

Mineral Industry Surveys

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CHROMIUM IN NOVEMBER 2020

Estimated consumption of chromium, on a gross weight basis, in November 2020 increased by 4% compared with estimated consumption of chromium in October 2020, and decreased by 19% compared with reported consumption in November 2019. Estimated consumer stocks were unchanged since September and decreased by 53% compared with those of November 2019 (tables 1, 2).

Stainless steel production increased slightly in November 2020 compared with production in October 2020, and was essentially unchanged compared with production in November 2019 (table 1). Government stockpile inventories for chromium metal have remained essentially unchanged since February 2017. Government stockpile inventories of

ferroalloys have remained unchanged since August 2020 and decreased by 8% compared with those of November 2019 (table 3).

Imports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel commonly fluctuate from month to month (table 1). In November 2020, imports of all grades of chromium ferroalloys increased by 73% compared with imports of chromium ferroalloys in October 2020 and decreased by 15% compared with those in November 2019. Stainless steel imports in November 2020 increased by 55% compared with imports in October 2020 and increased by 56% compared with those in November 2019 (fig. 1, table 1).

Exports of chromite ore, chromium ferroalloys, chromium

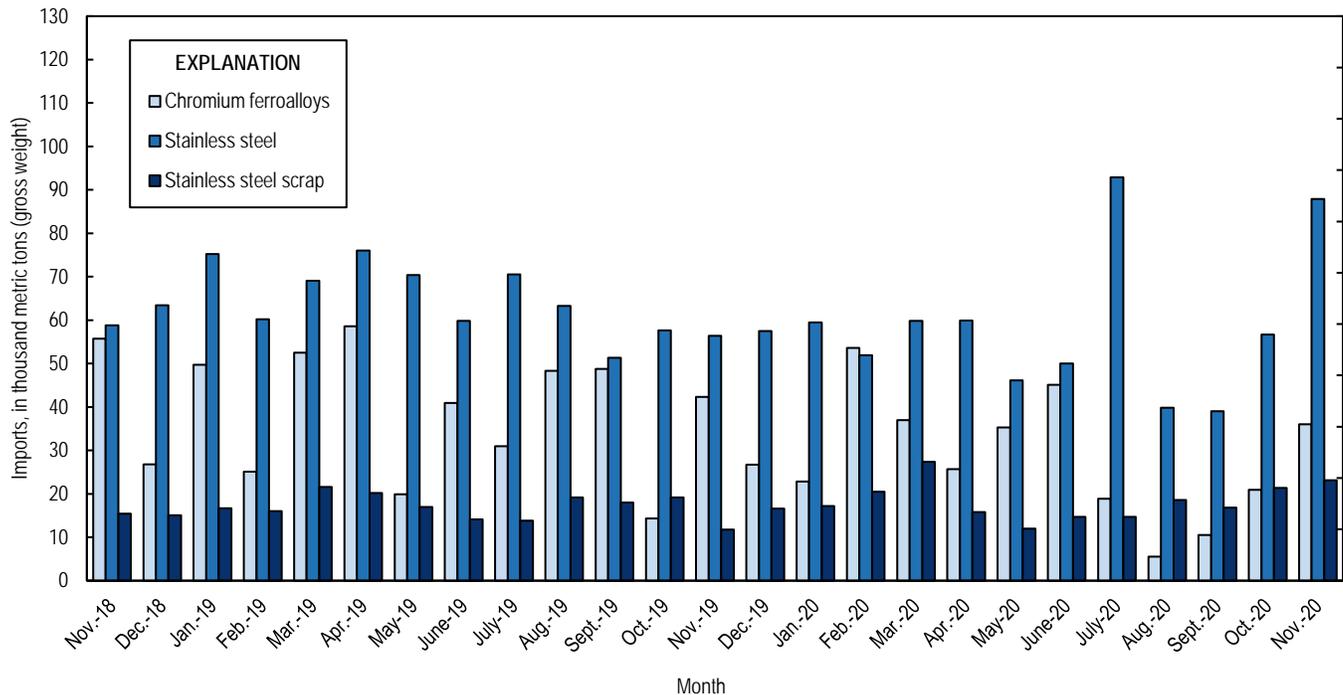


Figure 1. Chromium ferroalloys and stainless steel imports from November 2018 through November 2020. Source: U.S. Census Bureau.

metal, and stainless steel also frequently fluctuate from month to month (table 1, table 4). Exports of chromium ferroalloys decreased by 68% in November 2020 compared with exports in October 2020 and decreased by 54% compared with exports in November 2019. Stainless steel exports in November 2020 decreased by 8% compared with exports in October 2020 and were essentially unchanged compared with those of November 2019 (table 1).

