

Mineral Industry Surveys

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CHROMIUM IN NOVEMBER 2018

Reported consumption of chromium, on a gross weight basis, in November 2018 increased by 4% compared with reported consumption of chromium in October 2018, and decreased by 6% compared with consumption in November 2017. High-carbon ferrochromium accounted for 86% of the chromium material consumed in November 2018. Stainless steel was the leading end use, consuming 89% of chromium materials (tables 1,2). Consumer stocks increased slightly compared with those of the previous month and increased by 3% compared with those of November 2017.

Stainless steel production was 193,000 metric tons (t) in November 2018, a decrease of 18% compared with production in October 2018, and a decrease of 10% compared with

production in November 2017. However, stainless steel production in the first 11 months of 2018 increased by 3% compared with the same time period in 2017. Government stockpile inventories for ferroalloys and chromium metal were slightly less and unchanged compared with those of October 2018, respectively. Compared with those of November 2017, Government stockpile inventories for chromium metal were essentially unchanged and ferroalloys inventories decreased by 7% (table 3).

Imports of chromite ore, chromium ferroalloys, chromium metal, and stainless steel commonly fluctuate from month to month (table 1). Stainless steel imports in November 2018 decreased by 21% compared with imports in October 2018

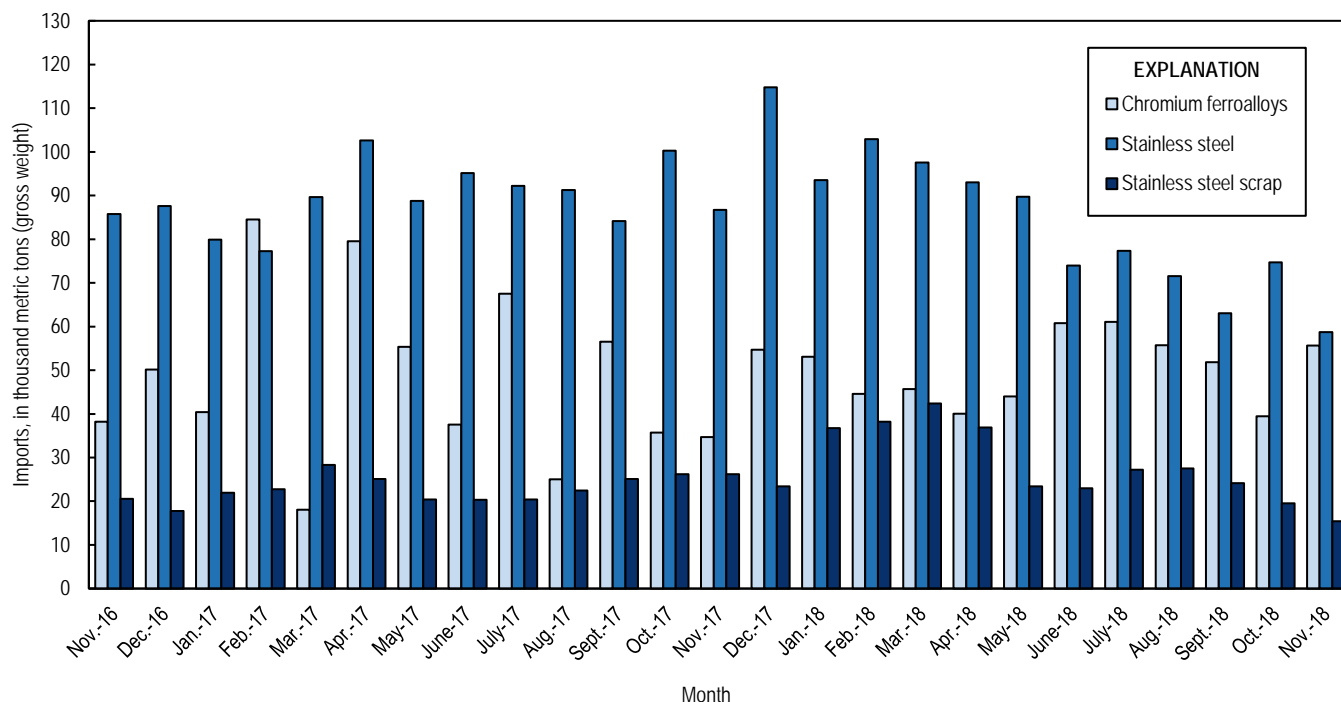


Figure 1. Chromium ferroalloys and stainless steel imports from November 2016 through November 2018. Source: U.S. Census Bureau.

and decreased by 32% compared with imports in November 2017 (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). Stainless steel exports in November 2018 increased by 11% compared with exports in October 2018 (table 1) and decreased by 58% compared with those of November 2017.

