

Mineral Industry Surveys

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CHROMIUM IN DECEMBER 2020

Estimated consumption of chromium, on a gross weight basis, in December 2020 increased by 4% compared with estimated consumption of chromium in November 2020, and decreased by 25% compared with reported consumption in December 2019. For the full year, consumption was estimated to be 335,000 t, a decrease of 14% compared with consumption in 2019. Estimated consumer stocks were unchanged compared with revised estimates for November 2020. Consumer stocks in 2020 decreased slightly compared with stocks at the end of 2019 (tables 1, 2).

Stainless steel production increased by 8% in December 2020 compared with production in November 2020, and increased by 10% compared with production in December

2019 (table 1). Stainless steel production for the whole year declined by 17% compared with production in 2019. Government stockpile inventories for chromium metal were essentially unchanged compared with those in November 2020 and decreased slightly compared with those of December 2019. Government stockpile inventories of ferroalloys decreased slightly in December 2020 compared with those of November 2020 and decreased by 10% compared with those of December 2019 (table 3).

Imports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel commonly fluctuate from month to month (table 1). In December 2020, imports of all grades of chromium ferroalloys increased by 54% compared with

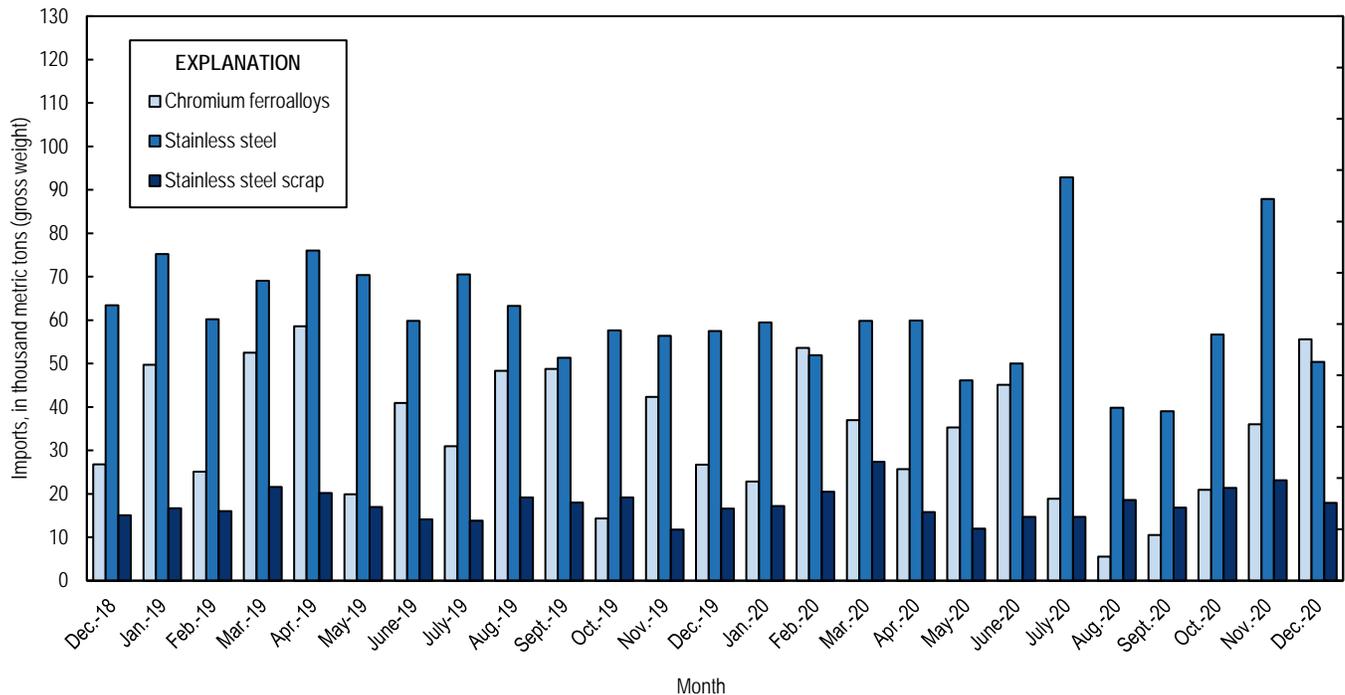


Figure 1. Chromium ferroalloys and stainless steel imports from December 2018 through December 2020. Source: U.S. Census Bureau.

imports of chromium ferroalloys in November 2020 and more than doubled compared with those in December 2019. Stainless steel imports in December 2020 decreased by 43% compared with imports in November 2020 and decreased by 12% compared with those in December 2019 (fig. 1, table 1).

