Stainless steel scrap receipts	810,000	70,000 ^{r,e}	60,000 ^{r,e}	60,000 ^e	300,000 ^e
Stainless steel scrap consumption	1,240,000	100,000 ^{r,e}	90,000 ^{r,e}	80,000 ^e	480,000 ^e
Imports for consumption:					
Chromite ore	152,000	750	1,370	36,300	48,900
Ferrochromium:					
More than 4% carbon	393,000	31,800	15,500	32,900	144,000
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	133	311	--	1,740
Not more than 0.5% carbon	44,300	2,030	8,730	2,410	21,400
Ferrochromium silicon	17,600	3,020	1,050	--	7,580
Total ferroalloy imports	458,000	37,000	25,700	35,300	174,000
Chromium metal ⁴	14,400	1,320	2,190	1,820	7,960
Stainless steel	767,000	59,800	59,900	46,100	277,000
Stainless steel scrap	204,000	27,400	15,800	12,000	92,900
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	389,000	34,200	26,900	26,900	153,000
Exports:					
Chromite ore	2,300	140	115	155	733
Chromium ferroalloys:					
High-carbon ferrochromium	1,300	46	40	40	212
Low-carbon ferrochromium	437	60	38	2	146
Ferrochromium silicon	22	--	40	42	82
Total ferroalloy exports	1,760	106	118	85	440
Chromium metal	431	35	31	35	162
Stainless steel	436,000	31,400	25,200	22,100	142,000
Stainless steel scrap	469,000	25,000	15,700	13,100	139,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	7,530	7,770	7,250	7,250	7,250
Government stockpile:					
Chromium ferroalloys	66,100	63,700	63,700	62,800	62,800
Chromium metal	3,850	3,850	3,850	3,850	3,850

^eEstimated. ^pPreliminary. W Withheld to avoid disclosing company proprietary data. -- 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		
	April	May	January– May ³
Consumption by end use:			
Steel:			
Carbon steel	W	W	W
High-strength low-alloy steel	130	130	671
Stainless and heat-resisting steel	22,900	22,900	133,000
Unspecified steel ⁴	3,360	3,360	16,800
Superalloys	211	206	1,050
Other alloys and uses ⁵	W	W	W
Total	26,900	26,900	153,000
Total, chromium content	15,400	15,500	87,800
Consumption by material:			
Low-carbon ferrochromium	1,630	1,640	8,860
High-carbon ferrochromium	23,800	23,800	136,000
Ferrochromium silicon	W	W	W
Chromium metal	144	144	720
Chromite ore	129	124	625
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	26,900	26,900	153,000
Total, chromium content	15,400	15,500	87,800
Consumer stocks:			
Low-carbon ferrochromium	723	713	713
High-carbon ferrochromium	2,090	2,090	2,090
Ferrochromium silicon	W	W	W
Chromium metal	22	22	22
Chromium-aluminum alloy	W	W	W
Other chromium materials ⁶	4,110	4,110	4,110
Total	7,250	7,250	7,250
Total, chromium content	3,690	3,730	3,730

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:			
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
May	36,000	26,800	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:							
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
May	155	90	85	41	106	35	1,050
January–May ⁴	733	438	440	242	704	162	3,960

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	April	May	January– May ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	973	156	131	981
Chromic oxide content	360	61	49	244
More than 40% but less than 46% chromic oxide:				
Gross weight	4,170	1,150	898	3,830
Chromic oxide content	1,810	493	387	1,650
46% or more chromic oxide:				
Gross weight	147,000	64	35,300	44,000
Chromic oxide content	90,400	32	34,700	40,200
Total, all grades:				
Gross weight	152,000	1,370	36,300	48,900
Chromic oxide content	92,500	586	35,200	42,100
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	44,300	8,730	2,410	21,400
Chromium content	30,900	5,830	1,710	14,500
More than 0.5% but not more than 3% carbon:				
Gross weight	2,090	311	--	1,740
Chromium content	1,330	192	--	1,130
Total, low-carbon:				
Gross weight	46,400	9,050	2,410	23,100
Chromium content	32,200	6,020	1,710	15,600
Medium-carbon: ⁴				
Gross weight	1,210	37	--	48
Chromium content	802	20	--	28
High-carbon: ⁵				
Gross weight	393,000	15,500	32,900	144,000
Chromium content	215,000	10,500	17,600	80,500
Total, all grades:				
Gross weight	440,000	24,600	35,300	167,000
Chromium content	248,000	16,500	19,300	96,200
Chromium metal:				
Unwrought powders	11,500	1,840	1,650	6,750
Waste and scrap	221	50	19	101
Other than waste and scrap and unwrought powders	2,680	298	145	1,110
Total, all grades	14,400	2,190	1,820	7,960

-- 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).