For November 2018, the leading import sources for ferrochromium (FeCr) into the United States were, in descending order of quantity by gross weight and chromium content, South Africa, Zimbabwe, and Kazakhstan (table 6), whereas the leading import sources for chromium metal were the United Kingdom, France, and China (table 7).

According to CRU Group (2018), the U.S. high-carbon FeCr (60%–70% chromium) price was 115.278 cents per pound of contained chromium in November 2018, a 9% decrease from the price in October 2018 and a 20% decrease from the price in November 2017 (fig. 2).

The U.S. charge-grade FeCr (47%–55% chromium) price

was 134.500 cents per pound of contained chromium in November 2018, unchanged since March 2017. Prices for both forms of ferrochromium increased sharply from November 2016 through January 2017 before leveling off in early 2017 (fig. 2). High-carbon FeCr price began declining in September 2018 and continued to drop in November 2018. However, the price in November 2018 still remained high compared with that of 2016.

Reference Cited

CRU Group, 2018, CRU prices_chrome_historical data_30_nov_2018_oct_avg: CRU Group, November 30. (Accessed December 3, 2018, via <http://www.crugroup.com/>.)

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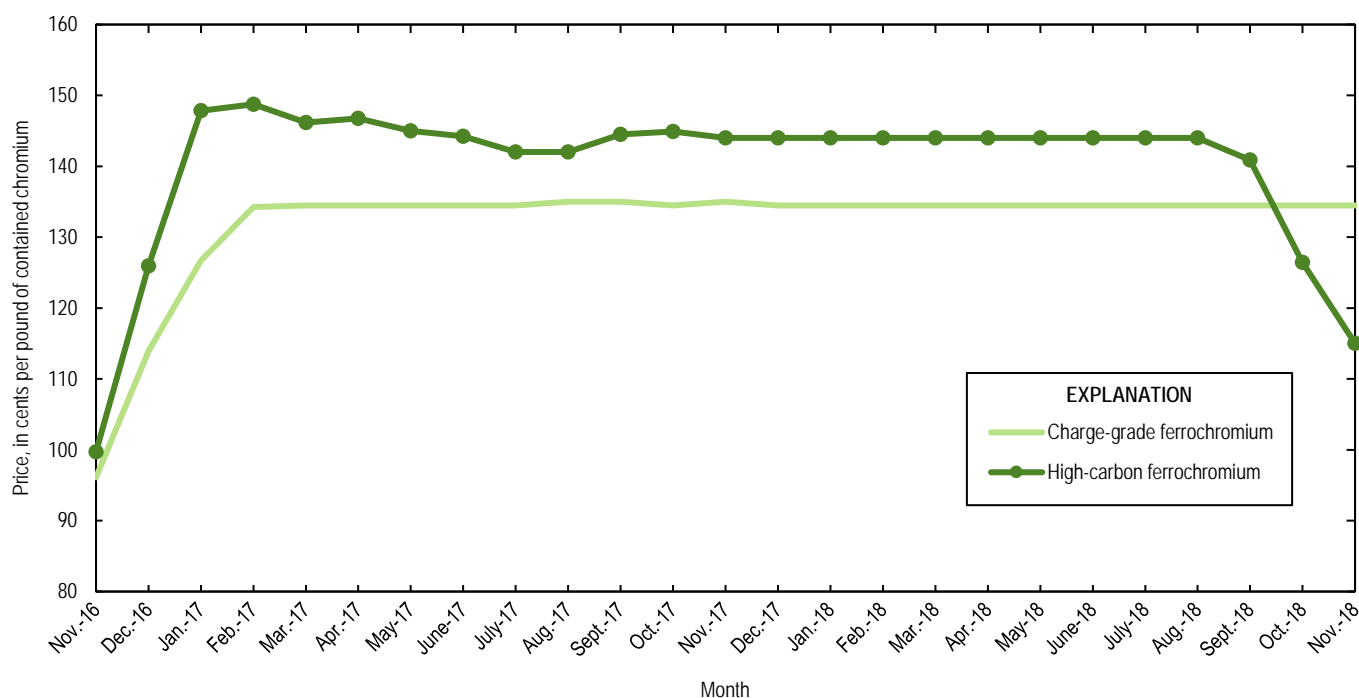