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 December 2020 compared with exports in November 2020 and compared with exports in December 2019. Stainless steel exports in December 2020 decreased by 8% compared with exports in November 2020 and increased by 16% compared with those of December 2019 (table 1).

In December 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 Kazakhstan (table 6), whereas the leading import sources for chromium metal were Russia, Germany, and the United Kingdom (table 7).

The U.S. chromium metal (99% Cr) average price was \$3.15 per pound in December 2020, an 8% increase from the average price in November 2020, and a 4% decrease compared with the average price in December 2019 (CRU Group, 2020). The U.S. high-carbon FeCr (62%–70% chromium) average price was 94.20 cents per pound of contained chromium in December 2020, a 3% increase from the average price in November 2020, and an 13% increase from the average price in December 2019 (fig. 2) (CRU Group, 2020b).

Industry News

Allegheny Technologies Inc. (Pittsburgh) announced it would discontinue the production of standard stainless-steel sheet products to focus on more profitable advanced alloy products for the aerospace and defense markets. Production of standard stainless-steel sheet products would cease by midyear 2021 and affect five locations by yearend 2021, including

those in Brackenridge, PA; Bridgeville, IL; Louisville, OH; Pico Rivera, CA; and Waterbury, CT (Allegheny Technologies Inc., 2020; Sabatini, 2020).

The board of directors at Jindal Stainless (Hisar) Ltd. (India) approved the merger with Jindal Stainless Ltd. (India) in December. The combined company would have a stainless steel production capacity of 1.9 million metric tons per year. The final merger was expected to be completed in second half of the 2020–2021 fiscal year following approval by shareholders, creditors, and relevant regulatory authorities (CRU Group, 2020a).

References Cited

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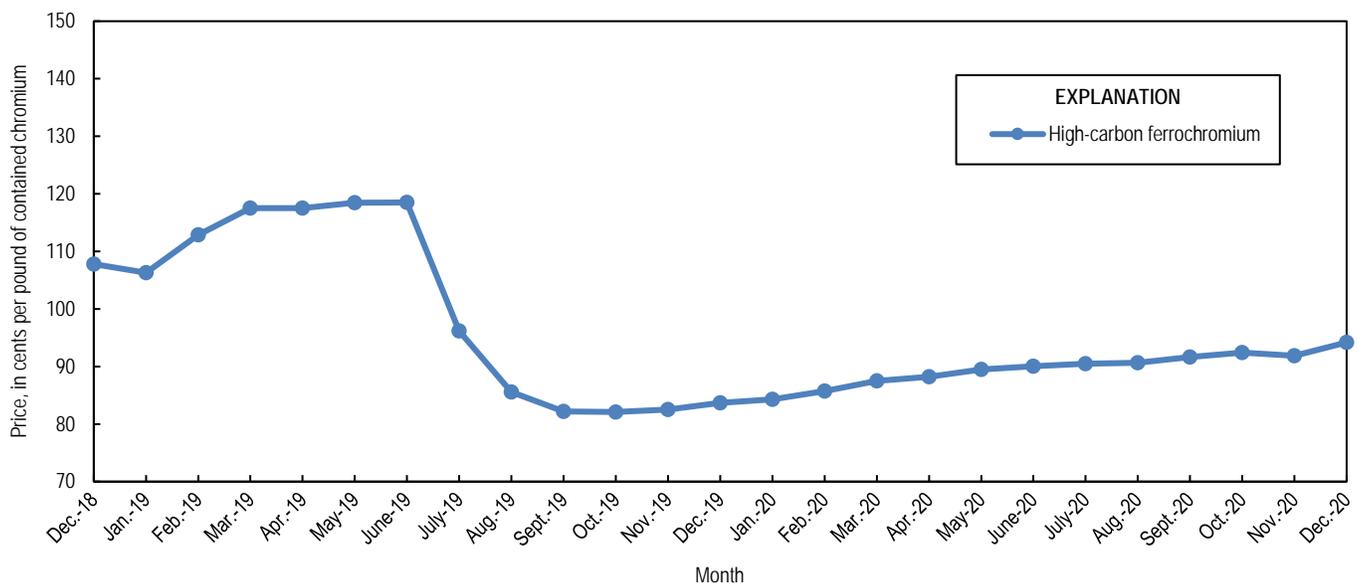