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

The U.S. chromium metal (99% Cr) average price was \$2.93 per pound in November 2020, unchanged from the average price in October 2020, and a 15% decrease compared with the average price in November 2019 (CRU Group, 2020). The U.S. high-carbon FeCr (62%–70% chromium) average price was 91.88 cents per pound of contained chromium in November 2020, essentially unchanged from the average price in October 2020, and an 11% increase from the average price in November 2019 (fig. 2) (CRU Group, 2020).

Industry News

AMG Advanced Metallurgical Group N.V. (Netherlands) announced it would begin manufacturing chrome metal products in 2021 through its subsidiary AMG Chrome US LLC. The plant is located in New Castle, PA, in a facility previously owned by International Specialty Alloys (AMG

Advanced Metallurgical Group N.V., 2020).

Tata Steel Ltd. (India) reported operations had begun at the Saruabil and Kamarda chromite mines, known as the Twin Mines, in the Jaipur district of Odisha. The mining leases for these mines, in addition to the Sukinda chromite mine, were effective for 50 years (Divekar, 2020).

References Cited

- AMG Advanced Metallurgical Group N.V., 2020, AMG Advanced Metallurgical Group N.V. announces the formation of AMG Chrome US LLC: Amsterdam, Netherlands, November 16. (Accessed January 8, 2021, at <https://amg-nv.com/feed-posts/amg-advanced-metallurgical-group-n-v-announces-the-formation-of-amg-chrome-us-llc/>.)
- CRU Group, 2020, CRU-prices_chrome_historical-data_01-dec-2020: CRU Group, December 1. (Accessed December 2, 2020, via <http://www.crugroup.com/>.)
- Divekar, Aditi, 2020, Tata Steel Mining commence operations at two of its Odisha chromite mines: Mumbai, India, Business Standard, November 6. (Accessed January 8, 2021, at https://www.business-standard.com/article/companies/tata-steel-mining-commence-operations-at-two-of-its-odisha-chromite-mines-120110601659_1.html.)

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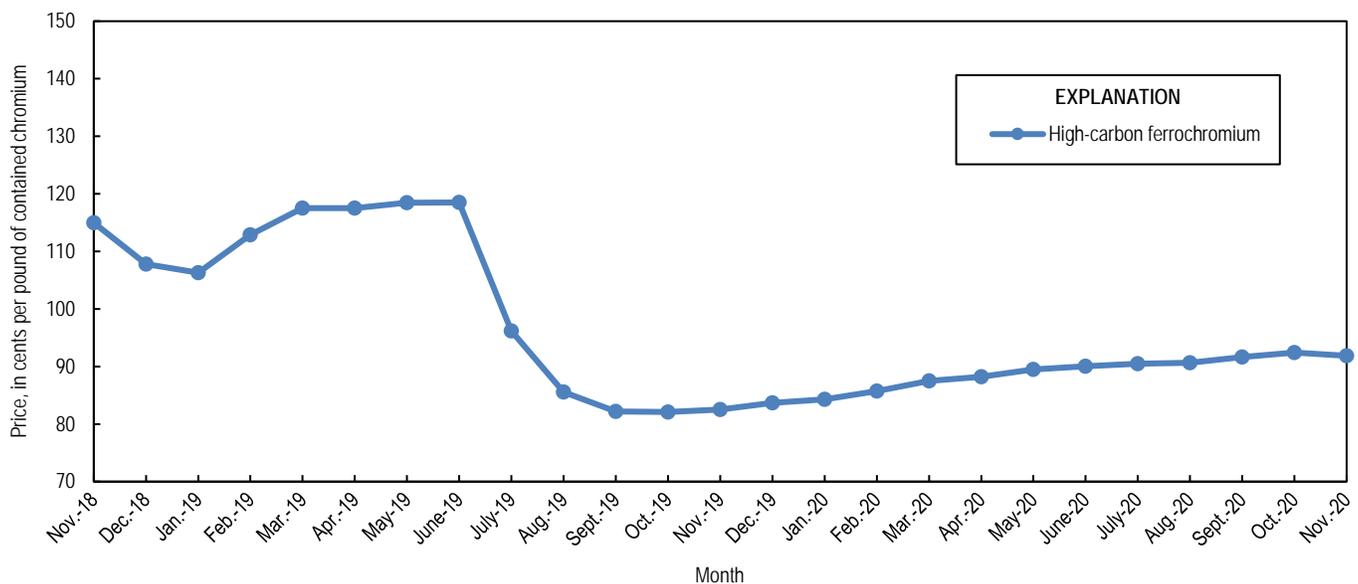