Figure 2. Average monthly prices for U.S. charge-grade and high-carbon ferrochromium from November 2016 through November 2018. Source: CRU Group.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2017	2018			
	January– December ^p	September	October	November	January– November ²
Production, stainless steel ³	2,750,000	241,000	234,000	193,000	2,610,000
Components of U.S. supply:					
Stainless steel scrap receipts	902,000	70,700	76,700	76,000	825,000
Stainless steel scrap consumption	1,350,000	110,000	106,000	111,000	1,220,000
Imports for consumption:					
Chromite ore	130,000	26,000	8,970	361	158,000
Ferrochromium:					
More than 4% carbon	507,000	45,100	37,100	51,500	478,000
More than 3% but not more than 4% carbon	6,740	--	108	--	1,160
More than 0.5% but not more than 3% carbon	2,820	161	202	267	3,670
Not more than 0.5% carbon	51,600	4,670	2,030	3,350	53,600
Ferrochromium silicon	21,500	1,940	40	508	15,800
Total ferroalloy imports	590,000	51,800	39,500	55,700	552,000
Chromium metal ⁴	14,500	1,390	1,460	1,100	16,900
Stainless steel	1,100,000	63,000	74,700	58,700	896,000
Stainless steel scrap	282,000	24,100	19,500	15,400	314,000
Distribution of U.S. supply:					
Consumption, industry, chromium ferroalloys and metal	421,000	34,000	31,100	32,400	358,000
Exports:					
Chromite ore	11,100	294	637	843	5,530
Chromium ferroalloys:					
High-carbon ferrochromium	1,240	12	93	34	670
Low-carbon ferrochromium	854	153	313	65	1,710
Ferrochromium silicon	15	--	--	24	58
Total ferroalloy exports	2,110	165	406	123	2,440
Chromium metal	622	53	43	43	486
Stainless steel	974,000	39,000	32,500	36,000	620,000
Stainless steel scrap	488,000	124,000	85,900	48,200	734,000
Stocks at end of period:					
Consumer, industry, chromium ferroalloys and metal	9,830	9,510	10,500	10,600	10,600
Government stockpile:					
Chromium ferroalloys	76,800	72,100	72,100	71,700	71,700
Chromium metal	3,860	3,850	3,850	3,850	3,850

^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)

	2018		
	October	November	January– November ³
Consumption by end use:			
Steel:			
Carbon steel	156	189	1,970
High-strength low-alloy steel	145	145	1,610
Stainless and heat-resisting steel	27,500	28,900	319,000
Unspecified steel ⁴	2,720	2,720	29,900
Superalloys	448	431	4,810
Other alloys and uses ⁵	92	96	1,050
Total	31,100	32,400	358,000
Total, chromium content	18,300	19,000	214,000
Consumption by material:			
Low-carbon ferrochromium	1,760	1,840	20,100
High-carbon ferrochromium	26,800	28,000	309,000
Ferrochromium silicon	W	W	W
Chromium metal	160	162	2,270
Chromite ore	4	16	108
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	31,100	32,400	358,000
Total, chromium content	18,300	19,000	214,000
Consumer stocks:			
Low-carbon ferrochromium	1,550	1,560	1,560
High-carbon ferrochromium	8,080	8,180	8,180
Ferrochromium silicon	789	761	761
Chromium metal	52	55	55
Chromium-aluminum alloy	W	W	W
Other chromium materials	W	W	W
Total	10,500	10,600	10,600
Total, chromium content	6,270	6,330	6,330

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.

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

(metric tons)

	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2017:			
November	48,600	28,600	3,860
December	48,300	28,500	3,860
2018:			
January	47,900	28,500	3,860
February	47,000	28,300	3,850
March	47,000	28,200	3,850
April	46,300	28,200	3,850
May	45,600	27,900	3,850
June	45,400	27,600	3,850
July	44,500	27,600	3,850
August	44,500	27,600	3,850
September	44,500	27,600	3,850
October	44,500	27,600	3,850
November	44,000	27,600	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)
2017:							
November	138	\$93	141	92	\$387	68	\$1,850
December	169	128	130	61	274	26	598
January–December ⁴	11,100	4,760	2,110	956	3,270	622	14,400
2018:							
January	192	142	61	27	88	38	875
February	418	274	123	65	144	64	909
March	575	416	41	22	50	21	604
April	375	238	258	118	247	51	1,120
May	983	398	204	90	365	55	1,300
June	225	177	680	408	855	45	1,310
July	811	456	255	153	420	41	1,090
August	181	138	123	81	291	33	990
September	294	395	165	99	222	53	1,280
October	637	408	406	224	565	43	1,160
November	843	398	123	68	231	43	982
January–November ⁴	5,530	3,440	2,440	1,350	3,480	486	11,600