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	May			January–May 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	266	178	\$331	1,810	1,200	\$2,100
Brazil	400	216	255	1,770	973	1,320
India	1,190	716	977	5,030	3,020	4,150
Kazakhstan	6,720	4,660	8,010	31,500	21,900	35,100
Oman	792	410	513	792	410	513
Russia	--	--	--	13,500	8,730	14,100
South Africa	23,000	11,100	19,000	80,000	39,000	64,600
Sweden	210	142	274	210	142	274
Turkey	293	187	346	836	543	918
Zimbabwe	--	--	--	8,110	4,660	5,150
Total	32,900	17,600	29,700	144,000	80,500	128,000
Medium-carbon ferrochromium:⁵						
Russia	--	--	--	37	20	59
United Kingdom	--	--	--	10	8	23
Total	--	--	--	48	28	82
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3% carbon						
Brazil	--	--	--	1,020	631	1,700
India	--	--	--	95	59	178
Kazakhstan	--	--	--	506	358	1,290
Russia	--	--	--	120	85	284
Total	--	--	--	1,740	1,130	3,460
Not more than 0.5% carbon:						
Belgium	20	14	64	1,120	666	3,290
Brazil	--	--	--	371	231	611
China	--	--	--	9	6	29
Germany	218	148	689	1,680	1,160	5,420
India	100	61	191	396	251	774
Japan	180	128	709	499	357	1,960
Kazakhstan	1,620	1,170	4,240	6,210	4,460	15,500
Russia	234	161	568	10,700	7,080	22,000
Turkey	35	26	105	386	274	1,090
Total	2,410	1,710	6,560	21,400	14,500	50,700
All grades:						
Albania	266	178	331	1,810	1,200	2,100
Belgium	20	14	64	1,120	666	3,290
Brazil	400	216	255	3,160	1,840	3,630
China	--	--	--	9	6	29
Germany	218	148	689	1,680	1,160	5,420
India	1,290	777	1,170	5,520	3,330	5,100
Japan	180	128	709	499	357	1,960
Kazakhstan	8,350	5,830	12,200	38,200	26,700	51,900
Oman	792	410	513	792	410	513
Russia	234	161	568	24,400	15,900	36,400
South Africa	23,000	11,100	19,000	80,000	39,000	64,600
Sweden	210	142	274	210	142	274
Turkey	328	214	451	1,220	817	2,010
United Kingdom	--	--	--	10	8	23
Zimbabwe	--	--	--	8,110	4,660	5,150
Total	35,300	19,300	36,300	167,000	96,200	182,000

(See footnotes at end of table.)

TABLE 6—Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2020, BY GRADE AND COUNTRY OR LOCALITY¹

-- 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	May		January–May ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
Belgium	7	\$38	16	\$94
China	167	1,470	689	6,450
Estonia	--	--	10	75
France	324	2,840	1,330	11,700
Germany	16	138	244	1,900
India	--	--	57	515
Japan	--	--	(4)	21
Russia	829	5,500	2,840	18,400
Spain	--	--	71	363
Switzerland	--	--	20	149
United Kingdom	311	3,150	1,470	15,100
Total	1,650	13,100	6,750	54,800
Waste and scrap:				
Canada	--	--	15	43
Japan	(4)	5	6	54
United Kingdom	19	100	80	430
Total	19	105	101	528
Other than waste and scrap and unwrought powders:				
China	--	--	21	216
France	--	--	(4)	4
Germany	(4)	7	27	221
Japan	1	58	4	193
Malaysia	--	--	(4)	25
Russia	126	822	895	4,940
Spain	--	--	19	97
United Kingdom	18	210	142	1,380
Total	145	1,100	1,110	7,080
All grades:				
Belgium	7	38	16	94
Canada	--	--	15	43
China	167	1,470	710	6,670
Estonia	--	--	10	75
France	324	2,840	1,330	11,700
Germany	16	145	272	2,120
India	--	--	57	515
Japan	1	63	10	269
Malaysia	--	--	(4)	25
Russia	955	6,320	3,730	23,400
Spain	--	--	90	460
Switzerland	--	--	20	149
United Kingdom	348	3,460	1,700	16,900
Total	1,820	14,300	7,960	62,400

-- 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	May		January–May ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	1,030	\$5,590	6,100	\$36,600
Flat-rolled (width > 600 mm)	13,500	37,300	85,900	236,000
Flat-rolled (width < 600 mm)	3,030	18,400	22,200	126,000
Bars and rods in irregular coils	202	1,500	1,070	5,980
Other bars and rods	1,940	19,900	12,000	129,000
Wire	476	8,690	3,260	49,000
Tubes, pipes, hollow profiles	1,950	25,800	11,100	135,000
Total	22,100	117,000	142,000	717,000
Stainless steel scrap	13,100	12,500	139,000	92,800
Grand total	35,200	130,000	281,000	809,000
Imports:				
Ingot	8,320	24,800	45,300	183,000
Flat-rolled (width > 600 mm)	15,500	35,800	97,900	233,000
Flat-rolled (width < 600 mm)	2,670	11,000	17,900	70,600
Bars and rods in irregular coils	3,260	9,950	14,600	48,600
Other bars and rods	6,160	23,400	42,300	166,000
Wire	1,680	10,800	13,500	64,700
Tubes, pipes, hollow profiles	8,440	56,200	45,600	325,000
Total	46,100	172,000	277,000	1,090,000
Stainless steel scrap	12,000	10,700	92,900	82,000
Grand total	58,100	183,000	370,000	1,170,000

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.