Figure 2. Average monthly prices for U.S. high-carbon ferrochromium from December 2018 through December 2020. Source: CRU Group.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2019	2020			
	January– December ^p	October	November	December	January– December ²
Production, stainless steel ³	2,590,000	182,000	186,000	200,000	2,140,000
Components of U.S. supply:					
Stainless steel scrap receipts	810,000	42,200	43,200 ^e	46,600 ^e	681,000 ^e
Stainless steel scrap consumption	1,240,000	63,100	64,600 ^e	69,600 ^e	1,030,000 ^e
Imports for consumption:					
Chromite ore	152,000	2,050	35,400	1,490	101,000
Ferrochromium:					
More than 4% carbon	393,000	14,600	30,000	51,400	310,000
More than 3% but not more than 4% carbon	1,210	--	--	--	212
More than 0.5% but not more than 3% carbon	2,090	109	733	--	3,360
Not more than 0.5% carbon	44,300	1,590	5,280	4,140	37,400
Ferrochromium silicon	17,600	4,530	--	55	15,800
Total ferroalloy imports	458,000	20,900	36,000	55,600	367,000
Chromium metal ⁴	14,400	608	488	268	11,700
Stainless steel	767,000	56,700	87,900	50,400	694,000
Stainless steel scrap	204,000	21,400	23,100	17,900	220,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	389,000	26,000 ^e	26,000 ^{r,4}	27,000 ^e	335,000 ^e
Exports:					
Chromite ore	2,300	139	59	222	1,760
Chromium ferroalloys:					
High-carbon ferrochromium	1,300	260	79	174	949
Low-carbon ferrochromium	437	--	4	4	393
Ferrochromium silicon	22	--	--	74	238
Total ferroalloy exports	1,760	260	83	252	1,580
Chromium metal	431	23	22	16	378
Stainless steel	436,000	31,400	28,800	26,600	321,000
Stainless steel scrap	469,000	22,800	35,900	25,200	319,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	7,530	7,000 ^e	7,400 ^{r,4}	7,400 ^e	7,400 ^e
Government stockpile:					
Chromium ferroalloys	66,100	60,700	60,700	59,600	59,600
Chromium metal	3,850	3,830	3,790	3,750	3,750

^eEstimated. ^pPreliminary. ^rRevised. -- 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		
	November	December	January– December ³
Consumption by end use:			
Steel:			
Carbon steel	W	W	W
High-strength low-alloy steel	140 ^{r,e}	140 ^e	1,600 ^e
Stainless and heat-resisting steel	22,000 ^{r,e}	23,000 ^e	289,000 ^e
Unspecified steel ⁴	3,400 ^{r,e}	3,400 ^e	39,800 ^e
Superalloys	200 ^e	200 ^e	2,400 ^e
Other alloys and uses ⁵	W	W	W
Total	26,000^{r,e}	27,000^e	335,000^e
Total, chromium content	15,000^{r,e}	16,000^e	191,000^e
Consumption by material:			
Low-carbon ferrochromium	1,700 ^{r,e}	1,700 ^e	20,700 ^e
High-carbon ferrochromium	23,000 ^{r,e}	24,000 ^e	303,000 ^e
Ferrochromium silicon	W	W	W
Chromium metal	140 ^{r,e}	140 ^e	1,600 ^e
Chromite ore	130 ^{r,e}	130 ^e	1,500 ^e
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	26,000^{r,e}	27,000^e	335,000^e
Total, chromium content	15,000^{r,e}	16,000^e	191,000^e
Consumer stocks:			
Low-carbon ferrochromium	740 ^{r,e}	740 ^e	740 ^e
High-carbon ferrochromium	2,200 ^{r,e}	2,200 ^e	2,200 ^e
Ferrochromium silicon	W	W	W
Chromium metal	19 ^{r,e}	19 ^e	19 ^e
Chromium-aluminum alloy	W	W	W
Other chromium materials ⁶	4,100 ^{r,e}	4,100 ^e	4,100 ^e
Total	7,400^{r,e}	7,400^e	7,400^e
Total, chromium content	4,700^{r,e}	4,700^e	4,700^e