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)

	2017	2018		
	January– December	October	November	January– November ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	676	93	27	257
Chromic oxide content	166	35	10	94
More than 40% but less than 46% chromic oxide:				
Gross weight	13,700	3,290	258	13,500
Chromic oxide content	6,150	1,420	113	6,050
46% or more chromic oxide:				
Gross weight	116,000	5,590	76	144,000
Chromic oxide content	55,000	2,910	65	67,300
Total, all grades:				
Gross weight	130,000	8,970	361	158,000
Chromic oxide content	61,300	4,370	188	73,500
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5% carbon:				
Gross weight	51,600	2,030	3,350	53,600
Chromium content	33,900	1,460	2,400	37,200
More than 0.5% but not more than 3% carbon:				
Gross weight	2,820	202	267	3,670
Chromium content	1,820	121	188	2,280
Total, low-carbon:				
Gross weight	54,400	2,230	3,620	57,300
Chromium content	35,700	1,580	2,590	39,500
Medium-carbon: ⁴				
Gross weight	6,740	108	--	1,160
Chromium content	3,370	65	--	728
High-carbon: ⁵				
Gross weight	507,000	37,100	51,500	478,000
Chromium content	272,000	19,700	28,500	260,000
Total, all grades:				
Gross weight	568,000	39,400	55,200	536,000
Chromium content	311,000	21,400	31,100	300,000
Chromium metal:				
Unwrought powders	6,140	911	829	7,150
Waste and scrap	298	33	(6)	155
Other than waste and scrap and unwrought powders	8,090	518	268	9,620
Total, all grades	14,500	1,460	1,100	16,900

-- 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.

⁶Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2018, 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	1,810	1,200	\$3,090	16,300	10,800	\$28,700
Finland	--	--	--	9,000	4,800	10,600
India	2,200	1,330	2,900	36,900	22,400	51,300
Kazakhstan	5,850	4,080	10,800	38,900	27,100	72,700
Mexico	--	--	--	40	30	103
Oman	513	287	560	10,500	5,810	12,600
Russia	--	--	--	28,300	19,500	52,400
South Africa	27,200	13,800	28,400	292,000	143,000	313,000
Sweden	297	198	537	785	527	1,490
Turkey	1,020	652	1,640	1,730	1,120	2,990
Zimbabwe	12,700	6,970	12,600	42,900	24,200	45,800
Total	51,500	28,500	60,500	478,000	260,000	591,000
Medium-carbon ferrochromium, India ⁵	--	--	--	1,160	728	1,630
Low-carbon ferrochromium:⁶						
More than 0.5% but not more than 3% carbon						
Brazil	--	--	--	2,110	1,290	5,280
China	--	--	--	119	74	342
India	--	--	--	462	284	848
Kazakhstan	267	188	725	428	303	1,200
Russia	--	--	--	213	141	304
South Africa	--	--	--	339	190	637
Total	267	188	725	3,670	2,280	8,610
Not more than 0.5% carbon:						
Brazil	--	--	--	1,320	806	3,560
China	--	--	--	650	404	1,890
Germany	707	493	2,290	9,270	6,470	30,400
India	179	113	437	553	358	1,430
Japan	359	255	1,530	2,930	2,070	11,900
Kazakhstan	1,250	896	3,740	12,600	9,000	40,600
Russia	780	588	2,360	22,200	15,300	61,800
Turkey	81	56	232	4,090	2,860	12,500
Total	3,350	2,400	10,600	53,600	37,200	164,000
All grades:						
Albania	1,810	1,200	3,090	16,300	10,800	28,700
Brazil	--	--	--	3,430	2,100	8,840
China	--	--	--	769	478	2,240
Finland	--	--	--	9,000	4,800	10,600
Germany	707	493	2,290	9,270	6,470	30,400
India	2,380	1,450	3,330	39,100	23,800	55,200
Japan	359	255	1,530	2,930	2,070	11,900
Kazakhstan	7,370	5,160	15,300	51,900	36,400	114,000
Mexico	--	--	--	40	30	103
Oman	513	287	560	10,500	5,810	12,600
Russia	780	588	2,360	50,700	34,900	115,000
South Africa	27,200	13,800	28,400	293,000	144,000	313,000
Sweden	297	198	537	785	527	1,490
Turkey	1,100	709	1,870	5,830	3,980	15,500
Zimbabwe	12,700	6,970	12,600	42,900	24,200	45,800
Total	55,200	31,100	71,800	536,000	300,000	766,000

See footnotes at end of table.