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium from November 2018 through November 2020. Source: CRU Group.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2019	2020			
	January– December ^p	September	October	November	January– November ²
Production, stainless steel ³	2,590,000	184,000	182,000	186,000	1,940,000
Components of U.S. supply:					
Stainless steel scrap receipts	810,000	67,000 ^e	42,200	43,200 ^e	634,000 ^e
Stainless steel scrap consumption	1,240,000	101,000 ^e	63,100	64,600 ^e	960,000 ^e
Imports for consumption:					
Chromite ore	152,000	3,710	2,050	35,400	99,400
Ferrochromium:					
More than 4% carbon	393,000	8,540	14,600	30,000	259,000
More than 3% but not more than 4% carbon	1,210	--	--	--	212
More than 0.5% but not more than 3% carbon	2,090	350	109	733	3,360
Not more than 0.5% carbon	44,300	1,580	1,590	5,280	33,300
Ferrochromium silicon	17,600	--	4,530	--	15,700
Total ferroalloy imports	458,000	10,500	20,900	36,000	311,000
Chromium metal ⁴	14,400	338	608	488	11,400
Stainless steel	767,000	39,000	56,700	87,900	643,000
Stainless steel scrap	204,000	16,800	21,400	23,100	202,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	389,000	26,000 ^e	26,000 ^e	27,000 ^e	309,000 ^e
Exports:					
Chromite ore	2,300	19	139	59	1,540
Chromium ferroalloys:					
High-carbon ferrochromium	1,300	42	260	79	776
Low-carbon ferrochromium	437	125	--	4	389
Ferrochromium silicon	22	41	--	--	164
Total ferroalloy exports	1,760	208	260	83	1,330
Chromium metal	431	33	23	22	362
Stainless steel	436,000	27,000	31,400	28,800	295,000
Stainless steel scrap	469,000	21,900	22,800	35,900	294,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	7,530	7,000 ^e	7,000 ^e	7,000 ^e	7,000 ^e
Government stockpile:					
Chromium ferroalloys	66,100	60,700	60,700	60,700	60,700
Chromium metal	3,850	3,830	3,830	3,790	3,790

^eEstimated. ^pPreliminary. -- 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		
	October	November	January– November ³
Consumption by end use:			
Steel:			
Carbon steel	W	W	W
High-strength low-alloy steel	130 ^e	100 ^e	1,500 ^e
Stainless and heat-resisting steel	22,000 ^e	23,000 ^e	267,000 ^e
Unspecified steel ⁴	3,000 ^e	3,000 ^e	36,000 ^e
Superalloys	200 ^e	200 ^e	2,200 ^e
Other alloys and uses ⁵	W	W	W
Total	26,000^e	27,000^e	309,000^e
Total, chromium content	15,000^e	16,000^e	176,000^e
Consumption by material:			
Low-carbon ferrochromium	1,500 ^e	1,400 ^e	18,000 ^e
High-carbon ferrochromium	23,000 ^e	24,000 ^e	280,000 ^e
Ferrochromium silicon	W	W	W
Chromium metal	130 ^e	100 ^e	1,460 ^e
Chromite ore	120 ^e	100 ^e	1,340 ^e
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	26,000^e	27,000^e	309,000^e
Total, chromium content	15,000^e	16,000^e	176,000^e
Consumer stocks:			
Low-carbon ferrochromium	730 ^e	700 ^e	700 ^e
High-carbon ferrochromium	2,000 ^e	2,000 ^e	2,000 ^e
Ferrochromium silicon	W	W	W
Chromium metal	20 ^e	20 ^e	20 ^e
Chromium-aluminum alloy	W	W	W
Other chromium materials ⁶	4,000 ^e	4,000 ^e	4,000 ^e
Total	7,000^e	7,000^e	7,000^e
Total, chromium content	3,700^e	3,700^e	3,700^e