^eEstimated. ^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, 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
December	33,000	26,600	3,750

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:							
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
December	222	136	252	133	306	16	531
January–December ⁴	1,760	1,050	1,580	893	2,280	378	9,960

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	November	December	January– December ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	973	998	564	3,600
Chromic oxide content	360	244	144	909
More than 40% but less than 46% chromic oxide:				
Gross weight	4,170	1,380	925	11,000
Chromic oxide content	1,810	594	399	4,780
46% or more chromic oxide:				
Gross weight	147,000	33,000	1	86,300
Chromic oxide content	90,400	33,000	1	77,500
Total, all grades:				
Gross weight	152,000	35,400	1,490	101,000
Chromic oxide content	92,500	33,800	544	83,200
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	44,300	5,280	4,140	37,400
Chromium content	30,900	3,500	2,830	25,200
More than 0.5% but not more than 3% carbon:				
Gross weight	2,090	733	--	3,360
Chromium content	1,330	509	--	2,260
Total, low-carbon:				
Gross weight	46,400	6,010	4,140	40,800
Chromium content	32,200	4,010	2,830	27,400
Medium-carbon: ⁴				
Gross weight	1,210	--	--	212
Chromium content	802	--	--	116
High-carbon: ⁵				
Gross weight	393,000	30,000	51,400	310,000
Chromium content	215,000	15,500	25,700	169,000
Total, all grades:				
Gross weight	440,000	36,000	55,600	351,000
Chromium content	248,000	19,500	28,500	196,000
Chromium metal:				
Unwrought powders	11,500	364	254	9,790
Waste and scrap	221	8	8	168
Other than waste and scrap and unwrought powders	2,680	116	6	1,690
Total, all grades	14,400	488	268	11,700

-- 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).

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	December			January–December 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	474	324	\$548	3,640	2,440	\$4,220
Brazil	--	--	--	2,770	1,500	1,900
Canada	--	--	--	6	3	9
Finland	--	--	--	5,000	2,640	3,980
India	419	253	377	6,640	3,990	5,450
Kazakhstan	2,590	1,810	2,850	52,900	36,700	59,700
Oman	--	--	--	968	499	630
Russia	--	--	--	26,900	15,900	24,500
South Africa	47,900	23,300	42,500	193,000	94,200	162,000
Sweden	--	--	--	977	657	1,210
Turkey	--	--	--	2,100	1,350	2,260
Zimbabwe	--	--	--	15,400	8,790	9,740
Total	51,400	25,700	46,200	310,000	169,000	276,000
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	--	--	--	2,020	1,420	4,530
Russia	--	--	--	120	85	284
Total	--	--	--	3,360	2,260	6,890
Not more than 0.5% carbon:						
Belgium	--	--	--	1,220	735	3,610
Brazil	--	--	--	2,730	1,640	3,930
China	--	--	--	9	6	29
Germany	418	330	1,370	3,970	2,780	12,700
India	--	--	--	596	375	1,140
Japan	--	--	--	579	415	2,280
Kazakhstan	454	328	1,070	7,580	5,450	19,000
Russia	3,090	2,050	6,100	19,600	13,000	40,100
Turkey	180	124	434	1,080	756	2,760
Total	4,140	2,830	8,960	37,400	25,200	85,600
All grades:						
Albania	474	324	548	3,640	2,440	4,220
Belgium	--	--	--	1,220	735	3,610
Brazil	--	--	--	6,510	3,770	7,540
Canada	--	--	--	6	3	9
China	--	--	--	9	6	29
Finland	--	--	--	5,000	2,640	3,980
Germany	418	330	1,370	3,970	2,780	12,700
India	419	253	377	7,440	4,490	6,970
Japan	--	--	--	579	415	2,280
Kazakhstan	3,040	2,140	3,920	62,500	43,600	83,300
Oman	--	--	--	968	499	630
Russia	3,090	2,050	6,100	46,800	29,000	65,000
South Africa	47,900	23,300	42,500	193,000	94,200	162,000
Sweden	--	--	--	977	657	1,210
Turkey	180	124	434	3,310	2,180	5,100