TABLE 6-Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2018, 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 2018, BY GRADE AND
BY COUNTRY OR LOCALTY¹

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:				
China	232	\$2,890	1,590	\$19,500
France	(4)	3	218	3,570
Germany	65	494	147	1,890
India	--	--	38	459
Japan	--	--	(4)	26
Korea, Republic of	(4)	9	1	37
Russia	90	961	1,680	15,200
Switzerland	--	--	9	65
Taiwan	1	30	3	77
United Kingdom	441	6,260	3,470	49,400
Total	829	10,600	7,150	90,300
Waste and scrap:				
Brazil	--	--	2	6
Canada	--	--	42	230
China	--	--	21	314
Germany	(4)	2	1	17
Israel	--	--	(4)	3
Japan	--	--	4	65
Taiwan	--	--	6	122
United Kingdom	--	--	78	766
Total	(4)	2	155	1,520
Other than waste and scrap and unwrought powders:				
Canada	--	--	4	315
China	2	37	3,780	14,200
Finland	--	--	40	277
France	243	3,030	2,250	25,400
Germany	1	78	453	3,660
Italy	--	--	(4)	3
Japan	3	103	13	453
Liechtenstein	--	--	(4)	3
Malaysia	--	--	(4)	15
New Zealand	--	--	1	47
Russia	20	270	2,940	27,200
Spain	--	--	31	190
Taiwan	--	--	3	58
United Kingdom	--	--	117	1,620
Total	268	3,520	9,620	73,500
All grades:				
Brazil	--	--	2	6
Canada	--	--	47	546
China	233	2,930	5,390	34,000
Finland	--	--	40	277
France	243	3,030	2,470	29,000
Germany	66	575	601	5,570
India	--	--	38	459
Israel	--	--	(4)	3
Italy	--	--	(4)	3
Japan	3	103	18	544
Korea, Republic of	(4)	9	1	37
Liechtenstein	--	--	(4)	3
Malaysia	--	--	(4)	15

See footnotes at end of table.

TABLE 7-Continued
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2018, 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)
New Zealand	--	--	1	47
Russia	110	1,230	4,620	42,500
Spain	--	--	31	190
Switzerland	--	--	9	65
Taiwan	1	30	12	256
United Kingdom	441	6,260	3,660	51,800
Total	1,100	14,200	16,900	165,000

-- 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 2018¹

Stainless steel product	November		January–November ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Exports:				
Ingot	1,120	\$6,400	25,600	\$100,000
Flat-rolled (width > 600 mm)	22,300	58,900	425,000	1,010,000
Flat-rolled (width < 600 mm)	6,230	32,000	76,200	355,000
Bars and rods in irregular coils	342	944	10,900	30,000
Other bars and rods	2,270	23,400	33,600	302,000
Wire	578	10,100	9,590	122,000
Tubes, pipes, hollow profiles	3,140	30,300	39,400	368,000
Total	36,000	162,000	620,000	2,290,000
Stainless steel scrap	48,200	28,300	734,000	299,000
Grand total	84,200	190,000	1,350,000	2,590,000
Imports:				
Ingot	5,180	12,500	154,000	435,000
Flat-rolled (width > 600 mm)	20,100	51,100	317,000	811,000
Flat-rolled (width < 600 mm)	5,020	18,300	60,100	216,000
Bars and rods in irregular coils	2,310	8,670	34,700	130,000
Other bars and rods	10,500	42,200	137,000	551,000
Wire	3,830	16,200	47,300	206,000
Tubes, pipes, hollow profiles	11,800	68,300	145,000	861,000
Total	58,700	217,000	896,000	3,210,000
Stainless steel scrap	15,400	13,600	314,000	333,000
Grand total	74,100	231,000	1,210,000	3,540,000

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.