^eEstimated. 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:			
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
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

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:							
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
June	186	133	56	34	72	33	529
July	96	68	133	71	180	46	1,770
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
January–November ⁴	1,540	911	1,330	760	1,970	362	9,430

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	October	November	January– November ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	973	199	998	3,030
Chromic oxide content	360	78	244	765
More than 40% but less than 46% chromic oxide:				
Gross weight	4,170	1,660	1,380	10,100
Chromic oxide content	1,810	743	594	4,380
46% or more chromic oxide:				
Gross weight	147,000	191	33,000	86,300
Chromic oxide content	90,400	138	33,000	77,500
Total, all grades:				
Gross weight	152,000	2,050	35,400	99,400
Chromic oxide content	92,500	959	33,800	82,700
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	44,300	1,590	5,280	33,300
Chromium content	30,900	1,020	3,500	22,300
More than 0.5% but not more than 3% carbon:				
Gross weight	2,090	109	733	3,360
Chromium content	1,330	78	509	2,260
Total, low-carbon:				
Gross weight	46,400	1,700	6,010	36,600
Chromium content	32,200	1,100	4,010	24,600
Medium-carbon: ⁴				
Gross weight	1,210	--	--	212
Chromium content	802	--	--	116
High-carbon: ⁵				
Gross weight	393,000	14,600	30,000	259,000
Chromium content	215,000	8,180	15,500	143,000
Total, all grades:				
Gross weight	440,000	16,300	36,000	296,000
Chromium content	248,000	9,280	19,500	168,000
Chromium metal:				
Unwrought powders	11,500	450	364	9,540
Waste and scrap	221	27	8	160
Other than waste and scrap and unwrought powders	2,680	130	116	1,690
Total, all grades	14,400	608	488	11,400

-- 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).

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	November			January–November 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	207	145	\$237	3,160	2,120	\$3,680
Brazil	--	--	--	2,770	1,500	1,900
Canada	--	--	--	6	3	9
Finland	5,000	2,640	3,980	5,000	2,640	3,980
India	231	139	195	6,220	3,740	5,070
Kazakhstan	1,430	991	1,580	50,300	34,900	56,800
Oman	--	--	--	968	499	630
Russia	5,000	2,640	3,800	26,900	15,900	24,500
South Africa	18,000	8,790	15,000	145,000	70,900	120,000
Sweden	209	141	263	977	657	1,210
Turkey	--	--	--	2,100	1,350	2,260
Zimbabwe	--	--	--	15,400	8,790	9,740
Total	30,000	15,500	25,000	259,000	143,000	230,000
Medium-carbon ferrochromium:⁵						
Russia	--	--	--	76	41	119
Turkey	--	--	--	126	68	68
United Kingdom	--	--	--	10	8	23
Total	--	--	--	212	116	210
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3% carbon						
Brazil	--	--	--	1,020	631	1,700
India	--	--	--	200	123	372
Kazakhstan	733	509	1,440	2,020	1,420	4,530
Russia	--	--	--	120	85	284
Total	733	509	1,440	3,360	2,260	6,890
Not more than 0.5% carbon:						
Belgium	--	--	--	1,220	735	3,610
Brazil	1,130	697	1,590	2,730	1,640	3,930
China	--	--	--	9	6	29
Germany	220	172	700	3,550	2,450	11,400
India	--	--	--	596	375	1,140
Japan	--	--	--	579	415	2,280
Kazakhstan	--	--	--	7,130	5,120	18,000
Russia	3,840	2,560	7,530	16,600	11,000	34,000
Turkey	95	69	274	905	633	2,330
Total	5,280	3,500	10,100	33,300	22,300	76,700
All grades:						
Albania	207	145	237	3,160	2,120	3,680
Belgium	--	--	--	1,220	735	3,610
Brazil	1,130	697	1,590	6,510	3,770	7,540
Canada	--	--	--	6	3	9
China	--	--	--	9	6	29
Finland	5,000	2,640	3,980	5,000	2,640	3,980
Germany	220	172	700	3,550	2,450	11,400
India	231	139	195	7,020	4,240	6,590
Japan	--	--	--	579	415	2,280
Kazakhstan	2,160	1,500	3,030	59,400	41,400	79,300
Oman	--	--	--	968	499	630
Russia	8,840	5,200	11,300	43,700	27,000	58,900
South Africa	18,000	8,790	15,000	145,000	70,900	120,000
Sweden	209	141	263	977	657	1,210
Turkey	95	69	274	3,130	2,050	4,660