(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	December			January–December 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	55,600	28,500	55,200	351,000	196,000	369,000

-- 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.

⁴Ferrocromium containing more than 4% carbon.

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

⁶Ferrocromium 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	December		January–December ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
Belgium	--	--	24	\$139
China	(4)	\$3	1,180	11,100
Estonia	--	--	10	75
France	19	125	2,190	18,500
Germany	64	335	373	2,900
India	20	166	154	1,360
Japan	--	--	(4)	26
Russia	120	642	3,550	22,900
Spain	--	--	94	482
Switzerland	--	--	20	149
United Kingdom	31	207	2,190	22,300
Total	254	1,480	9,790	79,900
Waste and scrap:				
Canada	7	24	22	67
France	--	--	11	34
Japan	--	--	20	119
Taiwan	1	14	1	14
United Kingdom	--	--	114	718
Total	8	38	168	953
Other than waste and scrap and unwrought powders:				
Canada	--	--	(4)	8
China	(4)	16	24	380
France	--	--	(4)	12
Germany	5	43	50	550
Japan	1	48	6	319
Liechtenstein	--	--	(4)	3
Malaysia	--	--	(4)	32
Russia	--	--	1,360	7,760
Spain	--	--	38	194
Taiwan	--	--	(4)	5
United Kingdom	--	--	210	2,230
Total	6	107	1,690	11,500
All grades:				
Belgium	--	--	24	139
Canada	7	24	22	75
China	(4)	19	1,210	11,500
Estonia	--	--	10	75
France	19	125	2,200	18,500
Germany	69	378	424	3,450
India	20	166	154	1,360
Japan	1	48	27	465
Liechtenstein	--	--	(4)	3
Malaysia	--	--	(4)	32
Russia	120	642	4,920	30,600
Spain	--	--	132	676
Switzerland	--	--	20	149
Taiwan	1	14	1	19
United Kingdom	31	207	2,510	25,200
Total	268	1,620	11,700	92,300

-- 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	December		January–December ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	499	\$4,540	10,700	\$67,600
Flat-rolled (width > 600 mm)	16,600	45,800	193,000	527,000
Flat-rolled (width < 600 mm)	4,640	29,700	56,200	305,000
Bars and rods in irregular coils	172	758	1,960	10,900
Other bars and rods	2,140	18,100	24,800	256,000
Wire	592	7,610	7,220	104,000
Tubes, pipes, hollow profiles	1,990	21,000	27,100	301,000
Total	26,600	127,000	321,000	1,570,000
Stainless steel scrap	25,200	24,200	319,000	269,000
Grand total	51,800	152,000	640,000	1,840,000
Imports:				
Ingot	10,200	30,100	189,000	386,000
Flat-rolled (width > 600 mm)	15,900	37,900	202,000	482,000
Flat-rolled (width < 600 mm)	4,530	13,600	42,400	148,000
Bars and rods in irregular coils	1,560	5,320	27,100	90,300
Other bars and rods	7,720	28,500	98,900	378,000
Wire	2,890	11,400	33,400	143,000
Tubes, pipes, hollow profiles	7,560	50,200	101,000	696,000
Total	50,400	177,000	694,000	2,320,000
Stainless steel scrap	17,900	17,500	220,000	197,000
Grand total	68,300	194,000	914,000	2,520,000

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.