(See footnotes at end of table.)

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

Grade and country or locality	November			January–November ²		
	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)
United Kingdom	--	--	--	10	8	23
Zimbabwe	--	--	--	15,400	8,790	9,740
Total	36,000	19,500	36,600	296,000	168,000	313,000

-- 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	November		January–November ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
Belgium	--	--	24	\$139
China	43	\$436	1,180	11,100
Estonia	--	--	10	75
France	94	729	2,170	18,400
Germany	5	174	309	2,570
India	20	166	135	1,200
Japan	(4)	2	(4)	26
Russia	145	825	3,430	22,200
Spain	--	--	94	482
Switzerland	--	--	20	149
United Kingdom	58	912	2,160	22,100
Total	364	3,240	9,540	78,400
Waste and scrap:				
Canada	--	--	15	43
France	--	--	11	34
Japan	8	34	20	119
United Kingdom	--	--	114	718
Total	8	34	160	915
Other than waste and scrap and unwrought powders:				
Canada	(4)	3	(4)	8
China	2	79	23	364
France	--	--	(4)	12
Germany	1	99	45	507
Japan	(4)	17	6	271
Liechtenstein	--	--	(4)	3
Malaysia	--	--	(4)	32
Russia	83	461	1,360	7,760
Spain	--	--	38	194
Taiwan	--	--	(4)	5
United Kingdom	30	361	210	2,230
Total	116	1,020	1,690	11,400
All grades:				
Belgium	--	--	24	139
Canada	(4)	3	15	52
China	45	515	1,200	11,500
Estonia	--	--	10	75
France	94	729	2,180	18,400
Germany	6	273	355	3,070
India	20	166	135	1,200
Japan	8	53	26	416
Liechtenstein	--	--	(4)	3
Malaysia	--	--	(4)	32
Russia	228	1,290	4,800	30,000
Spain	--	--	132	676
Switzerland	--	--	20	149
Taiwan	--	--	(4)	5
United Kingdom	88	1,270	2,480	25,000
Total	488	4,300	11,400	90,700

-- 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	November		January–November ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	699	\$4,860	10,200	\$63,100
Flat-rolled (width > 600 mm)	18,000	47,700	177,000	482,000
Flat-rolled (width < 600 mm)	5,180	27,500	51,600	276,000
Bars and rods in irregular coils	78	488	1,790	10,200
Other bars and rods	1,770	18,800	22,700	238,000
Wire	620	7,890	6,630	96,800
Tubes, pipes, hollow profiles	2,470	24,900	25,100	280,000
Total	28,800	132,000	295,000	1,450,000
Stainless steel scrap	35,900	27,000	294,000	245,000
Grand total	64,700	159,000	588,000	1,690,000
Imports:				
Ingot	48,700	28,300	178,000	356,000
Flat-rolled (width > 600 mm)	14,700	35,400	186,000	444,000
Flat-rolled (width < 600 mm)	3,550	10,800	37,900	134,000
Bars and rods in irregular coils	1,480	5,800	25,600	84,900
Other bars and rods	9,020	33,400	91,200	349,000
Wire	2,690	11,500	30,500	132,000
Tubes, pipes, hollow profiles	7,790	58,600	93,600	646,000
Total	87,900	184,000	643,000	2,150,000
Stainless steel scrap	23,100	23,400	202,000	180,000
Grand total	111,000	207,000	845,000	2,330,000

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.